



# SAR TEST REPORT

Issued to

Cellon Communications Technology(ShenZhen)Co., Ltd.

For

**C8663**

Model Name : C8663,ARD555,ADR555PE,ADR555AL,ADR555PO,  
ADR555MV,ADR555OM,ADR555MX,ADR555CL  
Trade Name : N/A  
Brand Name : PCD/Open Mobile  
FCC ID : T38PCD8663  
Standard : FCC Oet65 Supplement C Jun.2001  
47CFR 2.1093  
ANSI C95.1-1999  
IEEE 1528-2003  
MAX SAR : Head: 1.357W/kg  
Body:1.279W/kg  
Test date : 2011-08-10  
Issue date : 2011-08-24

**Shenzhen MORLAB Communication Technology Co., Ltd.**



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Date 2011.08.24

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Date 2011.08.24

CTIA Authorized Test Lab  
LAB CODE 20081223-00  
IEEE 1725

OFTA  
電訊管理局



GCF  
Official Observer of  
Global Certification Forum

Bluetooth  
BQTF

FCC  
Reg. No.  
741109

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| Change History |              |                   |
|----------------|--------------|-------------------|
| Issue          | Date         | Reason for change |
| 1.0            | Aug 24, 2011 | First edition     |
|                |              |                   |

## 1. Testing Laboratory

### 1.1. Identification of the Responsible Testing Laboratory

Company Name: Shenzhen Morlab Communications Technology Co., Ltd.  
 Department: Morlab Laboratory  
 Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China  
 Responsible Test Lab Manager: Mr. Shu Luan  
 Telephone: +86 755 86130268  
 Facsimile: +86 755 86130218

### 1.2. Identification of the Responsible Testing Location

Name: Shenzhen Morlab Communications Technology Co., Ltd.  
 Morlab Laboratory  
 Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China

### 1.3. Accreditation Certificate

Accredited Testing Laboratory: No. CNAS L3572

### 1.4. List of Test Equipments

| No. | Instrument       | Type                                   | Cal. Date | Cal. Due |
|-----|------------------|----------------------------------------|-----------|----------|
| 1   | PC               | Dell (Pentium IV 2.4GHz, SN:X10-23533) | (n.a)     | (n.a)    |
| 2   | Network Emulator | Rohde&Schwarz (CMU200, SN:105894)      | 2010-9-26 | 1year    |
| 3   | Voltmeter        | Keithley (2000, SN:1000572)            | 2010-9-24 | 1year    |
| 4   | Synthesizer      | Rohde&Schwarz (SML_03, SN:101868)      | 2010-9-24 | 1year    |
| 5   | Amplifier        | Nucl udes (ALB216, SN:10800)           | 2010-9-24 | 1year    |
| 6   | Power Meter      | Rohde&Schwarz (NRVD, SN:101066)        | 2010-9-24 | 1year    |
| 7   | Probe            | Satimo (SN:SN_3708_EP80)               | 2010-9-24 | 1year    |
| 8   | Phantom          | Satimo (SN:SN_36_08_SAM62)             | 2010-9-24 | 1year    |
| 9   | Liquid           | Satimo (Last Calibration:21 08 08)     | 2010-8-21 | 1year    |
| 10  | Dipole 835MHz    | Satimo (SN 36/08 DIPC 99)              | 2010-9-23 | 1year    |
| 11  | Dipole 1900MHz   | Satimo (SN 36/08 DIPF 102)             | 2010-9-23 | 1year    |
| 12  | Dipole 2450MHz   | Satimo (SN 36/08 DIPF 103)             | 2010-9-23 | 1year    |

## 2. Technical Information

Note: the following data is based on the information by the applicant.

### 2.1. Identification of Applicant

Company Name: Cellon Communications Technology(ShenZhen)Co., Ltd.  
Address: 13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial Park NanShan, ShenZhen

### 2.2. Identification of Manufacturer

Company Name: Cellon Communications Technology(ShenZhen)Co., Ltd.  
Address: 13/F, Skyworth Building C Gaoxin S. Ave. 1st, High-Tech industrial Park NanShan, ShenZhen

### 2.3. Equipment Under Test (EUT)

Brand Name: PCD/Open Mobile  
Type Name: N/A  
Marking Name: C8663,ARD555,ADR555PE,ADR555AL,ADR555PO,ADR555MV,ADR555OM,ADR555MX,ADR555CL  
Hardware Version: P3  
Software Version: ADR555\_PCD\_V1.0.1  
Frequency Bands: CDMA 800MHz /CDMA 1900MHz  
WIFI: 2412MHz-2462MHz  
BT: 2402MHz-2480MHz  
Modulation Mode: CDMA : CDMA  
WIFI 802.11B : DSSS  
WIFI 802.11G: OFDM  
BT: GFSK  
Antenna type: Fixed Internal Antenna  
Development Stage: Identical prototype  
Battery Model: BTR555  
Battery specification: 1300mAh 3.7V

#### 2.3.1. Photographs of the EUT

Please see for photographs of the EUT.

#### 2.3.2. Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

| EUT Identity | Hardware Version | Software Version  |
|--------------|------------------|-------------------|
| 1#           | P3               | ADR555_PCD_V1.0.1 |

## 2.4. Applied Reference Documents

Leading reference documents for testing:

| No. | Identity                                                                                 | Document Title                                                                                                                                                                 |
|-----|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <b>47 CFR § 2.1093</b>                                                                   | Radiofrequency Radiation Exposure Evaluation: Portable Devices                                                                                                                 |
| 2   | <b>FCC OET<br/>Bulletin 65<br/>(Edition 97-01),<br/>Supplement C<br/>(Edition 01-01)</b> | Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields                                                                          |
| 3   | <b>ANSI C95.1-1999</b>                                                                   | IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz                                                      |
| 4   | <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. |

## 2.5. Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

## 2.6. Test Environment/Conditions

|                          |                                                        |
|--------------------------|--------------------------------------------------------|
| Normal Temperature (NT): | 20 ... 25 °C                                           |
| Relative Humidity:       | 30 ... 75 %                                            |
| Air Pressure:            | 980 ... 1020 hPa                                       |
| Test frequency:          | CDMA 800MHz<br>CDMA 1900MHz<br>WIFI:2450MHz            |
| Operation mode:          | Call established                                       |
| Power Level:             | CDMA Maximum output power<br>WIFI Maximum output power |

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 Absolute Radio Frequency Channel Number (ARFCN) is 1013, 384 and 777 respectively in the case of CDMA 800MHz or is allocated to 25, 600 and 1175 respectively in the case of CDMA 1900MHz, 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.

For SAR testing, EUT is in CDMA link mode, its crest factor is 1.

### 3. Specific Absorption Rate (SAR)

#### 3.1. Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

#### 3.2. SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density.  $\rho$ ). The equation description is as below:

$$\text{SAR} = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$\text{SAR} = C \frac{\delta T}{\delta t}$$

, where C is the specific heat capacity,  $\delta T$  is the temperature rise and  $\delta t$  the exposure duration, or related to the electrical field in the tissue by

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

, where  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of the tissue and E is the rms electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.



## 4. SAR Measurement Setup

### 4.1. The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

### 4.2. Probe

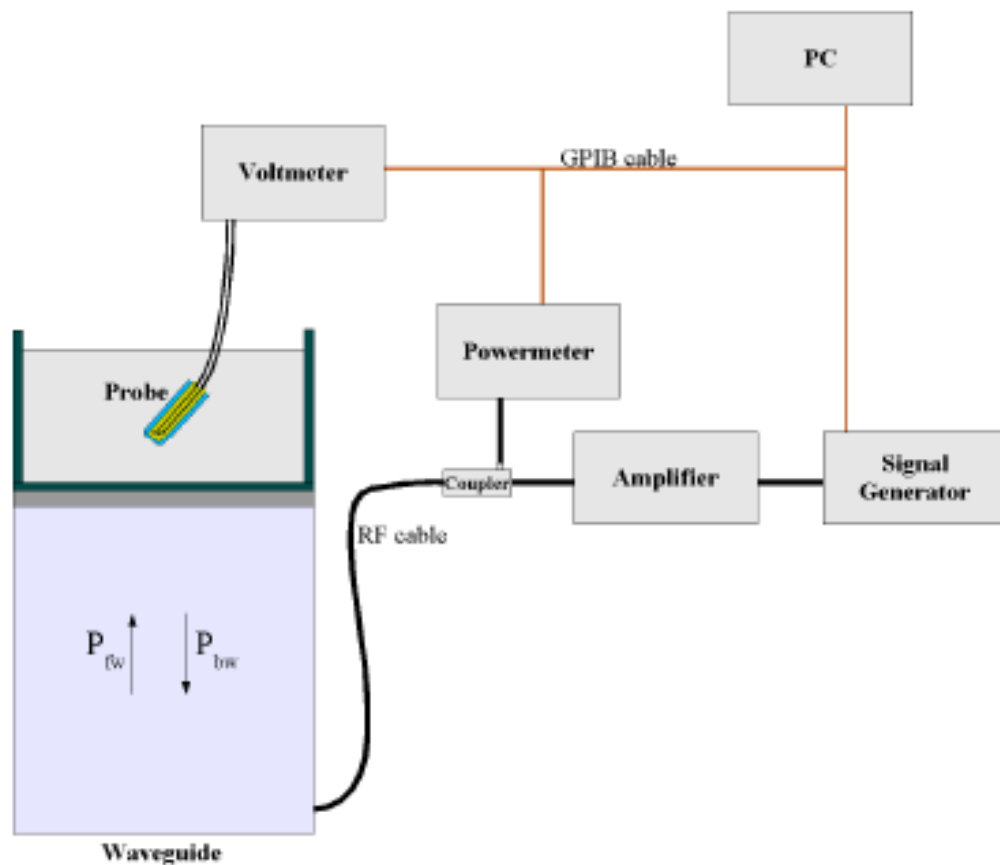
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 6.5 mm
- Distance between probe tip and sensor center: 2.5mm
- Distance between sensor center and the inner phantom surface: 4 mm  
(repeatability better than +/- 1mm)

- Probe linearity: <0.25 dB
- Axial Isotropy: <0.25 dB
- Spherical Isotropy: <0.25 dB
- Calibration range: 835to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and surface normal line: less than 30°

Probe calibration is realized, in compliance with CENELEC EN 62209 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 622091 annexe technique using reference guide at the five frequencies.



$$SAR = \frac{4(P_{fw} - P_{bw})}{ab\delta} \cos^2\left(\pi \frac{y}{a}\right) e^{-(2z/\delta)}$$

Where :

P<sub>fw</sub> = Forward Power

P<sub>bw</sub> = Backward Power

a and b = Waveguide dimensions

$\delta$  = Skin depth

Keithley configuration:

Rate = Medium; Filter =ON; RDGS=10; FILTER TYPE =MOVING AVERAGE; RANGE AUTO

After each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors,  $CF(N)$ , for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

$$CF(N) = SAR(N) / V_{lin}(N) \quad (N=1,2,3)$$

The linearised output voltage  $V_{lin}(N)$  is obtained from the displayed output voltage  $V(N)$  using

$$V_{lin}(N) = V(N) * (1 + V(N) / DCP(N)) \quad (N=1,2,3)$$

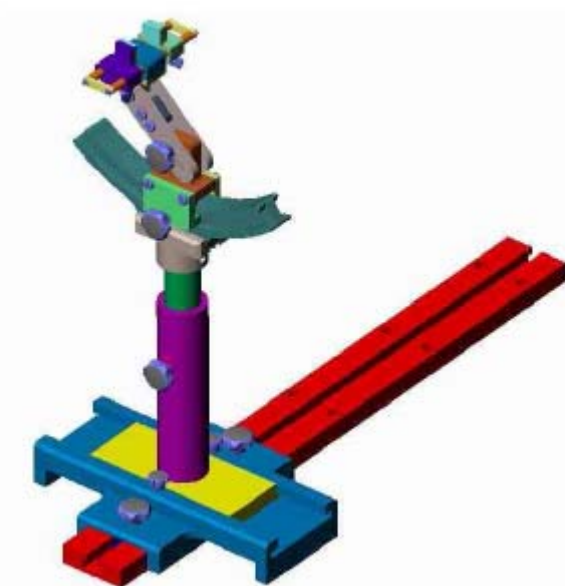
where DCP is the diode compression point in mV.

### 4.3. Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

### 4.4. Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.



Device holder

| System Material | Permittivity | Loss Tangent |
|-----------------|--------------|--------------|
| Delrin          | 3.7          | 0.005        |

## 5. Tissue Simulating Liquids

Simulant liquids that are used for testing at frequencies of GSM 850MHz PCS 1900MHz, which are made mainly of sugar, salt and water solutions may be left in the phantoms. Approximately 20litres are needed for an upright head compared to about 25 litres for a horizontal bath phantom. The liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is (head SAR) or from the flat phantom to the liquid top surface (body SAR) is 15cm.

Following is the recipes for one liter of head and body tissue simulating liquid for frequency band 835 MHz ,1900 MHz and 2450MHz.

| Ingredients<br>(% by weight ) | Frequency Band |      | Frequency Band |      | Frequency Band |
|-------------------------------|----------------|------|----------------|------|----------------|
|                               | 835MHz         |      | 1900MHz        |      | 2450MHz        |
| Tissue Type                   | Head           | Body | Head           | Body | Body           |
| Water                         | 41.45          | 52.4 | 54.9           | 40.4 | 40.4           |
| Salt(NaCl)                    | 1.49           | 1.4  | 0.18           | 0.5  | 0.5            |
| Sugar                         | 46.78          | 45.0 | 0.0            | 58.0 | 58.0           |
| HEC                           | 0.52           | 1.0  | 0.0            | 1.0  | 1.0            |
| Bactericide                   | 0.05           | 0.1  | 0.0            | 0.1  | 0.1            |
| Triton                        | 0.0            | 0.0  | 0.0            | 0.0  | 0.0            |
| DGBE                          | 0.0            | 0.0  | 44.92          | 0.0  | 0.0            |
| Acticide SPX                  | 0.0            | 0.0  | 0.0            | 0.0  | 0.0            |
| Dielectric Constant           | 42.54          | 56.1 | 39.9           | 54.0 | 54.0           |
| Conductivity (S/m)            | 0.91           | 0.95 | 1.42           | 1.45 | 1.45           |

Recipes for Tissue Simulating Liquid

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an Agilent 85033E Dielectric Probe Kit and an Agilent Network Analyzer.

For body-worn measurements, the device was tested against flat phantom representing the user body. Under measurement phone was put on in the phone holder.

**Table 1: Dielectric Performance of Head 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   | 41.5                    | 0.90                        |
| <b>Validation value</b><br>(Aug 10)         | 835 MHZ   | 41.675999               | 0.894409                    |
| <b>Target value</b>                         | 1900 MHZ  | 40                      | 1.40                        |
| <b>Validation value</b><br>(Aug 10)         | 1900 MHZ  | 38.509998               | 1.436111                    |

**Table 2: 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<br/>(Aug 10)</b>        | 835 MHz   | 55.709999               | 1.009033                    |
| <b>Target value</b>                         | 1900 MHz  | 53.3                    | 1.52                        |
| <b>Validation value<br/>(Aug 10)</b>        | 1900 MHz  | 52.548876               | 1.573978                    |
| <b>Target value</b>                         | 2450 MHz  | 53.3                    | 1.52                        |
| <b>Validation value<br/>(Aug 10)</b>        | 2450 MHz  | 52.548876               | 1.573978                    |

## 6. Uncertainty Assessment

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

### 6.1. UNCERTAINTY EVALUATION FOR HANDSET SAR TEST

| a                                                                               | b       | c                  | d              | e= f(d,k)  | f          | g               | h=<br>c*f/e    | i=<br>c*g/e     | k   |
|---------------------------------------------------------------------------------|---------|--------------------|----------------|------------|------------|-----------------|----------------|-----------------|-----|
| Uncertainty Component                                                           | Sec.    | Tol<br>(+ - %<br>) | Prob.<br>Dist. | Div.       | Ci<br>(1g) | Ci<br>(10g<br>) | 1g Ui<br>(+-%) | 10g Ui<br>(+-%) | Vi  |
| <b>Measurement System</b>                                                       |         |                    |                |            |            |                 |                |                 |     |
| Probe calibration                                                               | E.2.1   | 7.0                | N              | 1          | 1          | 1               | 7.00           | 7.00            |     |
| Axial Isotropy                                                                  | E.2.2   | 2.5                | R              | $\sqrt{3}$ |            |                 | 1.02           | 1.02            |     |
| Hemispherical Isotropy                                                          | E.2.2   | 4.0                | R              | $\sqrt{3}$ |            |                 | 1.63           | 1.63            |     |
| Boundary effect                                                                 | E.2.3   | 1.0                | R              | $\sqrt{3}$ | 1          | 1               | 0.58           | 0.58            |     |
| Linearity                                                                       | E.2.4   | 5.0                | R              | $\sqrt{3}$ | 1          | 1               | 2.89           | 2.89            |     |
| System detection limits                                                         | E.2.5   | 1.0                | R              | $\sqrt{3}$ | 1          | 1               | 0.58           | 0.58            |     |
| Readout Electronics                                                             | E.2.6   | 0.02               | N              | 1          | 1          | 1               | 0.02           | 0.02            |     |
| Reponse Time                                                                    | E.2.7   | 3.0                | R              | $\sqrt{3}$ | 1          | 1               | 1.73           | 1.73            |     |
| Integration Time                                                                | E.2.8   | 2.0                | R              | $\sqrt{3}$ | 1          | 1               | 1.15           | 1.15            |     |
| RF ambient Conditions                                                           | E.6.1   | 3.0                | R              | $\sqrt{3}$ | 1          | 1               | 1.73           | 1.73            |     |
| Probe positioner Mechanical Tolerance                                           | E.6.2   | 2.0                | R              | $\sqrt{3}$ | 1          | 1               | 1.15           | 1.15            |     |
| Probe positioning with respect to Phantom Shell                                 | E.6.3   | 0.05               | R              | $\sqrt{3}$ | 1          | 1               | 0.03           | 0.03            |     |
| Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation | E.5.2   | 5.0                | R              | $\sqrt{3}$ | 1          | 1               | 2.89           | 2.89            |     |
| <b>Test sample Related</b>                                                      |         |                    |                |            |            |                 |                |                 |     |
| Test sample positioning                                                         | E.4.2.1 | 0.03               | N              | 1          | 1          | 1               | 0.03           | 0.03            | N-1 |
| Device Holder Uncertainty                                                       | E.4.1.1 | 5.00               | N              | 1          | 1          | 1               | 5.00           | 5.00            |     |
| Output power Power Drift - SAR drift measurement                                | 6.6.2   | 4.04               | R              | $\sqrt{3}$ | 1          | 1               | 2.33           | 2.33            |     |
| <b>Phantom and Tissue Parameters</b>                                            |         |                    |                |            |            |                 |                |                 |     |
| Phantom Uncertainty (Shape and thickness tolerances)                            | E.3.1   | 0.05               | R              | $\sqrt{3}$ | 1          | 1               | 0.03           | 0.03            |     |
| Liquid conductivity - deviation from target value                               | E.3.2   | 4.57               | R              | $\sqrt{3}$ | 0.64       | 0.43            | 1.69           | 1.13            |     |
| Liquid conductivity -                                                           | E.3.3   | 5.00               | N              | 1          | 0.64       | 0.43            | 3.20           | 2.15            | M   |

|                                                   |       |       |     |            |     |      |       |       |   |
|---------------------------------------------------|-------|-------|-----|------------|-----|------|-------|-------|---|
| measurement uncertainty                           |       |       |     |            |     |      |       |       |   |
| Liquid permittivity - deviation from target value | E.3.2 | 3.69  | R   | $\sqrt{3}$ | 0.6 | 0.49 | 1.28  | 1.04  |   |
| Liquid permittivity - measurement uncertainty     | E.3.3 | 10.00 | N   | 1          | 0.6 | 0.49 | 6.00  | 4.90  | M |
| Combined Standard Uncertainty                     |       |       | RSS | $\sqrt{3}$ |     |      | 11.23 | 10.70 |   |
| Expanded Uncertainty (95% Confidence interval)    |       |       | k   |            |     |      | 21.91 | 20.86 |   |

## 6.2. UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

| a                                                                               | b       | c           | d           | e= f(d,k)  | f        | g         | h= c*f/e    | i= c*g/e     | k   |
|---------------------------------------------------------------------------------|---------|-------------|-------------|------------|----------|-----------|-------------|--------------|-----|
| Uncertainty Component                                                           | Sec.    | Tol (+ - %) | Prob. Dist. | Div.       | Ci (1g ) | Ci (10 g) | 1g Ui (+-%) | 10g Ui (+-%) | Vi  |
| <b>Measurement System</b>                                                       |         |             |             |            |          |           |             |              |     |
| Probe calibration                                                               | E.2.1   | 7.0         | N           | 1          | 1        | 1         | 7.00        | 7.00         |     |
| Axial Isotropy                                                                  | E.2.2   | 2.5         | R           | $\sqrt{3}$ |          |           | 1.02        | 1.02         |     |
| Hemispherical Isotropy                                                          | E.2.2   | 4.0         | R           | $\sqrt{3}$ |          |           | 1.63        | 1.63         |     |
| Boundary effect                                                                 | E.2.3   | 1.0         | R           | $\sqrt{3}$ | 1        | 1         | 0.58        | 0.58         |     |
| Linearity                                                                       | E.2.4   | 5.0         | R           | $\sqrt{3}$ | 1        | 1         | 2.89        | 2.89         |     |
| System detection limits                                                         | E.2.5   | 1.0         | R           | $\sqrt{3}$ | 1        | 1         | 0.58        | 0.58         |     |
| Readout Electronics                                                             | E.2.6   | 0.02        | N           | 1          | 1        | 1         | 0.02        | 0.02         |     |
| Reponse Time                                                                    | E.2.7   | 3.0         | R           | $\sqrt{3}$ | 1        | 1         | 1.73        | 1.73         |     |
| Integration Time                                                                | E.2.8   | 2.0         | R           | $\sqrt{3}$ | 1        | 1         | 1.15        | 1.15         |     |
| RF ambient Conditions                                                           | E.6.1   | 3.0         | R           | $\sqrt{3}$ | 1        | 1         | 1.73        | 1.73         |     |
| Probe positioner Mechanical Tolerance                                           | E.6.2   | 2.0         | R           | $\sqrt{3}$ | 1        | 1         | 1.15        | 1.15         |     |
| Probe positioning with respect to Phantom Shell                                 | E.6.3   | 0.05        | R           | $\sqrt{3}$ | 1        | 1         | 0.03        | 0.03         |     |
| Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation | E.5.2   | 5.0         | R           | $\sqrt{3}$ | 1        | 1         | 2.89        | 2.89         |     |
| <b>Dipole</b>                                                                   |         |             |             |            |          |           |             |              |     |
| Dipole axis to liquid Distance                                                  | 8,E.4.2 | 1.00        | N           | $\sqrt{3}$ | 1        | 1         | 0.58        | 0.58         | N-1 |
| Input power and SAR drift measurement                                           | 8,6.6.2 | 4.04        | R           | $\sqrt{3}$ | 1        | 1         | 2.33        | 2.33         |     |
| <b>Phantom and Tissue Parameters</b>                                            |         |             |             |            |          |           |             |              |     |
| Phantom Uncertainty (Shape and thickness tolerances)                            | E.3.1   | 0.05        | R           | $\sqrt{3}$ | 1        | 1         | 0.03        | 0.03         |     |

|                                                   |       |       |     |            |          |      |       |       |   |
|---------------------------------------------------|-------|-------|-----|------------|----------|------|-------|-------|---|
| Liquid conductivity - deviation from target value | E.3.2 | 4.57  | R   | $\sqrt{3}$ | 0.6<br>4 | 0.43 | 1.69  | 1.13  |   |
| Liquid conductivity - measurement uncertainty     | E.3.3 | 5.00  | N   | 1          | 0.6<br>4 | 0.43 | 3.20  | 2.15  | M |
| Liquid permittivity - deviation from target value | E.3.2 | 3.69  | R   | $\sqrt{3}$ | 0.6      | 0.49 | 1.28  | 1.04  |   |
| Liquid permittivity - measurement uncertainty     | E.3.3 | 10.00 | N   | 1          | 0.6      | 0.49 | 6.00  | 4.90  | M |
| Combined Standard Uncertainty                     |       |       | RSS |            |          |      | 10.08 | 9.47  |   |
| Expanded Uncertainty (95% Confidence interval)    |       |       | k   |            |          |      | 19.65 | 18.47 |   |



## 7. SAR Measurement Evaluation

### 7.1. System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator frequency at 835 MHz, 1900 MHz and 2450MHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom.

Equipments :

| name                | Type and specification                                                            |
|---------------------|-----------------------------------------------------------------------------------|
| Signal generator    | E4433B                                                                            |
| Directional coupler | 450MHz-3GHz                                                                       |
| Amplifier           | 3W 502(10-2500MHz)                                                                |
| Reference dipole    | 835MHz:SN 36/08 DIPC 99<br>1900MHz:SN 36/08 DIPF 102<br>2450MHz:SN 36/08 DIPF 103 |

### 7.2. Validation Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %.

| Frequency          | 835MHz     | 1900MHz     | 2450MHz     |
|--------------------|------------|-------------|-------------|
| Target value (1g)  | 9.5 W/Kg   | 39.7 W/Kg   | 52.4 W/Kg   |
| 250 mW input power | 2.478 W/Kg | 9.556 W/Kg  | 12.899 W/Kg |
| Test value (1g)    | 9.912 W/Kg | 38.224 W/Kg | 51.596 W/Kg |

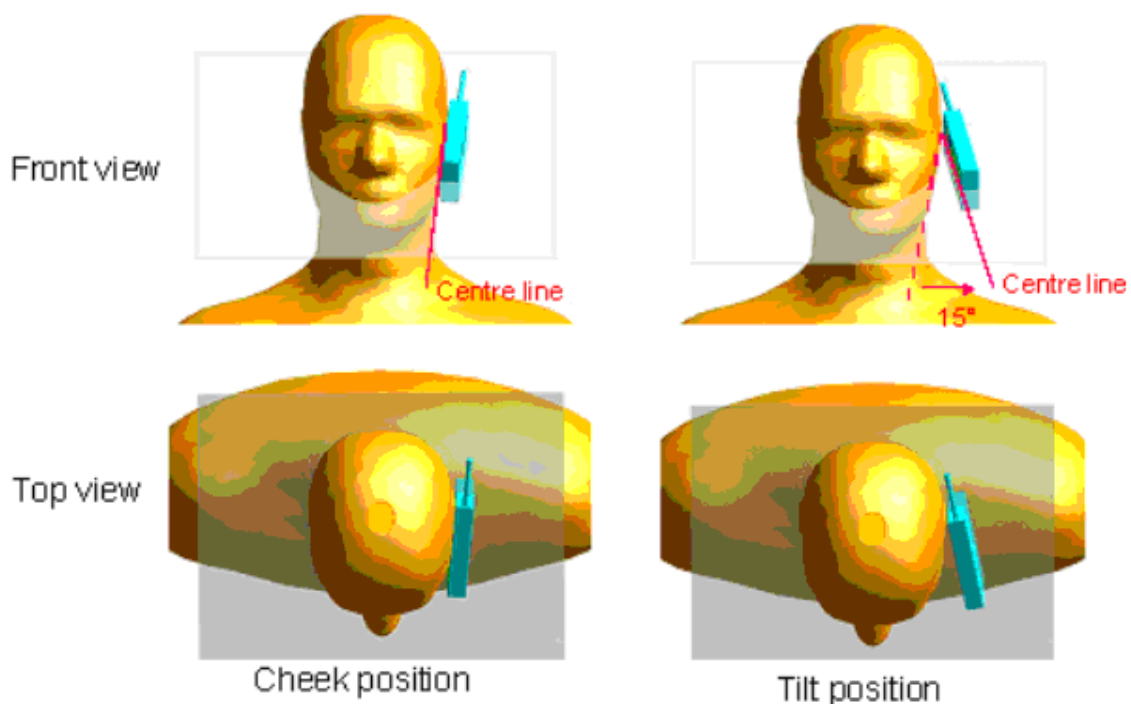
**Note:** System checks the specific test data please see page 127-132.

## 8. Operational Conditions During Test

### 8.1. Informations on the testing

The mobile phone antenna and battery are those specified by the manufacturer. The battery is fully charged before each measurement. The output power and frequency are controlled using a base station simulator. The mobile phone is set to transmit at its highest output peak power level.

The mobile phone is test in the “cheek” and “tilted” positions on the left and right sides of the phantom. The mobile phone is placed with the vertical centre line of the body of the mobile phone and the horizontal line crossing the centre of the earpiece in a plane parallel to the sagittal plane of the phantom.



Description of the “cheek” position:

The mobile phone is well placed in the reference plane and the earpiece is in contact with the ear. Then the mobile phone is moved until any point on the front side get in contact with the cheek of the phantom or until contact with the ear is lost.

Description of the “tilted” position:

The mobile phone is well placed in the “cheek” position as described above. Then the mobile phone is moved outward away from the month by an angle of 15 degrees or until contact with the ear lost.

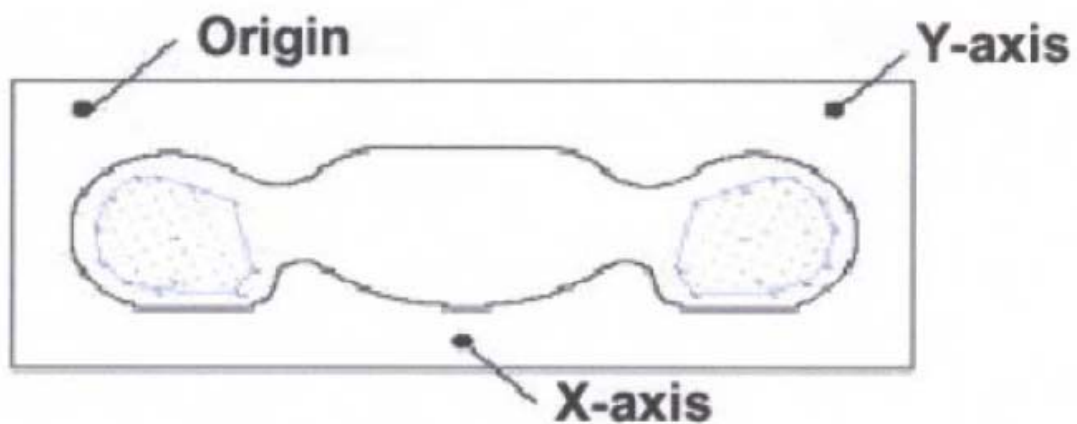
Remark: Please refer to Appendix B for the test setup photos.

### 8.2. Body-worn Configurations

The body-worn configurations shall be tested with the supplied accessories (belt-clips, holsters, etc.) attached to the device in normal use configuration.

The depth of the body tissue was 15.1cm. The distance between the back of the device and the bottom of the flat phantom is 5mm(taking into account of the IEEE 1528 and the place of the antenna)

For body-worn and other configurations a flat phantom shall be used which is comprised of material with electrical properties similar to the corresponding tissues.



SAR Measurement Points in Area Scan

### 8.3. 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 and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm \* 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors can not 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 interpolation scheme.
- Around this point, a cube of 30 \* 30 \* 30 mm or 32 \* 32 \* 32 mm is assessed by measuring 5 or 8 \* 5 or 8\*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

### 8.4. 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 minimize 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 based 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 time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

## **9. MEASUREMENT PROCEDURES**

### **9.1. Procedures Used To Establish Test Signal**

The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluating SAR. SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this was configured with the base station simulator. The SAR measurement software calculates a reference point at the start and end of the test to check for power drifts. If conducted power deviations of more than 5% occurred, the tests were repeated.

### **9.2. SAR Measurement Conditions for CDMA**

These procedures were followed according to FCC "SAR Measurement Procedures for 3G Devices", October 2007 (Revised).

### **9.3. Output Power Verification**

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices", October 2007 (Revised).

Maximum output power is verified on the High, Middle and Low channels according to procedures in section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rev. 0 and section 4.3.4 of 3GPP2 C.S0033-A for Rev. A. For Rev. A, maximum output power for both Subtype 0/1 and Subtype 2 Physical Layer configurations should be measured. The device operating configurations under TAP/ETAP should be documented in the test report; including power control, code channel and RF channel output power levels. The measurement results should be tabulated in the SAR report with any measurement difficulties and equipment limitations clearly identified.

### **9.4. SAR Measurement**

SAR is measured using FTAP/RTAP and FETAP/RETAP respectively for Rev. 0 and Rev. A devices. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations. Both FTAP and FETAP are configured with a Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots. AT power control should be in "All Bits Up" conditions for TAP/ETAP.

Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. SAR for Subtype 2 Physical layer configurations is not required for Rev. A when the maximum average output of each RF channels is less than that measured in Subtype 0/1 Physical layer configurations. Otherwise, SAR is measured on the maximum output channel for Rev. A using the exposure configuration that results in the highest SAR for that RF channels in Rev. 0.17 Head SAR is required for Ev-Do devices that support operations next to the ear; for example, with VOIP, using Subtype 2 Physical Layer configurations according to the required handset configurations.

#### **4.4.2.3 1x RTT Support**

For Ev-Do devices that also support 1x RTT voice and/or data operations, SAR is not required for 1x

RTT when the maximum average output of each channel is less than ¼ dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0. Otherwise, the ‘Body SAR Measurements’ procedures in the ‘CDMA 2000 1x Handsets’ section should be applied.

#### 4.4.2.4 Output Power Verification 1x RTT

Maximum output power is verified on the High, Middle, and Low channels according to procedures in Section 4.4.5.2 of 3 GPP2 C.S0011/TIA-98-E. Results for at least steps 3,4 and 10 of the power measurement procedures should be tabulated in the SAR report. Steps 3 and 4 should be measured using SO55 with power control bits in “All Up” condition. TDSO/SO32 may be used instead of SO55 for step 4. Step 10 should be measured using TDSO/SO32 with power control bits in the “Bits Hold”

#### 1xRTT Power Measurements

| Channel | Radio Configuration and conducted Power (dBm) |       |       |       |
|---------|-----------------------------------------------|-------|-------|-------|
|         | RC1                                           | RC1   | RC3   | RC3   |
| 1013    | 26.84                                         | 26.74 | 26.68 | 26.72 |
| 384     | 27.11                                         | 27.05 | 26.85 | 27.02 |
| 777     | 27.34                                         | 27.13 | 27.18 | 27.20 |
| 25      | 26.48                                         | 26.35 | 26.33 | 26.34 |
| 600     | 26.08                                         | 26.01 | 26.05 | 26.00 |
| 1175    | 26.04                                         | 26.00 | 26.02 | 26.00 |
| SO      | SO2                                           | SO55  | SO2   | SO55  |

#### EvDo Rev A Power Measurements

| 1x EvDo Rev.A Type 0 [dBm] – FTAP rate = 2 Slot Version 307.2kbps |              |         |           |           |           |               |
|-------------------------------------------------------------------|--------------|---------|-----------|-----------|-----------|---------------|
|                                                                   | RTAP<br>Rate | 9.6kbps | 19.2 kbps | 38.2 kbps | 76.8 kbps | 153.6<br>kbps |
| Band                                                              | Channel      |         |           |           |           |               |
| Cellular                                                          | 1013         | 26.66   | 26.54     | 26.38     | 26.12     | 26.23         |
|                                                                   | 384          | 26.96   | 26.85     | 26.79     | 26.84     | 26.48         |
|                                                                   | 777          | 27.22   | 27.14     | 27.10     | 27.16     | 27.14         |
| PCS                                                               | 25           | 26.24   | 26.20     | 26.18     | 26.20     | 26.15         |
|                                                                   | 600          | 26.05   | 26.01     | 25.98     | 25.89     | 25.86         |
|                                                                   | 1175         | 26.11   | 26.02     | 26.01     | 25.94     | 25.86         |

Note: 1. Because CDMA voice mode peak output power is large than EVDO, we select CDMA voice mode for SAR test.

2. SAR test Power Control was set in ‘All Bits Up’ for all measurements.

## 9.5. WIFI and BT measurement power.

Wifi peak output power

| Band | Channel | Frequency (MHz) | Output Power(dBm) |                |
|------|---------|-----------------|-------------------|----------------|
|      |         |                 | 802.11B (DSSS)    | 802.11G (OFDM) |
| WiFi | 1       | 2412            | 11.63             | 8.12           |
|      | 6       | 2437            | 13.17             | 8.25           |
|      | 11      | 2462            | 14.61             | 10.78          |

Bluetooth peak output power

| Band | Channel | Frequency (MHz) | Output Power(dBm) |                |        |
|------|---------|-----------------|-------------------|----------------|--------|
|      |         |                 | GFSK              | $\Pi/4$ -DQPSK | 8-DPSK |
| BT   | 0       | 2402            | 0.133             | 4.839          | 2.686  |
|      | 38      | 2441            | 3.872             | 5.726          | 3.626  |
|      | 79      | 2480            | 4.125             | 5.967          | 4.002  |

## 10. Wireless Hot Spot SAR Evaluation Procedures

This Portable Devices with Wireless Router function. And the SAR evaluation procedures accord with KDB 941225 D06 Hot Spot SAR v01.

1. SAR must be tested for all surfaces and edges (side) with a transmitting antenna with in 2.5 cm from that surface or edge, at a test separation distance of 10 mm, in the wireless modes that support wireless routing.

## 11. Test Results List

### Summary of Measurement Results (CDMA 800 Band)

| Temperature: 21.0~23.8°C, humidity: 54~60%. |                       |                   |                     |             |             |
|---------------------------------------------|-----------------------|-------------------|---------------------|-------------|-------------|
| Phantom Configurations                      | Device Test Positions | Antenna Positions | SAR(W/Kg), 1g Peak  |             |             |
|                                             |                       |                   | Device Test channel |             |             |
|                                             |                       |                   | Channel 1013        | Channel 384 | Channel 777 |
| Left Side Of Head                           | Cheek/Touch           | Internal          | 1.007               | 1.111       | 1.225       |
|                                             | Ear/Tilt              | Internal          | 0.487               | 0.522       | 0.692       |
| Right Side Of Head                          | Cheek/Touch           | Internal          | 0.905               | 0.967       | 1.129       |
|                                             | Ear/Tilt              | Internal          | 0.948               | 1.051       | 1.019       |
| Body (10mm separation)                      | Back Side             | Internal          | 1.279               | 1.273       | 1.230       |
|                                             | Face Side             | Internal          | 0.752               | 1.043       | 0.856       |
|                                             | Edge B                | Internal          | /                   | /           | 0.735       |
|                                             | Edge C                | Internal          | /                   | /           | 0.225       |
|                                             | Edge D                | Internal          | /                   | /           | 0.666       |

### Summary of Measurement Results (CDMA 1900 Band)

| Temperature: 21.0~23.8°C, humidity: 54~60%. |                       |                   |                     |             |              |
|---------------------------------------------|-----------------------|-------------------|---------------------|-------------|--------------|
| Phantom Configurations                      | Device Test Positions | Antenna Positions | SAR(W/Kg), 1g Peak  |             |              |
|                                             |                       |                   | Device Test channel |             |              |
|                                             |                       |                   | Channel 25          | Channel 600 | Channel 1775 |
| Left Side Of Head                           | Cheek/Touch           | Internal          | 0.730               | 0.917       | 1.113        |
|                                             | Ear/Tilt              | Internal          | 0.320               | 0.354       | 0.557        |
| Right Side Of Head                          | Cheek/Touch           | Internal          | 1.108               | 1.265       | 1.357        |
|                                             | Ear/Tilt              | Internal          | 0.232               | 0.492       | 0.330        |
| Body (10mm separation)                      | Back Side             | Internal          | 1.100               | 1.199       | 0.936        |
|                                             | Face Side             | Internal          | 0.648               | 0.833       | 0.818        |
|                                             | Edge B                | Internal          | 0.270               | /           | /            |
|                                             | Edge C                | Internal          | 0.289               | /           | /            |
|                                             | Edge D                | Internal          | 0.218               | /           | /            |



### Summary of Measurement Results (WLAN 802.11B Band)

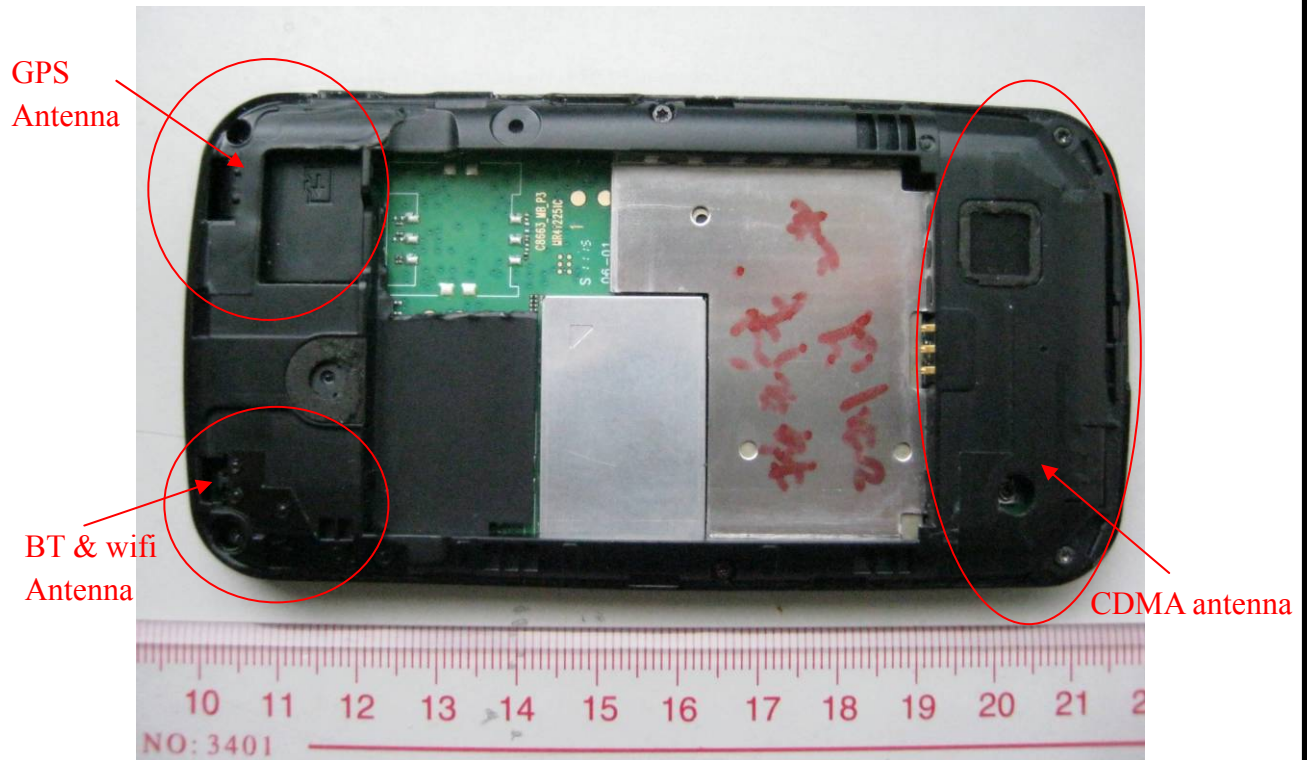
| Temperature: 21.0~23.8°C, humidity: 54~60%. |                       |                   |                     |           |            |
|---------------------------------------------|-----------------------|-------------------|---------------------|-----------|------------|
| Phantom Configurations                      | Device Test Positions | Antenna Positions | SAR(W/Kg), 1g Peak  |           |            |
|                                             |                       |                   | Device Test channel |           |            |
|                                             |                       |                   | Channel 1           | Channel 6 | Channel 11 |
| Body (10mm separation)                      | Back upward           | Internal          | /                   | /         | 0.133      |
|                                             | Face Upward           | Internal          | /                   | /         | 0.044      |
|                                             | Edge A                | Internal          | /                   | /         | 0.023      |
|                                             | Edge C                | Internal          | /                   | /         | 0.053      |
|                                             | Edge D                | Internal          | /                   | /         | /          |

**Note:** 1. Refer KDB 447498, when the SAR procedures require multiple channels to be tested and the 1-g SAR for the highest output channel is less than 0.8 W/kg and peak SAR is less than 1.6W/kg, where the transmission band corresponding to all channels is  $\leq 100$  MHz, testing for the other channels is not required.

2. The distance between wifi antenna and edge D is 4cm, large than 2.5cm. according with KDB941225 D06, the SAR measurement of Edge D is not required.

## 12. Multiple Transmitters Evaluation

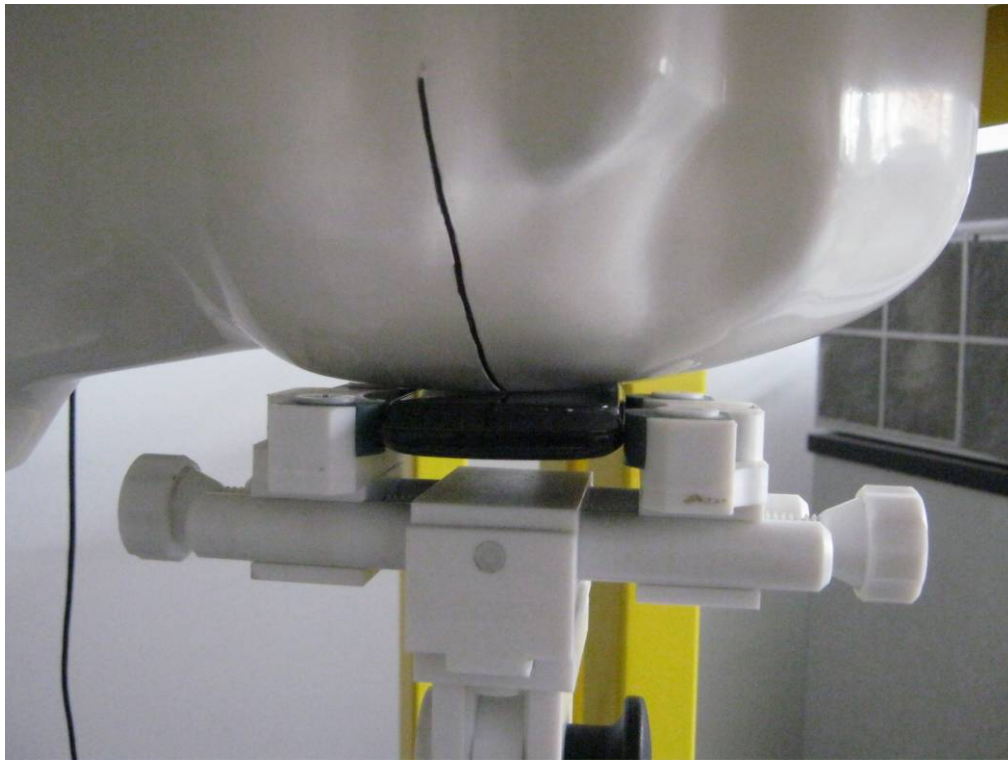
The are three transmitters build in EUT, CDMA, BT /WiFi and GPS. As follwing :



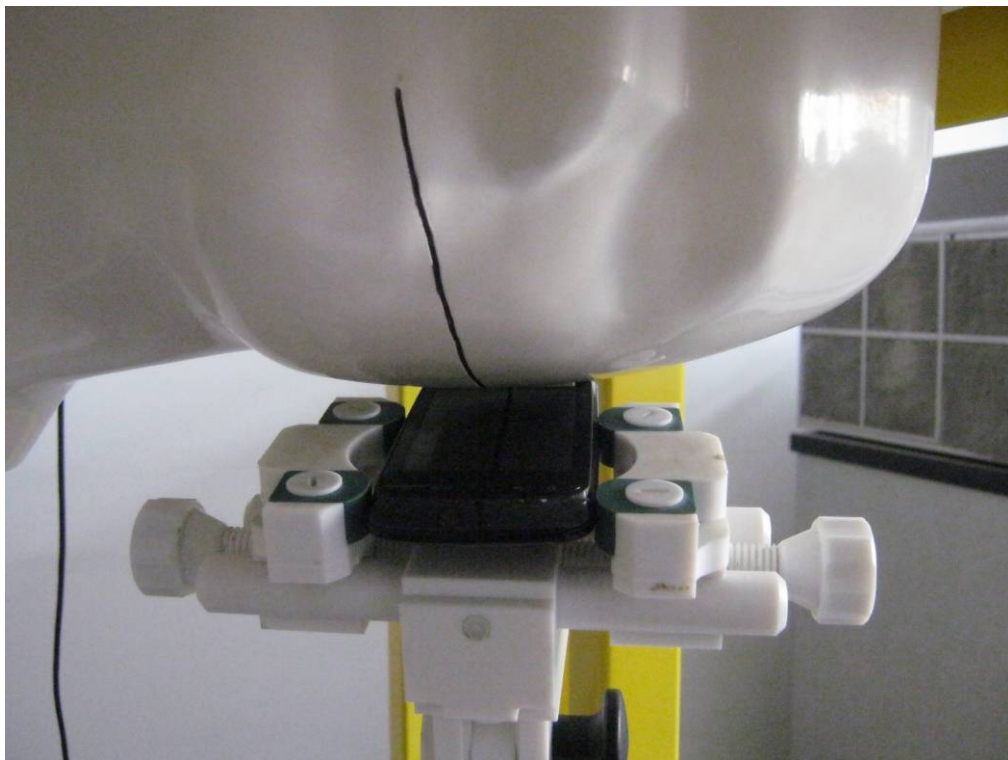
1. The Wifi mode Max. 1-g SAR vauel is 0.133W/Kg, and the CDMA Max. 1-g SAR vauel is 1.357W/Kg, the sum of 1-g SAR vauel is 1.490W/Kg less than 1.6W/Kg, according with KDB 648474 D01, when the sum of the 1-g SAR is <1.6 W/kg for all simultaneous transmitting antennas , and the Simultaneous Transmission SAR is not required.

## Annex A Photographs of the EUT

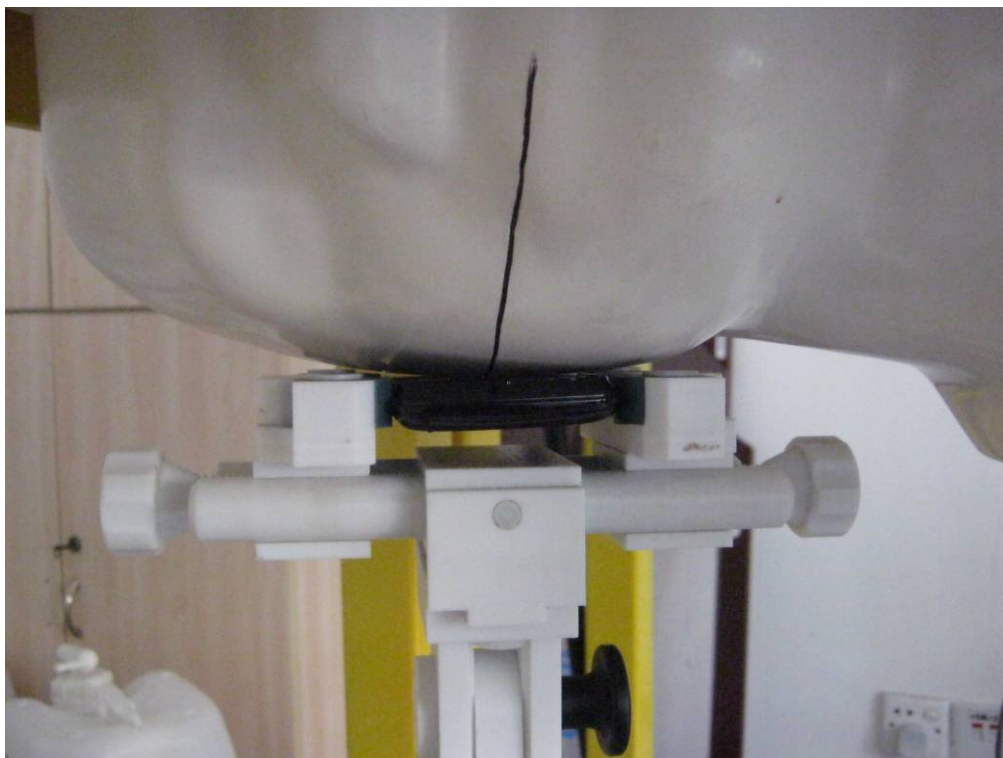
### 1 EUT Left Head Touch Cheek Position



### 2 EUT Left Head Tilt15 Position



### 3 EUT Right Head Touch Cheek Position



### 4 EUT Right Head Tilt15 Position





# 5 Side Position 10mm distance



# 6 Side Position Edge A 10mm distance



7. Side Position Edge B 10mm distance



8. Side Position Edge C 10mm distance



8. Side Position Edge D 10mm distance



Liquid Level Photo



## Annex C Graph Test Results

| <u>TYPE</u> | <u>BAND</u>                             | <u>PARAMETERS</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <b><u>CDMA</u></b><br><b><u>800</u></b> | <u>Measurement 1:</u> Right Head with Cheek device position on Low Channel in CDMA mode<br><u>Measurement 2:</u> Right Head with Cheek device position on Middle Channel in CDMA mode<br><u>Measurement 3:</u> Right Head with Cheek device position on High Channel in CDMA mode<br><u>Measurement 4:</u> Right Head with Tilt device position on Low Channel in CDMA mode<br><u>Measurement 5:</u> Right Head with Tilt device position on Middle Channel in CDMA mode<br><u>Measurement 6:</u> Right Head with Tilt device position on High Channel in CDMA mode<br><u>Measurement 7:</u> Left Head with Cheek device position on Low Channel in CDMA mode<br><u>Measurement 8:</u> Left Head with Cheek device position on Middle Channel in CDMA mode<br><u>Measurement 9:</u> Left Head with Cheek device position on High Channel in CDMA mode<br><u>Measurement 10:</u> Left Head with Tilt device position on Low Channel in CDMA mode<br><u>Measurement 11:</u> Left Head with Tilt device position on Middle Channel in CDMA mode<br><u>Measurement 12:</u> Left Head with Tilt device position on High Channel in CDMA mode<br><u>Measurement 13:</u> Validation Plane with Body device position on Low Channel in CDMA mode<br><u>Measurement 14:</u> Validation Plane with Body device position on Low Channel in CDMA mode<br><u>Measurement 15:</u> Validation Plane with Body device position on Middle Channel in CDMA mode<br><u>Measurement 16:</u> Validation Plane with Body device position on Middle Channel in CDMA mode<br><u>Measurement 17:</u> Validation Plane with Body device position on High Channel in CDMA mode<br><u>Measurement 18:</u> Validation Plane with Body device position on High Channel in CDMA mode<br><u>Measurement 19:</u> Validation Plane with Body device position on High Channel in CDMA mode (Edge B)<br><u>Measurement 20:</u> Validation Plane with Body device position on High Channel in CDMA mode (Edge D)<br><u>Measurement 21:</u> Validation Plane with Body device |



|  |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |                                          | position on High Channel in CDMA mode (Edge C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  | <b><u>CDMA</u></b><br><b><u>1900</u></b> | <p><u>Measurement 22</u>: Right Head with Cheek device position on Low Channel in CDMA mode</p> <p><u>Measurement 23</u>: Right Head with Cheek device position on Middle Channel in CDMA mode</p> <p><u>Measurement 41</u>: Right Head with Cheek device position on High Channel in CDMA mode</p> <p><u>Measurement 25</u>: Right Head with Tilt device position on Low Channel in CDMA mode</p> <p><u>Measurement 26</u>: Right Head with Tilt device position on Middle Channel in CDMA mode</p> <p><u>Measurement 27</u>: Right Head with Tilt device position on High Channel in CDMA mode</p> <p><u>Measurement 28</u>: Left Head with Cheek device position on Low Channel in CDMA mode</p> <p><u>Measurement 29</u>: Left Head with Cheek device position on Middle Channel in CDMA mode</p> <p><u>Measurement 30</u>: Left Head with Cheek device position on High Channel in CDMA mode</p> <p><u>Measurement 31</u>: Left Head with Tilt device position on Low Channel in CDMA mode</p> <p><u>Measurement 32</u>: Left Head with Tilt device position on Middle Channel in CDMA mode</p> <p><u>Measurement 33</u>: Left Head with Tilt device position on High Channel in CDMA mode</p> <p><u>Measurement 34</u>: Validation Plane with Body device position on Low Channel in CDMA mode</p> <p><u>Measurement 35</u>: Validation Plane with Body device position on Low Channel in CDMA mode</p> <p><u>Measurement 36</u>: Validation Plane with Body device position on Middle Channel in CDMA mode</p> <p><u>Measurement 37</u>: Validation Plane with Body device position on Middle Channel in CDMA mode</p> <p><u>Measurement 38</u>: Validation Plane with Body device position on High Channel in CDMA mode</p> <p><u>Measurement 39</u>: Validation Plane with Body device position on High Channel in CDMA mode</p> <p><u>Measurement 40</u>: Validation Plane with Body device position on Low Channel in CDMA mode (Edge B)</p> <p><u>Measurement 41</u>: Validation Plane with Body device position on Low Channel in CDMA mode (Edge D)</p> <p><u>Measurement 42</u>: Validation Plane with Body device position on Low Channel in CDMA mode (Edge C)</p> |
|  | <b><u>WIFI</u></b>                       | <u>Measurement 43</u> : Validation Plane with Body device                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|  |                    |                                                                                                                                                                                                                                                                                                                                                      |
|--|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b><u>2450</u></b> | position on High Channel in DSSS mode<br><u>Measurement 44:</u> Validation Plane with Body device<br>position on High Channel in DSSS mode<br><u>Measurement 43:</u> Validation Plane with Body device<br>position on High Channel in DSSS mode<br><u>Measurement 44:</u> Validation Plane with Body device<br>position on High Channel in DSSS mode |
|--|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# MEASUREMENT 1

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 2 seconds

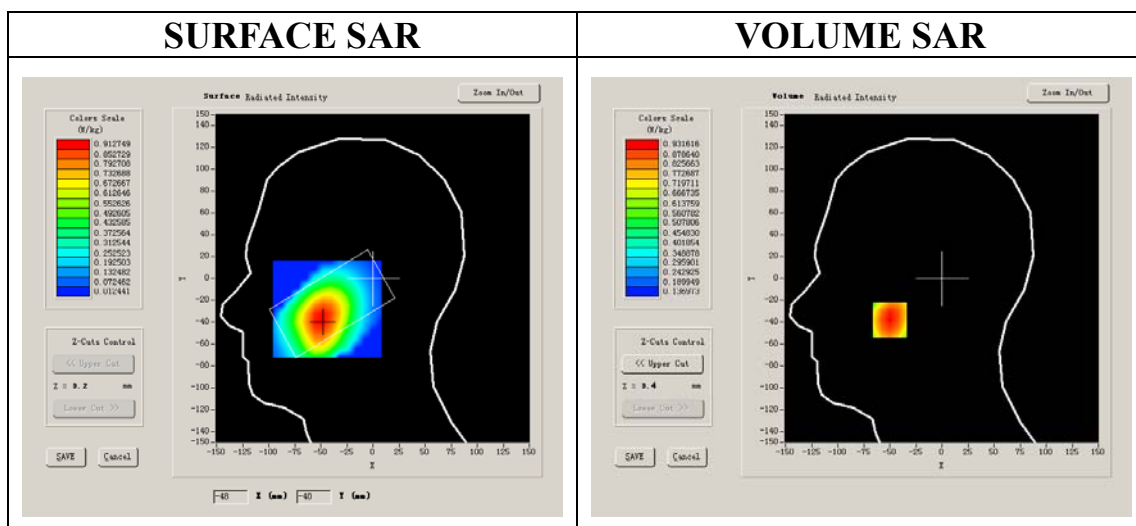
## A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | Low                           |
| Signal          | CDMA                          |

## B. SAR Measurement Results

Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.867138             |
| Variation (%)                     | 0.890000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



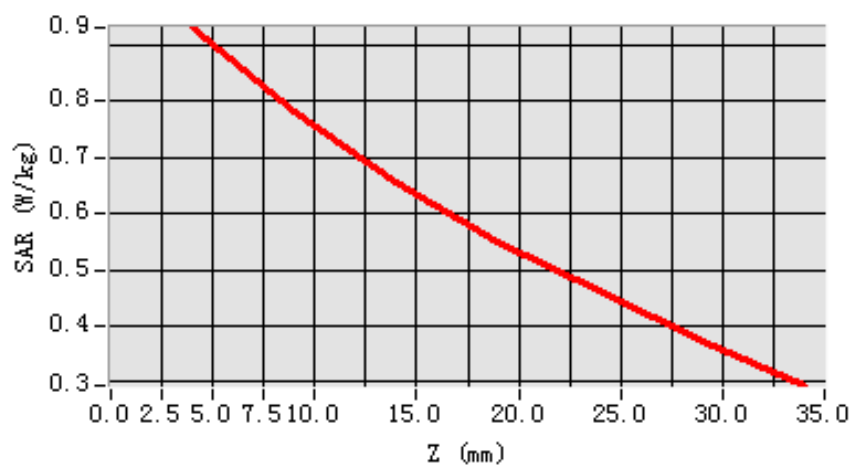
**Maximum location: X=-50.00, Y=-38.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.721110 |
| <b>SAR 1g (W/Kg)</b>  | 0.904985 |

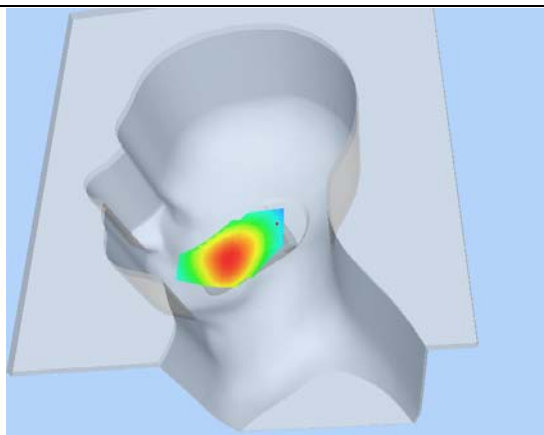
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.9316</b> | <b>0.7830</b> | <b>0.6580</b> | <b>0.5493</b> | <b>0.4625</b> | <b>0.3729</b> |

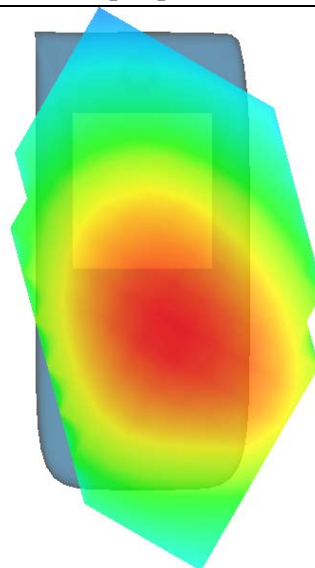
**SAR, Z Axis Scan (X = -50, Y = -38)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 2

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 58 seconds

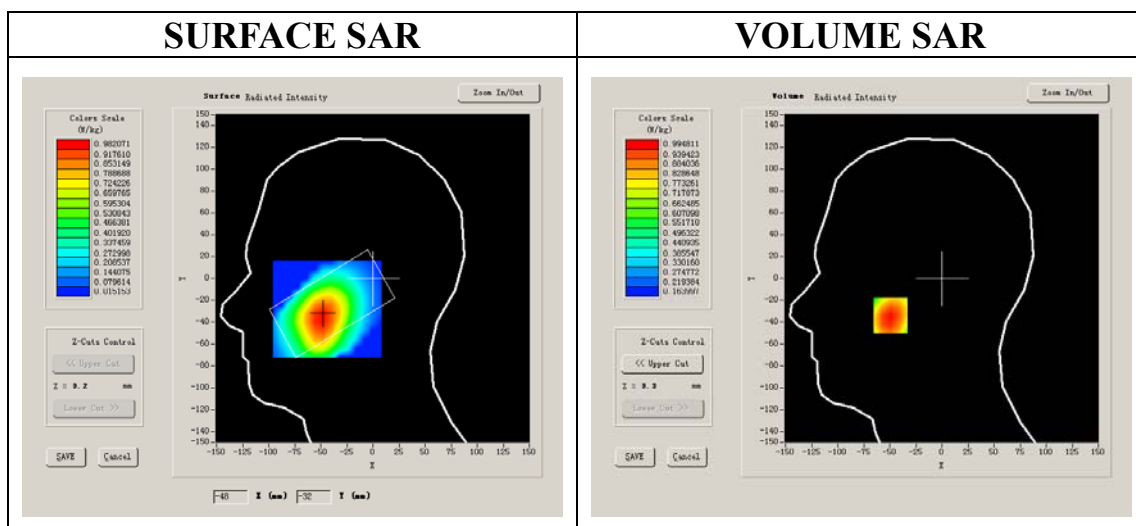
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | Middle                        |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Middle Band SAR (Channel 384):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 836.520020           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.879566             |
| Variation (%)                     | 0.210000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



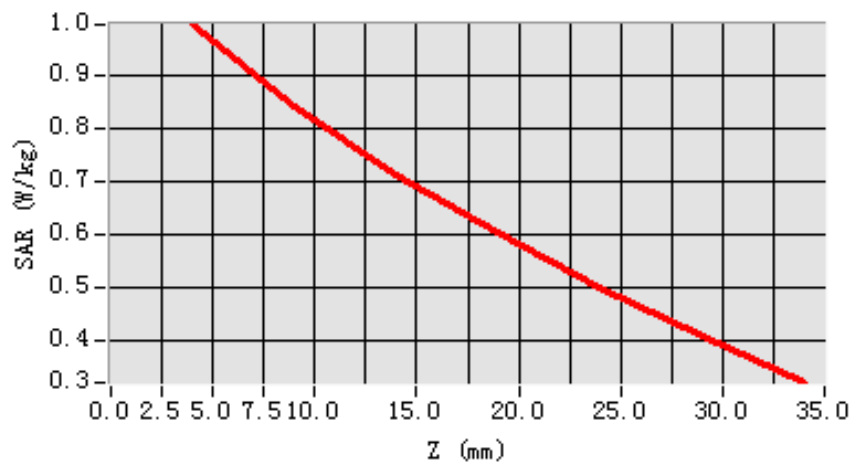
**Maximum location: X=-49.00, Y=-34.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.767275 |
| <b>SAR 1g (W/Kg)</b>  | 0.967053 |

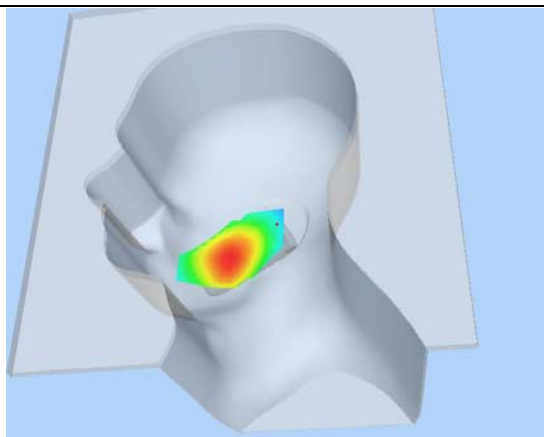
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.9948</b> | <b>0.8398</b> | <b>0.7117</b> | <b>0.6028</b> | <b>0.4987</b> | <b>0.4063</b> |

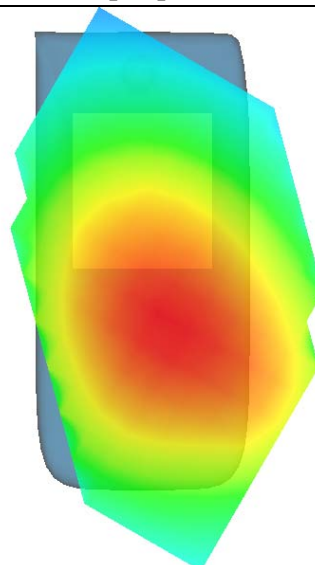
**SAR, Z Axis Scan (X = -49, Y = -34)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 3

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 1 seconds

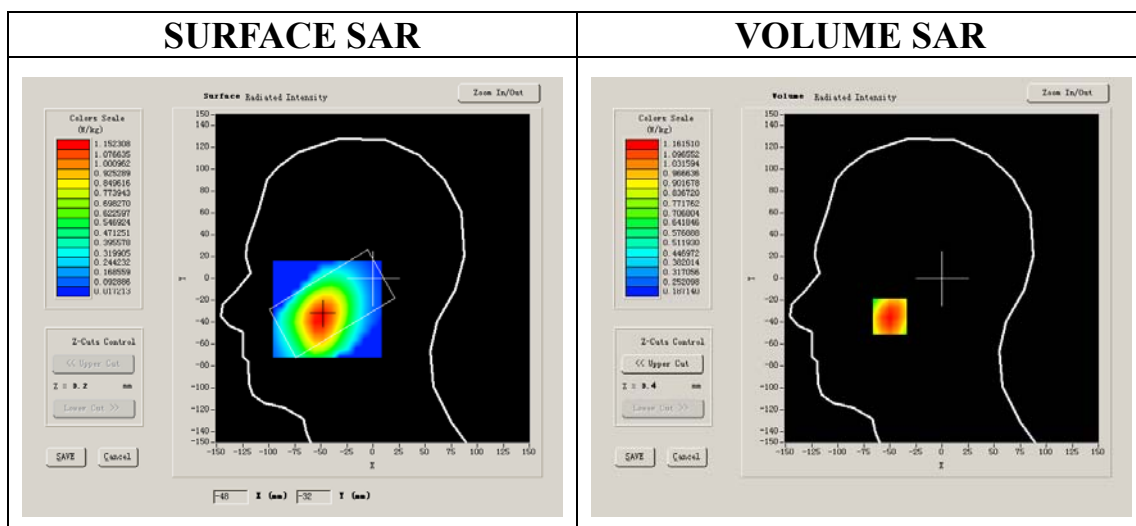
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.891963             |
| Variation (%)                     | 0.100000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |





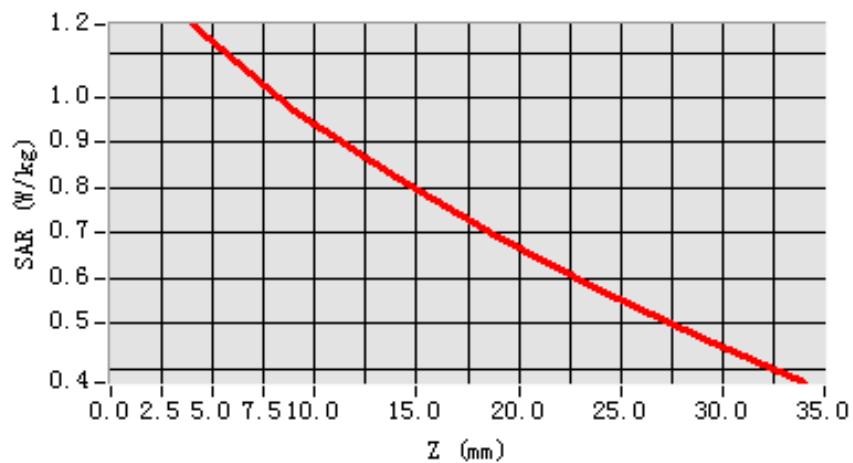
**Maximum location: X=-50.00, Y=-35.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.890702 |
| <b>SAR 1g (W/Kg)</b>  | 1.128875 |

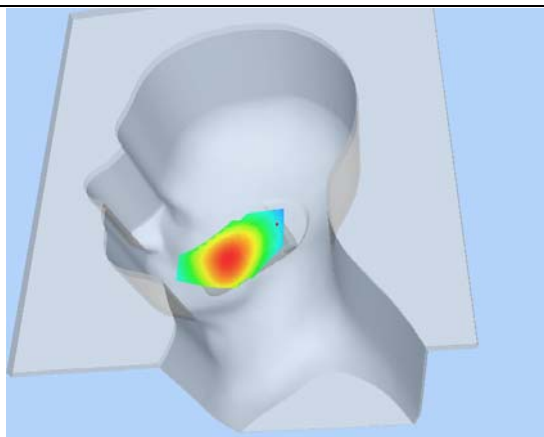
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.1615</b> | <b>0.9729</b> | <b>0.8219</b> | <b>0.6913</b> | <b>0.5738</b> | <b>0.4651</b> |

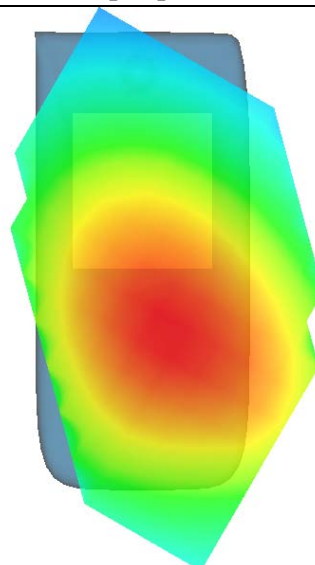
**SAR, Z Axis Scan (X = -50, Y = -35)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 4

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 41 seconds

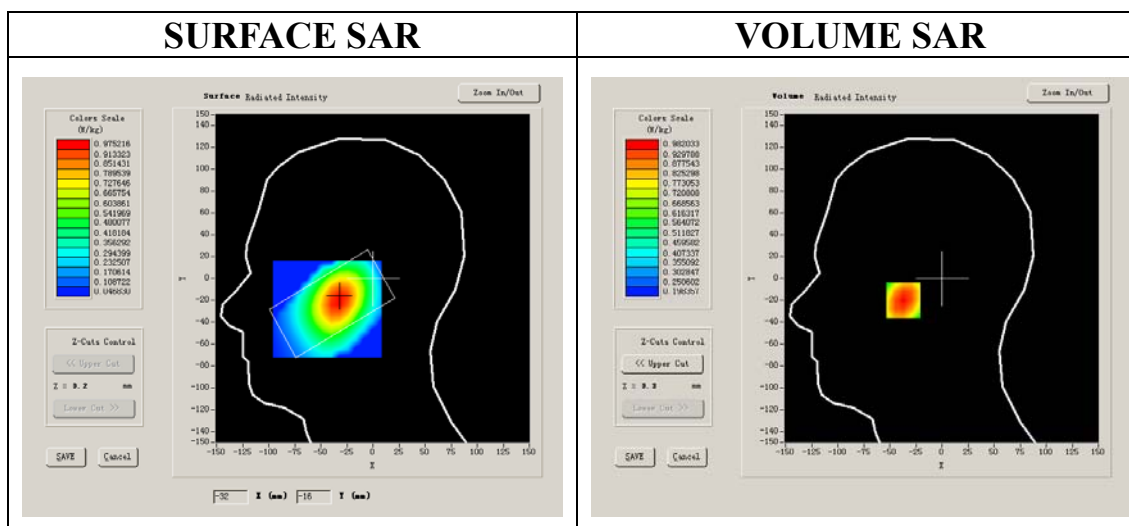
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Tilt                          |
| Band            | CDMA850                       |
| Channels        | Low                           |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.867138             |
| Variation (%)                     | 0.650000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



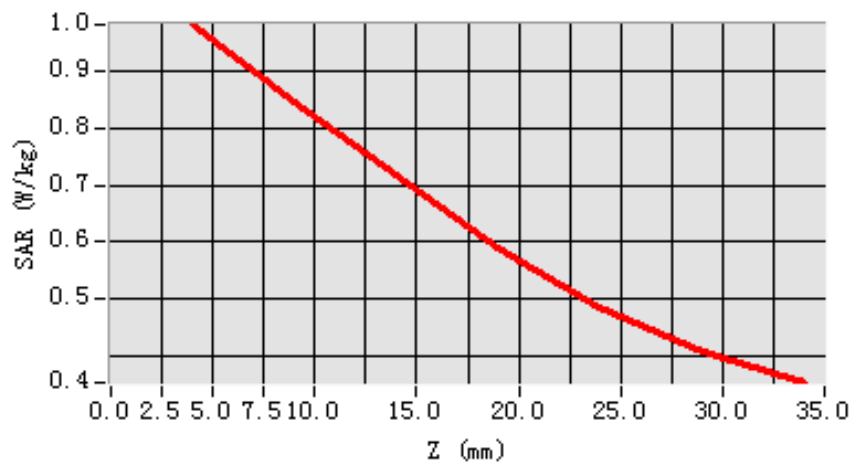
**Maximum location: X=-33.00, Y=-20.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.755903 |
| <b>SAR 1g (W/Kg)</b>  | 0.948328 |

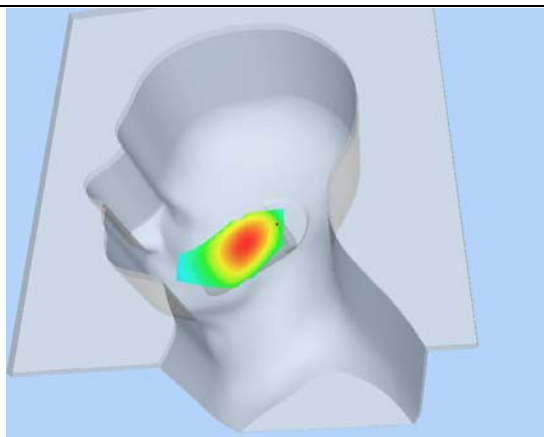
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.9820</b> | <b>0.8469</b> | <b>0.7184</b> | <b>0.5903</b> | <b>0.4848</b> | <b>0.4085</b> |

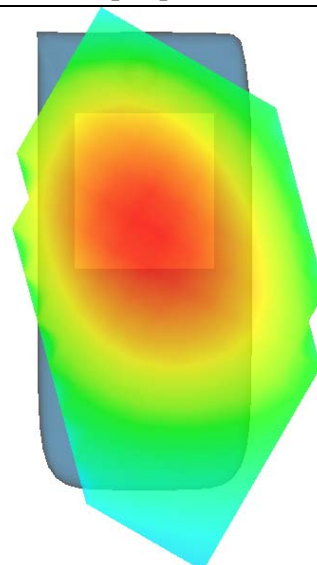
**SAR, Z Axis Scan (X = -33, Y = -20)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 5

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ 

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 38 seconds

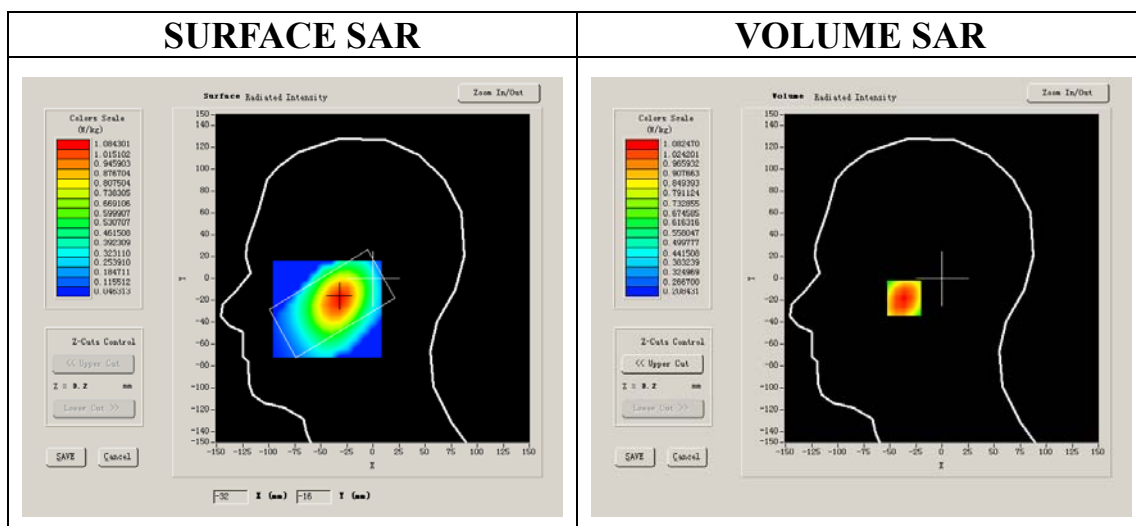
### **A. Experimental conditions.**

|                        |                               |
|------------------------|-------------------------------|
| <b>Phantom File</b>    | sam_direct_droit2_surf8mm.txt |
| <b>Phantom</b>         | Right head                    |
| <b>Device Position</b> | Tilt                          |
| <b>Band</b>            | CDMA850                       |
| <b>Channels</b>        | Middle                        |
| <b>Signal</b>          | CDMA                          |

## B. SAR Measurement Results

### Middle Band SAR (Channel 384):

|                                          |                      |
|------------------------------------------|----------------------|
| <b>Frequency (MHz)</b>                   | 836.520020           |
| <b>Relative permittivity (real part)</b> | 41.790001            |
| <b>Relative permittivity</b>             | 18.926250            |
| <b>Conductivity (S/m)</b>                | 0.879566             |
| <b>Variation (%)</b>                     | -0.630000            |
| <b>Ambient Temperature:</b>              | 22.2°C               |
| <b>Liquid Temperature:</b>               | 21.5C                |
| <b>ConvF:</b>                            | 28.479,25.214,27.196 |
| <b>Crest factor:</b>                     | 1:1                  |



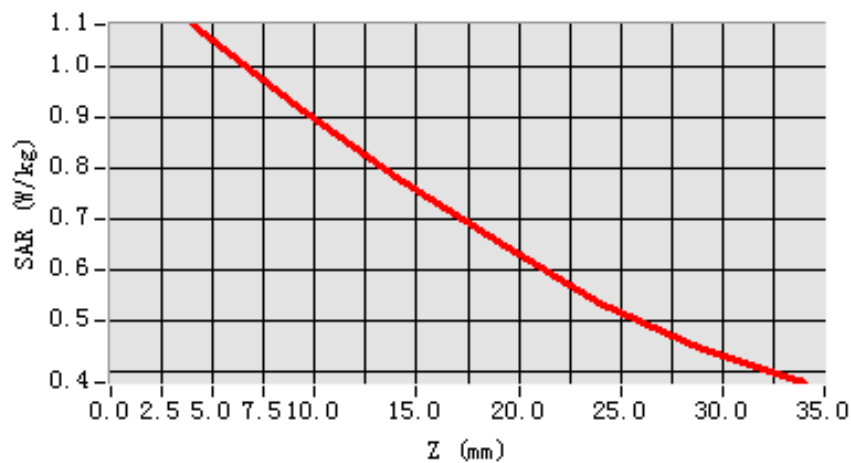
**Maximum location: X=-32.00, Y=-18.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.835836 |
| <b>SAR 1g (W/Kg)</b>  | 1.051121 |

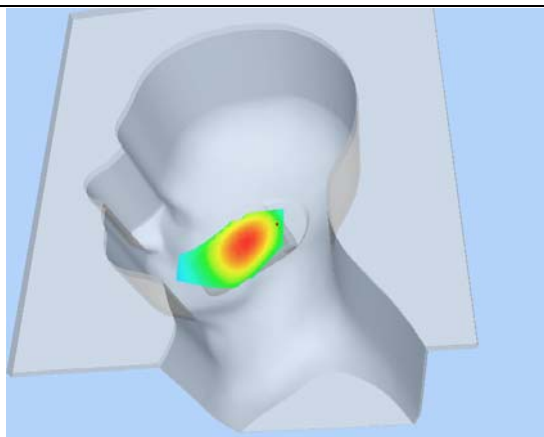
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b> | <b>4.00</b> | <b>9.00</b> | <b>14.00</b> | <b>19.00</b> | <b>24.00</b> | <b>29.00</b> |
|-------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>SAR (W/Kg)</b> | 0.0000      | 1.0825      | 0.9255      | 0.7839       | 0.6549       | 0.5360       | 0.4438       |

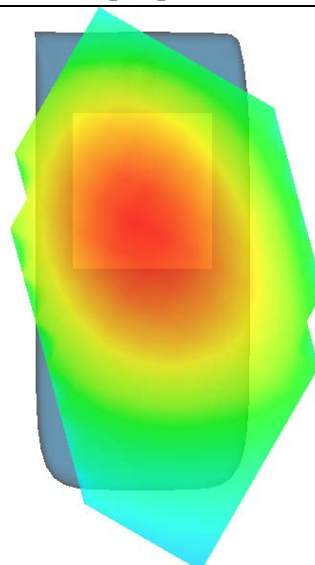
**SAR, Z Axis Scan (X = -32, Y = -18)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 6

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 39 seconds

### A. Experimental conditions.

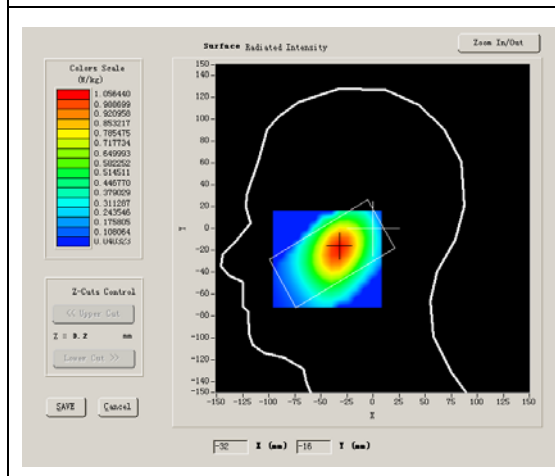
|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Tilt                          |
| Band            | CDMA850                       |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

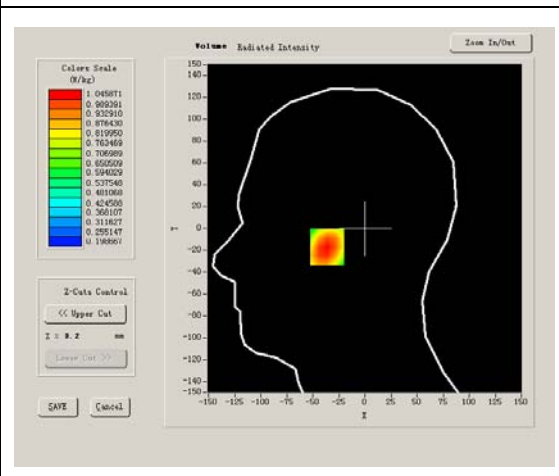
Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.891963             |
| Variation (%)                     | -0.630000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



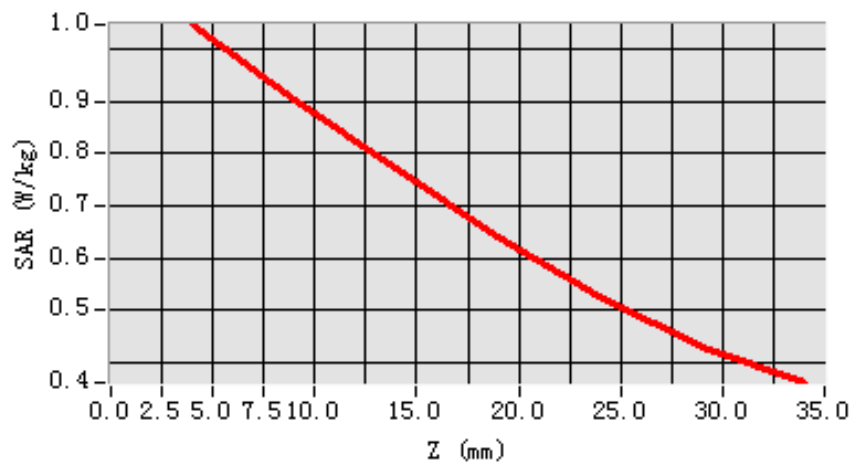
**Maximum location: X=-32.00, Y=-17.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.811387 |
| <b>SAR 1g (W/Kg)</b>  | 1.019299 |

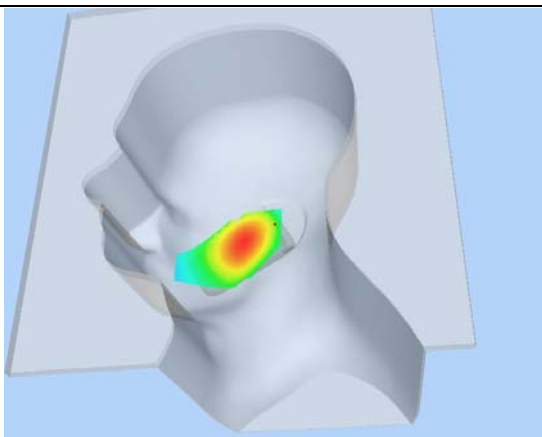
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.0459</b> | <b>0.9021</b> | <b>0.7712</b> | <b>0.6408</b> | <b>0.5255</b> | <b>0.4275</b> |

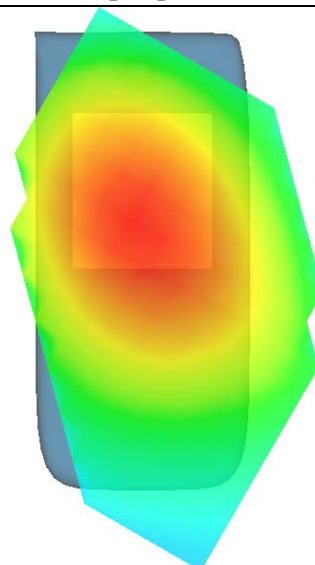
**SAR, Z Axis Scan (X = -32, Y = -17)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 7

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 8 seconds

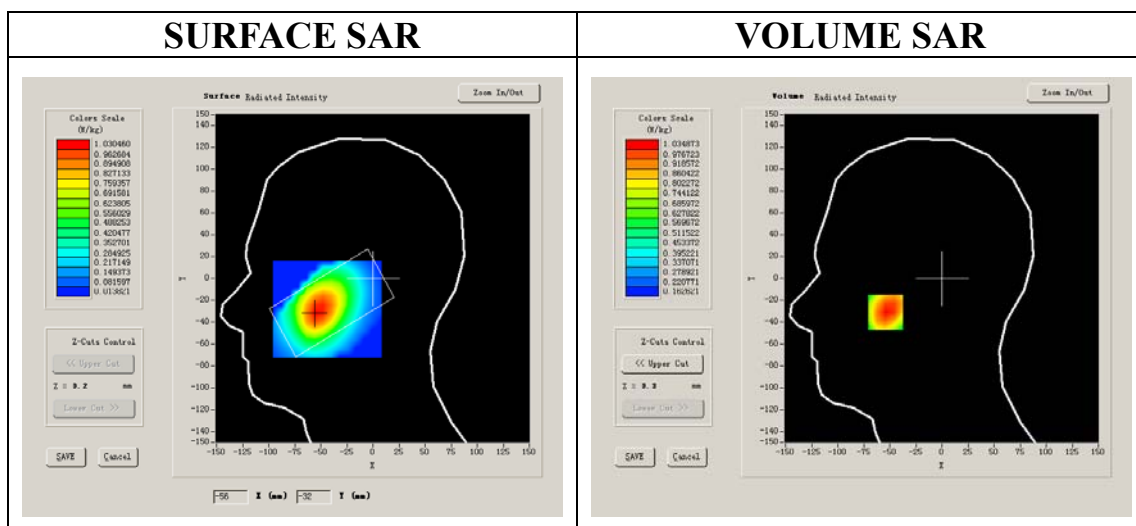
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | Low                           |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.867138             |
| Variation (%)                     | -0.800000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



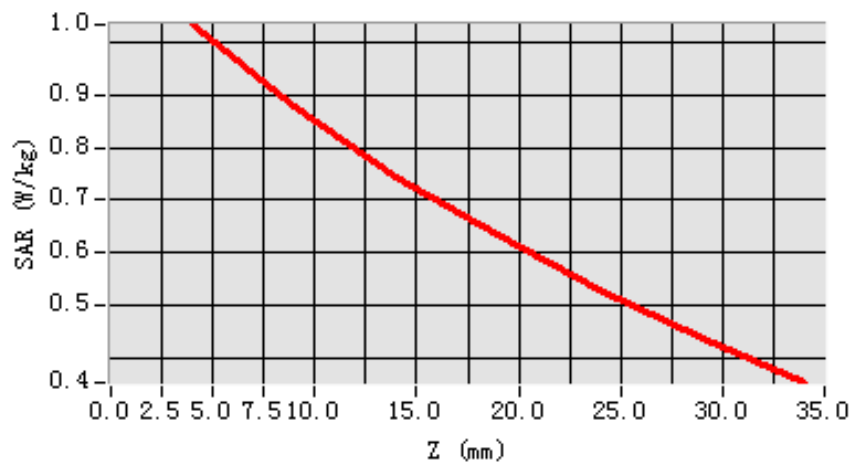
**Maximum location: X=-54.00, Y=-31.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.794457 |
| <b>SAR 1g (W/Kg)</b>  | 1.007071 |

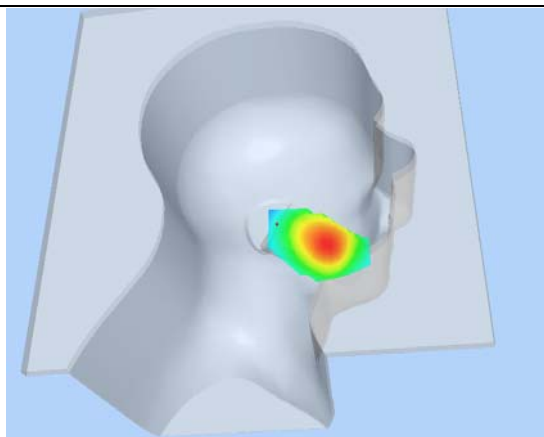
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.0349</b> | <b>0.8786</b> | <b>0.7453</b> | <b>0.6349</b> | <b>0.5308</b> | <b>0.4369</b> |

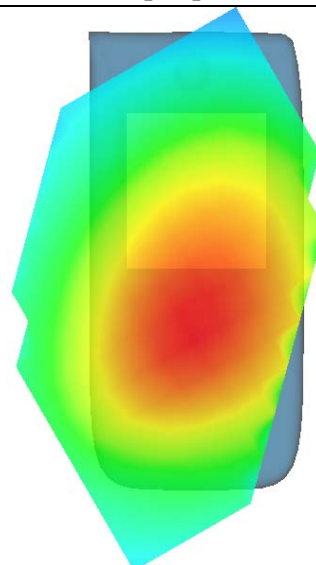
**SAR, Z Axis Scan (X = -54, Y = -31)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 8

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 15 seconds

### A. Experimental conditions.

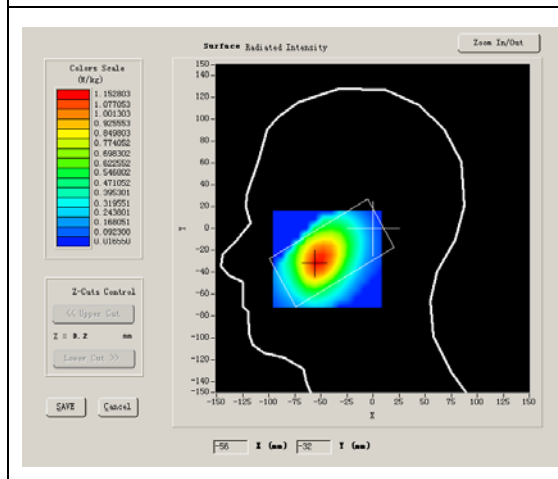
|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | Middle                        |
| Signal          | CDMA                          |

### B. SAR Measurement Results

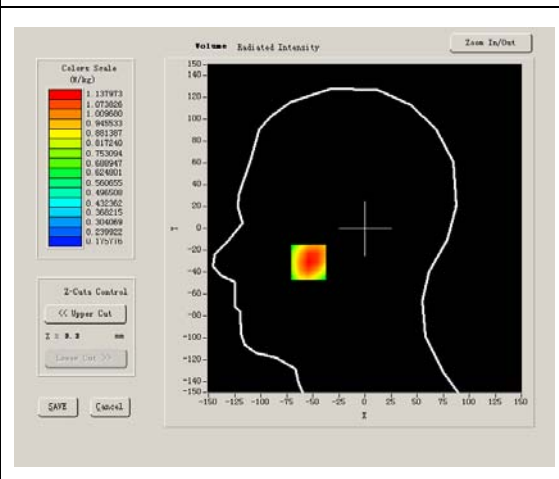
Middle Band SAR (Channel 384):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 836.520020           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.879566             |
| Variation (%)                     | -0.160000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



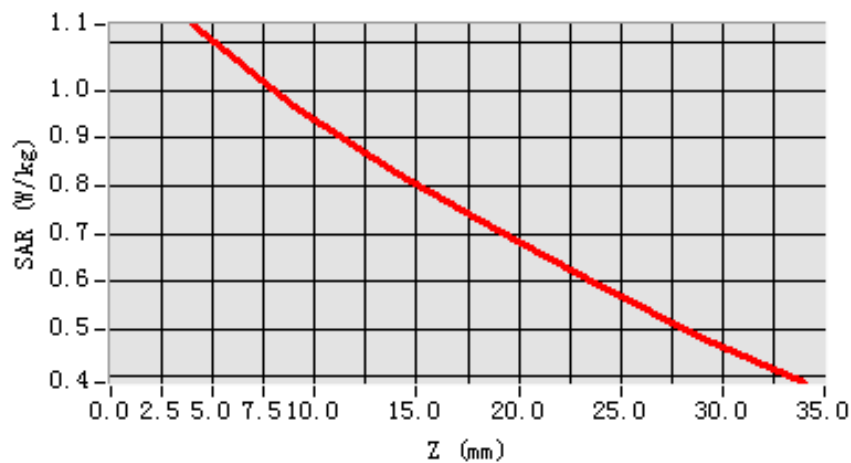
**Maximum location: X=-54.00, Y=-31.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.878014 |
| <b>SAR 1g (W/Kg)</b>  | 1.110679 |

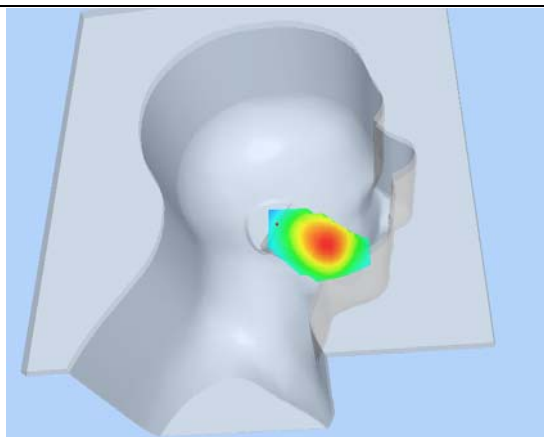
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.1380</b> | <b>0.9683</b> | <b>0.8258</b> | <b>0.7070</b> | <b>0.5905</b> | <b>0.4827</b> |

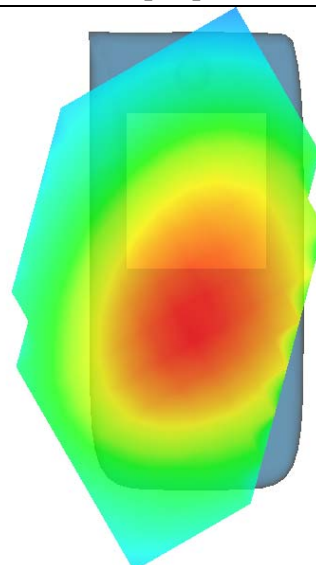
**SAR, Z Axis Scan (X = -54, Y = -31)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 9

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 56 seconds

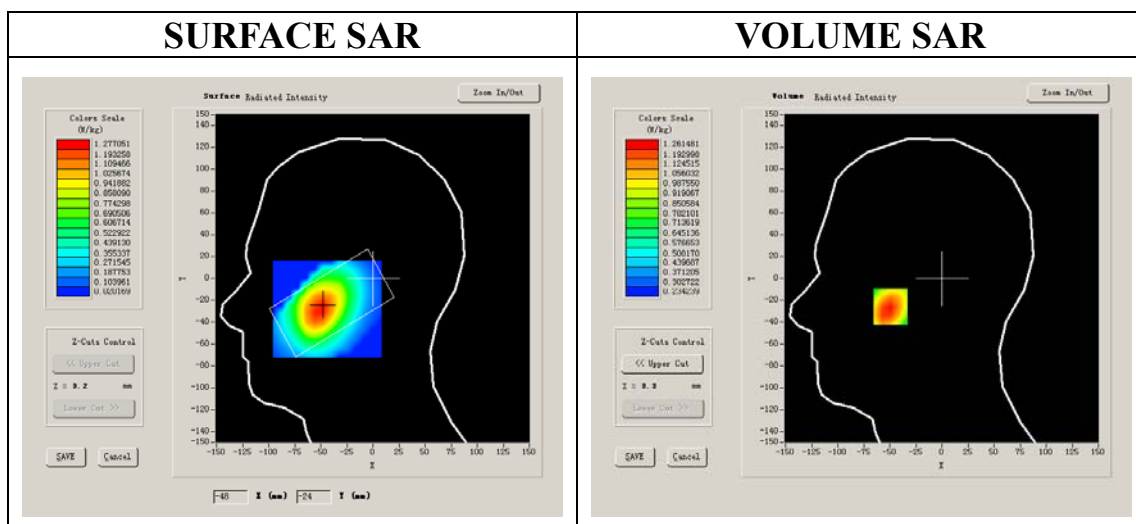
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Cheek                         |
| Band            | CDMA850                       |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.891963             |
| Variation (%)                     | -1.880000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



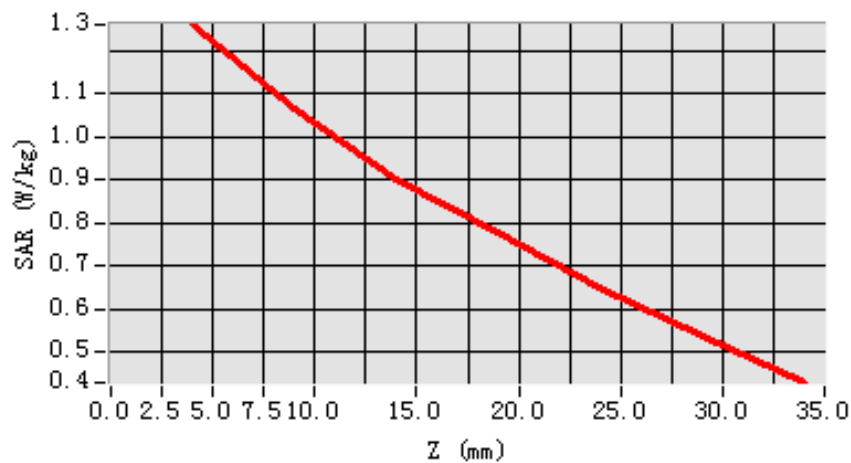
**Maximum location: X=-49.00, Y=-26.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.958365 |
| <b>SAR 1g (W/Kg)</b>  | 1.225415 |

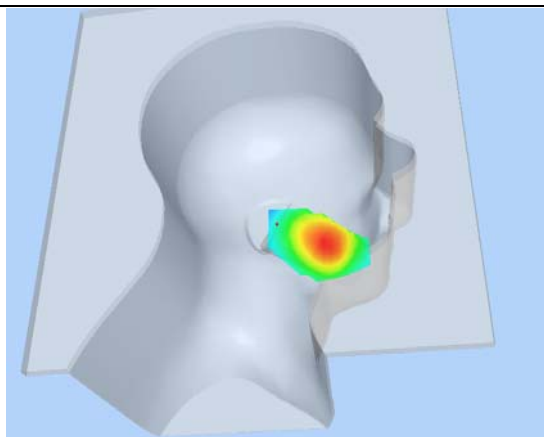
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.2615</b> | <b>1.0656</b> | <b>0.9023</b> | <b>0.7759</b> | <b>0.6480</b> | <b>0.5357</b> |

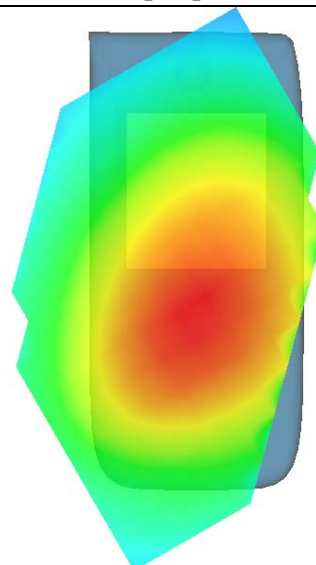
**SAR, Z Axis Scan (X = -49, Y = -26)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 10

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 37 seconds

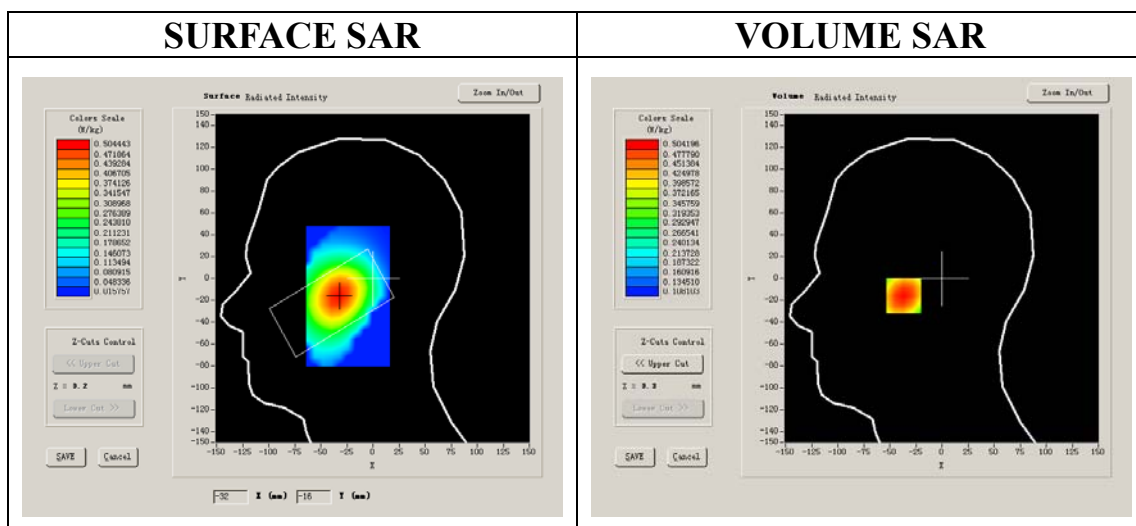
### A. Experimental conditions.

|                 |           |
|-----------------|-----------|
| Phantom File    | zinf3.txt |
| Phantom         | Left head |
| Device Position | Tilt      |
| Band            | CDMA850   |
| Channels        | Low       |
| Signal          | CDMA      |

### B. SAR Measurement Results

Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.867138             |
| Variation (%)                     | -0.170000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



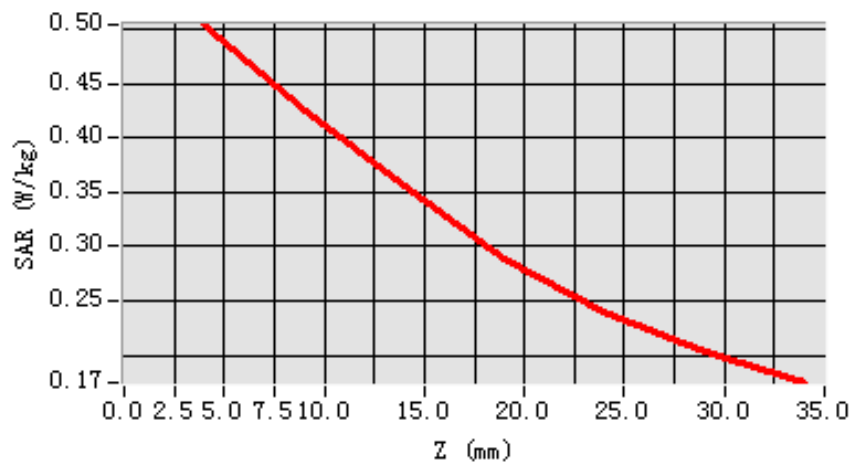
**Maximum location: X=-33.00, Y=-16.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.384173 |
| <b>SAR 1g (W/Kg)</b>  | 0.487025 |

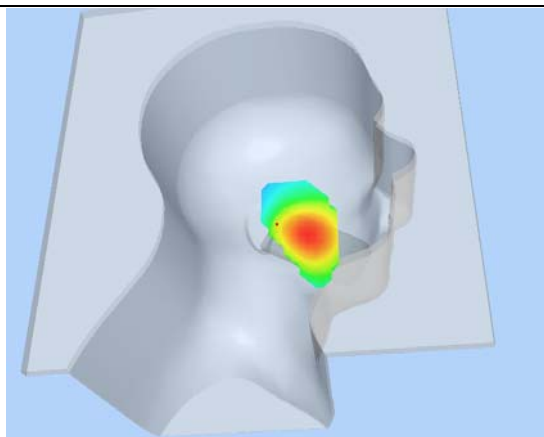
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.5042</b> | <b>0.4239</b> | <b>0.3550</b> | <b>0.2883</b> | <b>0.2397</b> | <b>0.2031</b> |

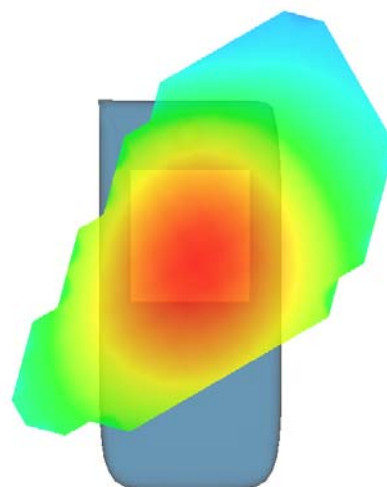
**SAR, Z Axis Scan (X = -33, Y = -16)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 11

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 36 seconds

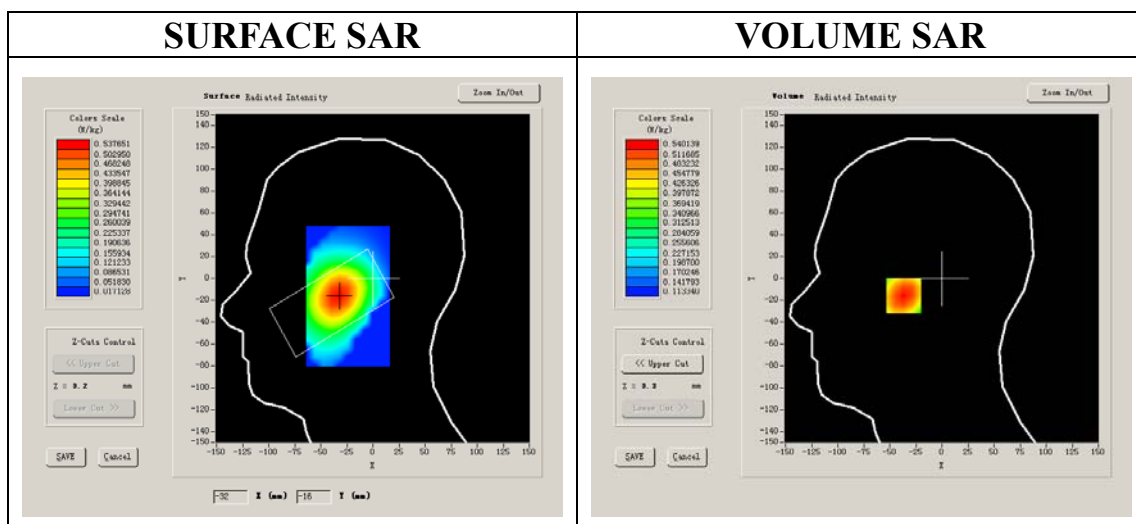
### A. Experimental conditions.

|                 |           |
|-----------------|-----------|
| Phantom File    | zinf3.txt |
| Phantom         | Left head |
| Device Position | Tilt      |
| Band            | CDMA850   |
| Channels        | Middle    |
| Signal          | CDMA      |

### B. SAR Measurement Results

Middle Band SAR (Channel 384):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 836.520020           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.879566             |
| Variation (%)                     | 0.110000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



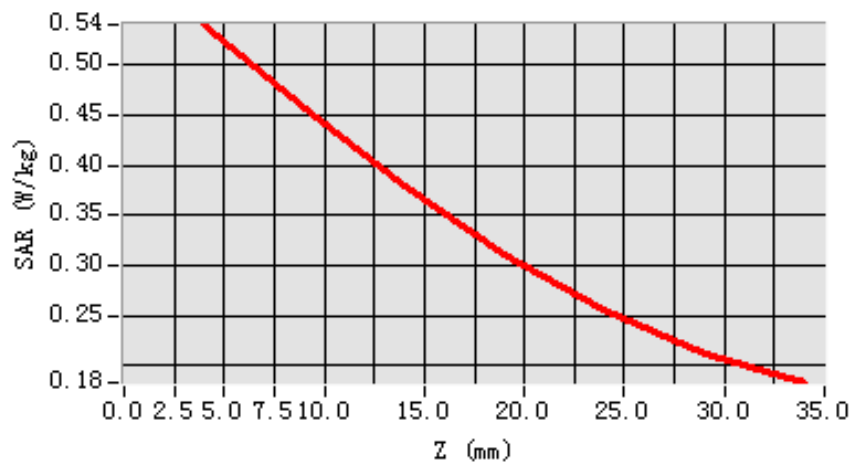
**Maximum location: X=-33.00, Y=-16.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.411859 |
| <b>SAR 1g (W/Kg)</b>  | 0.521502 |

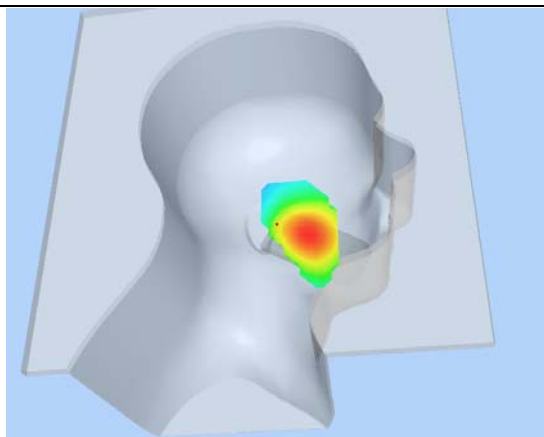
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.5401</b> | <b>0.4574</b> | <b>0.3790</b> | <b>0.3102</b> | <b>0.2555</b> | <b>0.2124</b> |

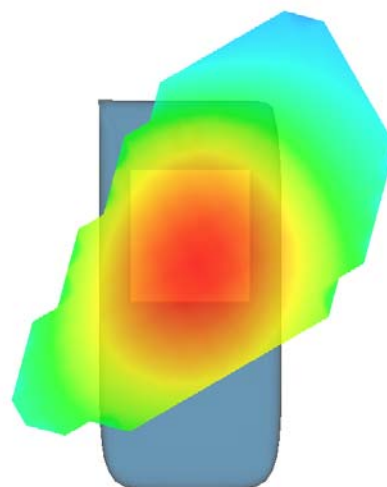
**SAR, Z Axis Scan (X = -33, Y = -16)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 12

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 42 seconds

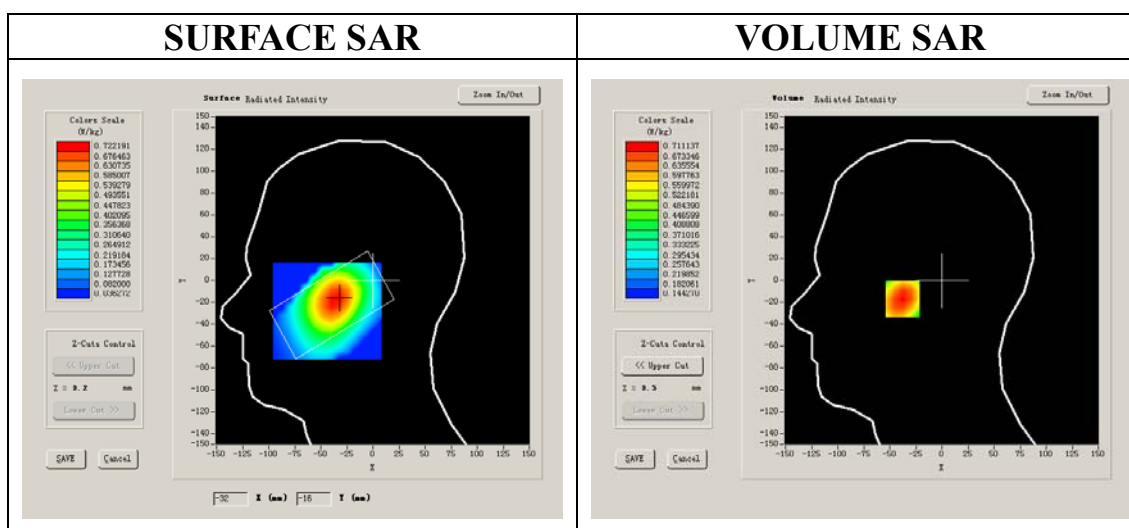
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Tilt                          |
| Band            | CDMA850                       |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 41.790001            |
| Relative permittivity             | 18.926250            |
| Conductivity (S/m)                | 0.891963             |
| Variation (%)                     | -0.700000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



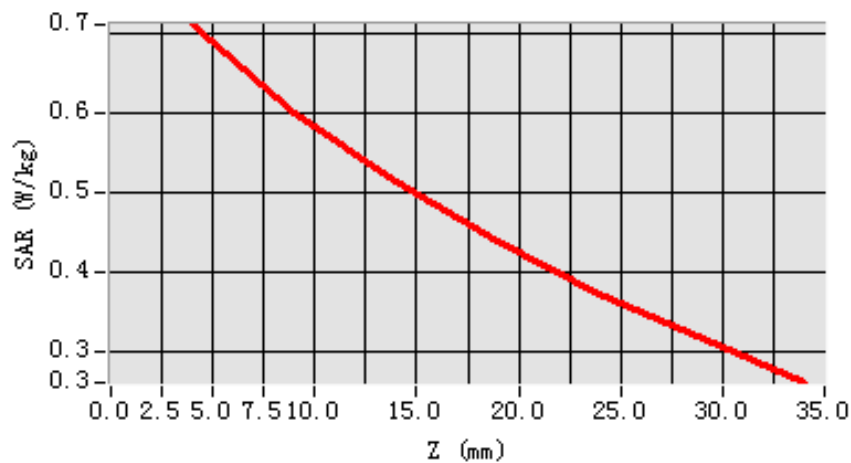
**Maximum location: X=-35.00, Y=-17.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.549027 |
| <b>SAR 1g (W/Kg)</b>  | 0.691536 |

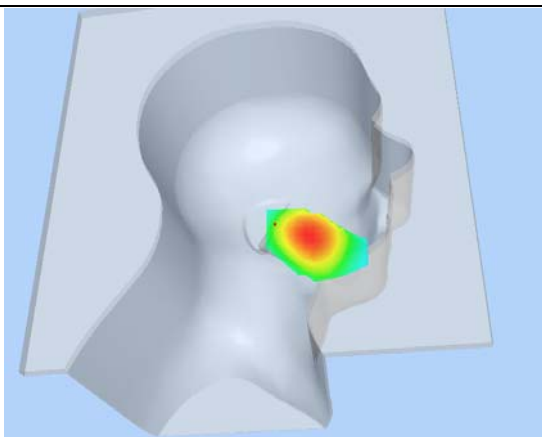
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.7111</b> | <b>0.6005</b> | <b>0.5154</b> | <b>0.4390</b> | <b>0.3724</b> | <b>0.3172</b> |

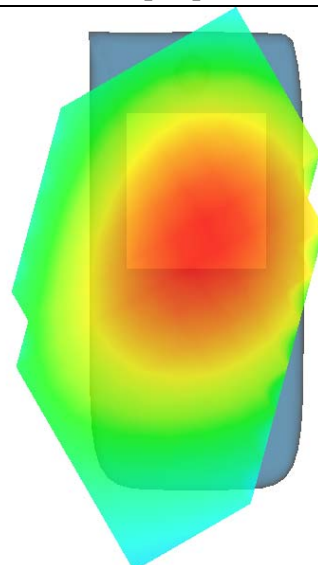
**SAR, Z Axis Scan (X = -35, Y = -17)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 13

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 7 seconds

### A. Experimental conditions.

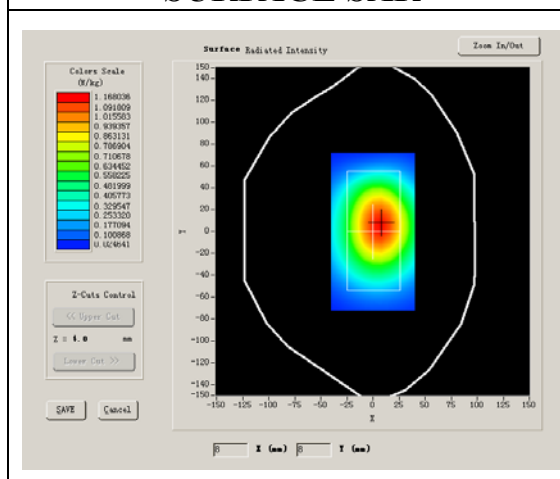
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | Low               |
| Signal          | CDMA              |

### B. SAR Measurement Results

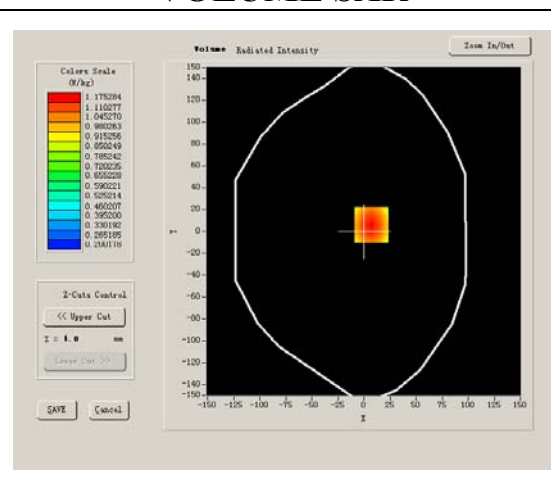
Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.975187             |
| Variation (%)                     | 0.010000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



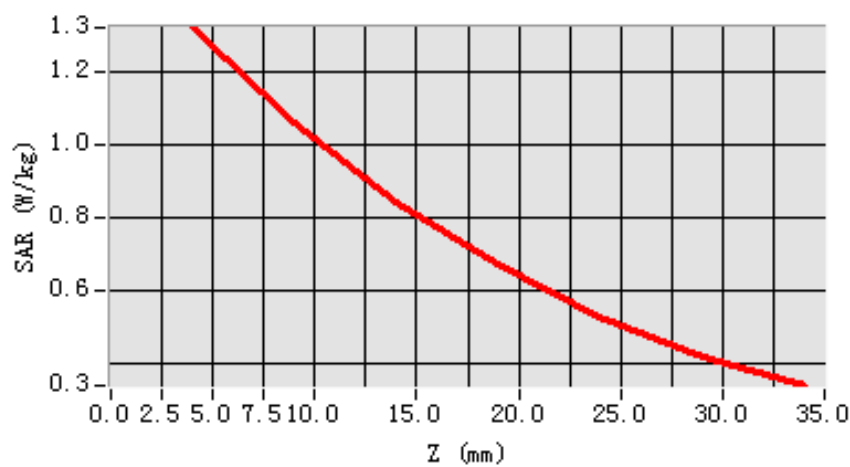
**Maximum location: X=7.00, Y=6.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.975698 |
| <b>SAR 1g (W/Kg)</b>  | 1.279320 |

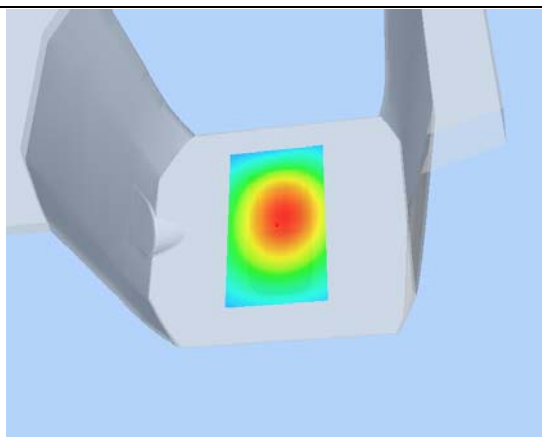
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.3217</b> | <b>1.0592</b> | <b>0.8448</b> | <b>0.6716</b> | <b>0.5268</b> | <b>0.4178</b> |

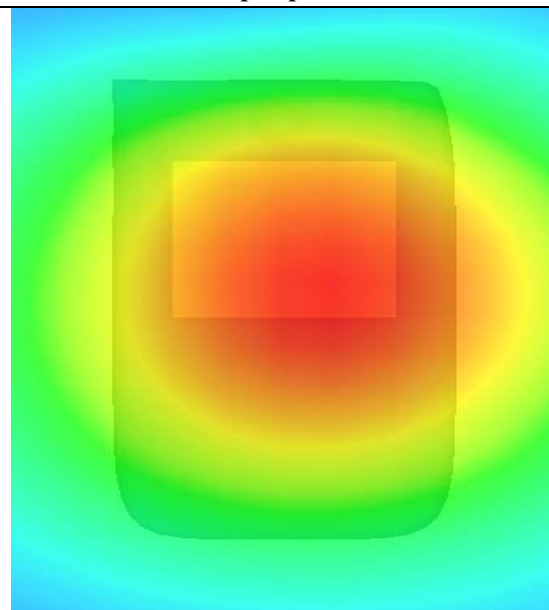
**SAR, Z Axis Scan (X = 7, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 14

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 14 seconds

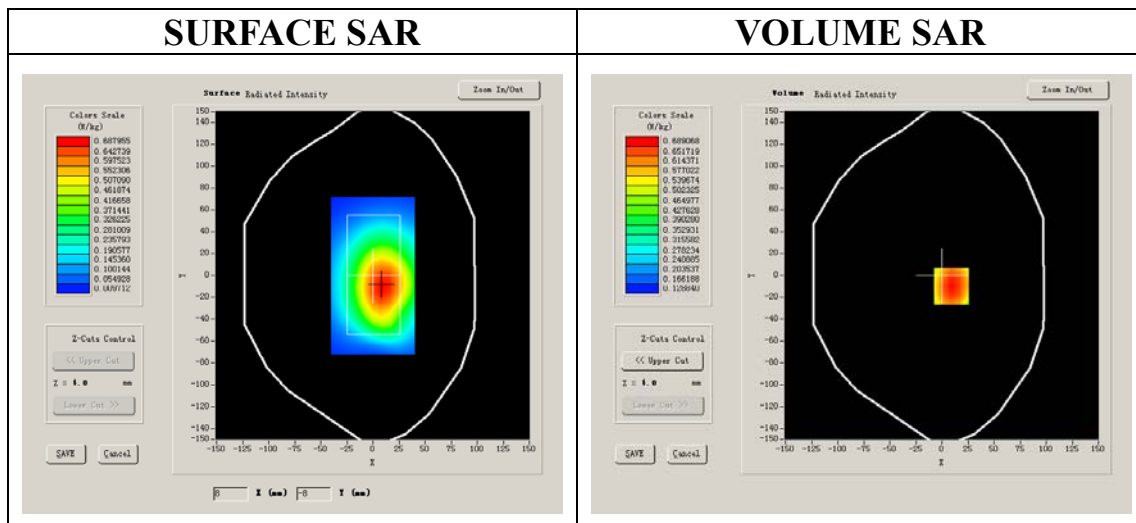
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | Low               |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 1013):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 824.700012           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.975187             |
| Variation (%)                     | 2.340000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



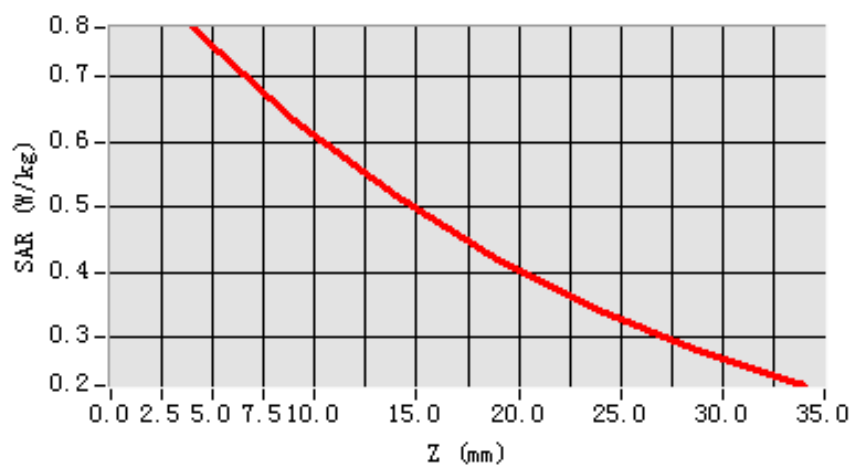
**Maximum location: X=9.00, Y=-10.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.583776 |
| <b>SAR 1g (W/Kg)</b>  | 0.751770 |

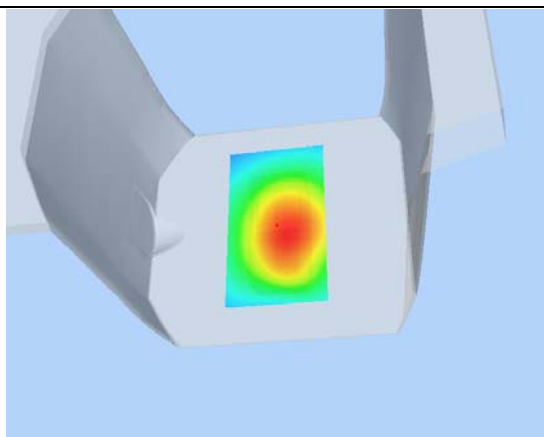
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.7749</b> | <b>0.6334</b> | <b>0.5180</b> | <b>0.4200</b> | <b>0.3423</b> | <b>0.2763</b> |

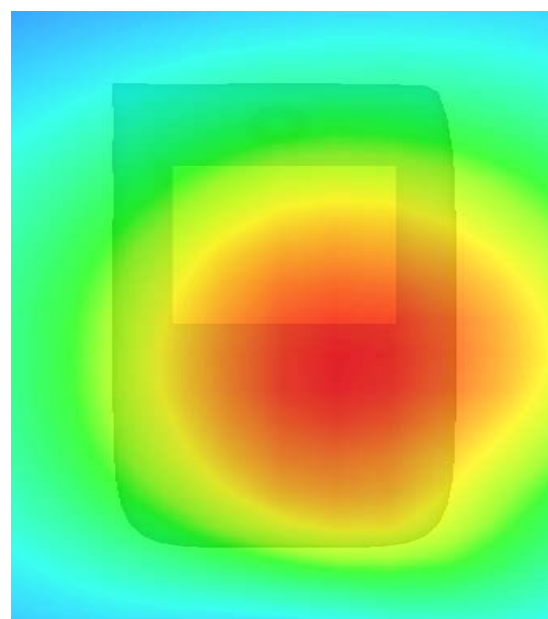
**SAR, Z Axis Scan (X = 9, Y = -10)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 15

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 9 seconds

### A. Experimental conditions.

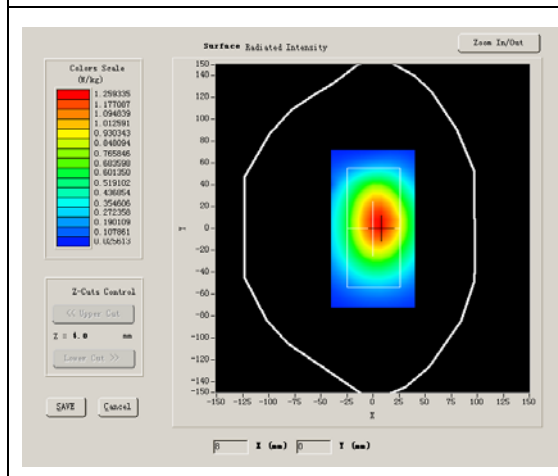
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | Middle            |
| Signal          | CDMA              |

### B. SAR Measurement Results

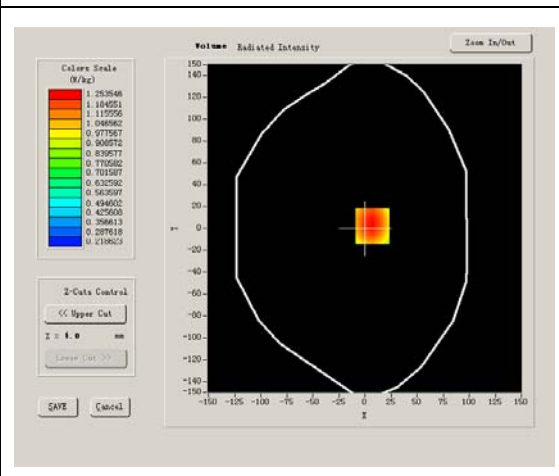
Middle Band SAR (Channel 384):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 836.520020           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.989164             |
| Variation (%)                     | -0.710000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



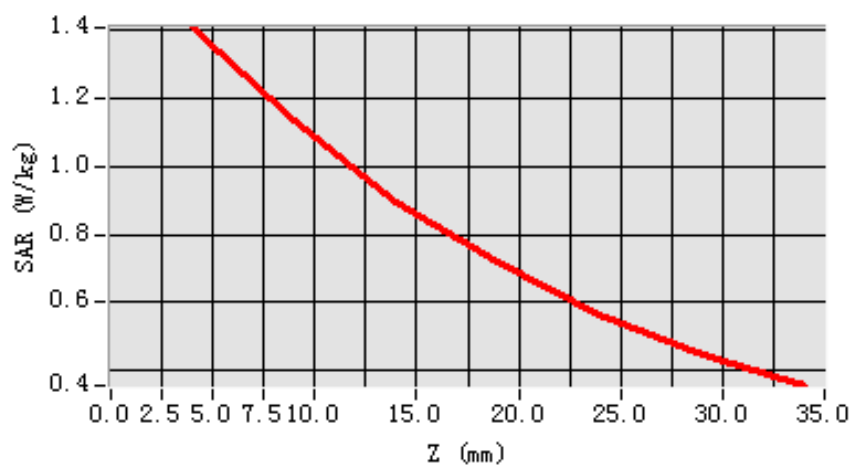
**Maximum location: X=7.00, Y=2.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 1.042776 |
| <b>SAR 1g (W/Kg)</b>  | 1.372823 |

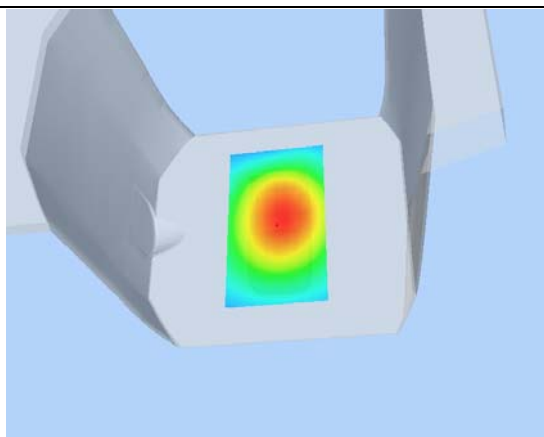
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.4097</b> | <b>1.1380</b> | <b>0.8941</b> | <b>0.7172</b> | <b>0.5627</b> | <b>0.4451</b> |

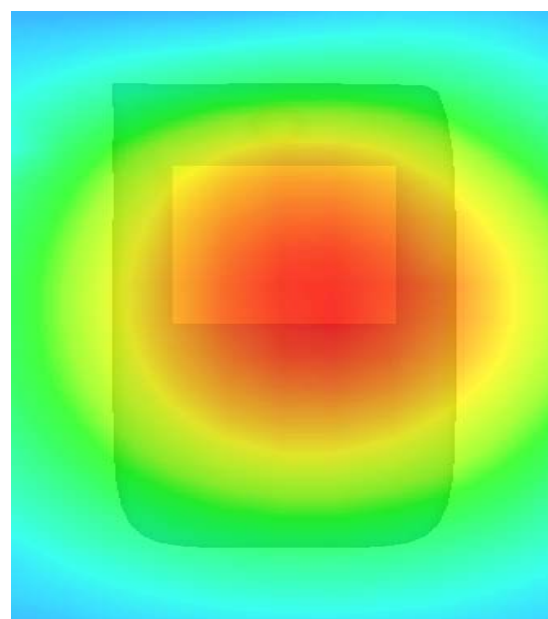
**SAR, Z Axis Scan (X = 7, Y = 2)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 16

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 8 seconds

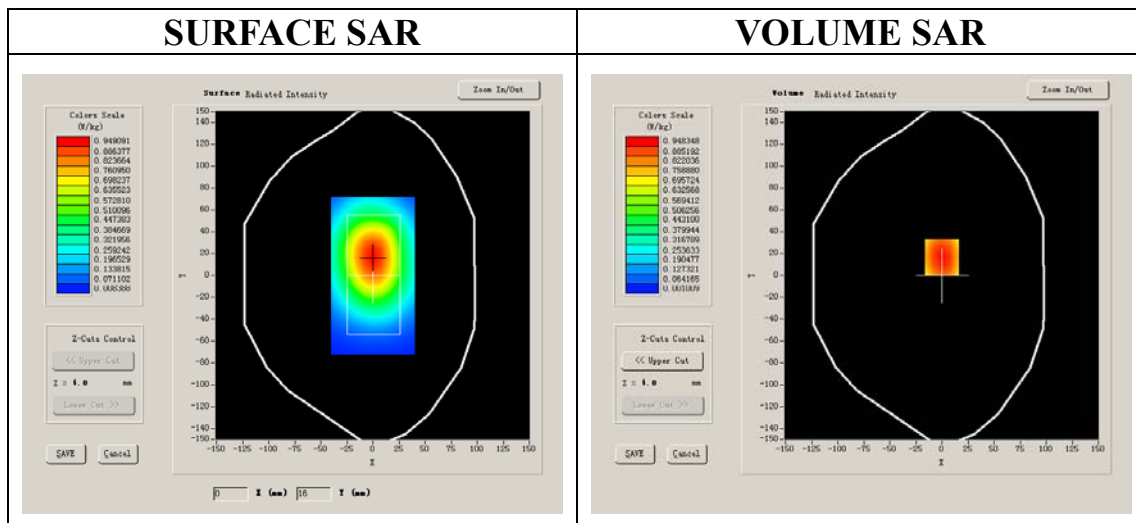
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | Middle            |
| Signal          | CDMA              |

### B. SAR Measurement Results

Middle Band SAR (Channel 384):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 836.520020           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.989164             |
| Variation (%)                     | -2.840088            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



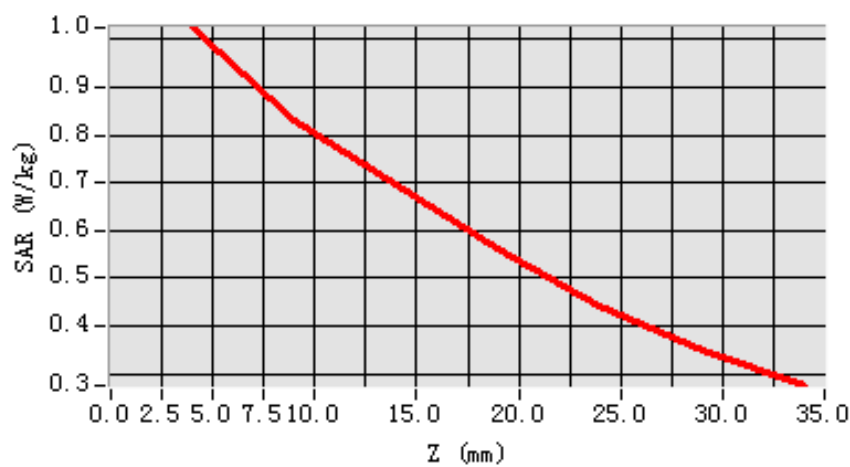
**Maximum location: X=0.00, Y=17.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.775037 |
| <b>SAR 1g (W/Kg)</b>  | 1.043096 |

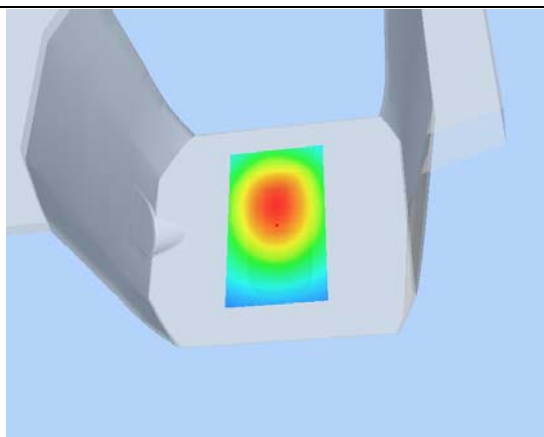
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.0665</b> | <b>0.8574</b> | <b>0.6849</b> | <b>0.5462</b> | <b>0.0021</b> | <b>0.0016</b> |

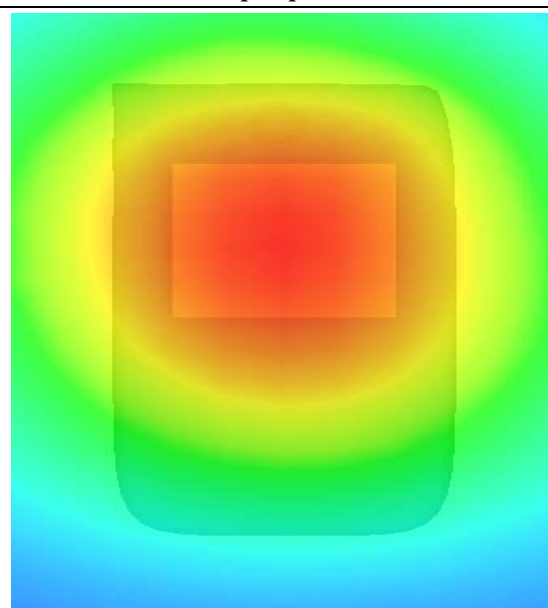
**SAR, Z Axis Scan (X = 2, Y = 1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 17

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 9 seconds

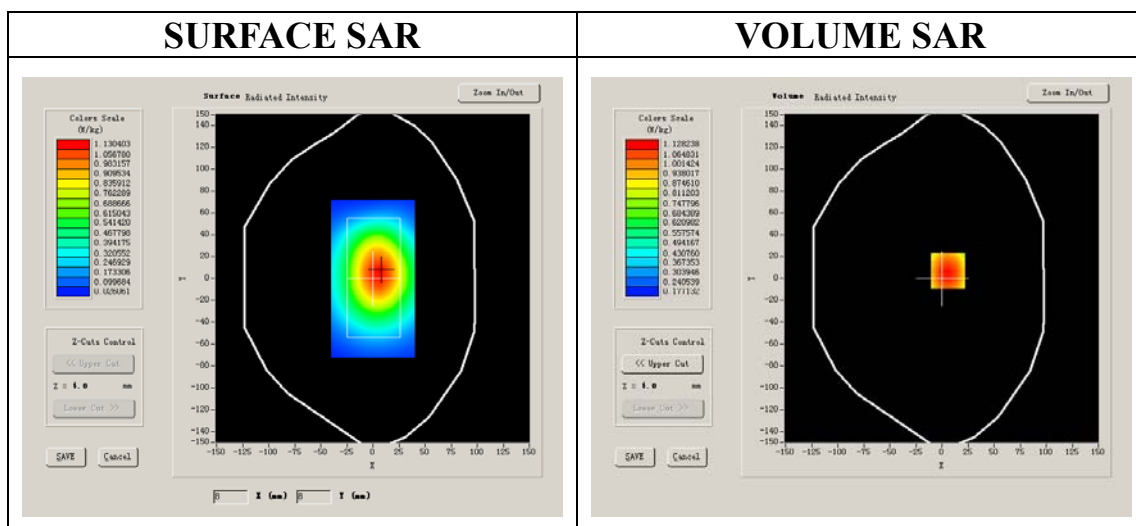
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 1.003105             |
| Variation (%)                     | -1.020000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.5C                |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |



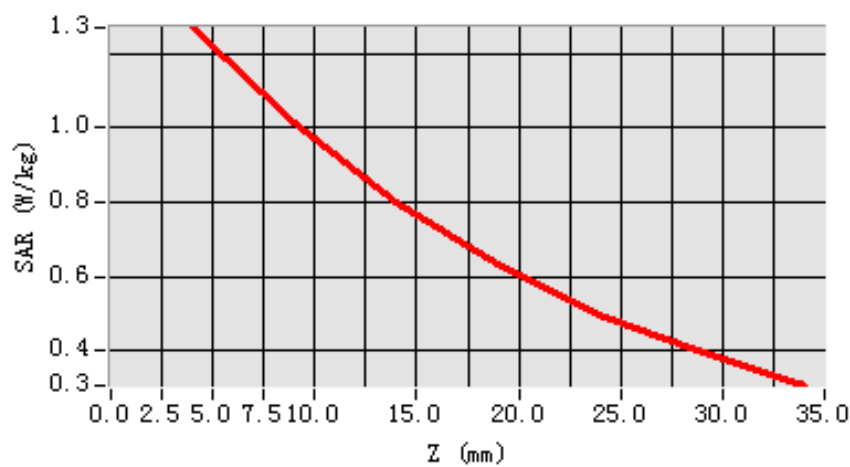
**Maximum location: X=6.00, Y=7.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.933219 |
| <b>SAR 1g (W/Kg)</b>  | 1.230266 |

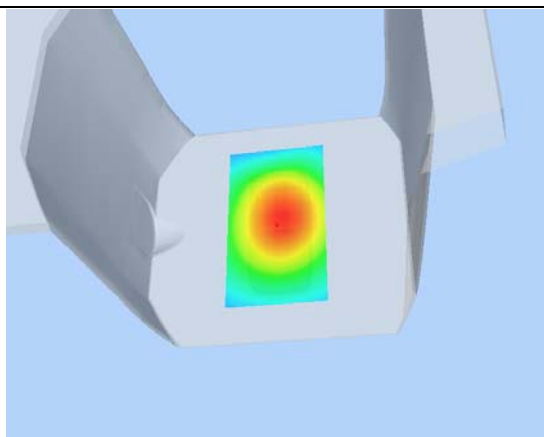
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.2688</b> | <b>1.0109</b> | <b>0.7970</b> | <b>0.6359</b> | <b>0.4942</b> | <b>0.3931</b> |

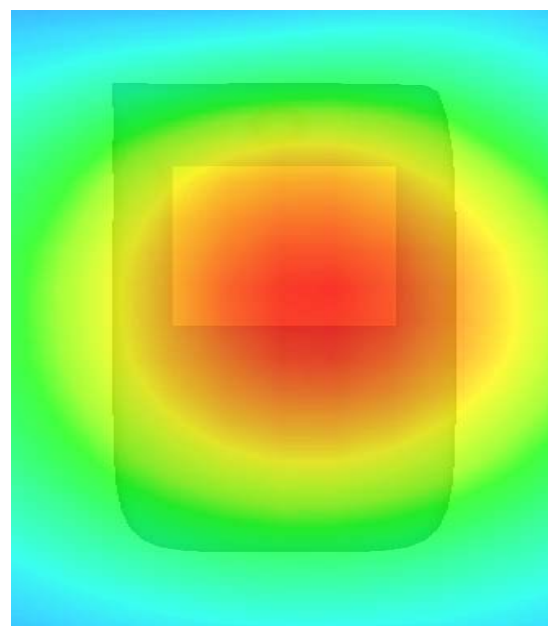
**SAR, Z Axis Scan (X = 6, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 18

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 10 seconds

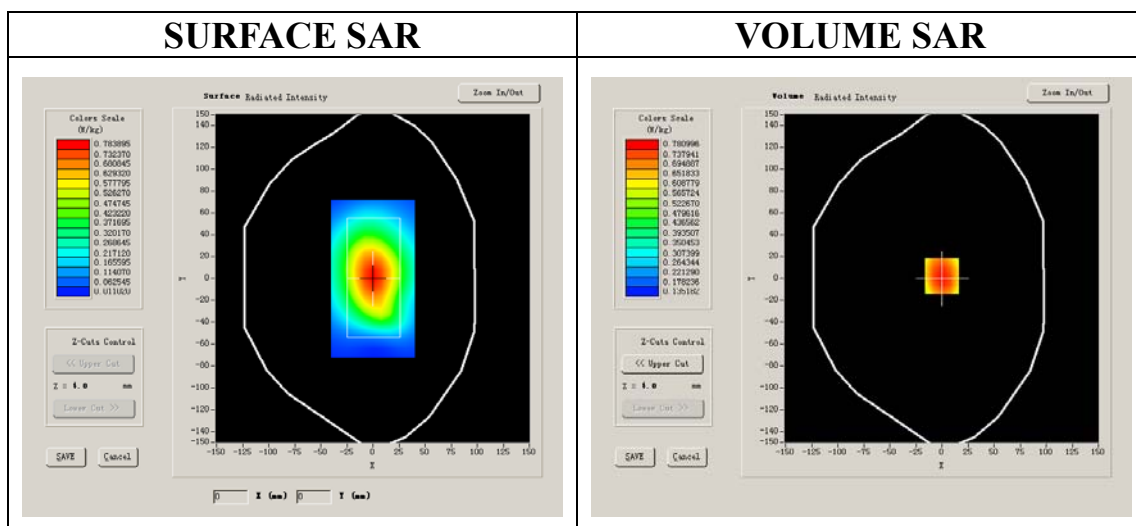
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | CDMA850           |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 1.003105             |
| Variation (%)                     | 1.340000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



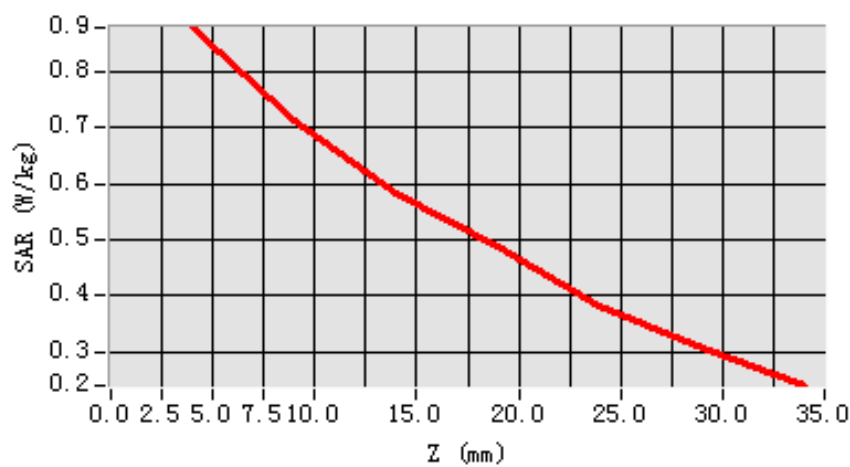
**Maximum location: X=0.00, Y=2.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.663059 |
| <b>SAR 1g (W/Kg)</b>  | 0.855652 |

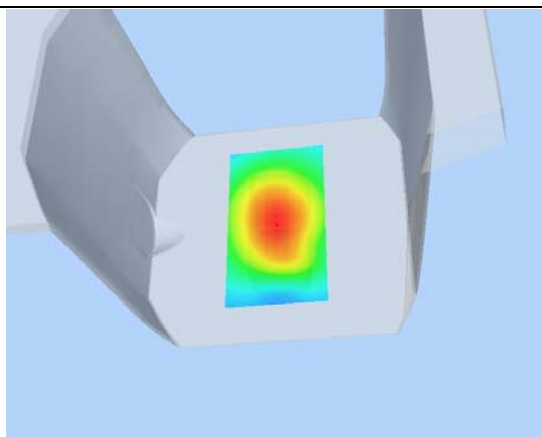
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.8783</b> | <b>0.7115</b> | <b>0.5812</b> | <b>0.4857</b> | <b>0.3819</b> | <b>0.3058</b> |

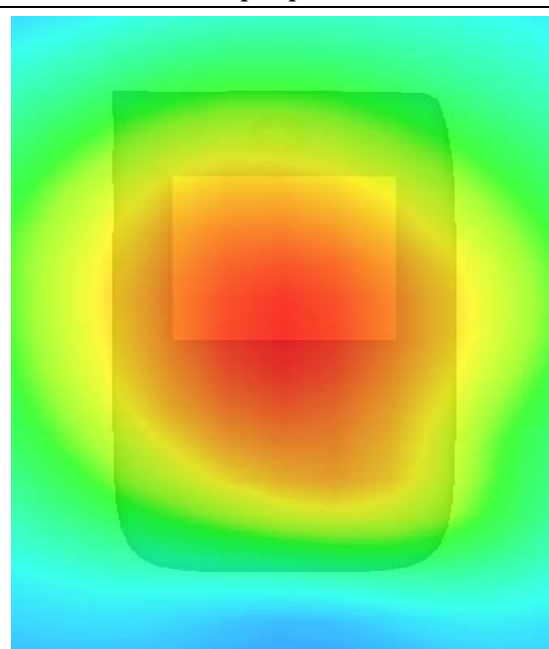
**SAR, Z Axis Scan (X = 0, Y = 2)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 19

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 17 seconds

### A. Experimental conditions.

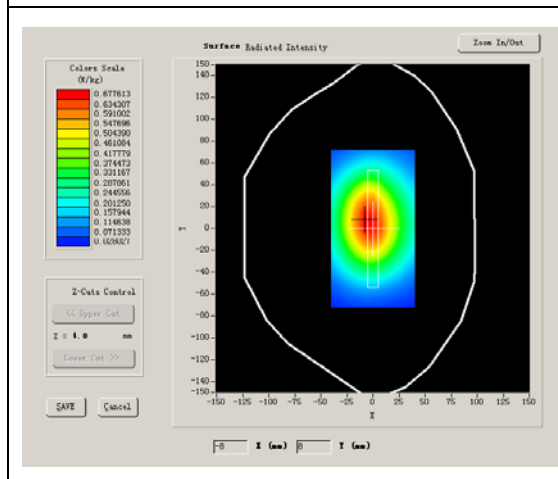
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body (Edge B)     |
| Band            | CDMA850           |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

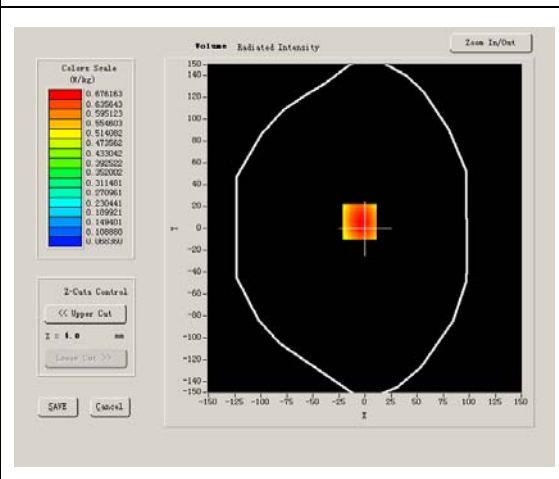
Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.989164             |
| Variation (%)                     | -1.410000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



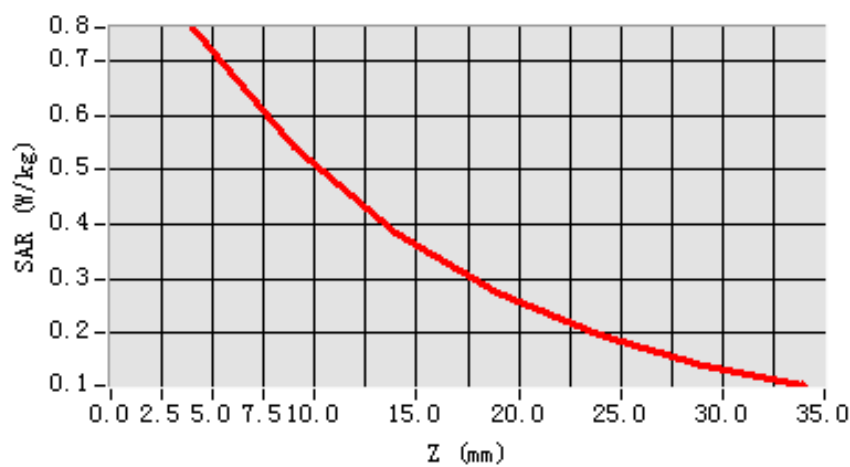
**Maximum location: X=-5.00, Y=6.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.507229 |
| <b>SAR 1g (W/Kg)</b>  | 0.735493 |

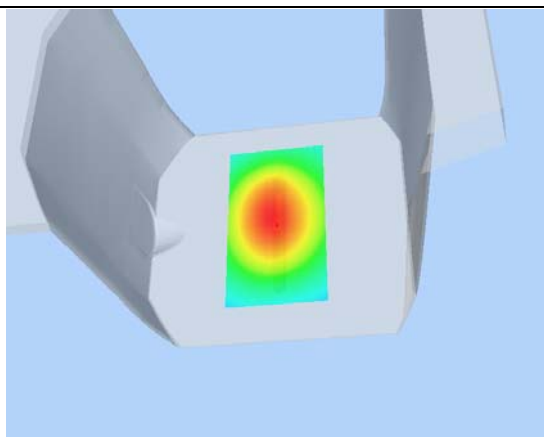
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.7604</b> | <b>0.5399</b> | <b>0.3850</b> | <b>0.2741</b> | <b>0.1967</b> | <b>0.1423</b> |

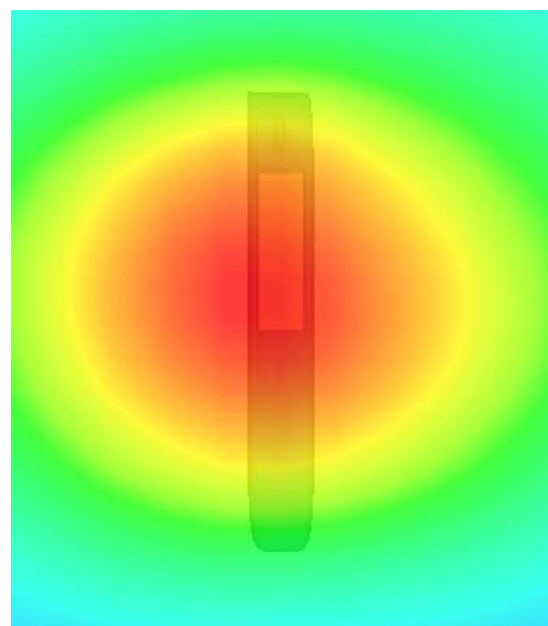
**SAR, Z Axis Scan (X = -5, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 20

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 11 seconds

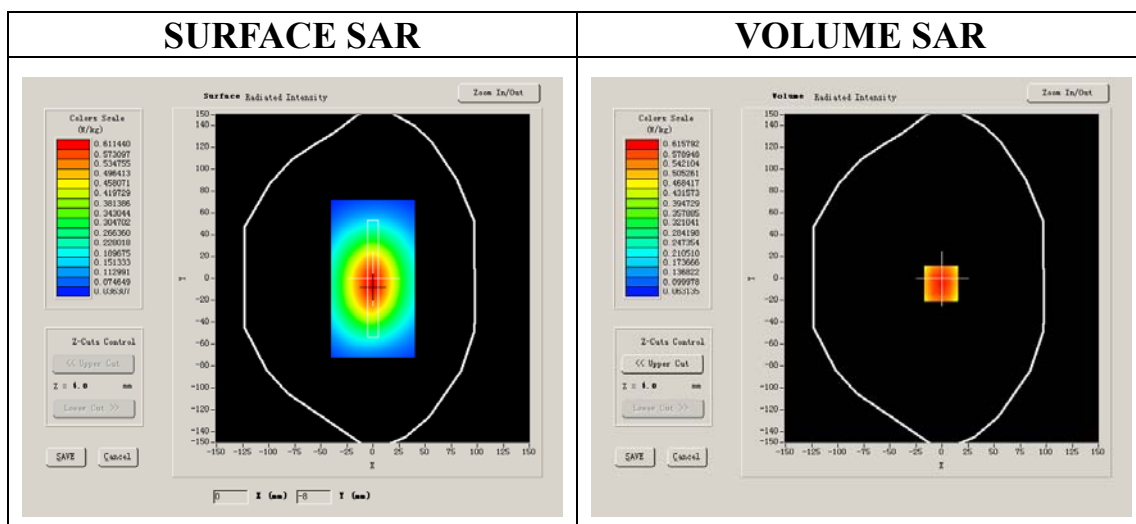
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body (Edge D)     |
| Band            | CDMA850           |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.989164             |
| Variation (%)                     | -0.970000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



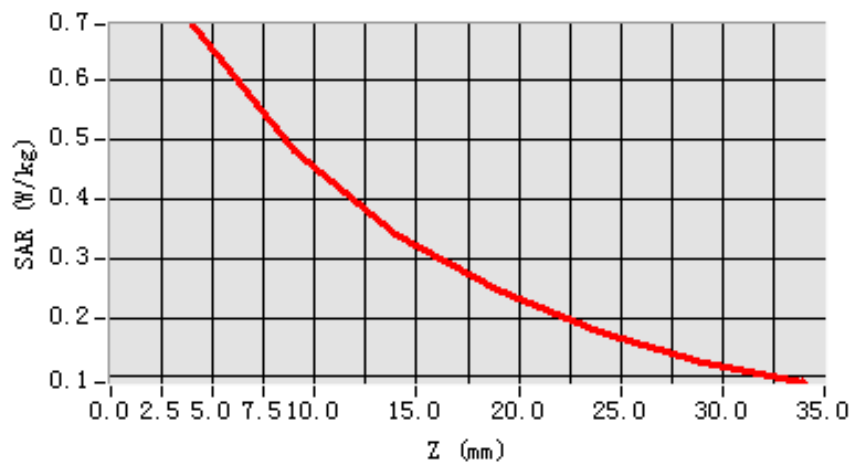
**Maximum location: X=-1.00, Y=-5.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.456210 |
| <b>SAR 1g (W/Kg)</b>  | 0.666412 |

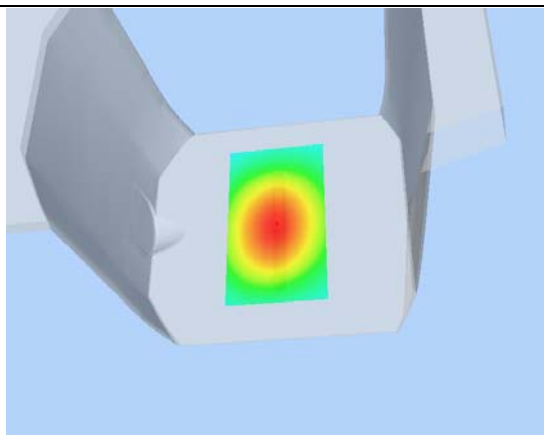
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.6925</b> | <b>0.4802</b> | <b>0.3391</b> | <b>0.2451</b> | <b>0.1749</b> | <b>0.1255</b> |

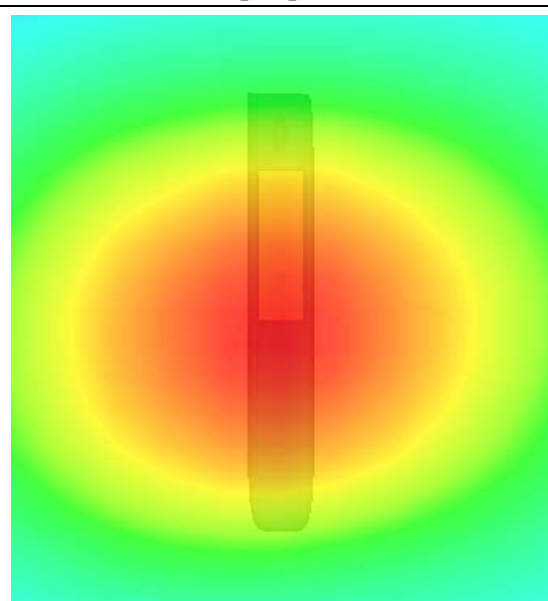
**SAR, Z Axis Scan (X = -1, Y = -5)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 21

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 19 seconds

### A. Experimental conditions.

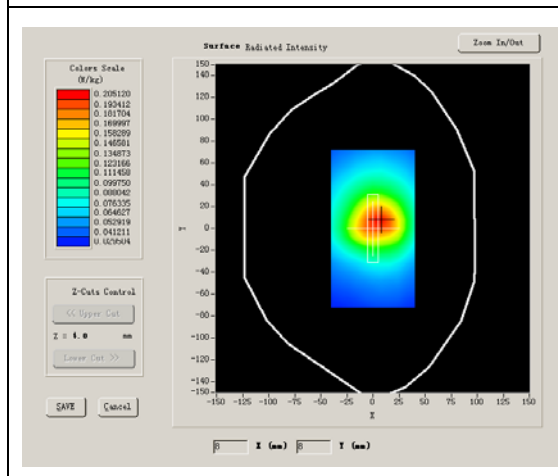
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body (Edge C)     |
| Band            | CDMA850           |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

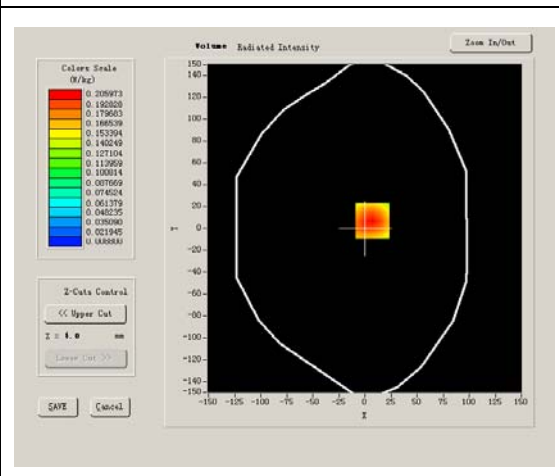
Higher Band SAR (Channel 777):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 848.309998           |
| Relative permittivity (real part) | 54.116001            |
| Relative permittivity             | 21.284550            |
| Conductivity (S/m)                | 0.989164             |
| Variation (%)                     | -1.360000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



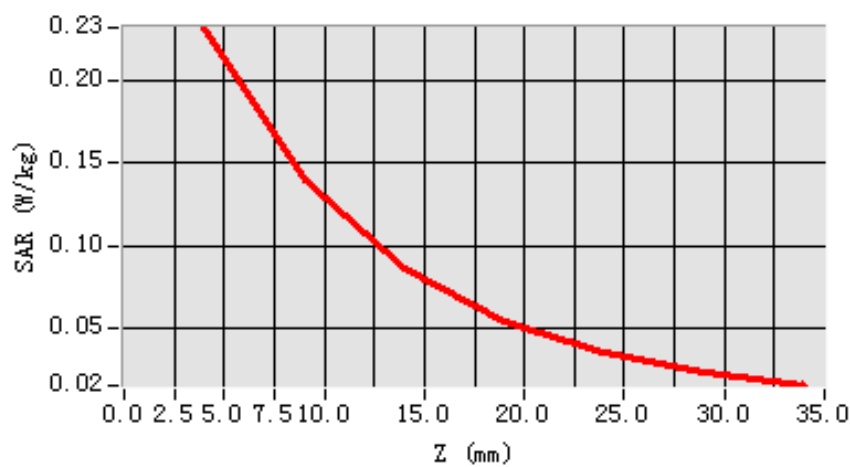
**Maximum location: X=7.00, Y=7.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.139478 |
| <b>SAR 1g (W/Kg)</b>  | 0.224720 |

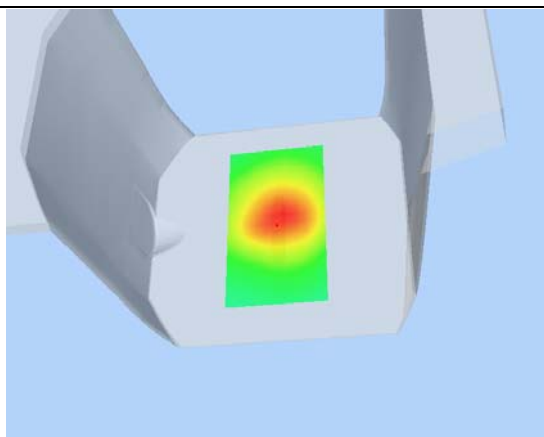
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.2316</b> | <b>0.1396</b> | <b>0.0857</b> | <b>0.0543</b> | <b>0.0346</b> | <b>0.0230</b> |

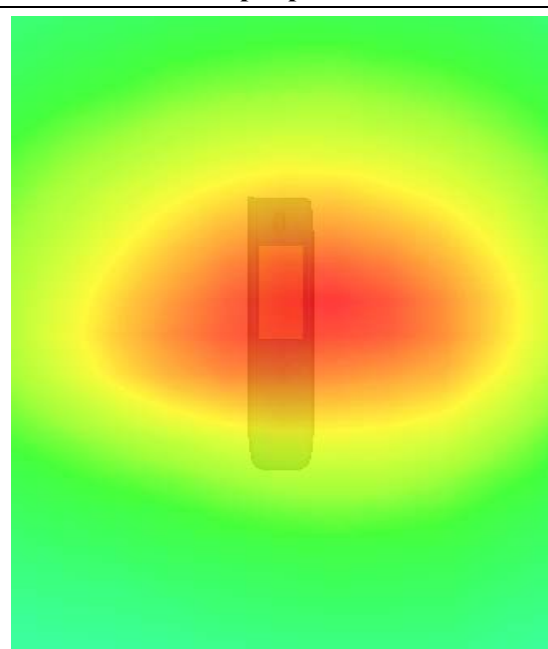
**SAR, Z Axis Scan (X = 7, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 22

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 3 seconds

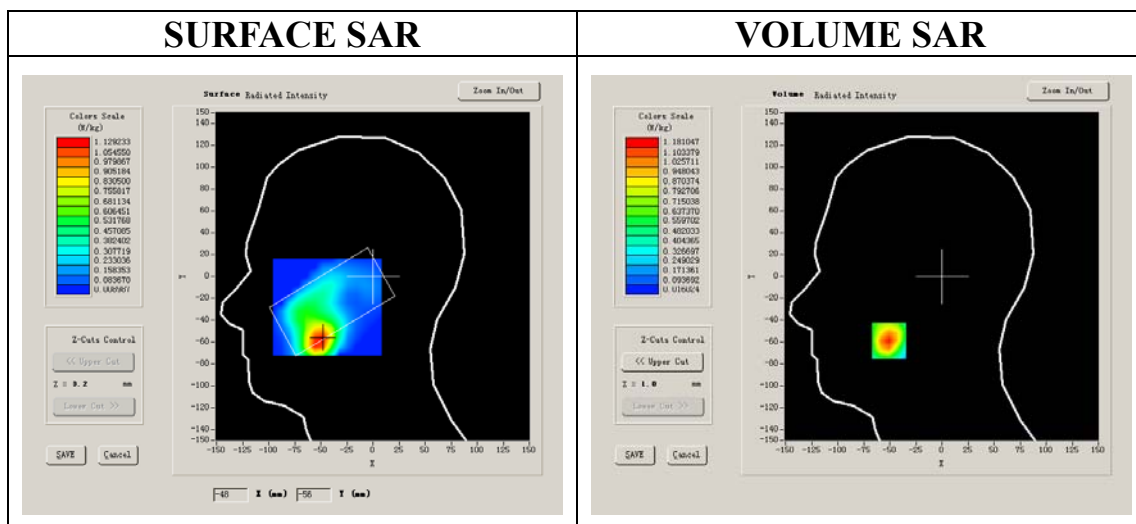
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | US_PCS                        |
| Channels        | Low                           |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.431186             |
| Variation (%)                     | 0.460000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



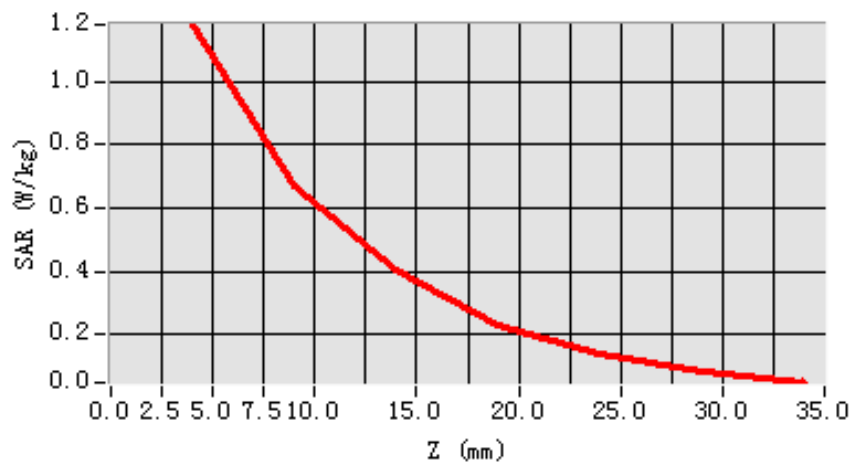
**Maximum location: X=-51.00, Y=-59.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.601389 |
| <b>SAR 1g (W/Kg)</b>  | 1.107782 |

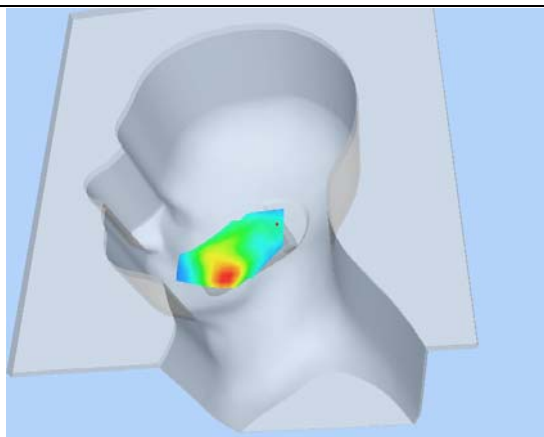
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.1810</b> | <b>0.6738</b> | <b>0.4037</b> | <b>0.2274</b> | <b>0.1360</b> | <b>0.0813</b> |

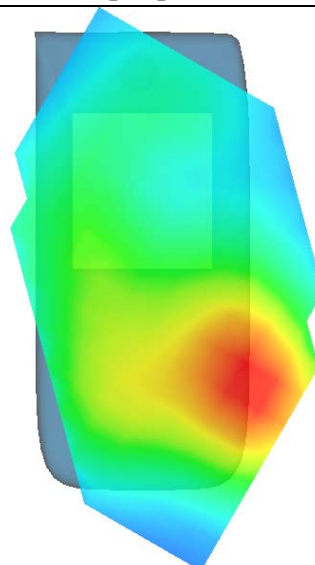
**SAR, Z Axis Scan (X = -51, Y = -59)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 23

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 9 seconds

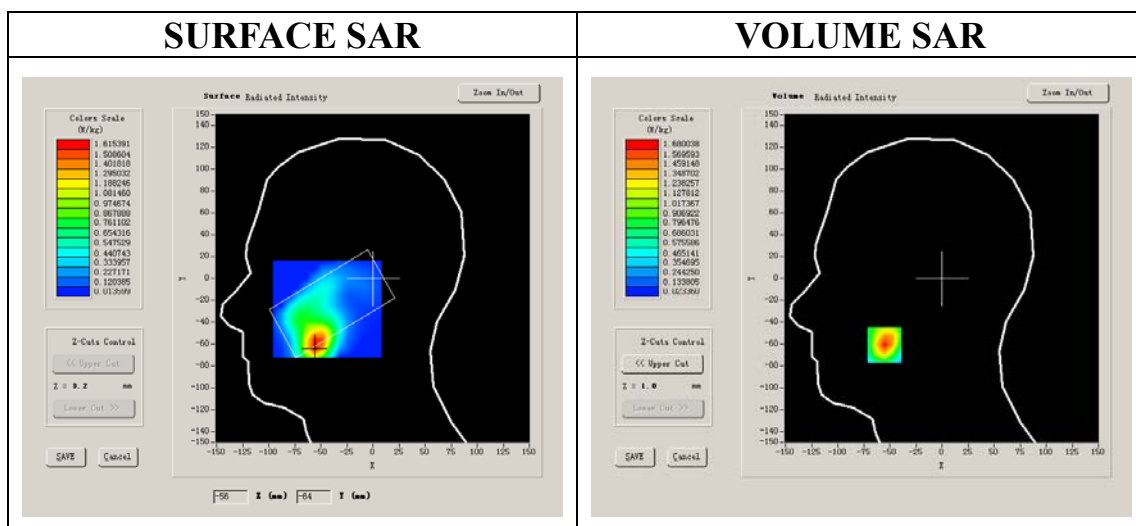
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | US_PCS                        |
| Channels        | Middle                        |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.453412             |
| Variation (%)                     | 1.090000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



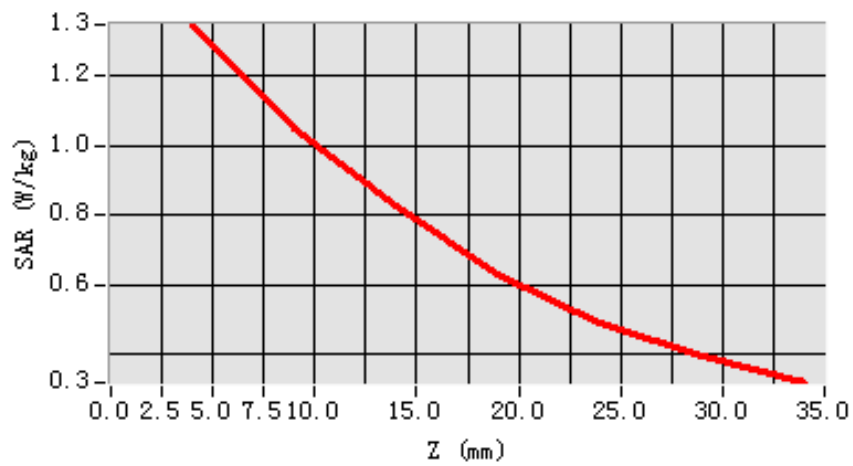
**Maximum location: X=3.00, Y=-15.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.844462 |
| <b>SAR 1g (W/Kg)</b>  | 1.264983 |

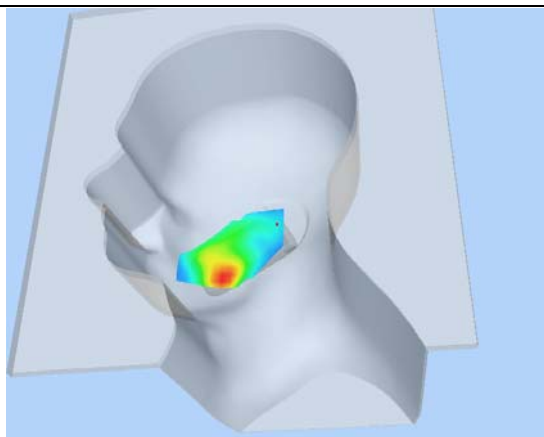
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.2800</b> | <b>0.8553</b> | <b>0.5675</b> | <b>0.3290</b> | <b>0.1923</b> | <b>0.1115</b> |

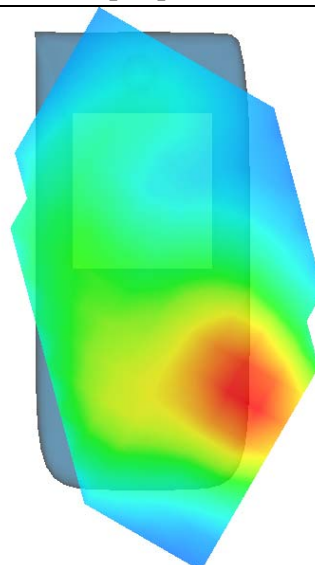
**SAR, Z Axis Scan (X = 3, Y = -15)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 24

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 11 seconds

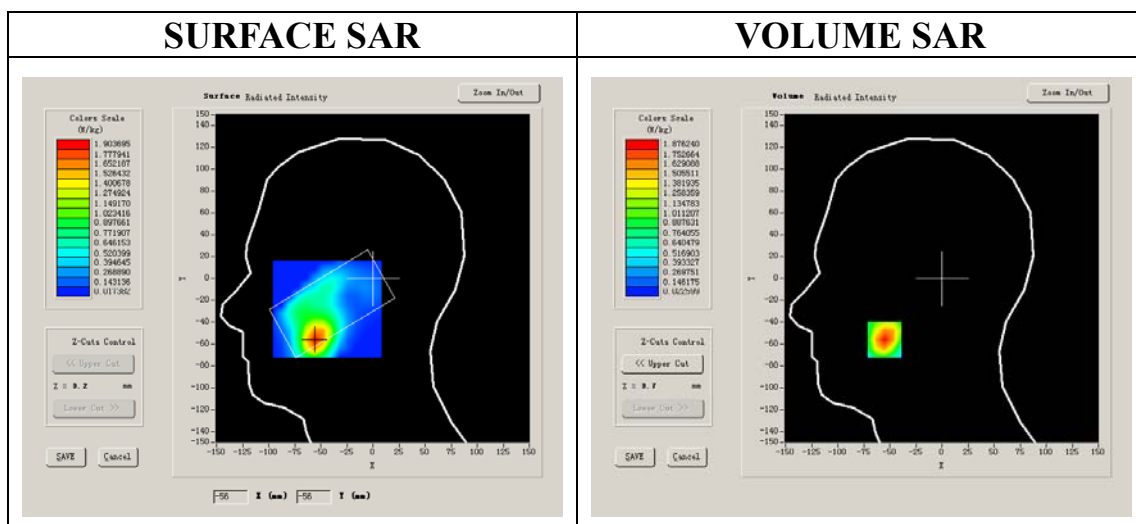
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Cheek                         |
| Band            | US_PCS                        |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 1175):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1908.750000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.475639             |
| Variation (%)                     | -1.100000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



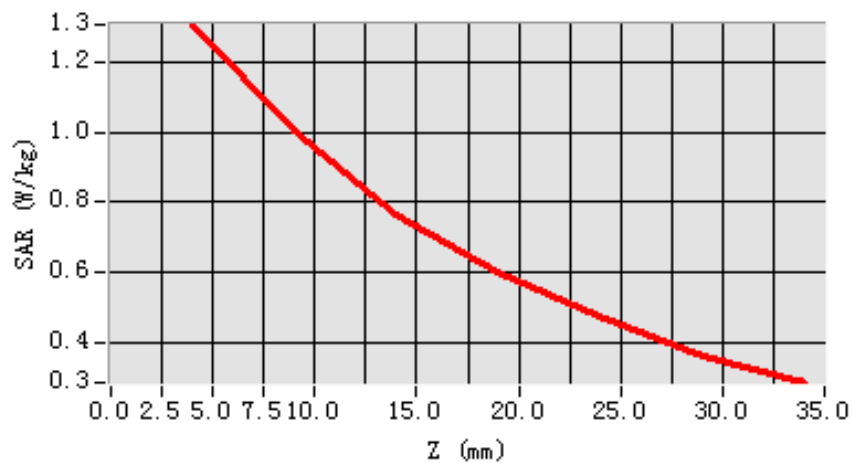
**Maximum location: X=7.00, Y=-16.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.876512 |
| <b>SAR 1g (W/Kg)</b>  | 1.357483 |

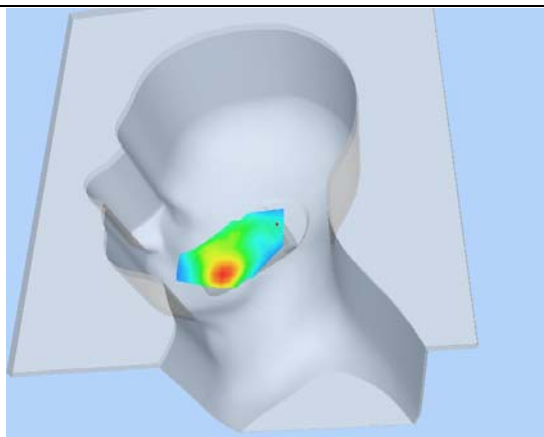
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.2762</b> | <b>0.9183</b> | <b>0.6866</b> | <b>0.3847</b> | <b>0.2307</b> | <b>0.1373</b> |

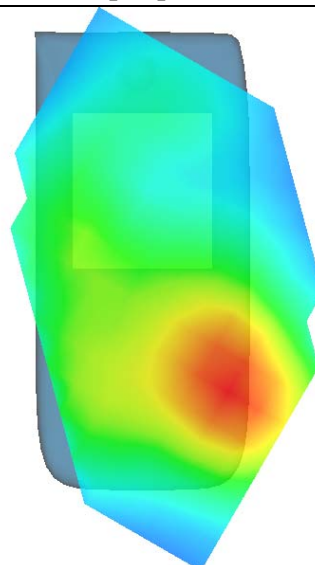
**SAR, Z Axis Scan (X = 7, Y = -16)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 25

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 26 seconds

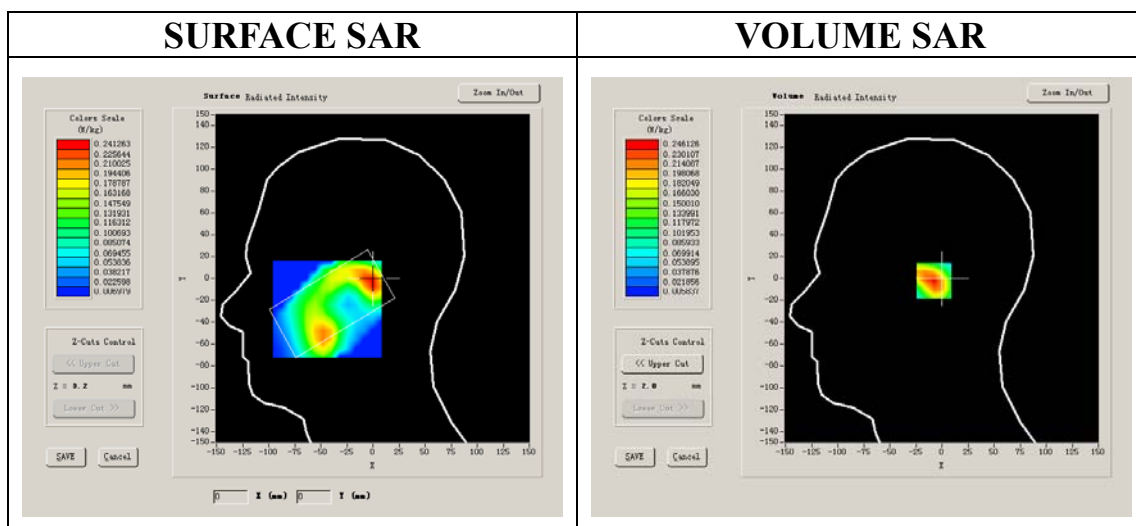
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Tilt                          |
| Band            | US_PCS                        |
| Channels        | Low                           |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.431186             |
| Variation (%)                     | -0.140000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



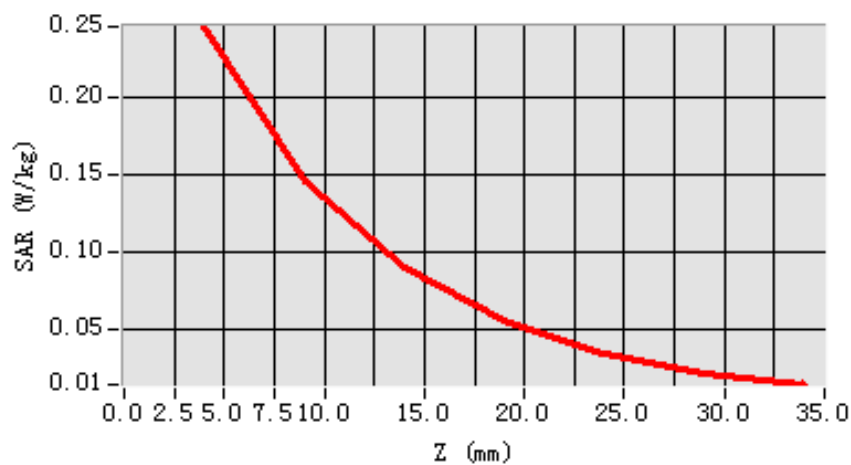
**Maximum location: X=-1.00, Y=-2.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.132259 |
| <b>SAR 1g (W/Kg)</b>  | 0.231803 |

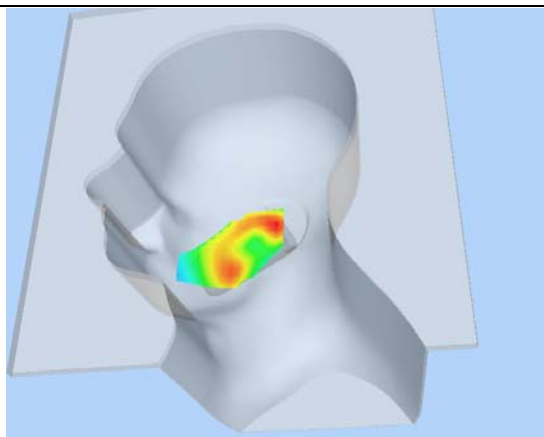
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.2461</b> | <b>0.1463</b> | <b>0.0891</b> | <b>0.0548</b> | <b>0.0338</b> | <b>0.0205</b> |

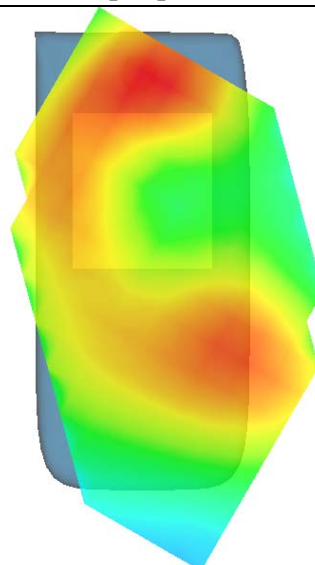
**SAR, Z Axis Scan (X = -1, Y = -2)**



**3D sceen shot**



**Hot spot position**



## MEASUREMENT 26

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 34 seconds

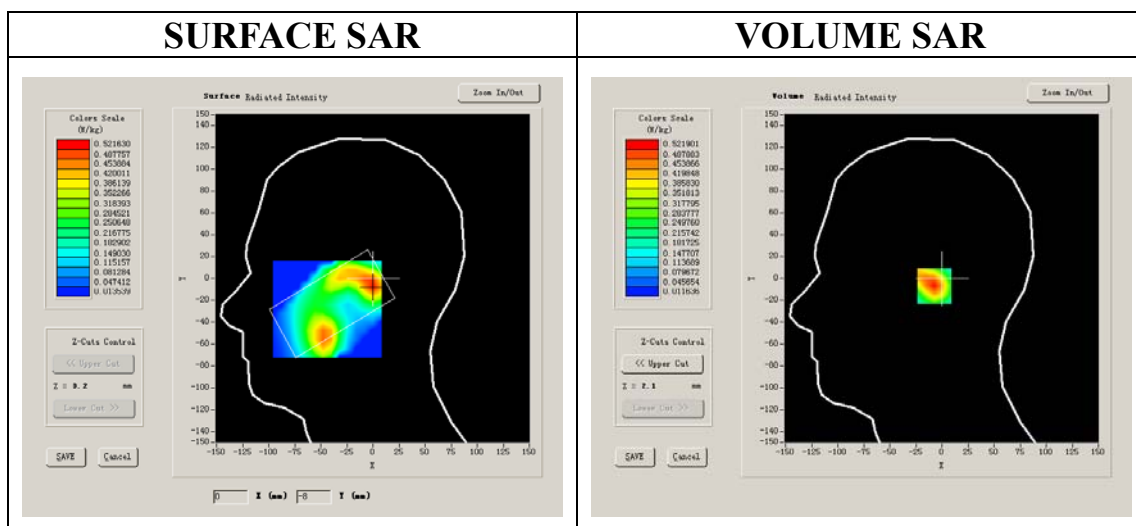
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Tilt                          |
| Band            | US_PCS                        |
| Channels        | Middle                        |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.453412             |
| Variation (%)                     | -0.500000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



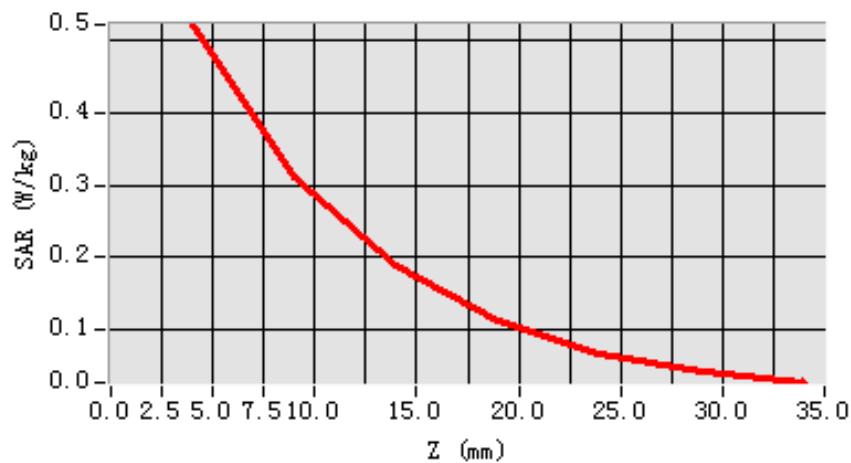
**Maximum location: X=0.00, Y=-7.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.278861 |
| <b>SAR 1g (W/Kg)</b>  | 0.491678 |

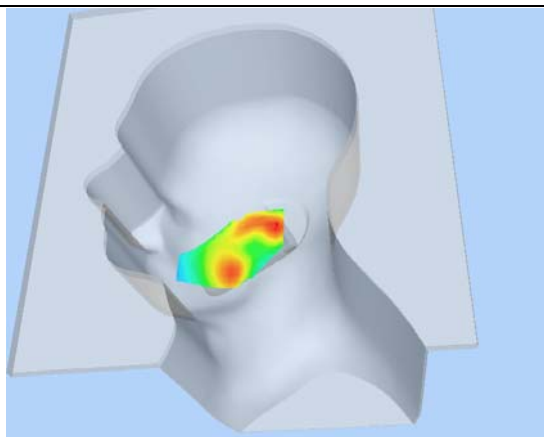
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.5219</b> | <b>0.3104</b> | <b>0.1882</b> | <b>0.1131</b> | <b>0.0678</b> | <b>0.0412</b> |

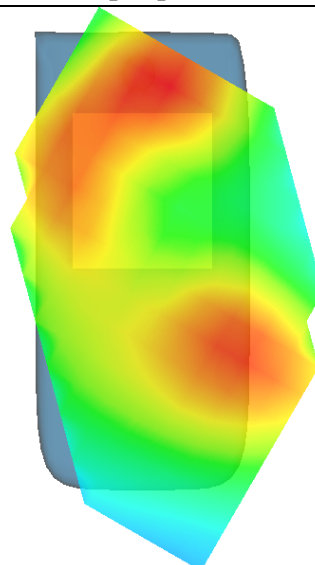
**SAR, Z Axis Scan (X = 0, Y = -7)**



**3D sceen shot**



**Hot spot position**





## MEASUREMENT 27

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 42 seconds

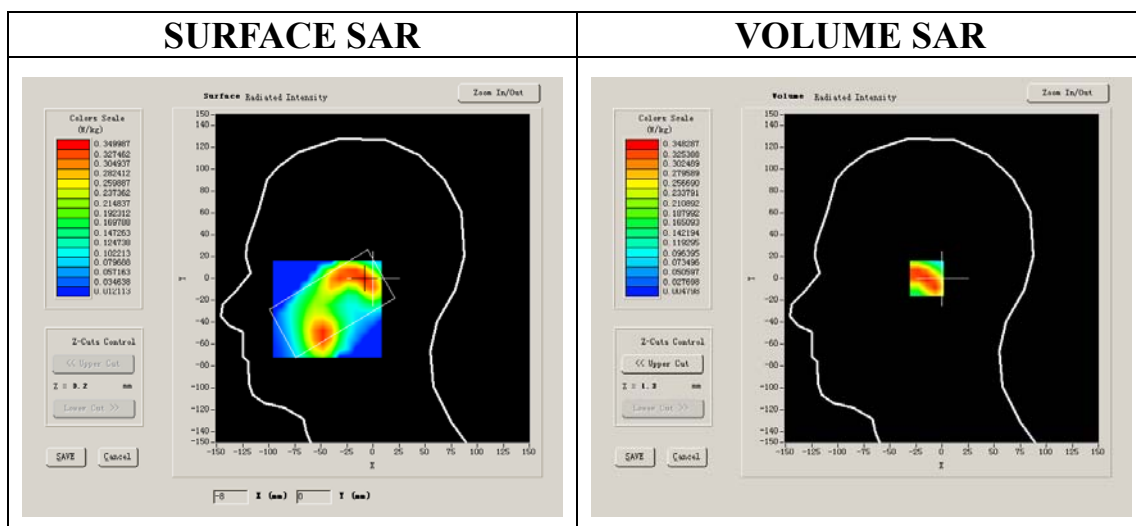
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Right head                    |
| Device Position | Tilt                          |
| Band            | US_PCS                        |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 1175):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1908.750000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.475639             |
| Variation (%)                     | -0.150000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



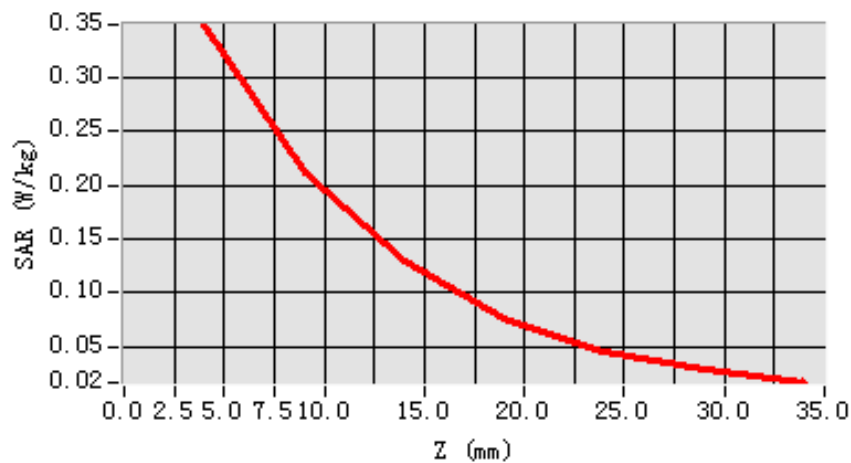
**Maximum location: X=-9.00, Y=0.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.190824 |
| <b>SAR 1g (W/Kg)</b>  | 0.329578 |

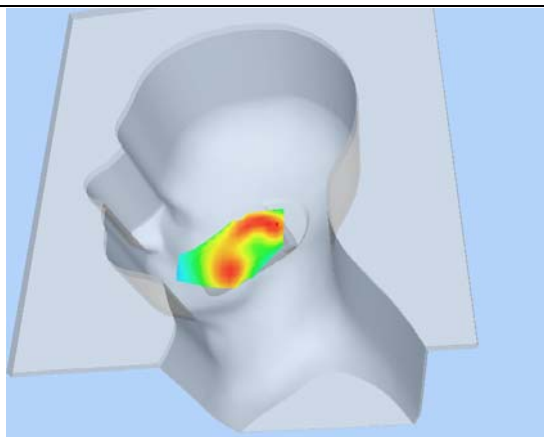
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.3483</b> | <b>0.2111</b> | <b>0.1287</b> | <b>0.0767</b> | <b>0.0462</b> | <b>0.0287</b> |

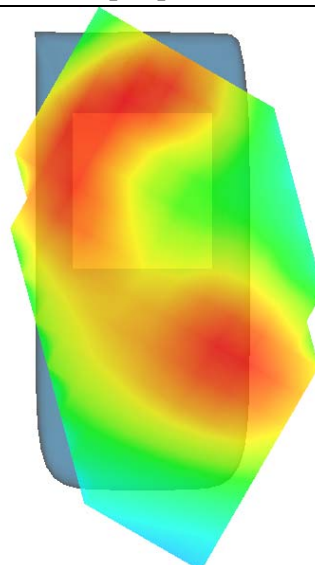
**SAR, Z Axis Scan (X = -9, Y = 0)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 28

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 14 seconds

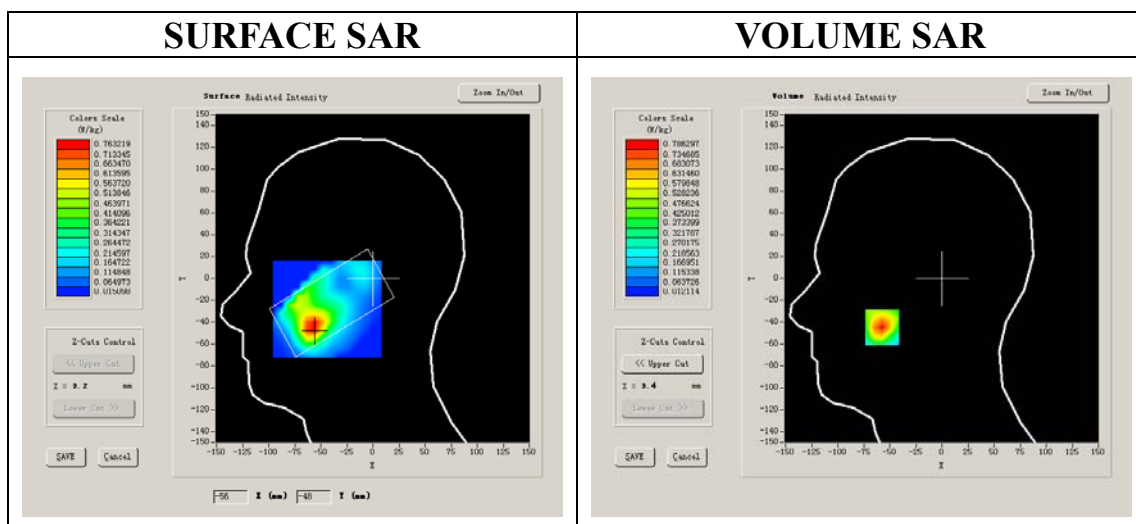
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Cheek                         |
| Band            | US_PCS                        |
| Channels        | Low                           |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.431186             |
| Variation (%)                     | -1.710000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



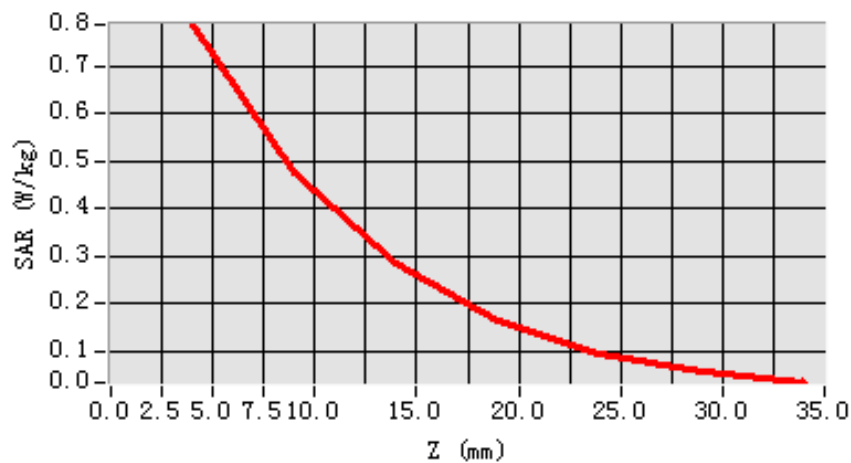
**Maximum location: X=-57.00, Y=-45.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.401557 |
| <b>SAR 1g (W/Kg)</b>  | 0.730190 |

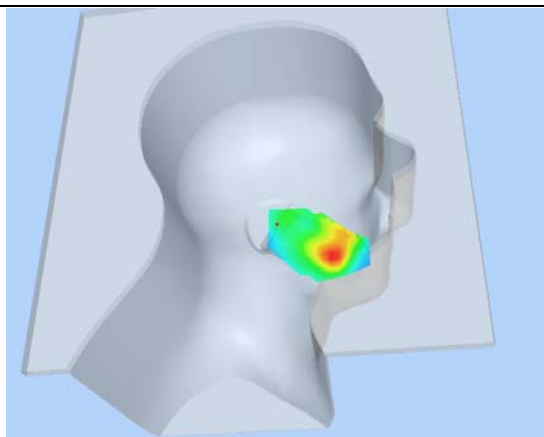
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.7863</b> | <b>0.4747</b> | <b>0.2862</b> | <b>0.1616</b> | <b>0.0930</b> | <b>0.0551</b> |

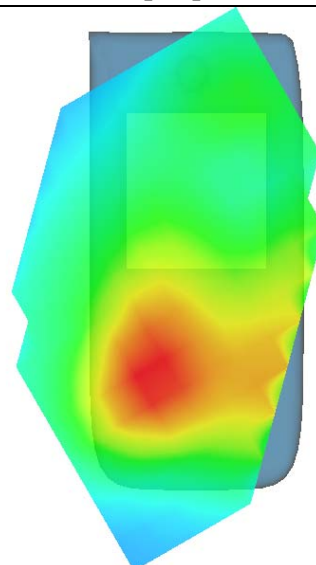
**SAR, Z Axis Scan (X = -57, Y = -45)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 29

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 9 seconds

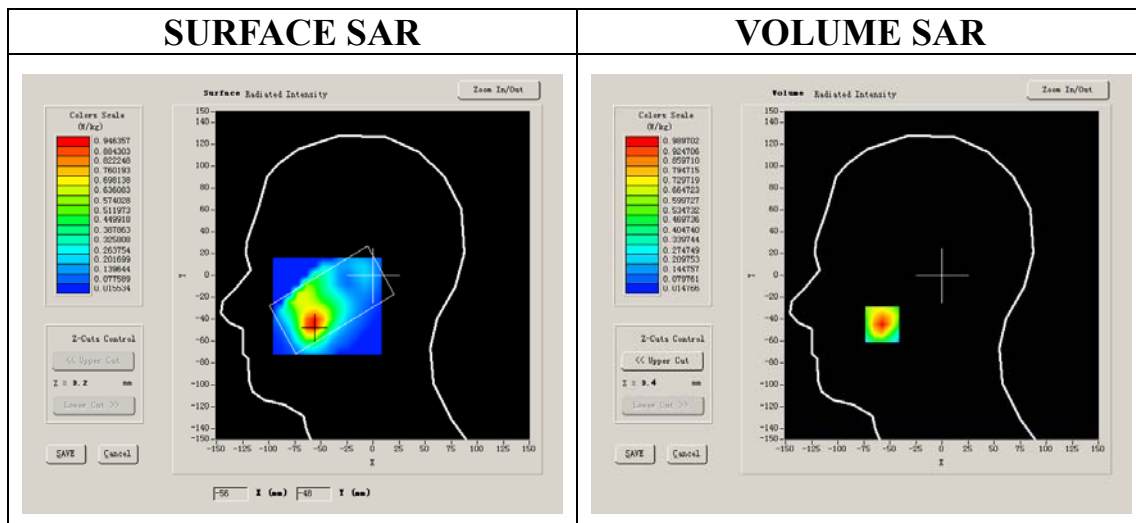
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Cheek                         |
| Band            | US_PCS                        |
| Channels        | Middle                        |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.453412             |
| Variation (%)                     | 0.550000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



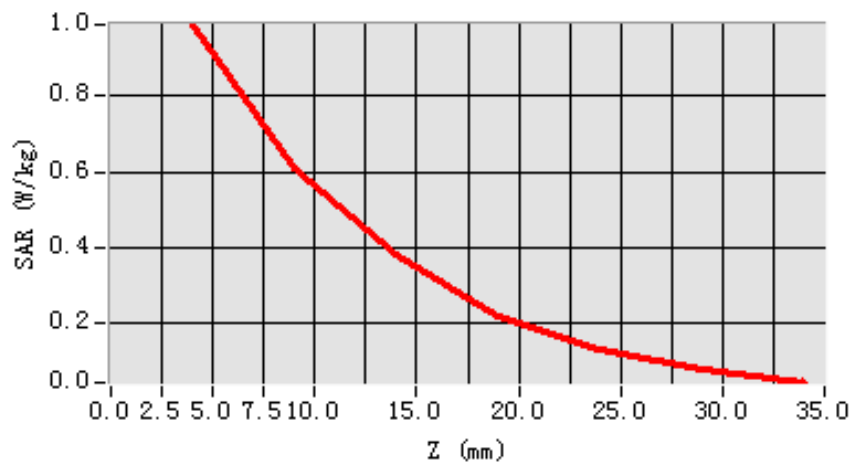
**Maximum location: X=-57.00, Y=-45.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.515526 |
| <b>SAR 1g (W/Kg)</b>  | 0.917474 |

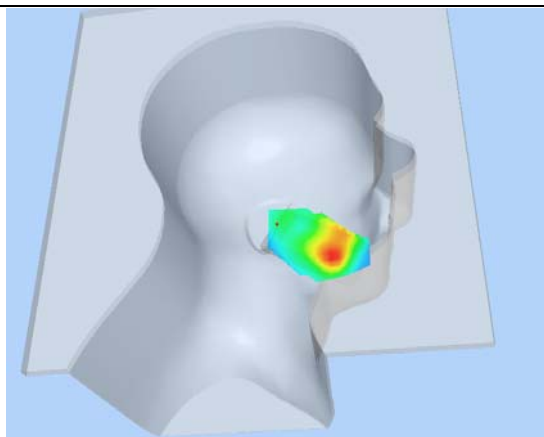
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.9897</b> | <b>0.6115</b> | <b>0.3821</b> | <b>0.2182</b> | <b>0.1279</b> | <b>0.0765</b> |

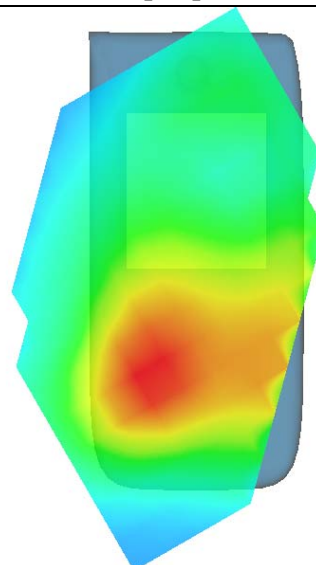
**SAR, Z Axis Scan (X = -57, Y = -45)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 30

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ 

Date of measurement: 10/8/2011

Measurement duration: 8 minutes 9 seconds

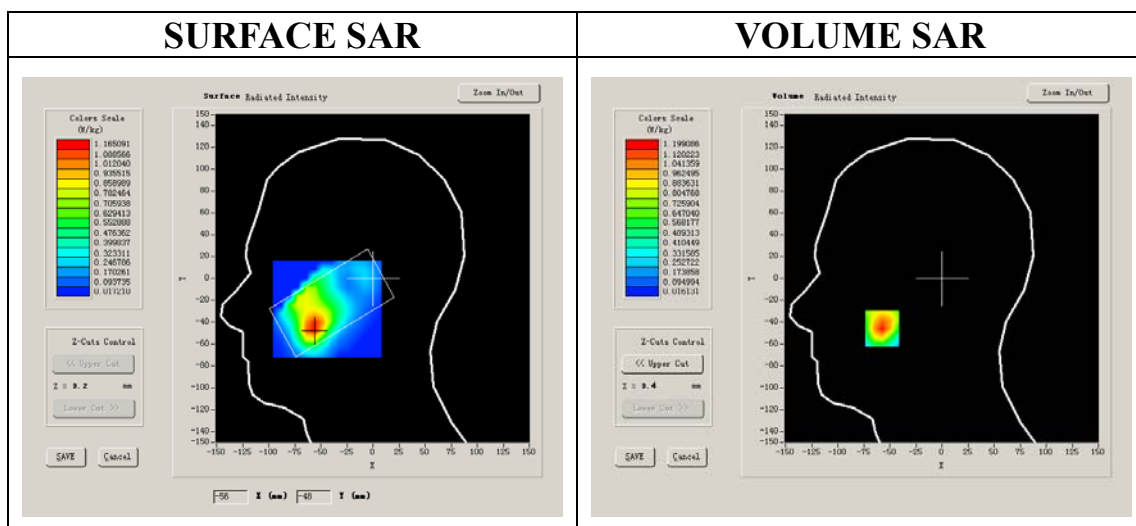
### **A. Experimental conditions.**

|                        |                               |
|------------------------|-------------------------------|
| <b>Phantom File</b>    | sam_direct_droit2_surf8mm.txt |
| <b>Phantom</b>         | Left head                     |
| <b>Device Position</b> | Cheek                         |
| <b>Band</b>            | US_PCS                        |
| <b>Channels</b>        | High                          |
| <b>Signal</b>          | CDMA                          |

## B. SAR Measurement Results

### Higher Band SAR (Channel 1175):

|                                          |                      |
|------------------------------------------|----------------------|
| <b>Frequency (MHz)</b>                   | 1908.750000          |
| <b>Relative permittivity (real part)</b> | 38.209000            |
| <b>Relative permittivity</b>             | 13.915650            |
| <b>Conductivity (S/m)</b>                | 1.475639             |
| <b>Variation (%)</b>                     | -0.050000            |
| <b>Ambient Temperature:</b>              | 22.0°C               |
| <b>Liquid Temperature:</b>               | 21.7C                |
| <b>ConvF:</b>                            | 40.136,34.843,38.721 |
| <b>Crest factor:</b>                     | 1:1                  |



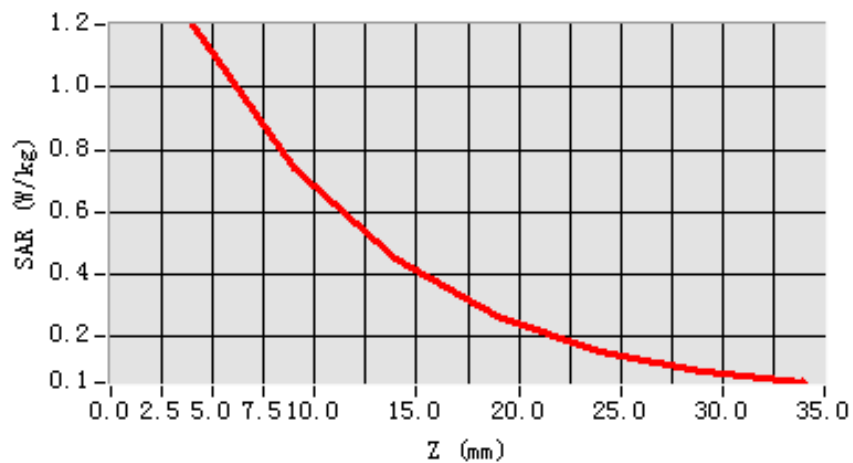
**Maximum location: X=-57.00, Y=-46.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.626652 |
| <b>SAR 1g (W/Kg)</b>  | 1.113477 |

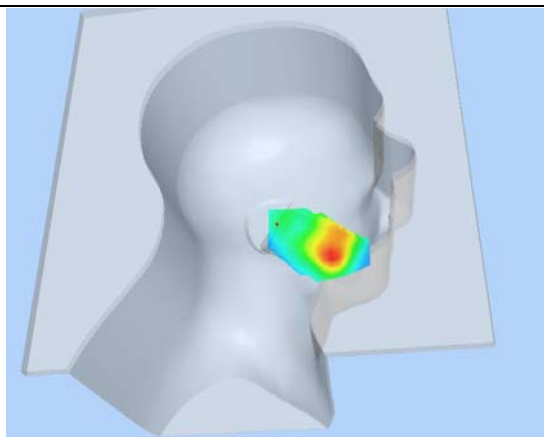
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.1991</b> | <b>0.7377</b> | <b>0.4522</b> | <b>0.2646</b> | <b>0.1524</b> | <b>0.0920</b> |

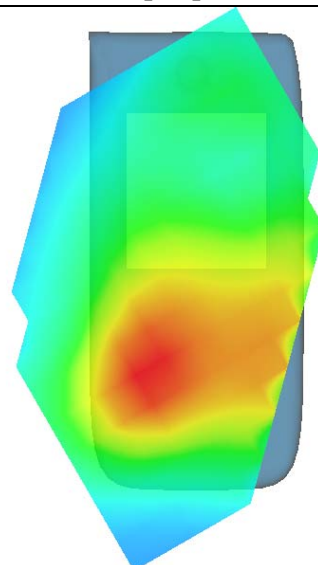
**SAR, Z Axis Scan (X = -57, Y = -46)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 31

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 30 seconds

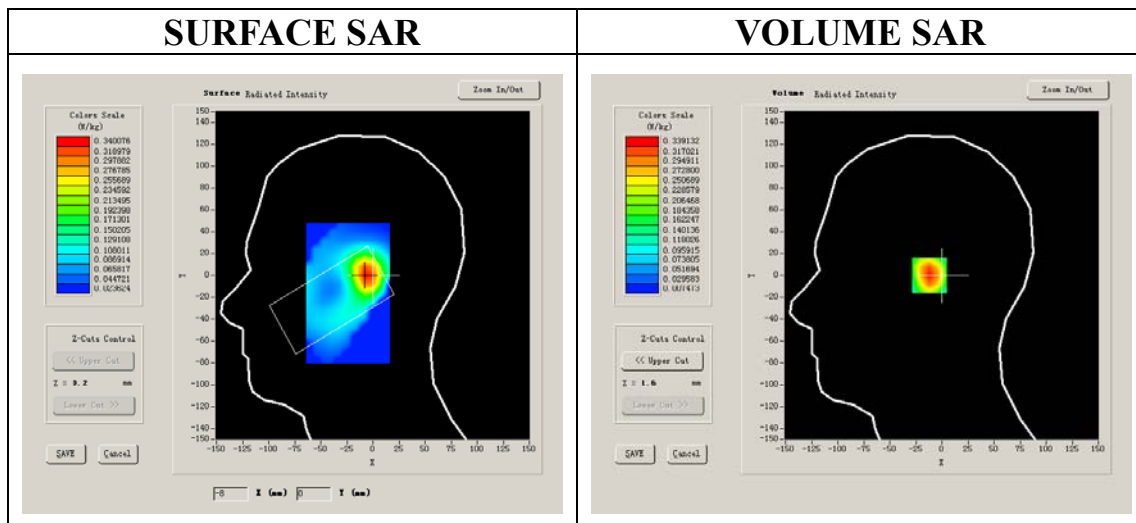
### A. Experimental conditions.

|                 |           |
|-----------------|-----------|
| Phantom File    | zinf3.txt |
| Phantom         | Left head |
| Device Position | Tilt      |
| Band            | US_PCS    |
| Channels        | Low       |
| Signal          | CDMA      |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.431186             |
| Variation (%)                     | -0.250000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



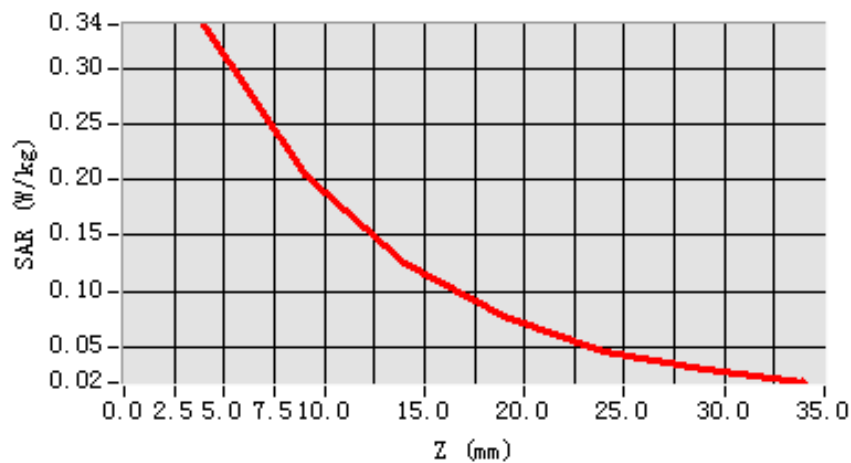
**Maximum location: X=-6.00, Y=0.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.183844 |
| <b>SAR 1g (W/Kg)</b>  | 0.319718 |

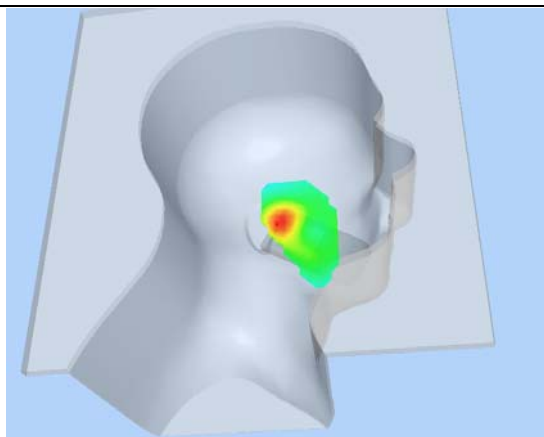
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.3391</b> | <b>0.2045</b> | <b>0.1248</b> | <b>0.0771</b> | <b>0.0461</b> | <b>0.0303</b> |

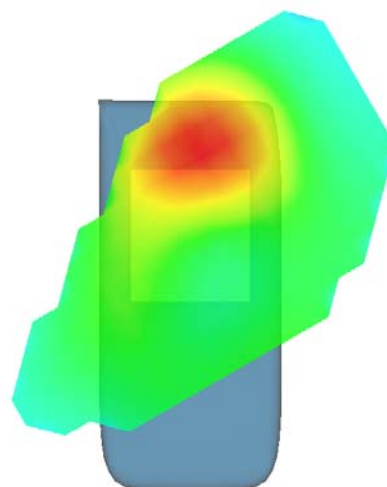
**SAR, Z Axis Scan (X = -6, Y = 0)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 32

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 27 seconds

### A. Experimental conditions.

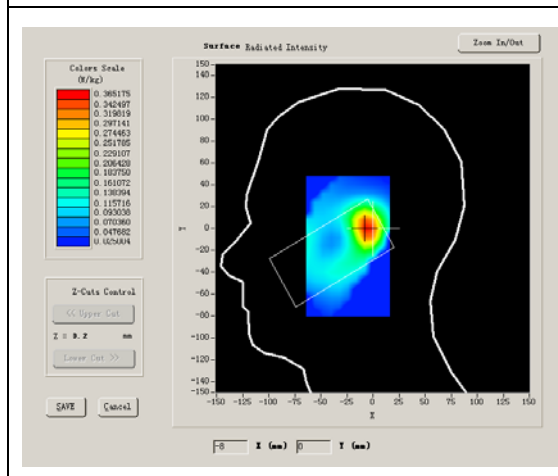
|                 |           |
|-----------------|-----------|
| Phantom File    | zinf3.txt |
| Phantom         | Left head |
| Device Position | Tilt      |
| Band            | US_PCS    |
| Channels        | Middle    |
| Signal          | CDMA      |

### B. SAR Measurement Results

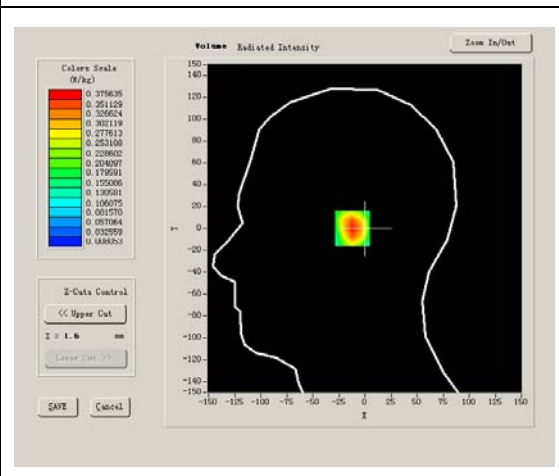
Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.453412             |
| Variation (%)                     | 1.420000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



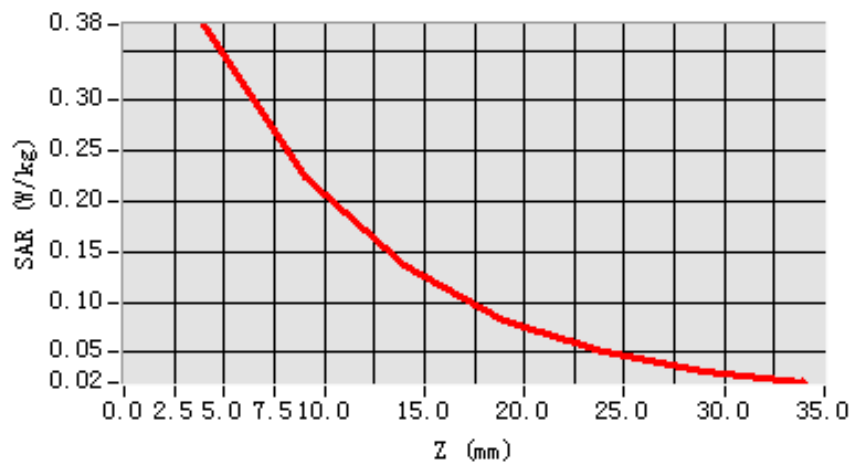
**Maximum location: X=-6.00, Y=0.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.201738 |
| <b>SAR 1g (W/Kg)</b>  | 0.354415 |

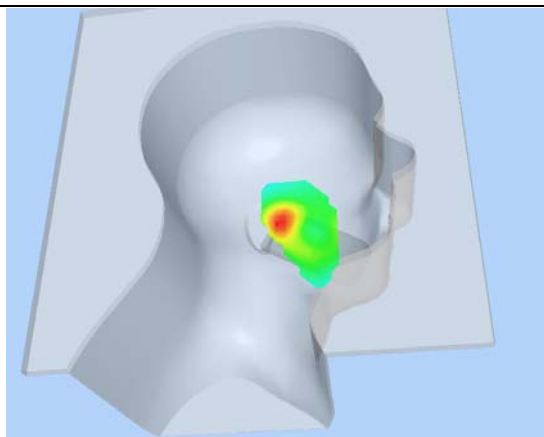
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.3756</b> | <b>0.2234</b> | <b>0.1358</b> | <b>0.0813</b> | <b>0.0508</b> | <b>0.0300</b> |

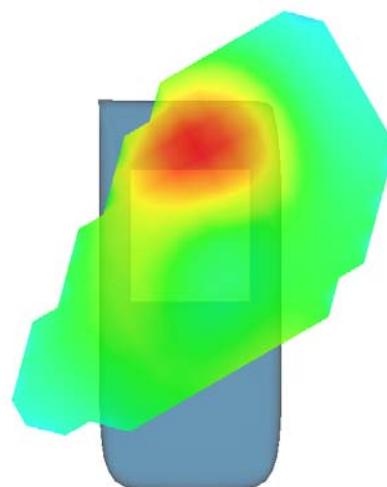
**SAR, Z Axis Scan (X = -6, Y = 0)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 33

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 7 minutes 26 seconds

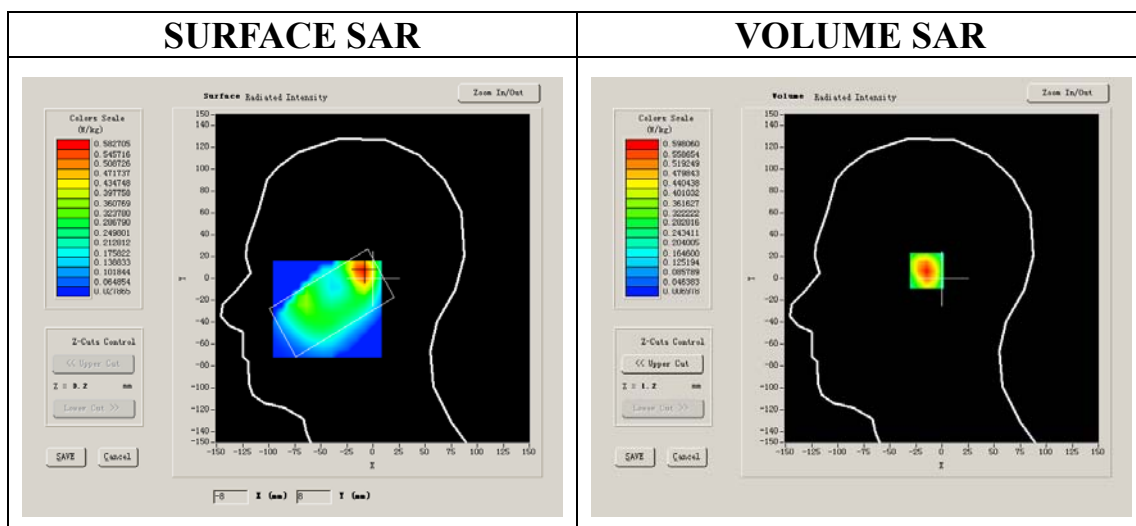
### A. Experimental conditions.

|                 |                               |
|-----------------|-------------------------------|
| Phantom File    | sam_direct_droit2_surf8mm.txt |
| Phantom         | Left head                     |
| Device Position | Tilt                          |
| Band            | US_PCS                        |
| Channels        | High                          |
| Signal          | CDMA                          |

### B. SAR Measurement Results

Higher Band SAR (Channel 1175):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1908.750000          |
| Relative permittivity (real part) | 38.209000            |
| Relative permittivity             | 13.915650            |
| Conductivity (S/m)                | 1.475639             |
| Variation (%)                     | -0.560000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



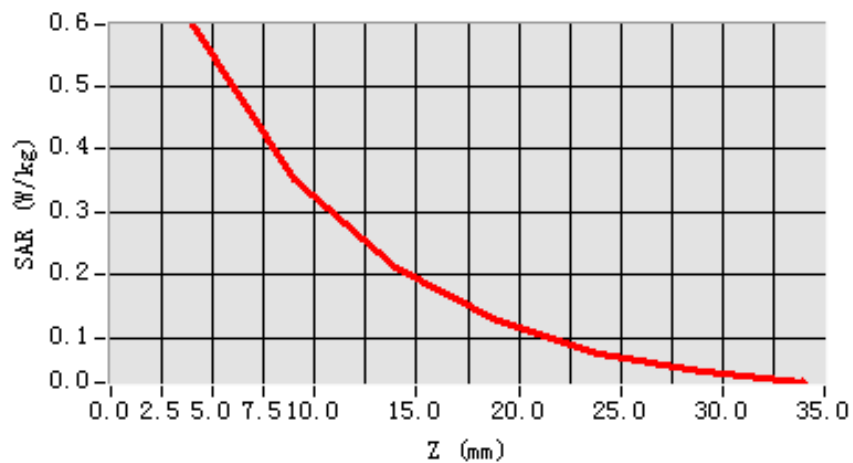
**Maximum location: X=-10.00, Y=7.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.311549 |
| <b>SAR 1g (W/Kg)</b>  | 0.557449 |

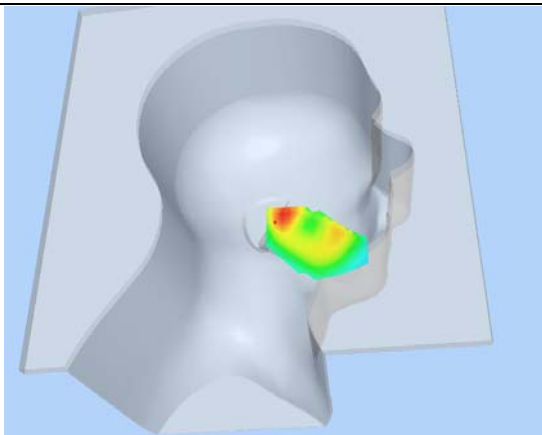
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.5981</b> | <b>0.3536</b> | <b>0.2123</b> | <b>0.1261</b> | <b>0.0764</b> | <b>0.0479</b> |

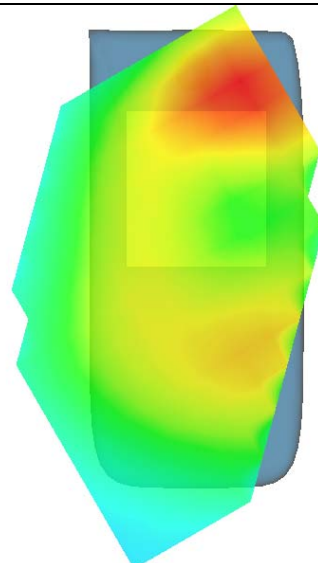
**SAR, Z Axis Scan (X = -10, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 34

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 8 seconds

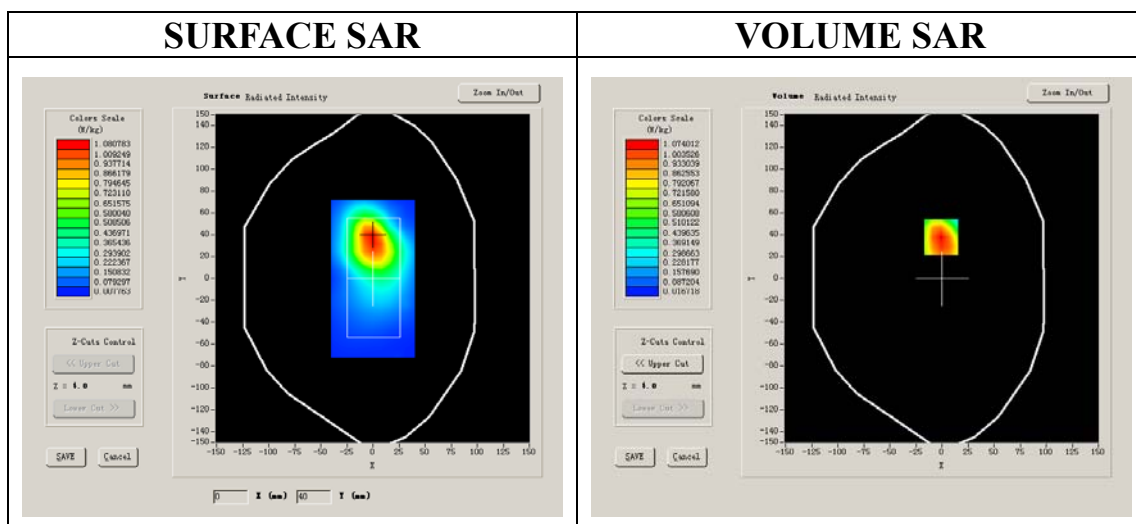
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Low               |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.523949             |
| Variation (%)                     | 0.110000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



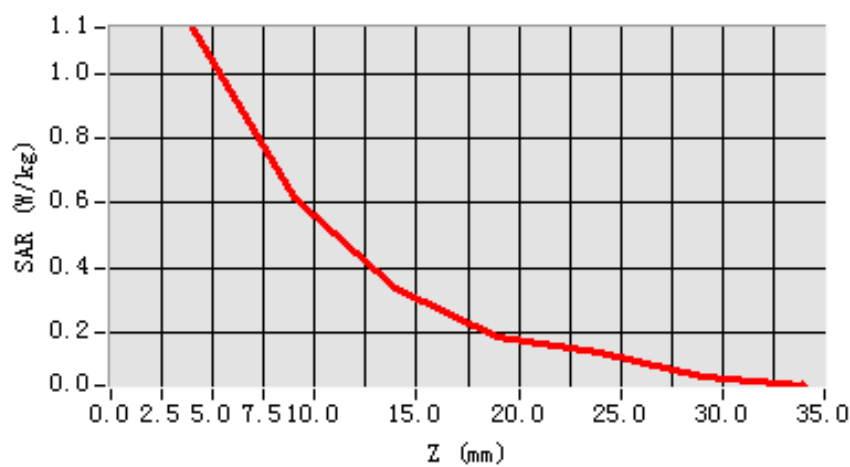
**Maximum location: X=-1.00, Y=38.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.628575 |
| <b>SAR 1g (W/Kg)</b>  | 1.099639 |

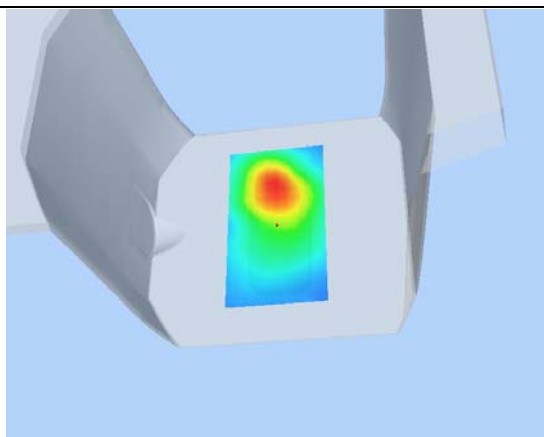
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>1.1436</b> | <b>0.6149</b> | <b>0.3345</b> | <b>0.1843</b> | <b>0.1382</b> | <b>0.0609</b> |

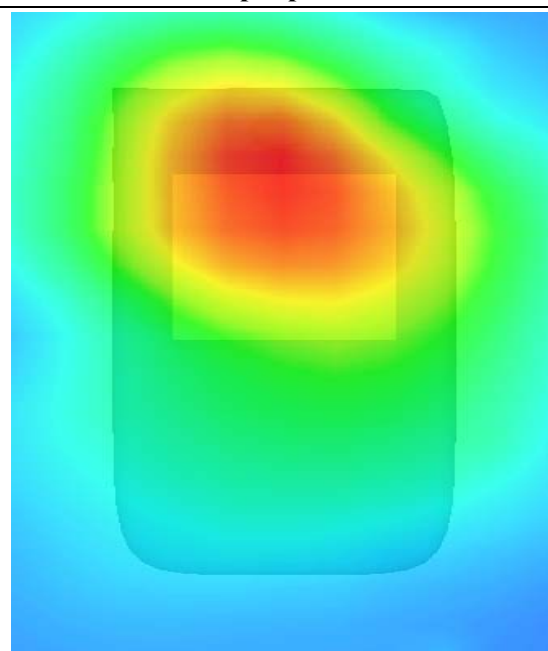
**SAR, Z Axis Scan (X = -1, Y = 38)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 35

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 10 seconds

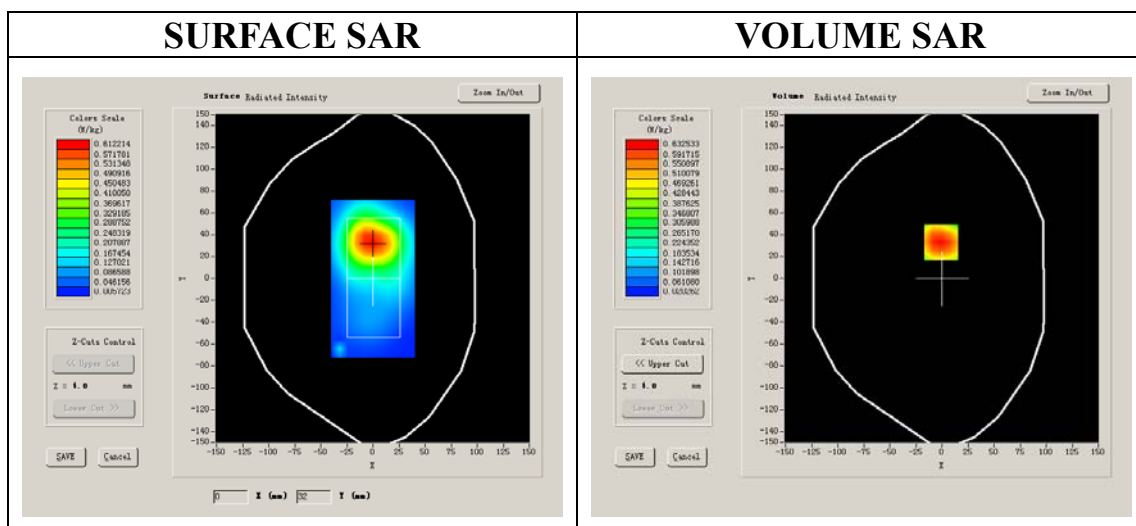
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Low               |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.523949             |
| Variation (%)                     | 0.650000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



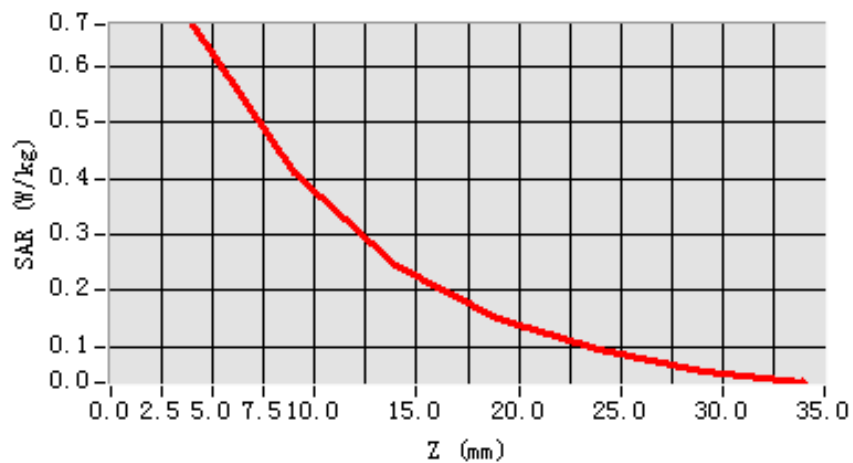
**Maximum location: X=-1.00, Y=33.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.389595 |
| <b>SAR 1g (W/Kg)</b>  | 0.648421 |

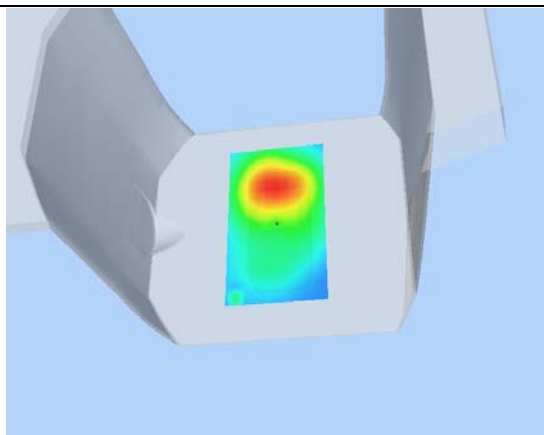
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.6735</b> | <b>0.4087</b> | <b>0.2444</b> | <b>0.1495</b> | <b>0.0937</b> | <b>0.0574</b> |

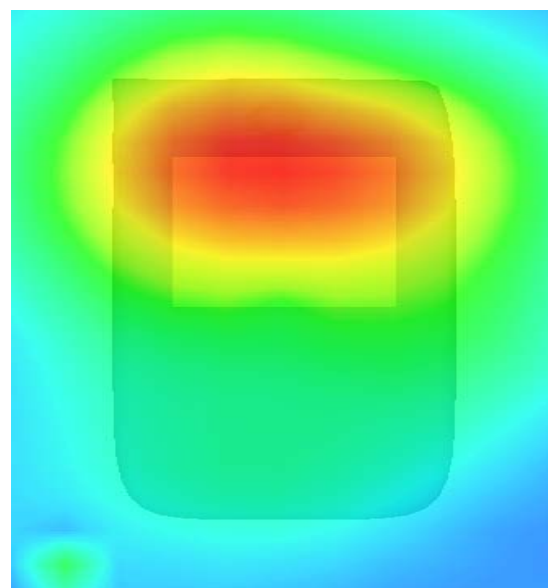
**SAR, Z Axis Scan (X = -1, Y = 33)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 36

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 12 seconds

### A. Experimental conditions.

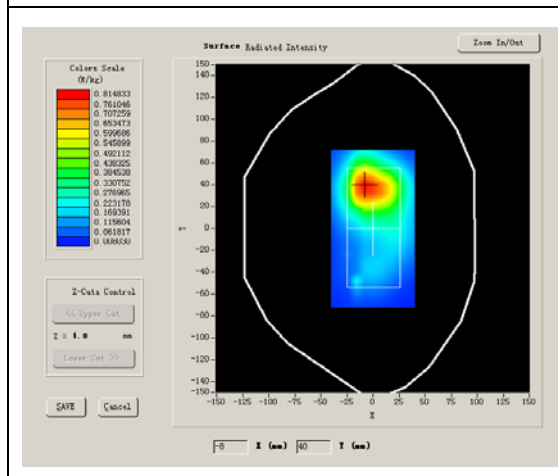
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Middle            |
| Signal          | CDMA              |

### B. SAR Measurement Results

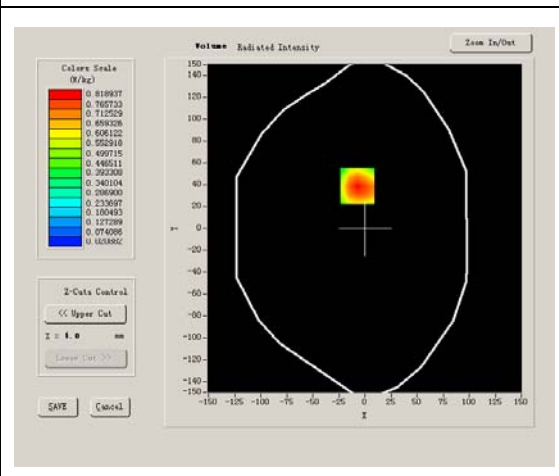
Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.547616             |
| Variation (%)                     | 0.150000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



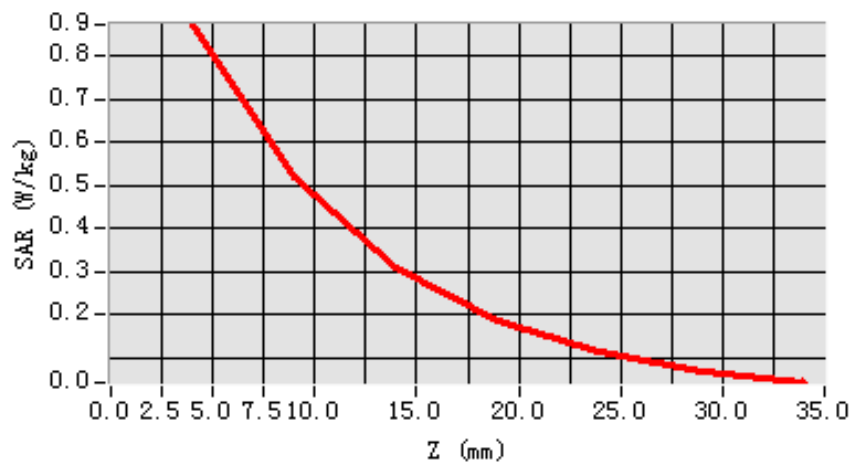
**Maximum location: X=-7.00, Y=39.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.494623 |
| <b>SAR 1g (W/Kg)</b>  | 0.833469 |

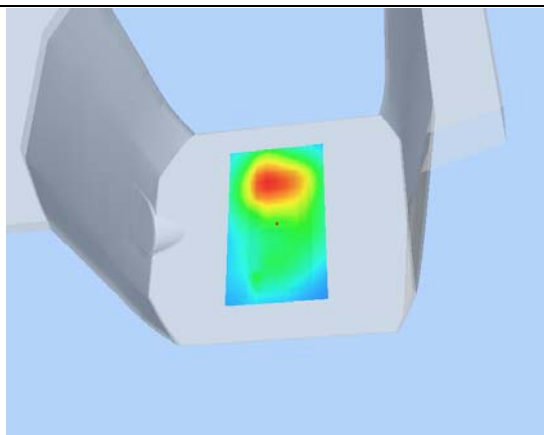
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.8720</b> | <b>0.5201</b> | <b>0.3092</b> | <b>0.1845</b> | <b>0.1123</b> | <b>0.0670</b> |

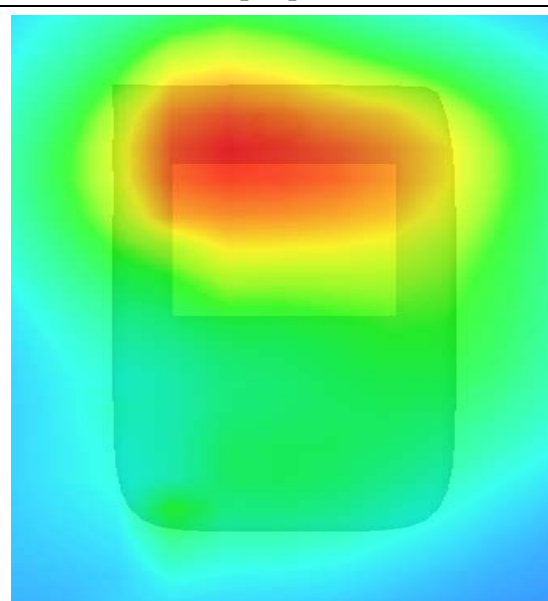
**SAR, Z Axis Scan (X = -7, Y = 39)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 37

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 9 seconds

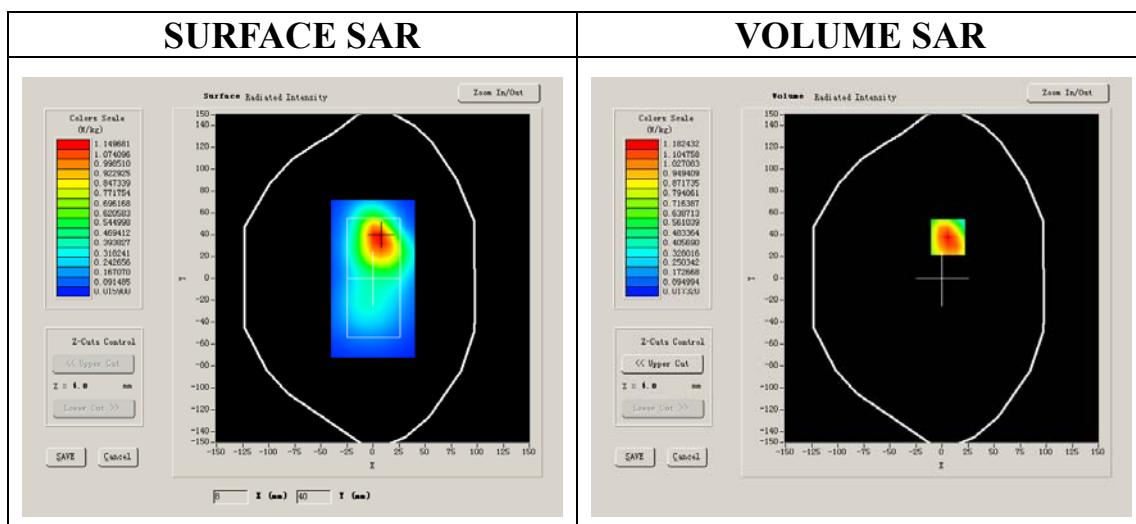
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Middle            |
| Signal          | CDMA              |

### B. SAR Measurement Results

Middle Band SAR (Channel 600):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1880.000000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.547616             |
| Variation (%)                     | 1.230000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



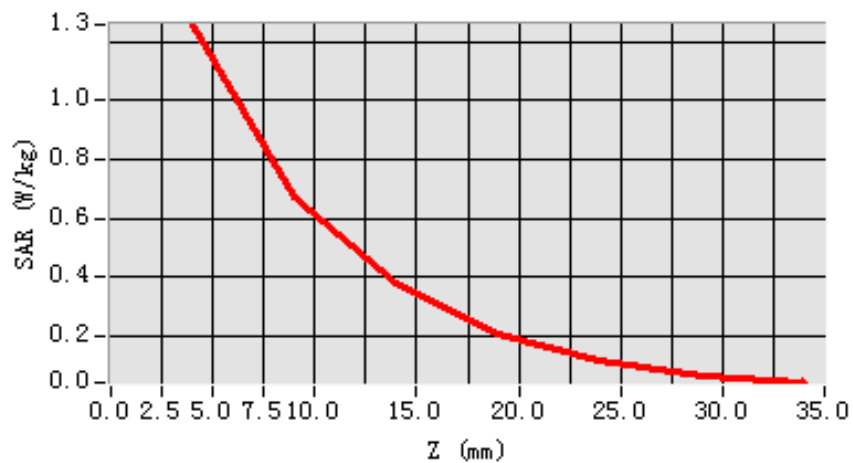
**Maximum location: X=6.00, Y=38.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.675712 |
| <b>SAR 1g (W/Kg)</b>  | 1.199016 |

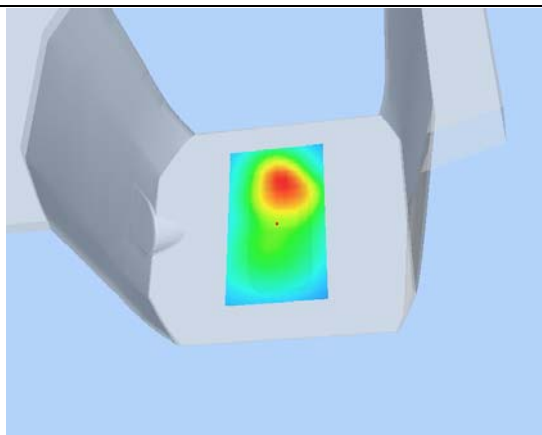
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b> | <b>4.00</b> | <b>9.00</b> | <b>14.00</b> | <b>19.00</b> | <b>24.00</b> | <b>29.00</b> |
|-------------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| <b>SAR (W/Kg)</b> | 0.0000      | 1.2591      | 0.6747      | 0.3768       | 0.2072       | 0.1181       | 0.0657       |

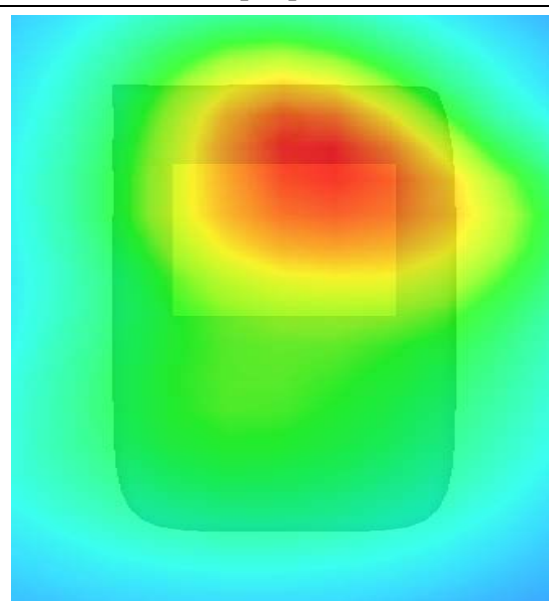
**SAR, Z Axis Scan (X = 6, Y = 38)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 38

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 15 seconds

### A. Experimental conditions.

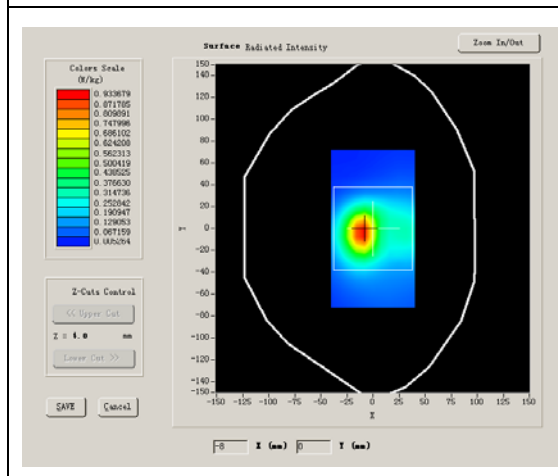
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

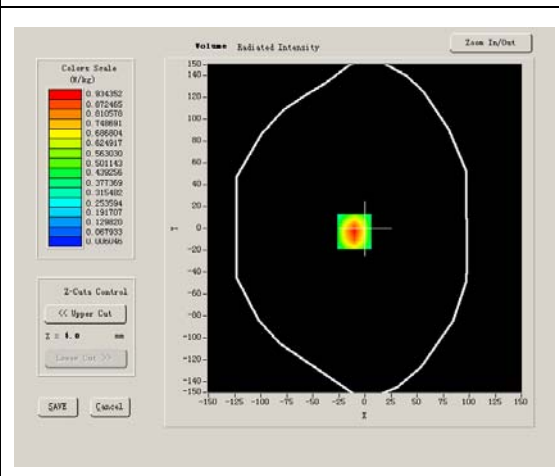
Higher Band SAR (Channel 1175):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1908.750000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.571283             |
| Variation (%)                     | -3.670000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



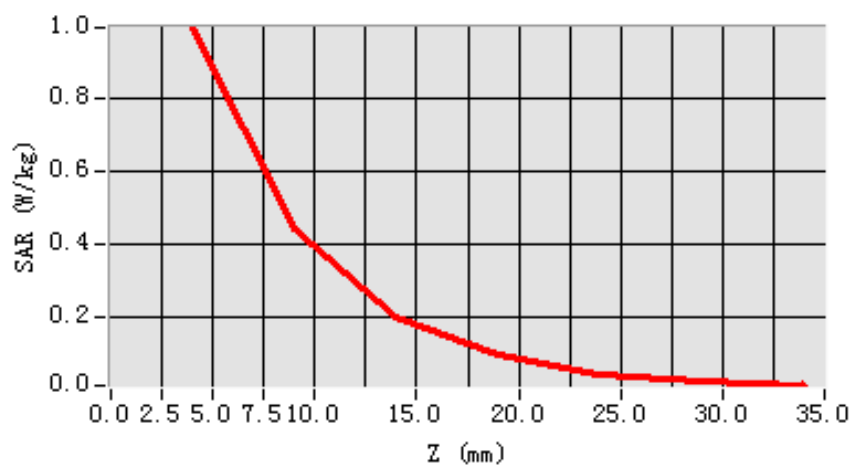
**Maximum location: X=-10.00, Y=-3.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.454913 |
| <b>SAR 1g (W/Kg)</b>  | 0.935825 |

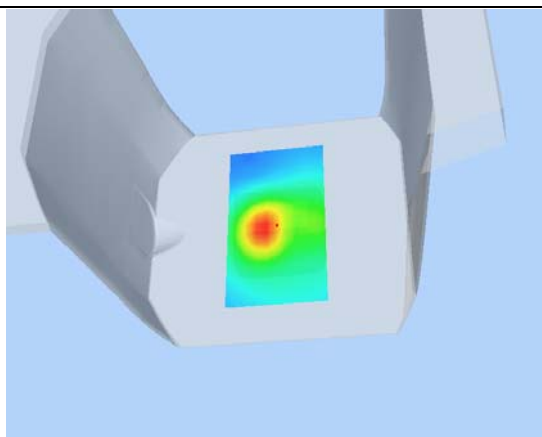
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.9949</b> | <b>0.4442</b> | <b>0.2023</b> | <b>0.0939</b> | <b>0.0439</b> | <b>0.0220</b> |

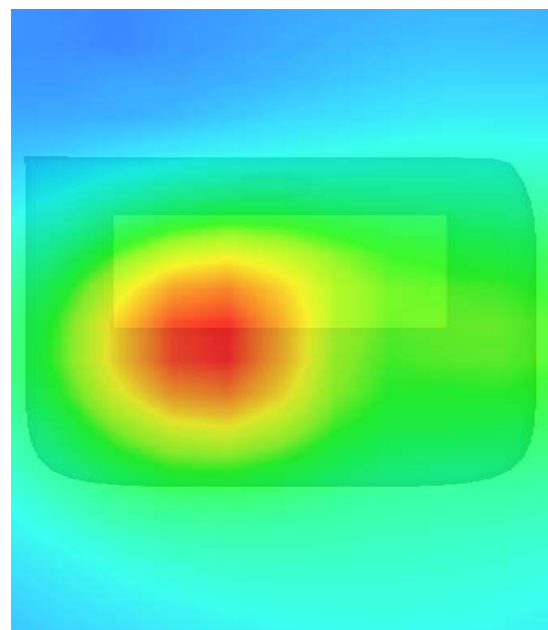
**SAR, Z Axis Scan (X = -10, Y = -3)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 39

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 6 seconds

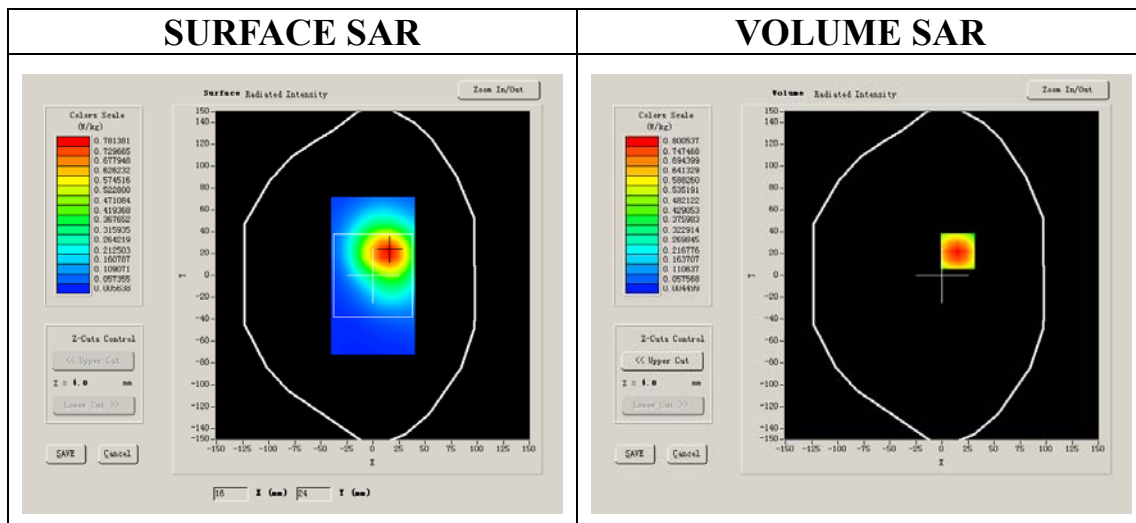
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | High              |
| Signal          | CDMA              |

### B. SAR Measurement Results

Higher Band SAR (Channel 1175):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1908.750000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.571283             |
| Variation (%)                     | 1.650000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



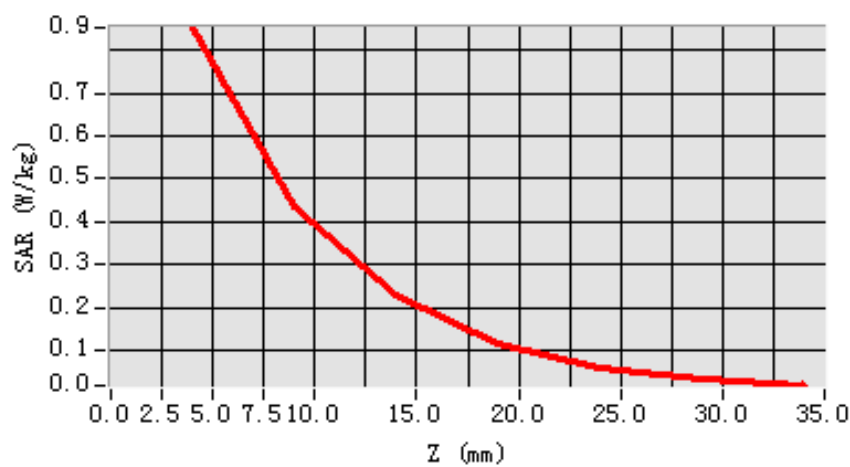
**Maximum location: X=15.00, Y=22.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.445932 |
| <b>SAR 1g (W/Kg)</b>  | 0.818114 |

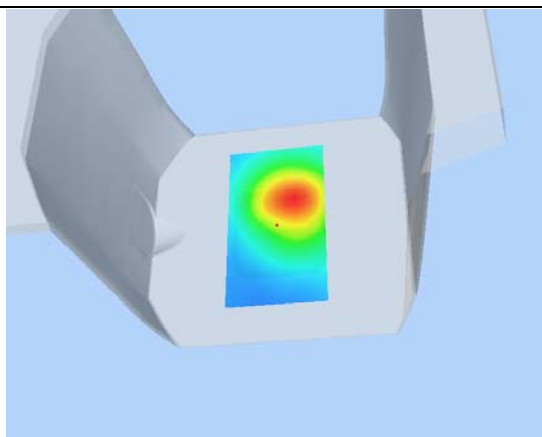
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.8524</b> | <b>0.4339</b> | <b>0.2290</b> | <b>0.1160</b> | <b>0.0594</b> | <b>0.0321</b> |

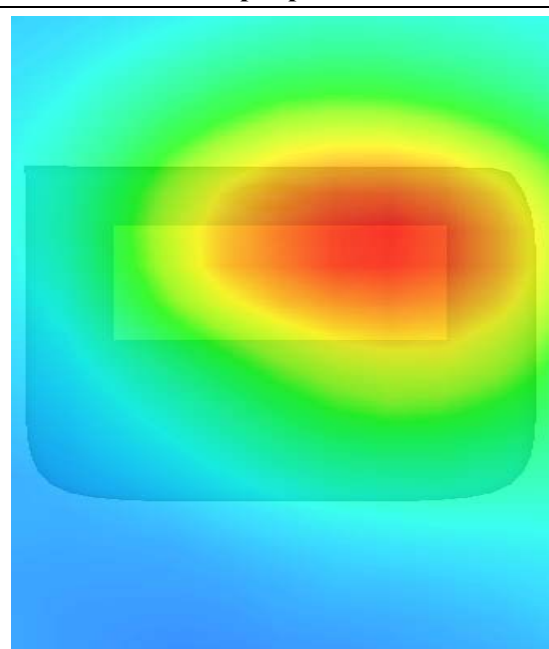
**SAR, Z Axis Scan (X = 15, Y = 22)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 40

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 17 seconds

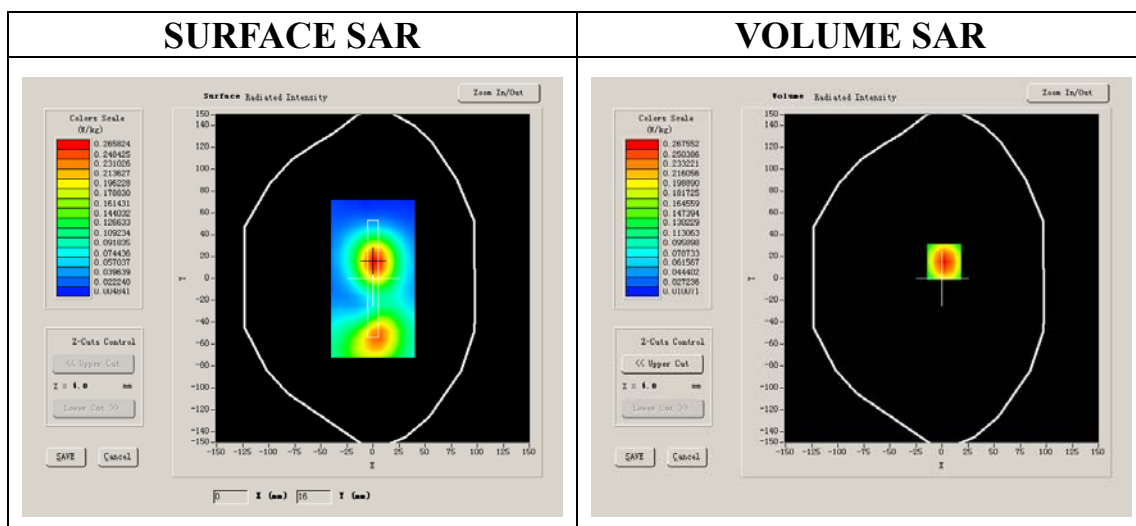
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Low (Edge B)      |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.547616             |
| Variation (%)                     | 0.190000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



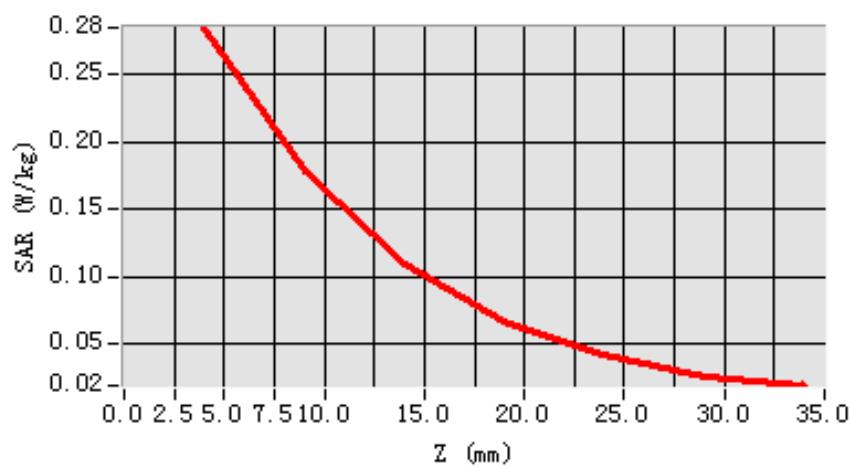
**Maximum location: X=2.00, Y=15.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.161124 |
| <b>SAR 1g (W/Kg)</b>  | 0.269521 |

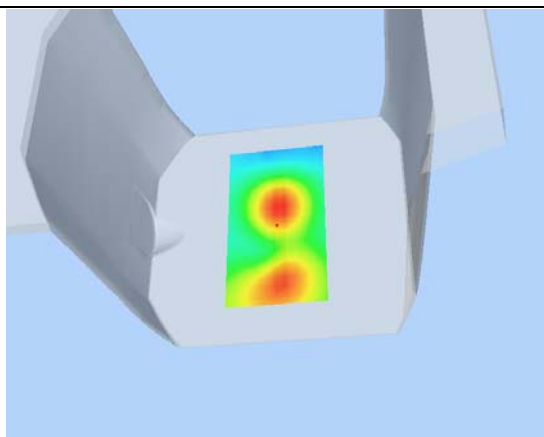
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.2849</b> | <b>0.1777</b> | <b>0.1103</b> | <b>0.0663</b> | <b>0.0432</b> | <b>0.0268</b> |

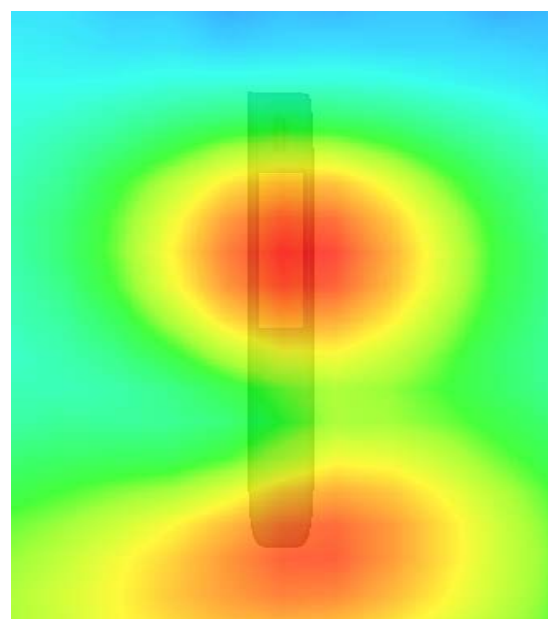
**SAR, Z Axis Scan (X = 2, Y = 15)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 41

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 17 seconds

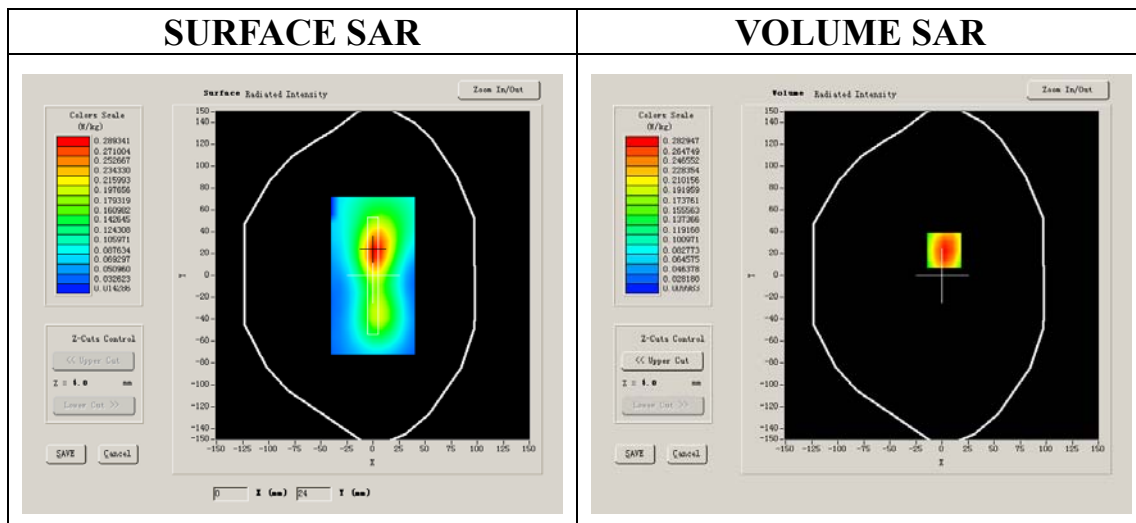
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Low (Edge D)      |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.547616             |
| Variation (%)                     | -2.430000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



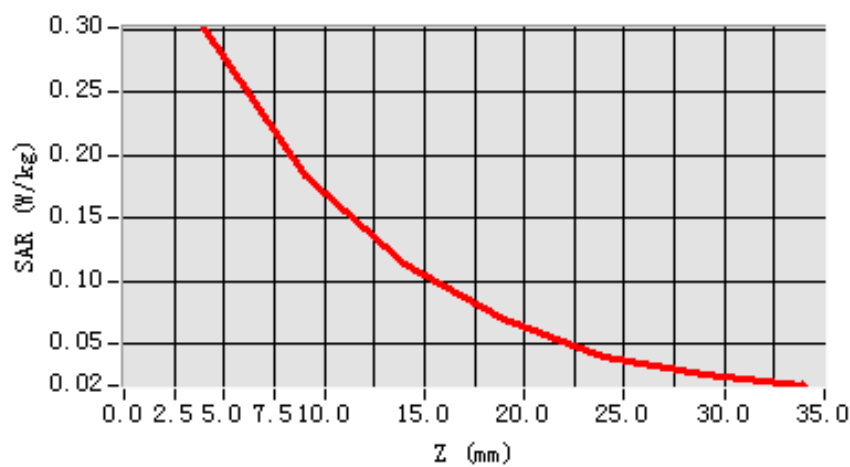
**Maximum location: X=2.00, Y=23.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.172801 |
| <b>SAR 1g (W/Kg)</b>  | 0.288534 |

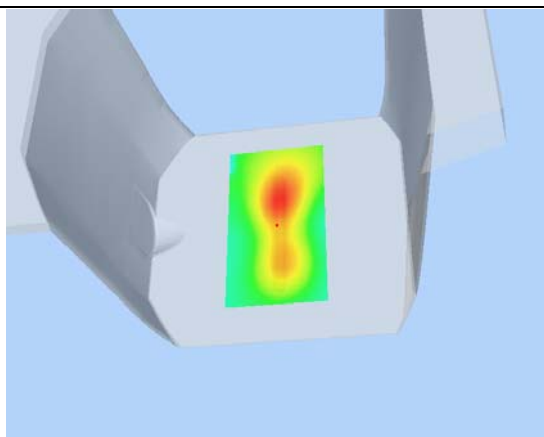
### **Z Axis Scan**

|                   |               |               |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.3013</b> | <b>0.1828</b> | <b>0.1137</b> | <b>0.0699</b> | <b>0.0393</b> | <b>0.0256</b> |

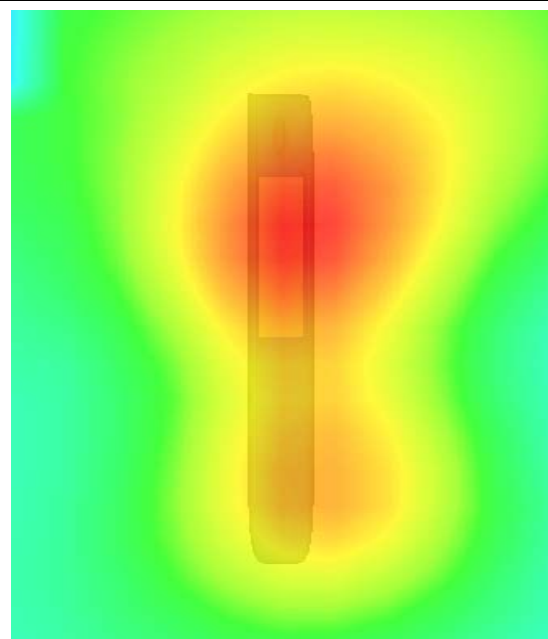
**SAR, Z Axis Scan (X = 2, Y = 23)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 42

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 7 seconds

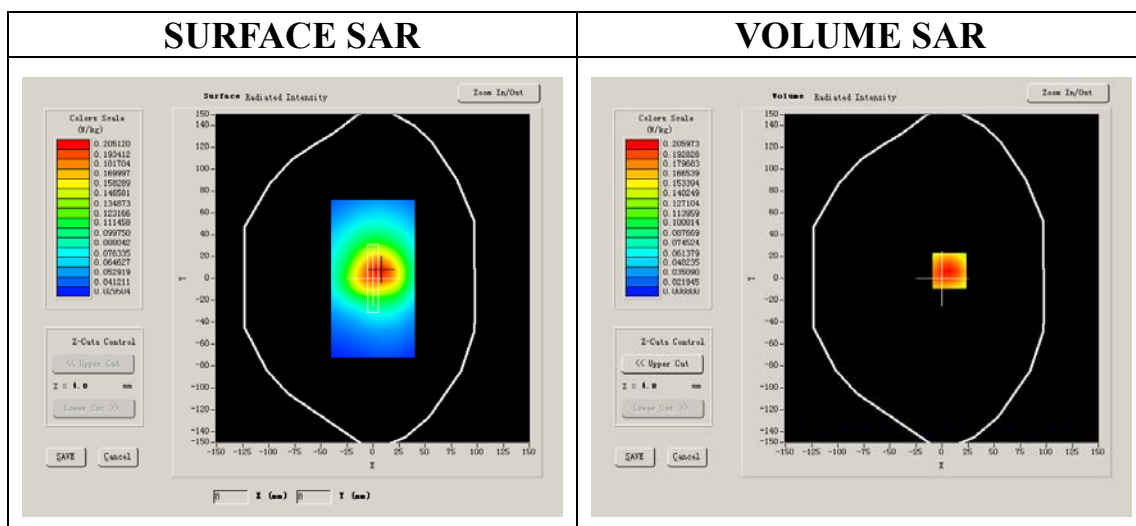
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | US_PCS            |
| Channels        | Low (Edge C)      |
| Signal          | CDMA              |

### B. SAR Measurement Results

Lower Band SAR (Channel 25):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1851.250000          |
| Relative permittivity (real part) | 51.903000            |
| Relative permittivity             | 14.817600            |
| Conductivity (S/m)                | 1.523949             |
| Power Drift (%)                   | 0.950000             |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.7C                |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |



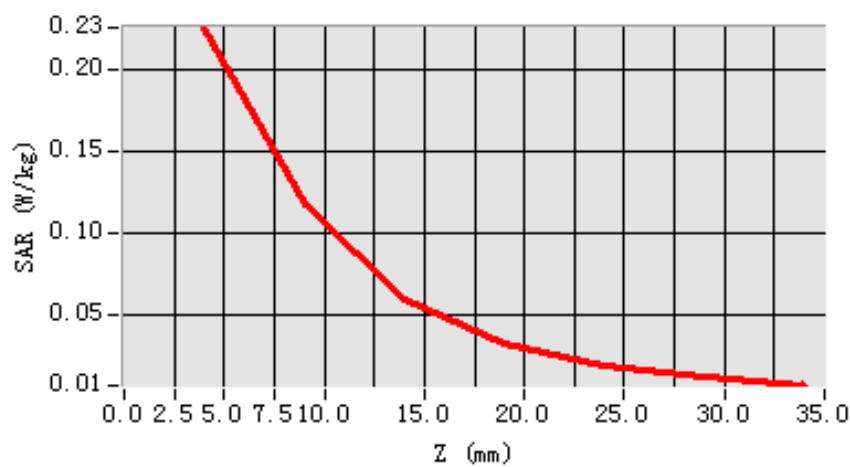
**Maximum location: X=9.00, Y=30.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.122531 |
| <b>SAR 1g (W/Kg)</b>  | 0.217918 |

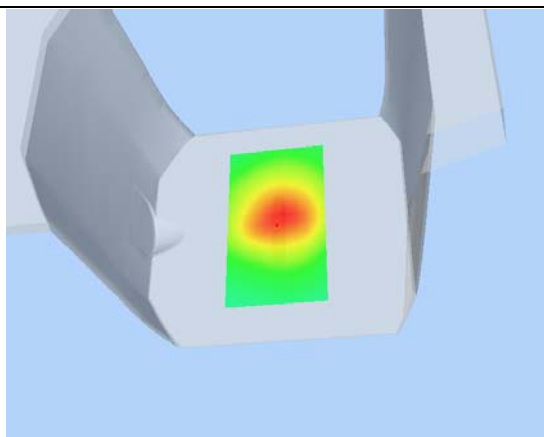
### **Z Axis Scan**

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.2261</b> | <b>0.1180</b> | <b>0.0604</b> | <b>0.0330</b> | <b>0.0193</b> | <b>0.0122</b> |

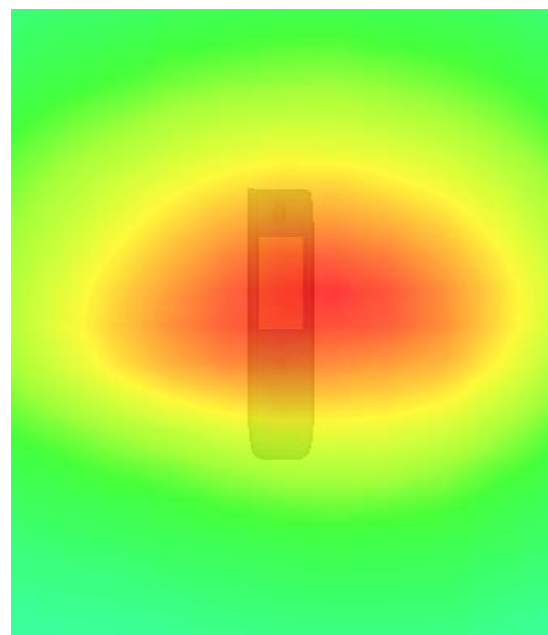
**SAR, Z Axis Scan (X = 9, Y = 30)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 43

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 8 seconds

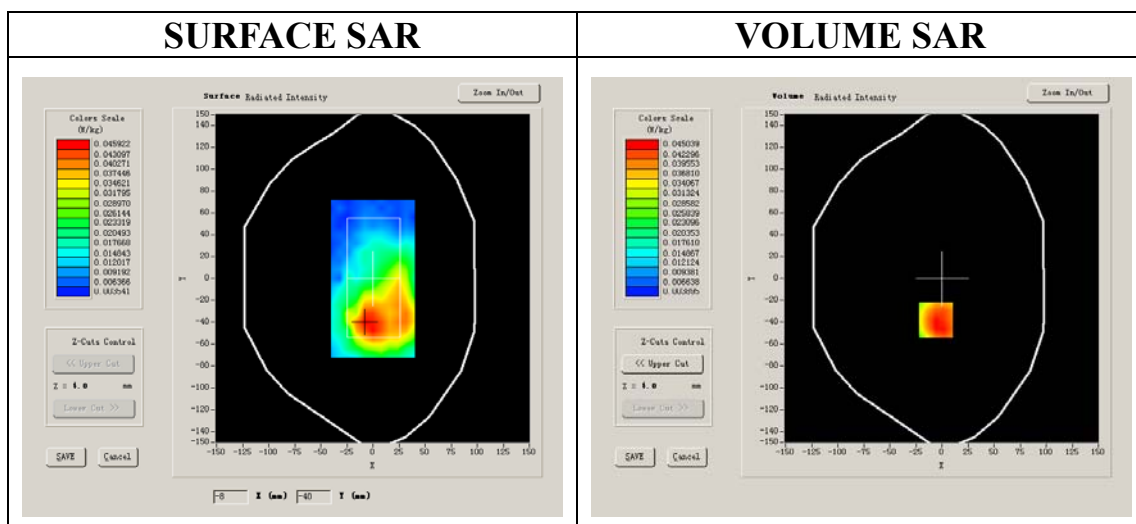
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | 802.11B           |
| Channels        | High              |
| Signal          | DSSS              |

### B. SAR Measurement Results

Middle Band SAR (Channel 11):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 2462.000000          |
| Relative permittivity (real part) | 54.341000            |
| Relative permittivity             | 19.120001            |
| Conductivity (S/m)                | 1.952641             |
| Power drift (%)                   | 0.300000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.8°C               |
| ConvF:                            | 39.772,33.946,37.835 |
| Crest factor:                     | 1:1                  |



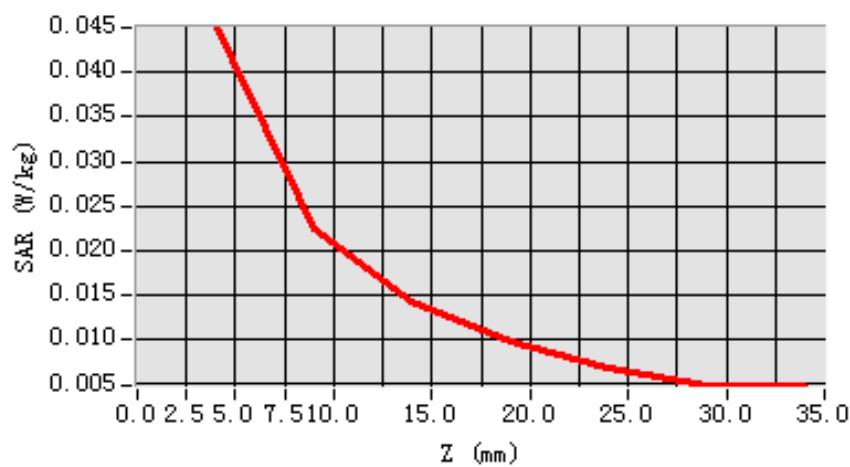
tion: X=-6.00, Y=-38.00

|                |          |
|----------------|----------|
| SAR 10g (W/Kg) | 0.025368 |
| SAR 1g (W/Kg)  | 0.044497 |

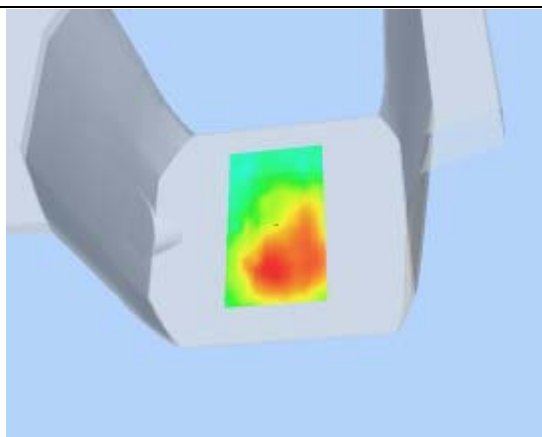
### Z Axis Scan

| Z (mm)     | 0.00   | 4.00   | 9.00   | 14.00  | 19.00  | 24.00  | 29.00  |
|------------|--------|--------|--------|--------|--------|--------|--------|
| SAR (W/Kg) | 0.0000 | 0.0450 | 0.0225 | 0.0142 | 0.0099 | 0.0068 | 0.0048 |

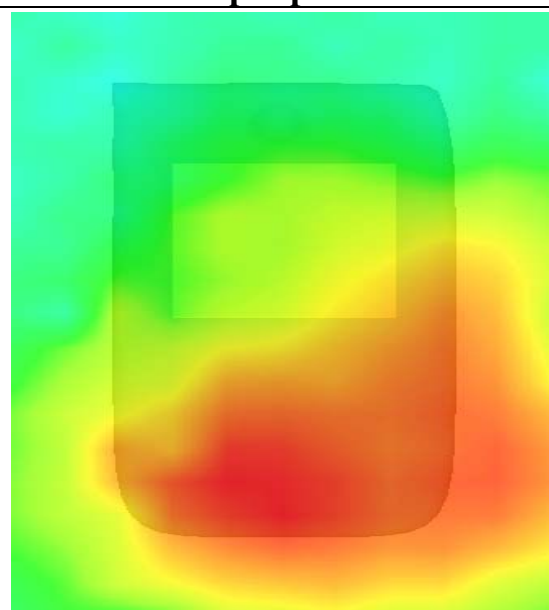
SAR, Z Axis Scan (X = -6, Y = -38)



3D scene shot



Hot spot position



## MEASUREMENT 44

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 8 seconds

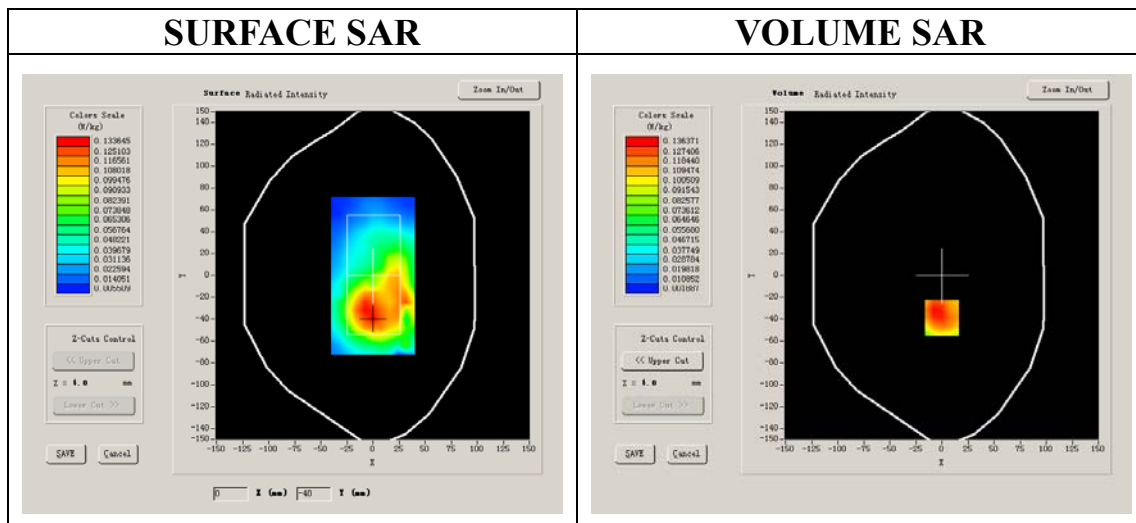
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body              |
| Band            | 802.11B           |
| Channels        | High              |
| Signal          | DSSS              |

### B. SAR Measurement Results

Middle Band SAR (Channel 11):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 2462.000000          |
| Relative permittivity (real part) | 54.341000            |
| Relative permittivity             | 19.120001            |
| Conductivity (S/m)                | 1.952641             |
| Power drift (%)                   | 1.860000             |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.8°C               |
| ConvF:                            | 39.772,33.946,37.835 |
| Crest factor:                     | 1:1                  |



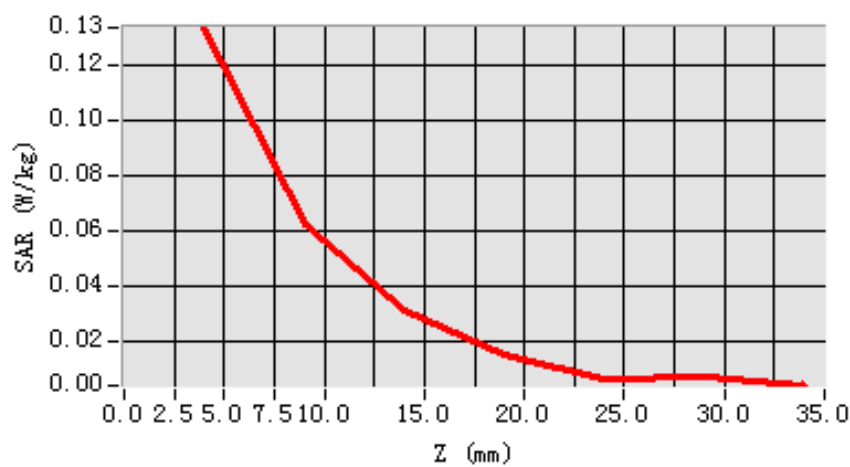
**Maximum location: X=0.00, Y=-39.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.071720 |
| <b>SAR 1g (W/Kg)</b>  | 0.133186 |

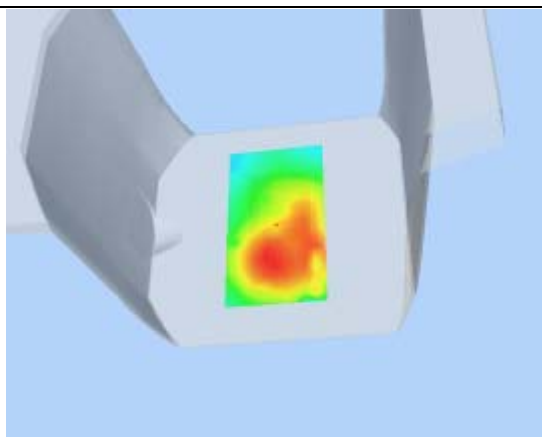
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.1336</b> | <b>0.0628</b> | <b>0.0312</b> | <b>0.0157</b> | <b>0.0067</b> | <b>0.0077</b> |

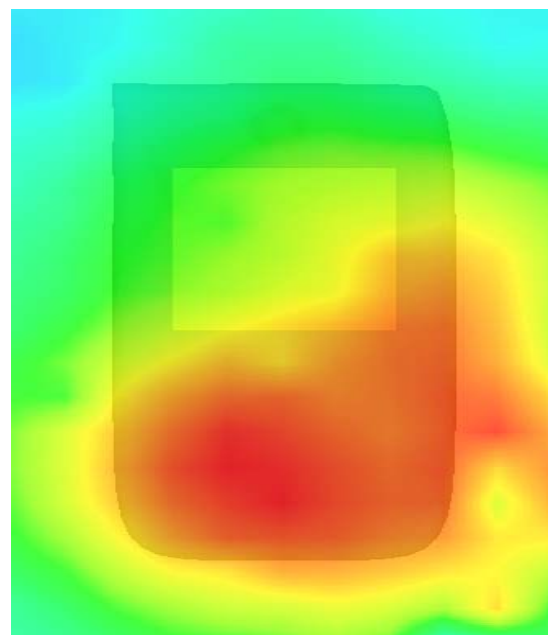
**SAR, Z Axis Scan (X = 0, Y = -39)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 45

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 6 seconds

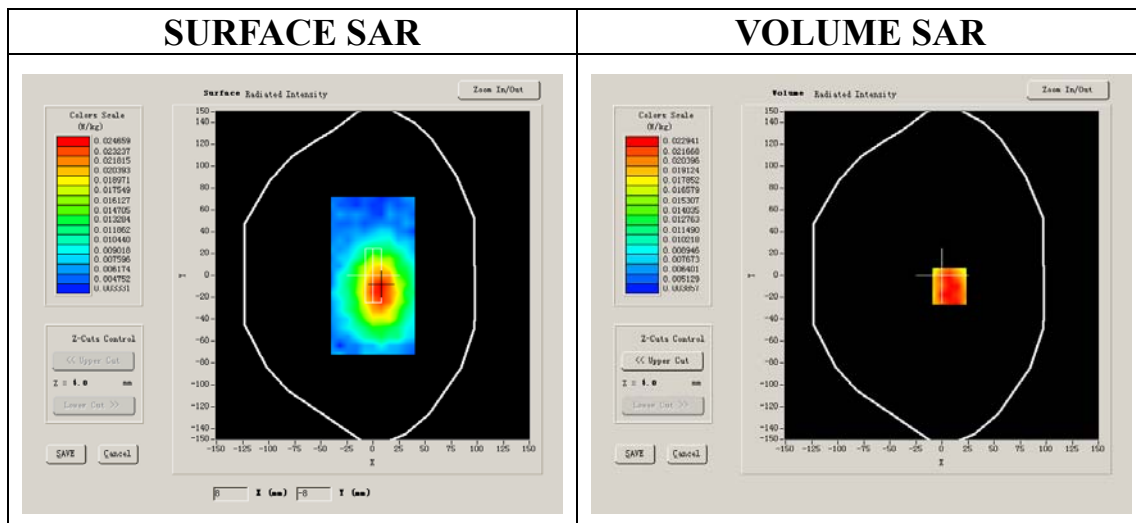
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body (Edge A)     |
| Band            | High              |
| Channels        | Middle            |
| Signal          | DSSS              |

### B. SAR Measurement Results

Middle Band SAR (Channel 11):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 2462.000000          |
| Relative permittivity (real part) | 54.341000            |
| Relative permittivity             | 19.120001            |
| Conductivity (S/m)                | 1.952641             |
| Variation (%)                     | -1.570000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.8°C               |
| ConvF:                            | 39.772,33.946,37.835 |
| Crest factor:                     | 1:1                  |



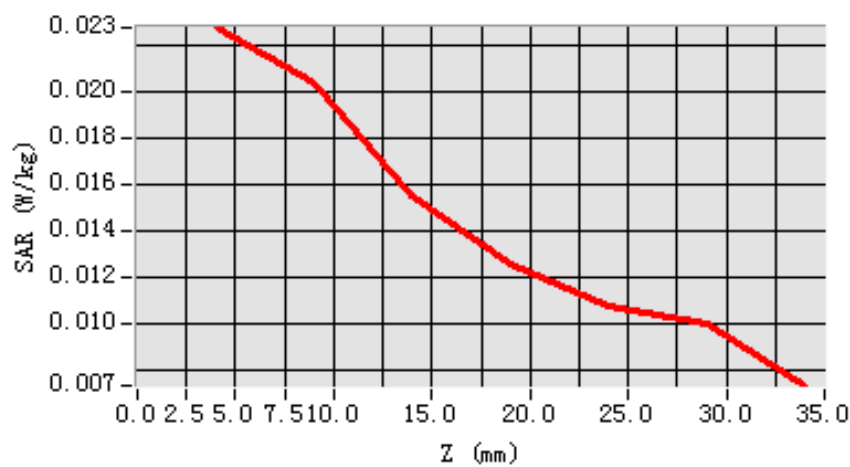
**Maximum location: X=7.00, Y=-10.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.017409 |
| <b>SAR 1g (W/Kg)</b>  | 0.023061 |

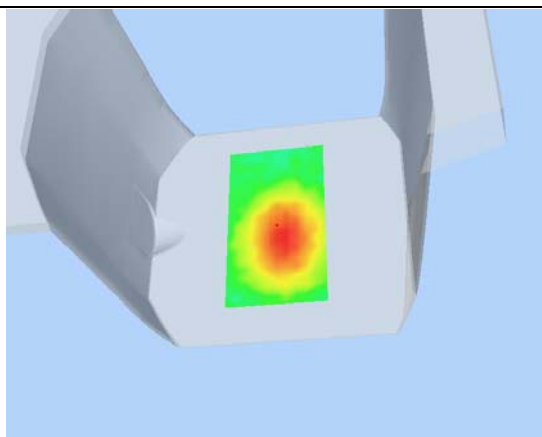
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.0228</b> | <b>0.0204</b> | <b>0.0155</b> | <b>0.0126</b> | <b>0.0108</b> | <b>0.0100</b> |

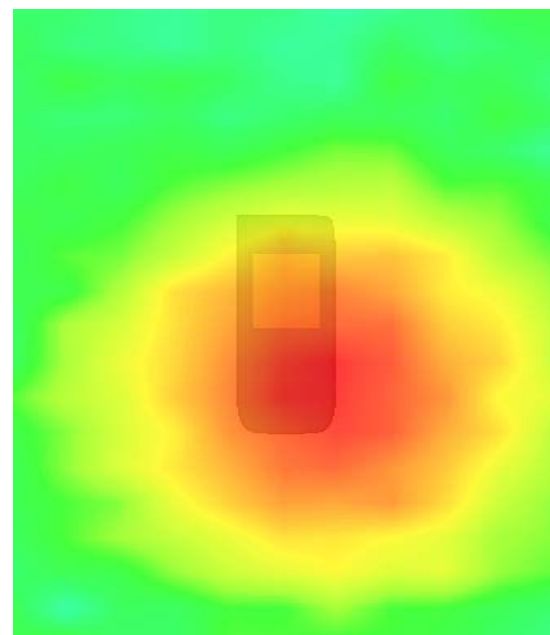
**SAR, Z Axis Scan (X = 7, Y = -10)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 46

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 9 minutes 6 seconds

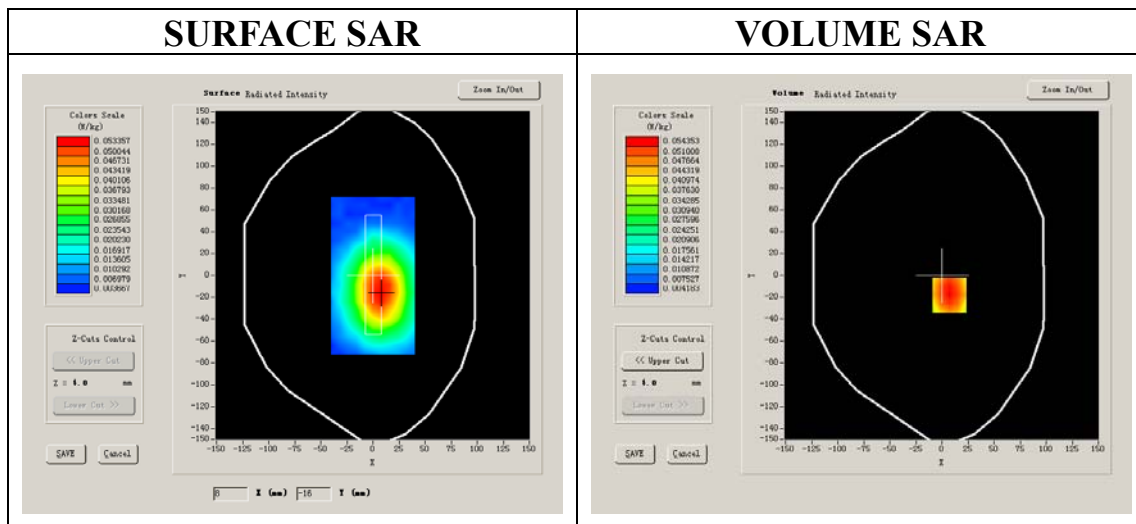
### A. Experimental conditions.

|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position | Body (Edge B)     |
| Band            | 802.11B           |
| Channels        | High              |
| Signal          | DSSS              |

### B. SAR Measurement Results

Middle Band SAR (Channel 11):

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 2462.000000          |
| Relative permittivity (real part) | 54.341000            |
| Relative permittivity             | 19.120001            |
| Conductivity (S/m)                | 1.952641             |
| Variation (%)                     | -1.240000            |
| Ambient Temperature:              | 22.2°C               |
| Liquid Temperature:               | 21.8°C               |
| ConvF:                            | 39.772,33.946,37.835 |
| Crest factor:                     | 1:1                  |



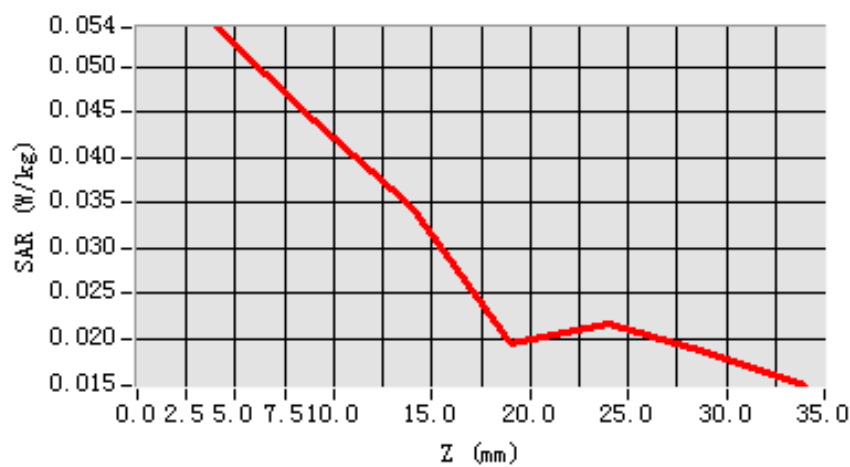
**Maximum location: X=7.00, Y=-18.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 0.039786 |
| <b>SAR 1g (W/Kg)</b>  | 0.053239 |

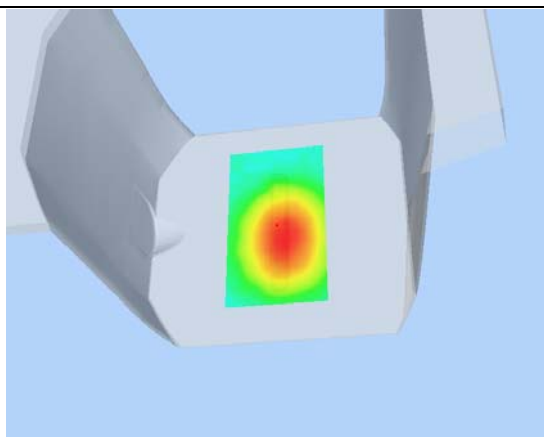
### Z Axis Scan

| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  | <b>24.00</b>  | <b>29.00</b>  |
|-------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>0.0544</b> | <b>0.0442</b> | <b>0.0347</b> | <b>0.0195</b> | <b>0.0218</b> | <b>0.0186</b> |

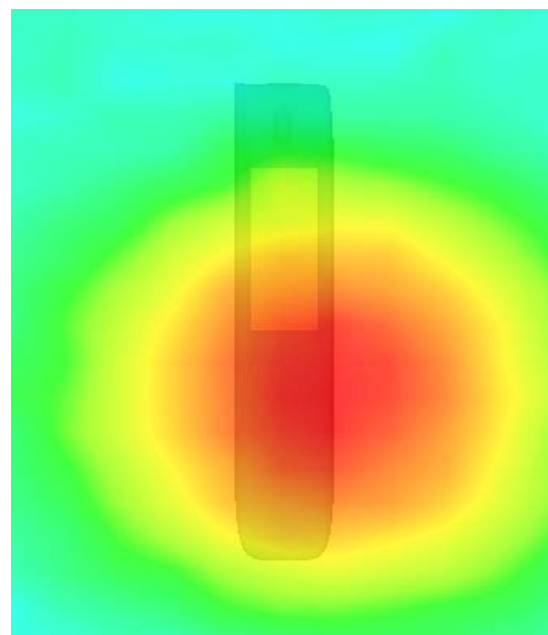
**SAR, Z Axis Scan (X = 7, Y = -18)**



**3D scene shot**



**Hot spot position**





## System Performance Check Data(835MHz)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 13 minutes 27 seconds

### A. Experimental conditions.

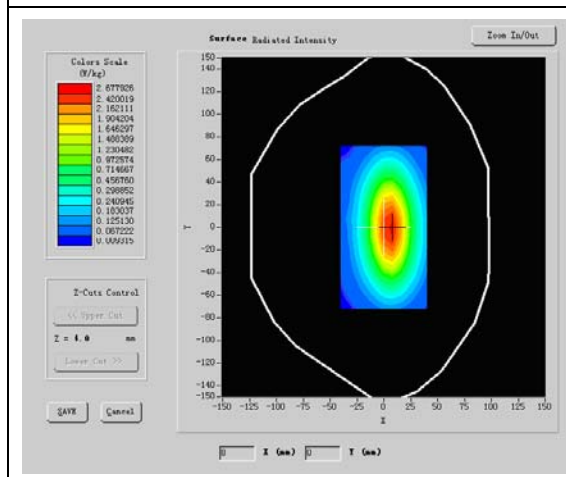
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position |                   |
| Band            | 835MHz            |
| Channels        |                   |
| Signal          | CW                |

### B. SAR Measurement Results

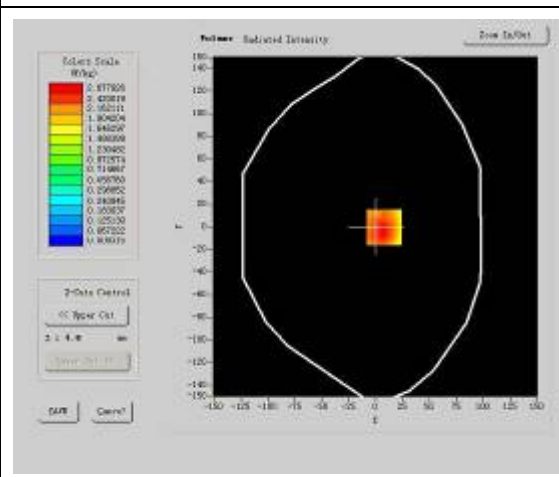
#### Band SAR

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 835.000000           |
| Relative permittivity (real part) | 40.490002            |
| Relative permittivity             | 15.070000            |
| Conductivity (S/m)                | 0.983918             |
| Power Drift (%)                   | -0.050000            |
| Ambient Temperature:              | 22.4°C               |
| Liquid Temperature:               | 22.5°C               |
| ConvF:                            | 28.479,25.214,27.196 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



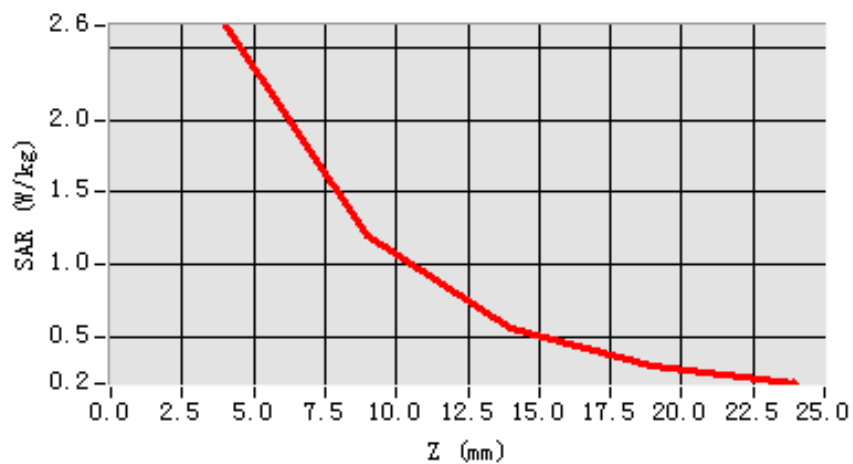
**Maximum location: X=5.00, Y=1.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 1.715223 |
| <b>SAR 1g (W/Kg)</b>  | 2.477926 |

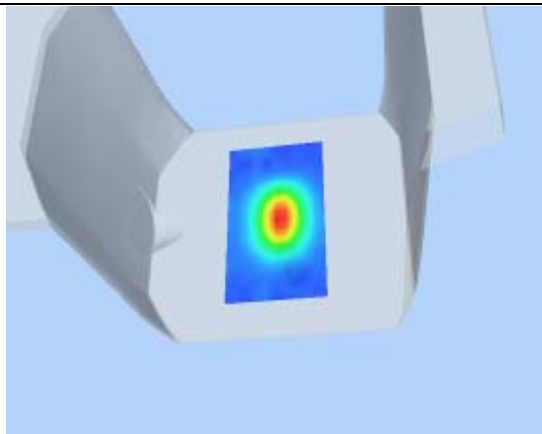
### Z Axis Scan

|                   |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>2.5486</b> | <b>1.2069</b> | <b>0.5583</b> | <b>0.3002</b> |

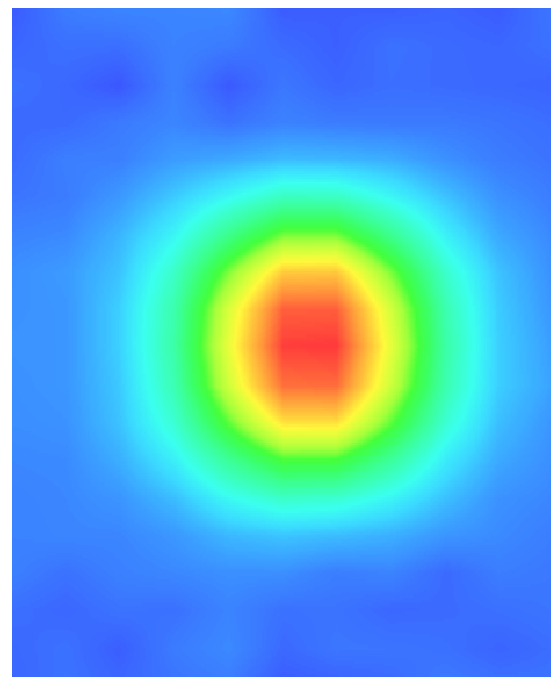
**SAR, Z Axis Scan (X = 5, Y = 1)**



**3D sceen shot**



**Hot spot position**



## System Performance Check Data(1900MHz)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 13 minutes 27 seconds

### A. Experimental conditions.

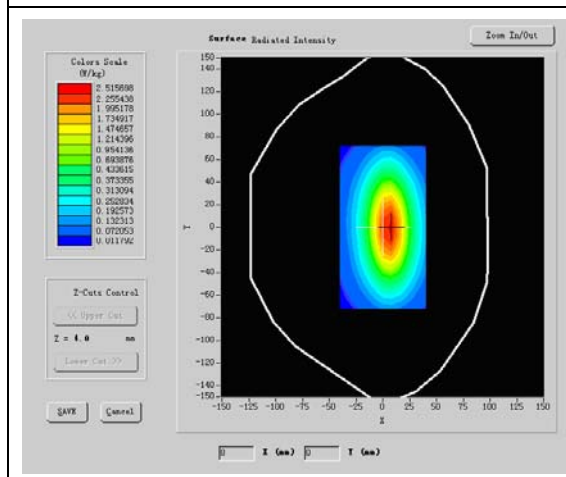
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position |                   |
| Band            | 1900MHz           |
| Channels        |                   |
| Signal          | CW                |

### B. SAR Measurement Results

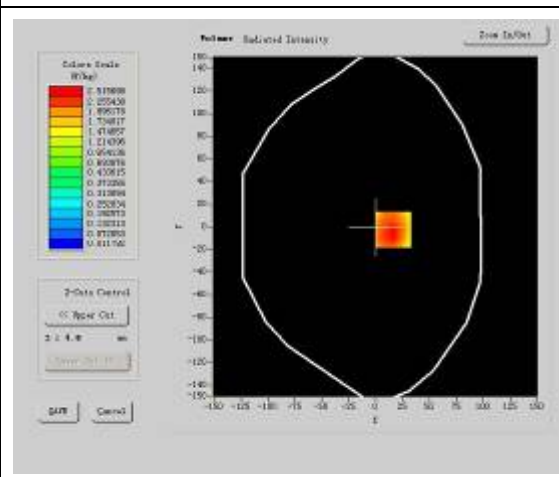
#### Band SAR

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 1900.000000          |
| Relative permittivity (real part) | 38.930000            |
| Relative permittivity             | 15.070000            |
| Conductivity (S/m)                | 1.321229             |
| Power Drift (%)                   | -0.140000            |
| Ambient Temperature:              | 22.3°C               |
| Liquid Temperature:               | 22.6°C               |
| ConvF:                            | 40.136,34.843,38.721 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



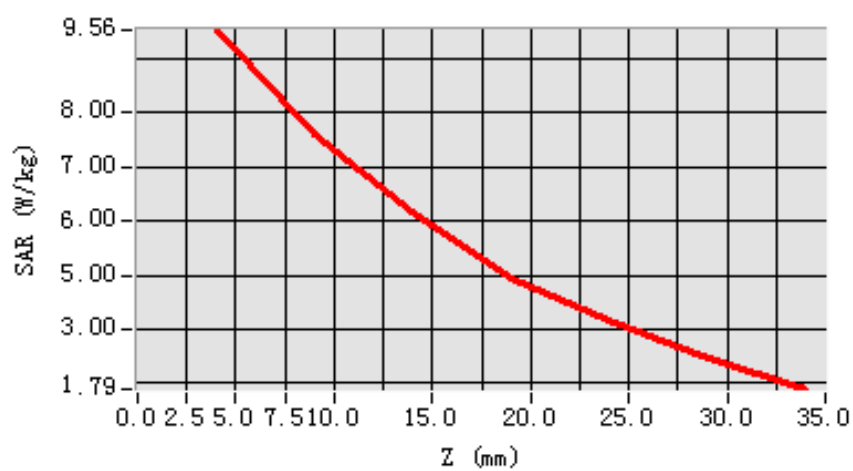
**Maximum location: X=-1.00, Y=-50.00**

|                       |          |
|-----------------------|----------|
| <b>SAR 10g (W/Kg)</b> | 4.910003 |
| <b>SAR 1g (W/Kg)</b>  | 9.555521 |

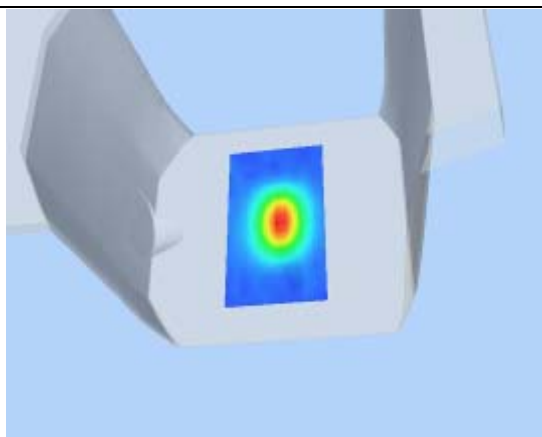
### Z Axis Scan

|                   |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>9.5536</b> | <b>5.3061</b> | <b>2.6041</b> | <b>0.3211</b> |

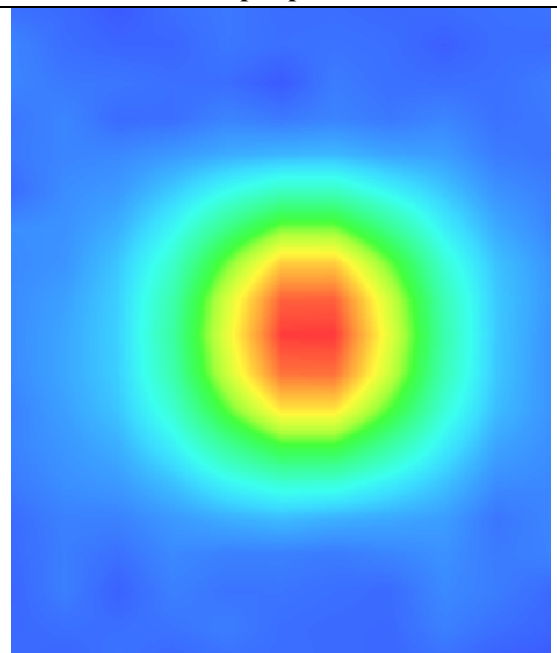
**SAR, Z Axis Scan (X = -1, Y = -50)**



**3D scene shot**



**Hot spot position**



## System Performance Check Data(2450MHz)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 10/8/2011

Measurement duration: 13 minutes 27 seconds

### A. Experimental conditions.

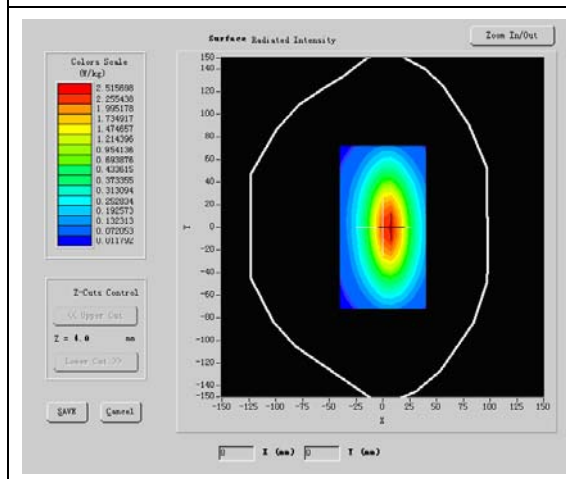
|                 |                   |
|-----------------|-------------------|
| Phantom File    | surf_sam_plan.txt |
| Phantom         | Validation plane  |
| Device Position |                   |
| Band            | 2450MHz           |
| Channels        |                   |
| Signal          | CW                |

### B. SAR Measurement Results

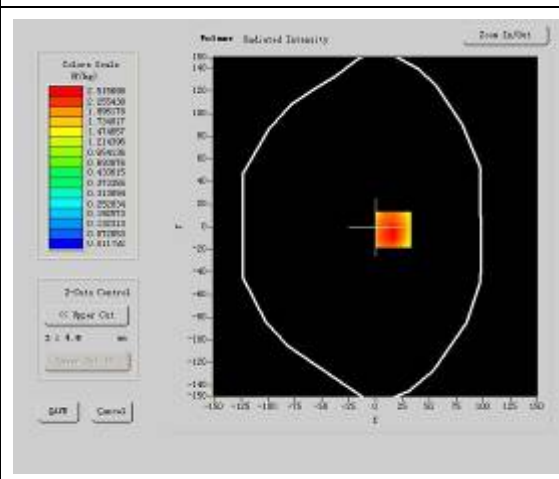
#### Band SAR

|                                   |                      |
|-----------------------------------|----------------------|
| Frequency (MHz)                   | 2450.000000          |
| Relative permittivity (real part) | 52..548876           |
| Relative permittivity             | 12.991650            |
| Conductivity (S/m)                | 1.770014             |
| Power Drift (%)                   | -2.180000            |
| Ambient Temperature:              | 22.0°C               |
| Liquid Temperature:               | 21.8°C               |
| ConvF:                            | 39.772,33.946,37.835 |
| Crest factor:                     | 1:1                  |

#### SURFACE SAR



#### VOLUME SAR



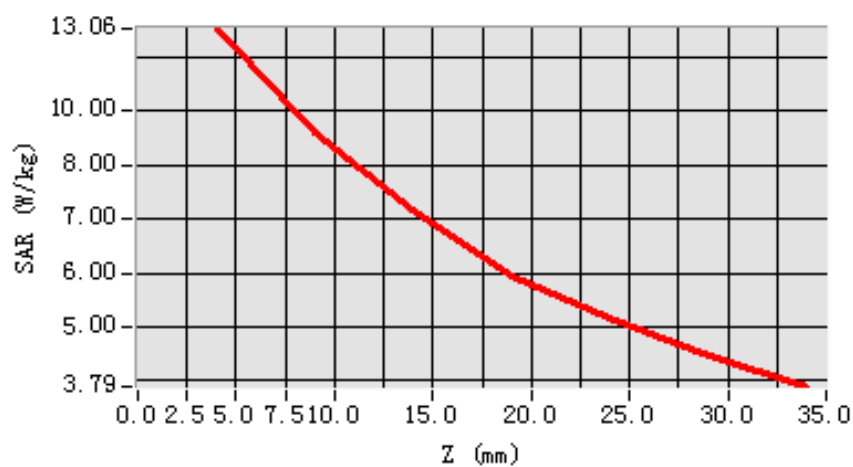
**Maximum location: X=-1.00, Y=-50.00**

|                       |           |
|-----------------------|-----------|
| <b>SAR 10g (W/Kg)</b> | 6.256773  |
| <b>SAR 1g (W/Kg)</b>  | 12.899365 |

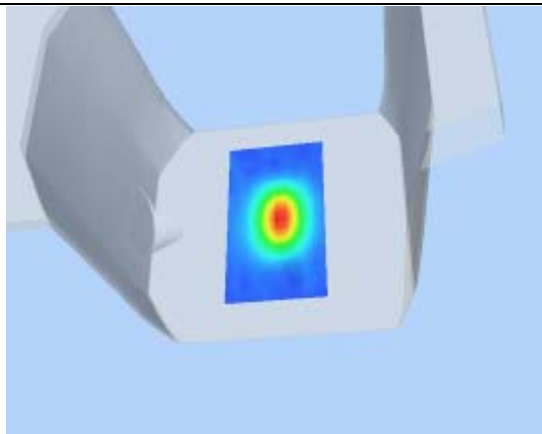
### Z Axis Scan

|                   |               |               |               |               |               |
|-------------------|---------------|---------------|---------------|---------------|---------------|
| <b>Z (mm)</b>     | <b>0.00</b>   | <b>4.00</b>   | <b>9.00</b>   | <b>14.00</b>  | <b>19.00</b>  |
| <b>SAR (W/Kg)</b> | <b>0.0000</b> | <b>2.8536</b> | <b>1.3061</b> | <b>0.6041</b> | <b>0.3211</b> |

**SAR, Z Axis Scan (X = -1, Y = -50)**



**3D sceen shot**



**Hot spot position**

