# SAR TEST REPORT

| | |
|---|---|
| Product: | Rugged Smart Phone |
| Model No: | MobileMapper50_4G |
| Additinoal Model: | N/A |
| Trade Mark: | Spectra Precision |
| FCC ID: | NZI-10900300 |
| Report No: | WT-1605-0008 |
| Issued Date: | Aug 11,2016 |

Issued for:
TRIMBLE EUROPE B.V.
European Regional Fulfilment Centre Meerheide,45 5521DZ Eersel THE NETHERLANDS

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# 1. TEST CERTIFICATION

| | |
|---|---|
| Product: | Rugged Smart Phone |
| Model No.: | MobileMapper50_4G |
| Additional Model: | N/A |
| Trade Mark: | Spectra Precision |
| Applicant: | TRIMBLE EUROPE B.V. |
| Address: | European Regional Fulfilment Centre Meerheide,45 5521DZ Eersel THE NETHERLANDS |
| Manufacturer: | TRIMBLE EUROPE B.V. |
| Address: | European Regional Fulfilment Centre Meerheide,45 5521DZ Eersel THE NETHERLANDS |
| Date of Test: | Jul 1 –Jul 15, 2016 |
| SAR Max. Values: | 0.73W/Kg (1g) for Body; 0.69W/Kg (1g) for Head |
| Applicable Standards: | FCC 47 CFR Parts 1&2,ANSI C95.1-2005,IEEE 1528-2013 RSS-102 |

| | | | |
|---|---|---|---|
| **Tested By:** | Zhang Shuqin | **Date:** | 2016.8.1 |
| **Reviewed By:** | Ji Jianlin | **Date:** | 2016.8.11 |
| **Approved By:** | [illegible] | **Date:** | 2016.8.11 |

## 2. TEST RESULT SUMMARY

The maximum results of Specific Absorption Rate (SAR) found during test as bellows:

<Highest Reported standalone SAR Summary>

| Exposure Position | Frequency Band | Reported 1g SAR (W/kg) | Equipment Class | Highest Reported 1g SAR (W/kg) |
|---|---|---|---|---|
| Head | GSM850 | 0.69 | PCE | 0.69 |
| | GSM1900 | 0.29 | | |
| | WCDMA BAND2 | 0.35 | | |
| | WCDMA BAND5 | 0.38 | | |
| | LTE BAND4 | 0.48 | | |
| | WIFI 2.4G | 0.02 | DTS | |
| Body (10mm Gap) | GSM850 | 0.64 | PCE | 0.73 |
| | GSM1900 | 0.57 | | |
| | WCDMA BAND2 | 0.73 | | |
| | WCDMA BAND5 | 0.27 | | |
| | LTE BAND4 | 0.57 | | |
| | WIFI 2.4G | 0.08 | DTS | |

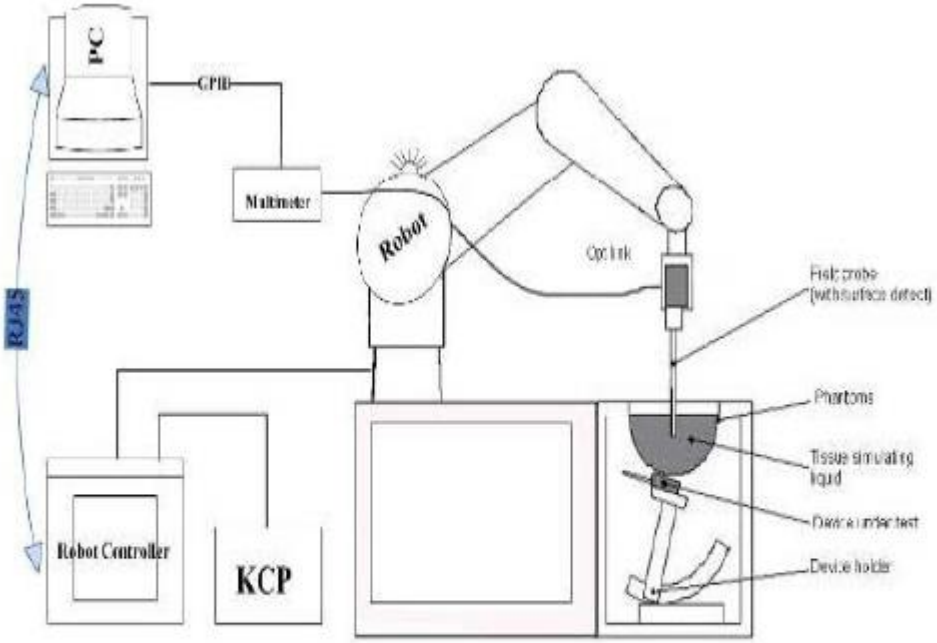
# 3. EUT DESCRIPTION

| | |
|---|---|
| Product Name: | Rugged Smart Phone |
| Model : | MobileMapper50_4G |
| Additional Model: | N/A |
| Trade Mark: | Spectra Precision |
| Hardware Version: | MM50.4G_V1.0 |
| Software Version: | MM50.4G.16.22.39 |
| Power Supply: | Rechargeable Li-ion Battery DC3.7V |
| 2G | |
| Operation Band: | GSM850, GSM1900 |
| Supported type: | GSM/GPRS/EDGE |
| Power Class: | GSM850:Power Class 5; GSM1900:Power Class 0 |
| Modulation Type: | GMSK for GSM/GPRS/EDGE |
| GSM Release Version: | VOICE |
| GPRS Multi-slot Class: | Class8-One up |
| GPRS Multi-slot Class: | Class12-Four up |
| EDGE Multi-slot Class: | 8psk |
| 3G | |
| Operation Band: | WCDMA BAND2/WCDMA BAND5 |
| Power Class: | MAX POWER |
| Modulation Type: | RMC/HSDPA/HSUPA |
| 4G | |
| Operation Band: | LTE BAND4 |
| Modulation Type: | QPSK/16QAM |
| WIFI | |
| Supported type: | 802.11b/802.11g/802.11n |
| Modulation: | 802.11b: DSSS 802.11g/802.11n:OFDM |
| Operation frequency: | 802.11b/802.11g/802.11n(HT20):2412MHz~2472MHz; |
| Channel number: | 1CH/6CH/11CH |
| Channel separation: | 5MHz |
| BT | |
| Bluetooth Version: | BT4.0(BR/EDR+BLE) |
| | |
| 3GPP Version: | Release 8 |
| EUT Production stage: | Production unit |

# 4. SAR MEASUREMENT SYSTEM CONFIGURATION

## 4.1 Measurement Set-up

The OPENSAR system for performing compliance tests consist of the following items: A standard high precision 6-axis robot (KUKA) with controller and software. KUKA Control Panel (KCP) A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with a Video Positioning System (VPS).The stress sensor is composed with mechanical and electronic when the electronic part detects a change on the electro-mechanical switch; it sends an “Emergency signal” to the robot controller that to stop robot’s moves A computer operating Windows XP. OPENSAR software Remote control with teaches pendant and additional circuitry for robot safety such as warning lamps, etc. The SAM phantom enabling testing left-hand right-hand and body usage. The Position device for handheld EUT Tissue simulating liquid mixed according to the given recipes. System validation dipoles to validate the proper functioning of the system.




KUKA SAR Test System Configuration

## 4.2 E-field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SATIMO). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

**Probe Specification**

Construction Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE) Calibration ISO/IEC 17025 calibration service available.

| | |
|---|---|
| **Device Type** | COMOSAR DOSIMETRIC E FIELD PROBE |
| **Manufacturer** | Satimo |
| **Model** | SSE5 |
| **Serial Number** | SN 18/11 EP121 |
| **Frequency Range of Probe** | 0.7 GHz-3GHz |
| **Resistance of Three Dipoles at Connector** | Dipole 1:R1=0.180MΩ<br>Dipole 2:R3=0.191MΩ<br>Dipole 3:R3=0.179MΩ |

**Figure 1** – *Satimo COMOSAR Dosimetric E field Dipole*

| | |
|---|---|
| **Device Type** | COMOSAR DOSIMETRIC E FIELD PROBE |
| **Manufacturer** | Satimo |
| **Model** | SSE5 |
| **Serial Number** | SN 35/11 EP131 |
| **Frequency Range of Probe** | 0.7 GHz-3GHz |
| **Resistance of Three Dipoles at Connector** | Dipole 1: R1=0.999 MΩ<br>Dipole 2: R2=1.244 MΩ<br>Dipole 3: R3=1.253 MΩ |

**Figure 1** – *Satimo COMOSAR Dosimetric E field Dipole*

## 4.3 Phantom

The SAM Phantom SAM72/ SAM73 is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is in compliance with the specification set in IEEE 1528 and CENELEC EN62209-1, EN62209-2:2010.

The phantom enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region.

A cover prevents the evaporation of the liquid.

Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections.

Body SAR testing also used the flat section between the head profiles.

Name: COMOSAR IEEE SAM PHANTOM
S/N:3909 SAM 72 / 3909 SAM 73
Manufacture: SATIMO

Name: COMOSAR IEEE SAM PHANTOM
S/N: SN 3909 ELLI16
Manufacture: SATIMO

## 4.4 Device holder

The SAR value is approximatively inversely proportional to the square of the distance between the source and the internal surface of the phantom .For a source at 5 mm distance, a positioning uncertainty of 0.5 mm would produce a SAR uncertainty of 20 %. An accurate device positioning is therefore essential for accurate and repeatable measurements.

This Positioning system allows the translation of the mobile phone along the X, Y and Z axis, as well as the required rotation around the phantom ear, for the 2 positions defined by standards (0° “cheek” position and 15°“tilt” position).

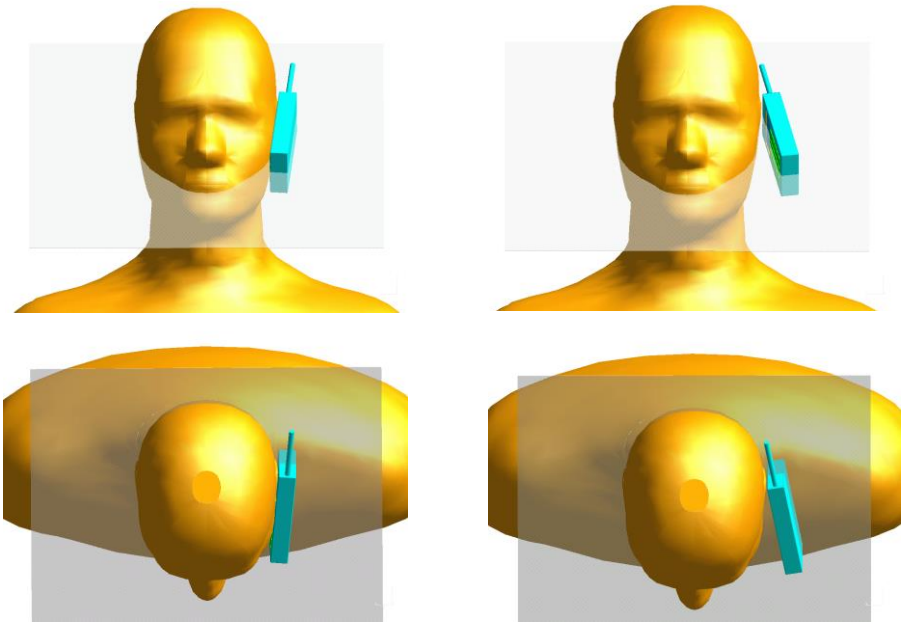
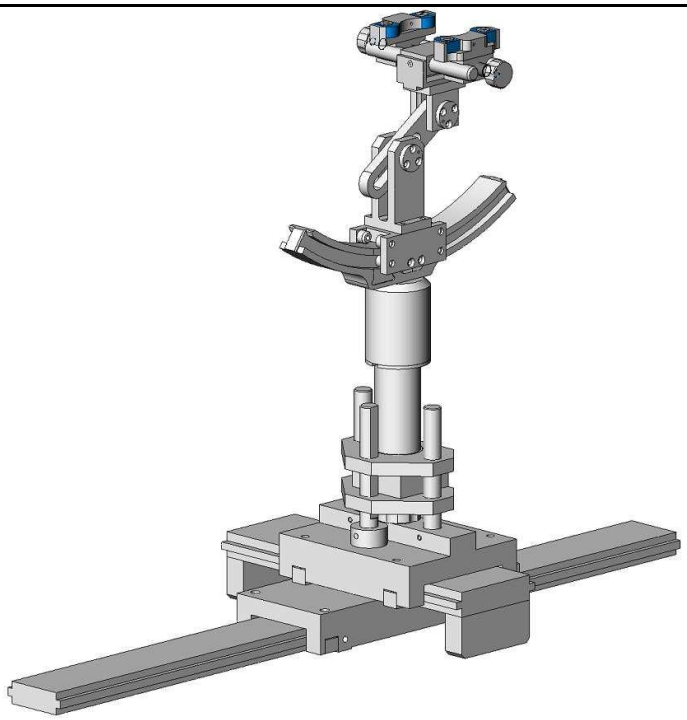


Fig1:Cheek and Tilt positions requested by CENELEC and IEEE

Mobile phone positioning system characteristics

| | |
|---|---|
|  | Totally metal-free design<br><br>Rotation point on ear opening<br><br>Translation to lock the device under test under the flat part or under the left or right ear<br><br>High repeatability with rotation point external adjustment<br><br>Easy and accurate position according to all standards<br><br>Compliance with mobile phone, PMR or PDA dimensions |
| X translation | 700 mm |
| Y translation | 250 mm |
| Z translation | 100 mm |

The correct position can be easily defined thanks to an additional tool with a pointer. With this tool, the top part of the system, above the curved rail, can be fixed definitively, so that the subsequent adjustments just concern the angle or the X, Y or Z axis.

It simplifies the positioning of the acoustic output of the telephone on the cross section of the phantom, before rolling the system underneath the phantom. Moreover, it improves the accuracy and repeatability of the positioning with a tolerance ≤ 0.5 mm.

## 4.5 Tissue Dielectric Parameters

According to IEEE 1528, the liquid parameters for head are the same as body requirements. For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid a depth of at least 15cm, For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 10cm, For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15cm.

TYPICAL COMPOSITION OF INGREDIENTS FOR LIQUID TISSUE PHANTOMS

| Ingredients (% by weight) | Frequency (MHz) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 450 | | 835 | | 915 | | 1900 | | 2450 | |
| Tissue Type | Head | Body | Head | Body | Head | Body | Head | Body | Head | Body |
| Water | 38.56 | 51.16 | 41.45 | 52.4 | 41.05 | 56.0 | 54.9 | 40.4 | 62.7 | 73.2 |
| Salt (NaCl) | 3.95 | 1.49 | 1.45 | 1.4 | 1.35 | 0.76 | 0.18 | 0.5 | 0.5 | 0.04 |
| Sugar | 56.32 | 46.78 | 56.0 | 45.0 | 56.5 | 41.76 | 0.0 | 58.0 | 0.0 | 0.0 |
| HEC | 0.98 | 0.52 | 1.0 | 1.0 | 1.0 | 1.21 | 0.0 | 1.0 | 0.0 | 0.0 |
| Bactericide | 0.19 | 0.05 | 0.1 | 0.1 | 0.1 | 0.27 | 0.0 | 0.1 | 0.0 | 0.0 |
| Triton X-100 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 36.8 | 0.0 |
| DGBE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 44.92 | 0.0 | 0.0 | 26.7 |
| Dielectric Constant | 43.42 | 58.0 | 42.54 | 56.1 | 42.0 | 56.8 | 39.9 | 54.0 | 39.8 | 52.5 |
| Conductivity (S/m) | 0.85 | 0.83 | 0.91 | 0.95 | 1.0 | 1.07 | 1.42 | 1.45 | 1.88 | 1.78 |

Salt: 99$^{+}$% Pure Sodium Chloride Sugar: 98$^{+}$% Pure Sucrose
Water: De-ionized, 16 M$\Omega^{+}$ resistivity HEC: Hydroxyethyl Cellulose
DGBE: 99$^{+}$% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]
Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

| Target Frequency | Head | | Body | |
|---|---|---|---|---|
| (MHz) | $\varepsilon_r$ | $\sigma$ (S/m) | $\varepsilon_r$ | $\sigma$ (S/m) |
| 150 | 52.3 | 0.76 | 61.9 | 0.80 |
| 300 | 45.3 | 0.87 | 58.2 | 0.92 |
| 450 | 43.5 | 0.87 | 56.7 | 0.94 |
| 835 | 41.5 | 0.90 | 55.2 | 0.97 |
| 900 | 41.5 | 0.97 | 55.0 | 1.05 |
| 915 | 41.5 | 0.98 | 55.0 | 1.06 |
| 1450 | 40.5 | 1.20 | 54.0 | 1.30 |
| 1610 | 40.3 | 1.29 | 53.8 | 1.40 |
| 1800 – 2000 | 40.0 | 1.40 | 53.3 | 1.52 |
| 2450 | 39.2 | 1.80 | 52.7 | 1.95 |
| 3000 | 38.5 | 2.40 | 52.0 | 2.73 |
| 5800 | 35.3 | 5.27 | 48.2 | 6.00 |

($\varepsilon_r$ = relative permittivity, $\sigma$ = conductivity and $\rho$ = 1000 kg/m$^3$)

## 4.6 Tissue-equivalent Liquid-Head Properties

| Frequency (MHz) | Test Date | Temp ℃ | Measured Dielectric Parameters | | Target Dielectric Parameters | | Limit (Within±5%) | |
|---|---|---|---|---|---|---|---|---|
| | | | εr | σ(s/m) | εr | σ(s/m) | Dev εr(%) | Dev σ(%) |
| 835 | 2/7/2016 | 22.5 | 41.1 | 0.92 | 41.5 | 0.90 | -1.0 | 2.2 |
| 1800 | 1/7/2016 | 22.5 | 39.7 | 1.38 | 40.0 | 1.40 | -0.8 | -1.4 |
| 1900 | 1/7/2016 | 22.5 | 39.0 | 1.45 | 40.0 | 1.40 | -2.5 | 3.6 |
| 2000 | 1/7/2016 | 22.5 | 39.5 | 1.43 | 40.0 | 1.40 | -1.3 | 2.1 |
| 2450 | 8/7/2016 | 22.5 | 38.2 | 1.83 | 39.2 | 1.80 | -2.6 | 1.7 |

## 4.7 Tissue-equivalent Liquid-Body Properties

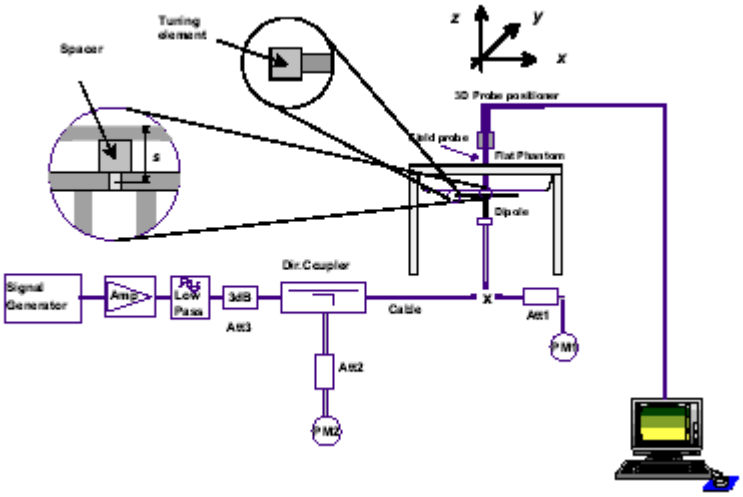
| Frequency (MHz) | Test Date | Temp ℃ | Measured Dielectric Parameters | | Target Dielectric Parameters | | Limit (Within±5%) | |
|---|---|---|---|---|---|---|---|---|
| | | | εr | σ(s/m) | εr | σ(s/m) | Dev εr(%) | Dev σ(%) |
| 835 | 5/7/2016 | 22.5 | 53.4 | 0.96 | 55.2 | 0.97 | -3.2 | -1.0 |
| 1800 | 7/7/2016 | 22.5 | 52.8 | 1.47 | 53.3 | 1.52 | -0.9 | -3.5 |
| 1900 | 7/7/2016 | 22.5 | 53.9 | 1.45 | 53.3 | 1.52 | 1.1 | -4.4 |
| 2000 | 7/7/2016 | 22.5 | 53.9 | 1.52 | 53.3 | 1.52 | 1.1 | 0.1 |
| 2450 | 8/7/2016 | 22.5 | 53.1 | 1.95 | 52.7 | 1.95 | 0.7 | -0.2 |

## 4.8 System Check

System validation has to be performed with the below input power measurement test setup described in IEEE 1528. The SAR system must be validated against its performance specifications before it is deployed. When SAR probe and system component or software are changed, upgraded or recalibrated, these must be validated with the SAR system(s) that operates with such component. Reference dipoles are used with the required tissue-equivalent media for system validation.

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system (±10 %).

System check is performed regularly on all frequency bands where tests are performed with the OPENSAR system.




System Validation is used for verifying the accuracy of the probe and readout electronics, and performance of the software.

System Check Set-up

| | Frequency (MHz) | Measured Value in 10dBm (W/kg) | | Normalized to 1W (W/kg) | | Target Value Frequency (W/kg) | | Deviation (%) | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average |
| Verification Results (Head) | 835 | 0.098 | 0.066 | 9.80 | 6.60 | 9.50 | 6.20 | 3.2 | 6.5 |
| | 1800 | 0.391 | 0.213 | 39.10 | 21.30 | 38.10 | 19.80 | 2.6 | 7.5 |
| | 1900 | 0.388 | 0.202 | 38.80 | 20.20 | 39.70 | 20.50 | -2.2 | -1.4 |
| | 2000 | 0.387 | 0.220 | 38.70 | 22.00 | 41.10 | 21.10 | -5.8 | 4.2 |
| | 2450 | 0.507 | 0.236 | 50.70 | 23.60 | 52.40 | 24.00 | -3.2 | -1.6 |

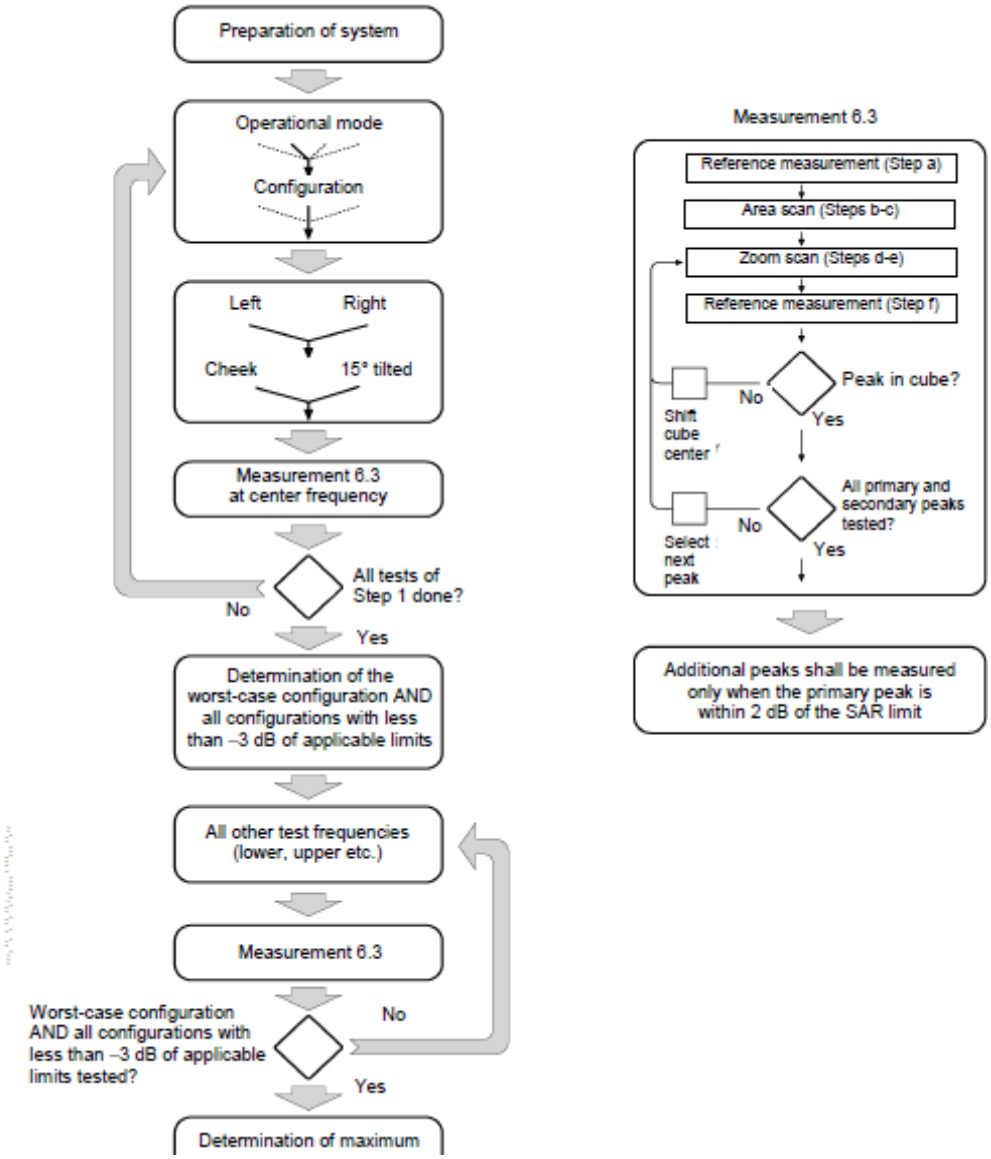
| Verification Results (Body) | Frequency (MHz) | Measured Value in 20dBm (W/kg) | | Normalized to 1W (W/kg) | | Target Value Frequency (W/kg) | | Deviation (%) | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 835 | 0.976 | 0.634 | 9.76 | 6.34 | 9.56 | 6.22 | 2.1 | 1.9 |
| | 1800 | 3.517 | 1.967 | 35.17 | 19.67 | 38.4 | 20.1 | -8.4 | -2.1 |
| | 1900 | 4.197 | 2.214 | 41.97 | 22.14 | 39.7 | 20.5 | 5.7 | 8.0 |
| | 2000 | 4.172 | 2.154 | 41.72 | 21.54 | 41.1 | 21.1 | 1.5 | 2.1 |
| | 2450 | 4.909 | 2.335 | 49.09 | 23.35 | 52.4 | 24.0 | -6.3 | -2.7 |

Comparing to the original SAR value provided by SATIMO, the verification data should be within its specification of 10%. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table as below indicates the system performance check can meet the variation criterion and the plots can be referred to Section 10 of this report.

# 5. MEASUREMENT PROCEDURE

## 5.1 Measurement Process Diagram



## 5.2 Measurement Procedure

### 5.2.1 Setup a Call Connection

Establish a call in handset at the maximum power level with a base station simulator via air interface, or make the EUT estimate by itself in testing band.

### 5.2.2 Power Reference Measurement

The reference and drift jobs are useful jobs for monitoring the power drift of the device under test in the batch process. Both jobs measure the field at a specified reference position, at selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

### 5.2.3 Area Scan

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 10mm² step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2013, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard.

### 5.2.4 Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default zoom scan measures 5 x 5 x 4 points within a cube whose base faces are cantered around the maximum found in a preceding area scan job within the same procedure. If the preceding Area Scan job indicates more then one maximum, the number of Zoom Scans has to be enlarged accordingly (The default number inserted is 1).

### 5.2.5 Power Drift measurement

The drift job measures the field at the same location as the most recent reference job within the same procedure, and with the same settings. The drift measurement gives the field difference in dB from the reading conducted within the last reference measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under test within a batch process.

In the properties of the Drift job, the user can specify a limit for the drift and have OPENSAR software stop the measurements if this limit is exceeded.

If the power drifts more than 5%, the SAR will be retested.

# 6. HOTSPOT MODE EVALUATION PROCEDURE

The SAR evaluation procedures for Portable Devices with Wireless Router function is according to KDB 941225 D06 Hot Spot SAR v01r01.

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

Edge configurations:

# 7. CONDUCTED OUTPUT POWER

| GSM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Band | | CH No. | Avg Power (dBm) | Band | | CH No. | Avg Power (dBm) |
| 850 | GSM (VOICE) | 128 | 32.1 | 1900 | GSM (VOICE) | 512 | 28.9 |
| | | 190 | 32.3 | | | 661 | 29.0 |
| | | 251 | 32.3 | | | 810 | 28.7 |
| | GSM+GPRS (4up1down) | 128 | 32.2 | | GSM+GPRS (4up1down) | 512 | 28.9 |
| | | 190 | 32.3 | | | 661 | 29.0 |
| | | 251 | 32.3 | | | 810 | 28.7 |
| | GSM+GPRS (3up1down) | 128 | 30.2 | | GSM+GPRS (3up1down) | 512 | 26.7 |
| | | 190 | 30.2 | | | 661 | 26.6 |
| | | 251 | 30.2 | | | 810 | 27.0 |
| | GSM+GPRS (2up1down) | 128 | 32.2 | | GSM+GPRS (2up1down) | 512 | 28.5 |
| | | 190 | 32.0 | | | 661 | 28.7 |
| | | 251 | 31.9 | | | 810 | 28.7 |
| | GSM+GPRS (1up1down) | 128 | 32.1 | | GSM+GPRS (1up1down) | 512 | 28.8 |
| | | 190 | 32.2 | | | 661 | 29.0 |
| | | 251 | 32.3 | | | 810 | 28.7 |
| | GSM+EDGE (1up1down) | 128 | 27.2 | | GSM+EDGE (1up1down) | 512 | 27.8 |
| | | 190 | 27.3 | | | 661 | 27.8 |
| | | 251 | 27.4 | | | 810 | 27.8 |
| | GSM+EDGE (1up2down) | 128 | 27.3 | | GSM+EDGE (1up2down) | 512 | 27.6 |
| | | 190 | 27.3 | | | 661 | 27.6 |
| | | 251 | 27.3 | | | 810 | 27.6 |
| | GSM+EDGE (1up3down) | 128 | 27.2 | | GSM+EDGE (1up3down) | 512 | 27.6 |
| | | 190 | 27.2 | | | 661 | 27.7 |
| | | 251 | 27.2 | | | 810 | 27.6 |
| | GSM+EDGE (1up4down) | 128 | 27.2 | | GSM+EDGE (1up4down) | 512 | 27.7 |
| | | 190 | 27.3 | | | 661 | 27.7 |
| | | 251 | 27.3 | | | 810 | 27.3 |
| | GSM+EDGE (2up2down) | 128 | 27.1 | | GSM+EDGE (2up2down) | 512 | 27.7 |
| | | 190 | 27.3 | | | 661 | 27.7 |
| | | 251 | 27.2 | | | 810 | 27.8 |

| WCDMA Band2 | Max Power (dBm) | | |
|---|---|---|---|
| Channel | 9262CH | 9400CH | 9538CH |
| RMC 12.2Kbps | 24.8 | 24.9 | 24.8 |
| HSDPA Subtest-1 | 24.4 | 24.8 | 24.5 |

| | | | |
|---|---|---|---|
| HSDPA Subtest-2 | 24.0 | 24.7 | 24.7 |
| HSDPA Subtest-3 | 23.9 | 24.3 | 24.2 |
| HSDPA Subtest-4 | 24.0 | 24.2 | 24.2 |
| HSUPA Subtest-1 | 23.8 | 24.6 | 24.2 |
| HSUPA Subtest-2 | 23.1 | 23.3 | 23.4 |
| HSUPA Subtest-3 | 23.4 | 23.8 | 23.8 |
| HSUPA Subtest-4 | 23.8 | 24.4 | 24.2 |
| HSUPA Subtest-5 | 24.1 | 24.3 | 24.4 |

| WCDMA Band5 | Max Power (dBm) | | |
|---|---|---|---|
| Channel | 4132CH | 4182CH | 4233CH |
| RMC 12.2Kbps | 23.8 | 23.9 | 23.7 |
| HSDPA Subtest-1 | 22.9 | 23.0 | 22.8 |
| HSDPA Subtest-2 | 23.1 | 23.0 | 22.8 |
| HSDPA Subtest-3 | 22.5 | 22.5 | 22.3 |
| HSDPA Subtest-4 | 22.3 | 22.5 | 22.4 |
| HSUPA Subtest-1 | 22.1 | 23.4 | 23.2 |
| HSUPA Subtest-2 | 21.6 | 22.1 | 22.4 |
| HSUPA Subtest-3 | 21.2 | 21.7 | 22.1 |
| HSUPA Subtest-4 | 21.7 | 23.1 | 22.6 |
| HSUPA Subtest-5 | 22.0 | 23.0 | 22.1 |

| LTE | | | | | |
|---|---|---|---|---|---|
| Band4 | Uplink Channel Number | BW (MHz) | RB Size | Mod | Maximum Avg Power(dBm) |
| Low | 19957 | 1.4 | 1 | QPSK | 24.3 |
| | | | 3 | QPSK | 24.3 |
| | | | 6 | QPSK | 23.4 |
| | | | 1 | 16-QAM | 23.6 |
| | | | 6 | 16-QAM | 23.9 |
| | 19965 | 3 | 1 | QPSK | 24.1 |
| | | | 15 | QPSK | 23.4 |
| | | | 1 | 16-QAM | 23.5 |
| | | | 15 | 16-QAM | 23.4 |
| | 19975 | 5 | 1 | QPSK | 24.0 |
| | | | 25 | QPSK | 23.4 |
| | | | 1 | 16-QAM | 23.4 |

| | | | | | |
|---|---|---|---|---|---|
| | | | 25 | 16-QAM | 23.4 |
| | 20000 | 10 | 1 | QPSK | 24.4 |
| | | | 25 | QPSK | 23.5 |
| | | | 50 | QPSK | 23.7 |
| | | | 1 | 16-QAM | 23.9 |
| | | | 50 | 16-QAM | 23.9 |
| Middle | 20175 | 1.4 | 1 | QPSK | 24.2 |
| | | | 3 | QPSK | 24.4 |
| | | | 6 | QPSK | 23.5 |
| | | | 1 | 16-QAM | 23.9 |
| | | | 6 | 16-QAM | 23.5 |
| | | 3 | 1 | QPSK | 24.3 |
| | | | 15 | QPSK | 23.6 |
| | | | 15 | 16-QAM | 23.4 |
| | | 5 | 1 | QPSK | 23.9 |
| | | | 25 | QPSK | 23.5 |
| | | | 1 | 16-QAM | 23.6 |
| | | | 25 | 16-QAM | 23.4 |
| | | 10 | 1 | QPSK | 24.1 |
| | | | 25 | QPSK | 23.4 |
| | | | 50 | QPSK | 23.3 |
| | | | 1 | 16-QAM | 23.3 |
| | | | 50 | 16-QAM | 22.3 |
| High | 20393 | 1.4 | 1 | QPSK | 23.6 |
| | | | 3 | QPSK | 23.8 |
| | | | 6 | QPSK | 23.8 |
| | | | 1 | 16-QAM | 23.8 |
| | | | 6 | 16-QAM | 23.7 |
| | 20385 | 3 | 1 | QPSK | 23.9 |
| | | | 15 | QPSK | 23.8 |
| | | | 1 | 16-QAM | 23.7 |
| | | | 15 | 16-QAM | 23.6 |
| | 20375 | 5 | 1 | QPSK | 23.9 |
| | | | 25 | QPSK | 23.8 |
| | | | 1 | 16-QAM | 23.9 |
| | | | 25 | 16-QAM | 23.8 |
| | 20350 | 10 | 1 | QPSK | 24.1 |
| | | | 25 | QPSK | 23.9 |
| | | | 50 | QPSK | 23.9 |
| | | | 1 | 16-QAM | 23.4 |
| | | | 50 | 16-QAM | 23.5 |

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class:3(23+/-2dBm).The allowed Maximum Power Reduction(MPR) for the

maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (RB) | | | | | | MPR (dB) |
|---|---|---|---|---|---|---|---|
| | 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | |
| QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 |
| 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 |
| 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 |

The allowed A-MPR values specified below in Table6.2.4-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signalling Value of “NS_01”.3

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band | Channel bandwidth (MHz) | Resources Blocks ($N_{RB}$) | A-MPR (dB) |
|---|---|---|---|---|---|
| NS_01 | 6.6.2.1.1 | Table 5.5-1 | 1.4, 3, 5, 10, 15, 20 | Table 5.6-1 | NA |
| NS_03 | 6.6.2.2.1 | 2, 4,10, 23, 25, 35, 36 | 3 | >5 | ≤ 1 |
| | | | 5 | >6 | ≤ 1 |
| | | | 10 | >6 | ≤ 1 |
| | | | 15 | >8 | ≤ 1 |
| | | | 20 | >10 | ≤ 1 |
| NS_04 | 6.6.2.2.2 | 41 | 5 | >6 | ≤ 1 |
| | | | 10, 15, 20 | See Table 6.2.4-4 | |
| NS_05 | 6.6.3.3.1 | 1 | 10,15,20 | ≥ 50 | ≤ 1 |
| NS_06 | 6.6.2.2.3 | 12, 13, 14, 17 | 1.4, 3, 5, 10 | Table 5.6-1 | n/a |
| NS_07 | 6.6.2.2.3<br>6.6.3.3.2 | 13 | 10 | Table 6.2.4-2 | Table 6.2.4-2 |
| NS_08 | 6.6.3.3.3 | 19 | 10, 15 | > 44 | ≤ 3 |
| NS_09 | 6.6.3.3.4 | 21 | 10, 15 | > 40 | ≤ 1 |
| | | | | > 55 | ≤ 2 |
| NS_10 | | 20 | 15, 20 | Table 6.2.4-3 | Table 6.2.4-3 |
| NS_11 | 6.6.2.2.1 | 23[1] | 1.4, 3, 5, 10 | Table 6.2.4-5 | Table 6.2.4-5 |
| .. | | | | | |
| NS_32 | - | - | - | - | - |
| Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region. | | | | | |

## 7.1 WIFI 802.11b

| Mode | 1CH | 6CH | 11CH |
|---|---|---|---|
| 11b LONG 1Mbps | 13.7dBm | 13.7dBm | 13.6dBm |
| 11b LONG 2Mbps | 13.7dBm | 13.6dBm | 13.5dBm |
| 11b LONG 5.5Mbps | 13.7dBm | 13.6dBm | 13.5dBm |
| 11b LONG 11Mbps | 13.7dBm | 13.7dBm | 13.7dBm |
| 11b SHORT 2 Mbps | 13.6dBm | 13.6dBm | 13.6dBm |
| 11b SHORT 5.5Mbps | 13.6dBm | 13.6dBm | 13.5dBm |
| 11b SHORT 11 Mbps | 13.7dBm | 13.7dBm | 13.6dBm |

## 7.2 WIFI 802.11g

| Mode | 1CH | 6CH | 11CH |
|---|---|---|---|
| 11g 6Mbps | 9.23dBm | 9.12dBm | 9.57dBm |
| 11g 9Mbps | 8.63dBm | 9.03dBm | 9.24dBm |
| 11g 12Mbps | 8.39dBm | 8.05dBm | 8.35dBm |
| 11g 18Mbps | 8.42dBm | 8.60dBm | 8.33dBm |
| 11g 24Mbps | 9.15dBm | 8.85dBm | 8.85dBm |
| 11g 36Mbps | 9.13dBm | 9.21dBm | 9.55dBm |
| 11g 48Mbps | 9.07dBm | 9.24dBm | 9.16dBm |
| 11g 54Mbps | 9.63dBm | 9.04dBm | 9.14dBm |

## 7.3 WIFI 802.11n

| Mode | 1CH | 6CH | 11CH |
|---|---|---|---|
| MCS0 6.5Mbps | 6.16dBm | 6.83dBm | 7.06dBm |
| MCS1 13Mbps | 6.86dBm | 7.04dBm | 7.34dBm |
| MCS2 19.5Mbps | 6.81dBm | 6.94dBm | 7.16dBm |
| MCS3 26Mbps | 6.75dBm | 7.17dBm | 7.25dBm |
| MCS4 39Mbps | 6.70dBm | 6.57dBm | 7.05dBm |
| MCS5 52Mbps | 6.74dBm | 7.96dBm | 7.37dBm |
| MCS6 58.5Mbps | 6.65dBm | 7.33dBm | 6.54dBm |
| MCS7 65Mbps | 6.90dBm | 6.42dBm | 6.90dBm |
| MCS0 MM SG 7.2Mbps | 6.65dBm | 7.00dBm | 7.44dBm |
| MCS1 MM SG 14.4Mbps | 6.45dBm | 7.15dBm | 7.10dBm |

| | | | |
|---|---|---|---|
| MCS2 MM SG 21.7Mbps | 6.37dBm | 7.14dBm | 6.81dBm |
| MCS3 MM SG 28.9Mbps | 6.72dBm | 7.12dBm | 6.64dBm |
| MCS4 MM SG 43.3Mbps | 6.66dBm | 7.35dBm | 6.53dBm |
| MCS5 MM SG 57.8Mbps | 6.84dBm | 7.37dBm | 7.42dBm |
| MCS6 MM SG 65Mbps | 6.38dBm | 7.38dBm | 7.14dBm |
| MCS7 MM SG 72.2Mbps | 6.32dBm | 7.48dBm | 6.64dBm |

## 7.4 Bluetooth

| Band | Mode | CH# | Frequency (MHz) | Output Power (dBm) |
|---|---|---|---|---|
| BT | BT4.0(BR/EDR) GFSK | 0 | 2402 | 8.35 |
| | | 39 | 2441 | 7.66 |
| | | 78 | 2480 | 5.36 |
| | BT4.0(BR/EDR) π/4-DQPSK | 0 | 2402 | 8.69 |
| | | 39 | 2441 | 7.56 |
| | | 78 | 2480 | 7.56 |
| | BT4.0(BR/EDR) 8-DPSK | 0 | 2402 | 8.75 |
| | | 39 | 2441 | 8.05 |
| | | 78 | 2480 | 5.68 |
| | BT4.0(BLE) | 0 | 2402 | -0.74 |
| | | 19 | 2440 | -0.71 |
| | | 39 | 2480 | -3.72 |

*Note: 1.According to output power of WiFi, SAR is required 802.11b-11b LONG 11Mbps mode*
*2. According to KDB 447498, the SAR test for Bluetooth is exclusion.*

# 8. SAR TEST RESULTS SUMMARY

## 8.1 Head SAR 1g Value

| Band | Mode | Position | CH. | Freq. (MHz) | SAR 1g (W/Kg) | Scaling Factor | Scaled SAR1g (W/Kg) |
|---|---|---|---|---|---|---|---|
| GSM850 | VOICE | Left cheek | 190 | 836 | 0.40 | 1.05 | 0.42 |
| | | Left Tilt | 190 | 836 | 0.18 | | 0.19 |
| | | Right cheek | 190 | 836 | 0.39 | | 0.41 |
| | | Right Tilt | 190 | 836 | 0.20 | | 0.21 |
| | GPRS (4up1down) | Left cheek | 190 | 836 | **0.69** | 1.05 | 0.73 |
| | | Left Tilt | 190 | 836 | 0.24 | | 0.25 |
| | | Right cheek | 190 | 836 | 0.66 | | 0.69 |
| | | Right Tilt | 190 | 836 | 0.32 | | 0.34 |
| | | Right cheek | 128 | 824 | 0.54 | 1.07 | 0.58 |
| | | Right cheek | 251 | 848 | 0.68 | 1.05 | 0.71 |
| | EDGE (1up1down) | Left cheek | 190 | 836 | 0.11 | 1.05 | 0.12 |
| | | Left Tilt | 190 | 836 | 0.07 | | 0.07 |
| | | Right cheek | 190 | 836 | 0.08 | | 0.08 |
| | | Right Tilt | 190 | 836 | 0.05 | | 0.05 |
| GSM1900 | VOICE | Left cheek | 661 | 1880 | 0.26 | 1.12 | 0.29 |
| | | Left Tilt | 661 | 1880 | 0.11 | | 0.12 |
| | | Right cheek | 661 | 1880 | 0.14 | | 0.16 |
| | | Right Tilt | 661 | 1880 | 0.09 | | 0.10 |
| | GPRS (4up1down) | Left cheek | 661 | 1880 | **0.29** | 1.12 | 0.33 |
| | | Left Tilt | 661 | 1880 | 0.14 | | 0.16 |
| | | Left cheek | 512 | 1850 | 0.28 | 1.15 | 0.32 |
| | | Left cheek | 810 | 1909 | 0.23 | 1.20 | 0.28 |
| | | Right cheek | 661 | 1880 | 0.21 | 1.12 | 0.24 |
| | | Right Tilt | 661 | 1880 | 0.10 | | 0.11 |
| | EDGE (1up1down) | Left cheek | 661 | 1880 | 0.08 | 1.17 | 0.09 |
| | | Left Tilt | 661 | 1880 | 0.03 | | 0.04 |
| | | Right cheek | 661 | 1880 | 0.06 | | 0.07 |
| | | Right Tilt | 661 | 1880 | 0.04 | | 0.05 |

| Band | Mode | Position | CH. | Freq. (MHz) | SAR 1g (W/Kg) | Scaling Factor | Scaled SAR1g (W/Kg) |
|---|---|---|---|---|---|---|---|
| WCDMA BAND2 | RMC | Left cheek | 9400 | 1880 | **0.35** | 1.02 | 0.36 |
| | | Left Tilt | 9400 | 1880 | 0.15 | | 0.15 |
| | | Right cheek | 9400 | 1880 | 0.24 | | 0.25 |
| | | Right Tilt | 9400 | 1880 | 0.13 | | 0.13 |
| | | Left cheek | 9262 | 1852 | 0.35 | 1.05 | 0.37 |
| | | Left cheek | 9538 | 1907 | 0.31 | 1.05 | 0.33 |
| | HSDPA/HSUPA | Left cheek | 9400 | 1880 | 0.24 | 1.05 | 0.25 |
| | | Left Tilt | 9400 | 1880 | 0.10 | | 0.11 |
| | | Right cheek | 9400 | 1880 | 0.17 | | 0.18 |
| | | Right Tilt | 9400 | 1880 | 0.10 | | 0.11 |
| WCDMA BAND5 | RMC | Left cheek | 4182 | 836 | 0.34 | 1.35 | 0.46 |
| | | Left Tilt | 4182 | 836 | 0.15 | | 0.20 |
| | | Right cheek | 4182 | 836 | **0.38** | | 0.51 |
| | | Right cheek | 4132 | 826 | 0.30 | | 0.41 |
| | | Right cheek | 4233 | 846 | 0.32 | 1.32 | 0.42 |
| | | Right Tilt | 4182 | 836 | 0.16 | 1.35 | 0.22 |
| | HSDPA/HSUPA | Left cheek | 4182 | 836 | 0.27 | 1.45 | 0.39 |
| | | Left Tilt | 4182 | 836 | 0.17 | | 0.25 |
| | | Right cheek | 4182 | 836 | 0.27 | | 0.39 |
| | | Right Tilt | 4182 | 836 | 0.11 | | 0.16 |

| Band | Mode | Position | CH. | Freq. (MHz) | SAR 1g (W/Kg) | Scaling Factor | Scaled SAR1g (W/Kg) |
|---|---|---|---|---|---|---|---|
| LTE BAND4 | BW:1.4MHz (RB:3) | Left cheek | 20175 | 1732.5 | 0.44 | 1.15 | 0.51 |
| | | Left cheek | 19957 | 1710.7 | 0.37 | 1.15 | 0.43 |
| | | Left cheek | 20393 | 1754.3 | **0.45** | 1.15 | 0.52 |
| | | Left Tilt | 20175 | 1732.5 | 0.29 | 1.15 | 0.33 |
| | | Right cheek | 20175 | 1732.5 | 0.27 | | 0.31 |
| | | Right Tilt | 20175 | 1732.5 | 0.20 | | 0.23 |
| WIFI | 802.11b 11b LONG 11Mbps | Left cheek | 2412 | 1CH | **0.02** | 1.07 | 0.02 |
| | | Right cheek | | 1CH | 0.02 | | 0.02 |
| | | Left cheek | 2437 | 6CH | 0.01 | 1.07 | 0.01 |
| | | Right cheek | | 6CH | 0.02 | | 0.02 |
| | | Left cheek | 2462 | 11CH | 0.01 | 1.07 | 0.01 |
| | | Right cheek | | 11CH | 0.01 | | 0.01 |

## 8.2 Body-Worn 1g SAR

| Band | Mode | Position | CH. | Freq. (MHz) | SAR1g (W/Kg) | Scaling Factor | Scaled SAR1g (W/Kg) |
|---|---|---|---|---|---|---|---|
| GSM850 | VOICE | Front | 190 | 836 | 0.42 | 1.05 | 0.44 |
| | | back | 190 | 836 | 0.37 | | 0.39 |
| | | Left | 190 | 836 | 0.30 | | 0.32 |
| | | Right | 190 | 836 | 0.29 | | 0.31 |
| | | Bottom | 190 | 836 | 0.06 | | 0.06 |
| | GPRS (4up1down) | Front | 190 | 836 | **0.64** | 1.05 | 0.67 |
| | | Front | 128 | 824 | 0.60 | 1.07 | 0.64 |
| | | Front | 251 | 836 | 0.61 | 1.05 | 0.64 |
| | | back | 190 | 836 | 0.60 | 1.07 | 0.64 |
| | | Left | 190 | 836 | 0.50 | | 0.54 |
| | | Right | 190 | 836 | 0.45 | | 0.48 |
| | | Bottom | 190 | 836 | 0.10 | | 0.11 |
| | EDGE (1up1down) | Front | 190 | 836 | 0.10 | 1.05 | 0.11 |
| | | back | 190 | 836 | 0.09 | | 0.10 |
| | | Left | 190 | 836 | 0.06 | | 0.06 |
| | | Right | 190 | 836 | 0.07 | | 0.07 |
| | | Bottom | 190 | 836 | 0.01 | | 0.01 |
| GSM1900 | VOICE | Front | 661 | 1880 | **0.57** | 1.12 | 0.64 |
| | | back | 661 | 1880 | 0.23 | | 0.26 |
| | | Left | 661 | 1880 | 0.08 | | 0.09 |
| | | Right | 661 | 1880 | 0.08 | | 0.09 |
| | | Bottom | 661 | 1880 | 0.17 | | 0.19 |
| | GPRS (4up1down) | Front | 661 | 1880 | 0.45 | 1.12 | 0.50 |
| | | Front | 512 | 1850 | 0.42 | 1.15 | 0.48 |
| | | Front | 810 | 1909 | 0.41 | 1.20 | 0.49 |
| | | back | 661 | 1880 | 0.27 | 1.12 | 0.30 |
| | | Left | 661 | 1880 | 0.01 | | 0.01 |
| | | Right | 661 | 1880 | 0.10 | | 0.11 |
| | | Bottom | 661 | 1880 | 0.18 | | 0.20 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | EDGE (1up1down) | Front | 661 | 1880 | 0.17 | 1.17 | 0.20 |
| | | back | 661 | 1880 | 0.08 | | 0.09 |
| | | Left | 661 | 1880 | 0.02 | | 0.02 |
| | | Right | 661 | 1880 | 0.03 | | 0.04 |
| | | Bottom | 661 | 1880 | 0.05 | | 0.06 |

| Band | Mode | Position | CH. | Freq. (MHz) | SAR1g (W/Kg) | Scaling Factor | Scaled SAR1g (W/Kg) |
|---|---|---|---|---|---|---|---|
| WCDMA BAND2 | RMC | Front | 9400 | 1880 | **0.73** | 1.02 | 0.75 |
| | | Front | 9262 | 1852 | 0.70 | 1.05 | 0.74 |
| | | Front | 9538 | 1907 | 0.72 | 1.05 | 0.76 |
| | | back | 9400 | 1880 | 0.35 | 1.05 | 0.37 |
| | | Left | 9400 | 1880 | 0.11 | | 0.12 |
| | | Right | 9400 | 1880 | 0.14 | | 0.15 |
| | | Bottom | 9400 | 1880 | 0.25 | | 0.26 |
| | HSDPA/HSUPA | Front | 9400 | 1880 | 0.51 | 1.05 | 0.54 |
| | | back | 9400 | 1880 | 0.25 | | 0.26 |
| | | Left | 9400 | 1880 | 0.09 | | 0.10 |
| | | Right | 9400 | 1880 | 0.10 | | 0.11 |
| | | Bottom | 9400 | 1880 | 0.17 | | 0.18 |
| WCDMA BAND5 | RMC | Front | 4182 | 836 | **0.27** | 1.35 | 0.37 |
| | | Front | 4132 | 826 | 0.26 | 1.32 | 0.34 |
| | | Front | 4233 | 846 | 0.25 | 1.32 | 0.33 |
| | | back | 4182 | 836 | 0.28 | 1.35 | 0.38 |
| | | Left | 4182 | 836 | 0.24 | | 0.32 |
| | | Right | 4182 | 836 | 0.22 | | 0.30 |
| | | Bottom | 4182 | 836 | 0.05 | | 0.07 |
| | HSDPA/HSUPA | Front | 4182 | 836 | 0.23 | 1.45 | 0.33 |
| | | back | 4182 | 836 | 0.22 | | 0.32 |
| | | Left | 4182 | 836 | 0.16 | | 0.23 |
| | | Right | 4182 | 836 | 0.16 | | 0.23 |
| | | Bottom | 4182 | 836 | 0.02 | | 0.03 |
| LTE | BW： | Front | 20175 | 1732.5 | **0.57** | 1.15 | 0.66 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| BAND4 | 1.4MHz(RB: 3) | Front | 19957 | 1710.7 | 0.34 | 1.15 | 0.39 |
| | | Front | 20393 | 1754.3 | 0.29 | 1.15 | 0.33 |
| | | back | 20175 | 1732.5 | 0.31 | 1.15 | 0.36 |
| | | Left | 20175 | 1732.5 | 0.28 | | 0.32 |
| | | Right | 20175 | 1732.5 | 0.21 | | 0.24 |
| | | Bottom | 20175 | 1732.5 | 0.06 | | 0.07 |
| WIFI | 802.11b 11b LONG 11Mbps | Front | 1 | 2412 | 0.03 | 1.07 | 0.03 |
| | | back | 1 | 2412 | 0.05 | | 0.05 |
| | | Left | 1 | 2412 | 0.07 | | 0.08 |
| | | Right | 1 | 2412 | 0.02 | | 0.02 |
| | | Bottom | 1 | 2412 | 0.02 | | 0.02 |
| | | Front | 6 | 2437 | 0.03 | 1.07 | 0.03 |
| | | back | 6 | 2437 | 0.05 | | 0.05 |
| | | Left | 6 | 2437 | **0.08** | | 0.09 |
| | | Right | 6 | 2437 | 0.02 | | 0.02 |
| | | Bottom | 6 | 2437 | 0.04 | | 0.04 |
| | | Front | 11 | 2462 | 0.03 | 1.07 | 0.03 |
| | | back | 11 | 2462 | 0.02 | | 0.02 |
| | | Left | 11 | 2462 | 0.07 | | 0.08 |
| | | Right | 11 | 2462 | 0.01 | | 0.01 |
| | | Bottom | 11 | 2462 | 0.07 | | 0.08 |

***Note:***

*1. Body-worn SAR testing was performed at 10mm separation, and this distance is determined by the handset manufacturer that there will be body-worn accessories that users may acquire at the time of equipment certification, to enable users to purchase aftermarket body-worn accessories with the required minimum separation.*

*2. Determination of the worst-case configuration and all configurations with less than 3 dB of applicable limits.*

4. *When the 1g SAR for the mid-band channel or the channel with the highest output power satisfy the following conditions, testing of the other channels in the band is not required.(Per KDB 447498 D01 General RF Exposure Guidance)*

*5. Per FCC Publication 447498, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is </=0.8W/Kg then testing at the other channels is not required for such test configurations. When the Maximum output power variation across the required test channels is 1/2 dB, instead of the middle channel, the highest output power channel was used.*

*6.*

Scaling Factor calculation

| Band | Tune-up power tolerance (dBm) | SAR test channel Power (dBm) | Scaling Factor |
|---|---|---|---|
| GSM850 VOCIE | PCL=5，PWR=32±0.5 | 32.3 | 1.05 |
| GSM850 GPRS | PCL=5，PWR=32±0.5(4slots) | 32.3 | 1.05 |
| GSM850 EDGE | PCL=5，PWR=27±0.5(4slots) | 27.3 | 1.05 |
| GSM1900 VOICE | PCL=0，PWR=29±0.5(4slots) | 29.0 | 1.12 |
| GSM1900 GPRS | PCL=0，PWR=29±0.5 | 29.0 | 1.12 |
| GSM1900 EDGE | PCL=0，PWR=28±0.5(4slots) | 27.8 | 1.17 |
| WCDMA BAND2 | Max output power=24(+1,-3) | 24.9 | 1.02 |
| WCDMA BAND5 | Max output power=24(+1,-3) | 23.7 | 1.35 |
| LTE BAND4 | Max output power=23±2 | 24.4 | 1.15 |
| WiFi802.11b | Max output power=13±1.0 | 13.7 | 1.07 |
| BT4.0(BR/EDR) 8-DPSK | Max output power=8±1.0 | 8.75 | 1.06 |

## 8.3 Applicable Multiple Scenario Evaluation

| Test Position | Main Ant. SAR Max (W/Kg) | WiFi SAR Max (W/Kg) | ∑1g SAR Max(W/Kg) |
|---|---|---|---|
| Head SAR | 0.69 | 0.02 | 0.71 |
| Body SAR | 0.73 | 0.08 | 0.81 |

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg) specified in FCC 47 CFR part 2(2.1093) and ANSI/IEEE C95.1 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013

## 8.4 Measurement Uncertainty (450MHz-3GHz)

| UNCERTAINTY EVALUATION FOR HANDSET SAR TEST | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| a | b | c | d | e= f(d,k) | f | g | h= cxf/e | i= cxg/e | k |
| **Uncertainty Component** | Sec. | Tol. (± %) | Prob. Dist. | Div. | $c_i$ (1 g) | $c_i$ (10 g) | 1 g $u_i$ (± %) | 10 g $u_i$ (± %) | $v_i$ |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1. | 6 | N | 1 | 1 | 1 | 6 | 6 | ∞ |
| Axial Isotropy | E.2.2. | 3 | R | √3 | $(1-c_p)^{1/2}$ | $(1-c_p)^{1/2}$ | 1,22474 | 1,22474 | ∞ |
| Hemispherical Isotropy | E.2.2. | 4 | R | √3 | $\sqrt{C_p}$ | $\sqrt{C_p}$ | 1,63299 | 1,63299 | ∞ |
| Boundary Effect | E.2.3. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Linearity | E.2.4. | 5 | R | √3 | 1 | 1 | 2,88675 | 2,88675 | ∞ |
| System Detection Limits | E.2.5. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Readout Electronics | E.2.6. | 0,5 | N | 1 | 1 | 1 | 0,5 | 0,5 | ∞ |
| Response Time | E.2.7. | 0,2 | R | √3 | 1 | 1 | 0,11547 | 0,11547 | ∞ |
| Integration Time | E.2.8. | 2 | R | √3 | 1 | 1 | 1,1547 | 1,1547 | ∞ |
| RF Ambient Conditions | E.6.1. | 3 | R | √3 | 1 | 1 | 1,73205 | 1,73205 | ∞ |
| Probe Positioner Mechanical Tolerance | E.6.2. | 2 | R | √3 | 1 | 1 | 1,1547 | 1,1547 | ∞ |
| Probe Positioning with respect to Phantom Shell | E.6.3. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | E.5.2. | 1,5 | R | √3 | 1 | 1 | 0,86603 | 0,86603 | ∞ |
| **Test sample Related** | | | | | | | | | |
| Test Sample Positioning | E.4.2.1. | 1,5 | N | 1 | 1 | 1 | 1,5 | 1,5 | N-1 |
| Device Holder Uncertainty | E.4.1.1. | 5 | N | 1 | 1 | 1 | 5 | 5 | N-1 |
| Output Power Variation - SAR drift measurement | 6.6.2. | 3 | R | √3 | 1 | 1 | 1,73205 | 1,73205 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty (shape and thickness tolerances) | E.3.1. | 4 | R | √3 | 1 | 1 | 2,3094 | 2,3094 | ∞ |
| Liquid Conductivity - deviation from target values | E.3.2. | 5 | R | √3 | 0,64 | 0,43 | 1,84752 | 1,2413 | ∞ |
| Liquid Conductivity - measurement uncertainty | E.3.3. | 2,5 | N | 1 | 0,64 | 0,43 | 1,6 | 1,075 | M |
| Liquid Permittivity - deviation from target values | E.3.2. | 3 | R | √3 | 0,6 | 0,49 | 1,03923 | 0,8487 | ∞ |
| Liquid Permittivity - measurement uncertainty | E.3.3. | 2,5 | N | 1 | 0,6 | 0,49 | 1,5 | 1,225 | M |
| **Combined Standard Uncertainty** | | | RSS | | | | 9,66051 | 9,52428 | |
| **Expanded Uncertainty (95% CONFIDENCE INTERVAL)** | | | k | | | | 18,9346 | 18,6676 | |

# UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

| a | b | c | d | e= f(d,k) | f | g | h= cxf/e | i= cxg/e | k |
|---|---|---|---|---|---|---|---|---|---|
| **Uncertainty Component** | Sec. | Tol. (± %) | Prob. Dist. | Div. | $c_i$ (1 g) | $c_i$ (10 g) | 1 g $u_i$ (± %) | 10 g $u_i$ (± %) | $v_i$ |
| **Measurement System** | | | | | | | | | |
| Probe Calibration | E.2.1. | 6 | N | 1 | 1 | 1 | 6 | 6 | ∞ |
| Axial Isotropy | E.2.2. | 3 | R | √3 | $(1-c_p)^{1/2}$ | $(1-c_p)^{1/2}$ | 1,22474 | 1,22474 | ∞ |
| Hemispherical Isotropy | E.2.2. | 5 | R | √3 | $\sqrt{C_p}$ | $\sqrt{C_p}$ | 2,04124 | 2,04124 | ∞ |
| Boundary Effect | E.2.3. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Linearity | E.2.4. | 5 | R | √3 | 1 | 1 | 2,88675 | 2,88675 | ∞ |
| System Detection Limits | E.2.5. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Readout Electronics | E.2.6. | 0,5 | N | 1 | 1 | 1 | 0,5 | 0,5 | ∞ |
| Response Time | E.2.7. | 0,2 | R | √3 | 1 | 1 | 0,11547 | 0,11547 | ∞ |
| Integration Time | E.2.8. | 2 | R | √3 | 1 | 1 | 1,1547 | 1,1547 | ∞ |
| RF Ambient Conditions | E.6.1. | 3 | R | √3 | 1 | 1 | 1,73205 | 1,73205 | ∞ |
| Probe Positioner Mechanical Tolerance | E.6.2. | 2 | R | √3 | 1 | 1 | 1,1547 | 1,1547 | ∞ |
| Probe Positioning with respect to Phantom Shell | E.6.3. | 1 | R | √3 | 1 | 1 | 0,57735 | 0,57735 | ∞ |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | E.5.2. | 1,5 | R | √3 | 1 | 1 | 0,86603 | 0,86603 | ∞ |
| **Dipole** | | | | | | | | | |
| Dipole Axis to Liquid Distance | 8, E.4.2. | 1 | N | √3 | 1 | 1 | 0,57735 | 0,57735 | N-1 |
| Input Power and SAR drift measurement | 8, 6.6.2. | 2 | R | √3 | 1 | 1 | 1,1547 | 1,1547 | ∞ |
| **Phantom and Tissue Parameters** | | | | | | | | | |
| Phantom Uncertainty (shape and thickness tolerances) | E.3.1. | 4 | R | √3 | 1 | 1 | 2,3094 | 2,3094 | ∞ |
| Liquid Conductivity - deviation from target values | E.3.2. | 5 | R | √3 | 0,64 | 0,43 | 1,84752 | 1,2413 | ∞ |
| Liquid Conductivity - measurement uncertainty | E.3.3. | 2,5 | N | 1 | 0,64 | 0,43 | 1,6 | 1,075 | M |
| Liquid Permittivity - deviation from target values | E.3.2. | 3 | R | √3 | 0,6 | 0,49 | 1,03923 | 0,8487 | ∞ |
| Liquid Permittivity - measurement uncertainty | E.3.3. | 2,5 | N | 1 | 0,6 | 0,49 | 1,5 | 1,225 | M |
| **Combined Standard Uncertainty** | | | RSS | | | | 8,09272 | 7,9296 | |
| **Expanded Uncertainty (95% CONFIDENCE INTERVAL)** | | | k | | | | 15,8617 | 15,542 | |

## 8.5 Test Equipment List

| Test Equipment | Manufacturer | Model | Serial Number | Calibration | |
|---|---|---|---|---|---|
| | | | | Calibration Date | Calibration Due |
| Multimeter | Keithley | MiltiMeter2000 | 1247155 | 2016/02/27 | 2017/02/28 |
| Network Analyzer | Agilent | 8753E | MY40000219 | 2015/11/27 | 2016/11/28 |
| Radio tester | R & S | CMU200 | 112824 | 2015/11/29 | 2016/11/28 |
| Radio tester | R & S | CMW500 | 129747 | 2015/11/06 | 2016/11/07 |
| Power meter with USB connection to PC/Sofware | R & S | NRP-Z23 | 100129 | 2016/06/17 | 2017/06/16 |
| Signal Generator | Agilent | E4432B | GB38450323 | 2016/04/09 | 2017/04/08 |
| E-Field PROBE | SATIMO | SSE5 | 18/11 | 2014/09/22 | 2017/09/22 |
| E-Field PROBE | SATIMO | SSE5 | 35/11 | 2014/09/22 | 2017/09/22 |
| DIPOLE 835 | SATIMO | DIPC117 | 39/09 | 2016/07/01 | 2018/07/01 |
| DIPOLE 900 | SATIMO | DIPD118 | 39/09 | 2016/07/01 | 2018/07/01 |
| DIPOLE 1800 | SATIMO | DIPF119 | 39/09 | 2016/07/01 | 2018/07/01 |
| DIPOLE 1900 | SATIMO | DIPG120 | 39/09 | 2016/07/01 | 2018/07/01 |
| DIPOLE 2000 | SATIMO | DIPI121 | 39/09 | 2016/07/01 | 2018/07/01 |
| DIPOLE 2450 | SATIMO | DIPJ122 | 39/09 | 2016/07/01 | 2018/07/01 |
| Communication Antenna | SATIMO | ANTA29 | 39/09 | N/A | N/A |
| Mobile Phone Position Device | SATIMO | MSH60 | 39/09 | N/A | N/A |
| SAM PHANTOM | SATIMO | SAM72/SAM73 | 39/09 | N/A | N/A |
| SAM PHANTOM | SATIMO | ELLI16 | 39/09 | N/A | N/A |
| 6 AXIS ROBOT | KUKA | KR5 | 949009 | N/A | N/A |

***Note:***
*N/A means this equipment no need to calibrate*
*The OPENSAR System calibration period was 3 years. In this period our lab is performing verification every six months.*

# 9. TEST STANDARDSAND CONFIGURATION

## 9.1 Test Standards

Leading reference documents for testing:

| No. | Identity | Document Title |
|---|---|---|
| 1 | 47 CFR§2.1O93 | Radio Frequency Radiation Exposure Evaluation: Portable Devices |
| 2 | ANSI C95.1-2005 | IEEE Standard for Safety Levels with Respect to human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300GHz |
| 3 | IEEE 1528-2013 | Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques. |
| 4 | KDB 447498 D01 | General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies. |
| 5 | KDB 941225 D01 | SAR Test for 3G devices v03r01: SAR Measurement Procedures for 3G Devices |
| 6 | KDB 648474 D04 | Handset SAR v01r03**:** SAR Evaluation Considerations for Wireless Handsets. |
| 7 | KDB941225 D05 | SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices |
| 8 | KDB941225 D05A | LTE Rel.10 KDB Inquiry Sheet v01r02: REL. 10 LTE SAR TEST GUIDANCE AND KDB INQUIRIES |
| 9 | KDB941225 D06 | Hotspot Mode SAR v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities |
| 10 | KDB248227 D01 | 802.11 Wi-Fi SAR v02r02: SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS |
| 11 | KDB865664 D01 | SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz. |
| 12 | KDB865664 D02 | RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations |

## 9.2 Device Category and SAR Limits

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure(i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

**Limits for occupational/controlled Exposure(W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|---|---|---|
| 0.4 | 8.0 | 20.0 |

**Limits for General population/Uncontrolled Exposure(W/kg)**

| Whole-Body | Partial-Body | Hands, Wrists, Feet and Ankles |
|---|---|---|
| 0.08 | 1.60 | 4.00 |

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.

# 10. SYSTEM CHECK RESULTS

Date of measurement: 2016/07/02

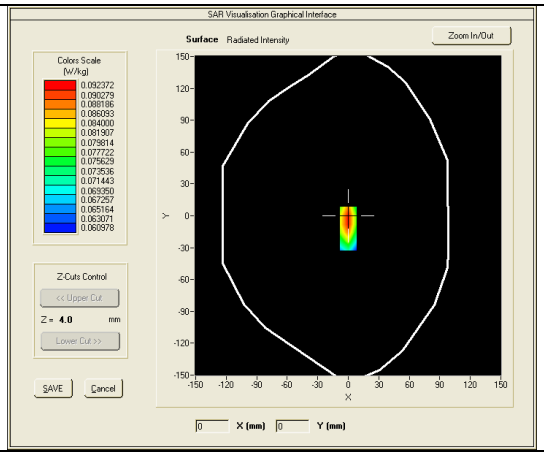
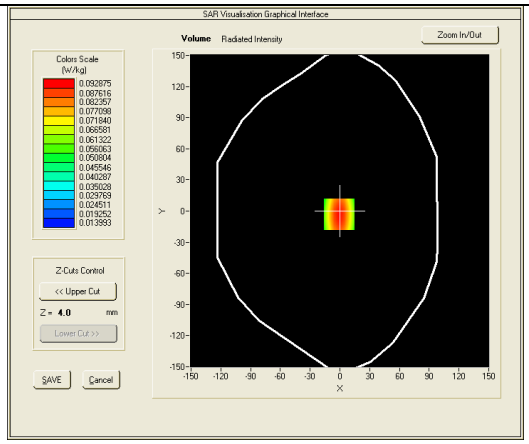
Phantom: Validation plane

SAR Probe: SN_18/11_EP121

Input Power:10dBm

Dipole Model: CW835

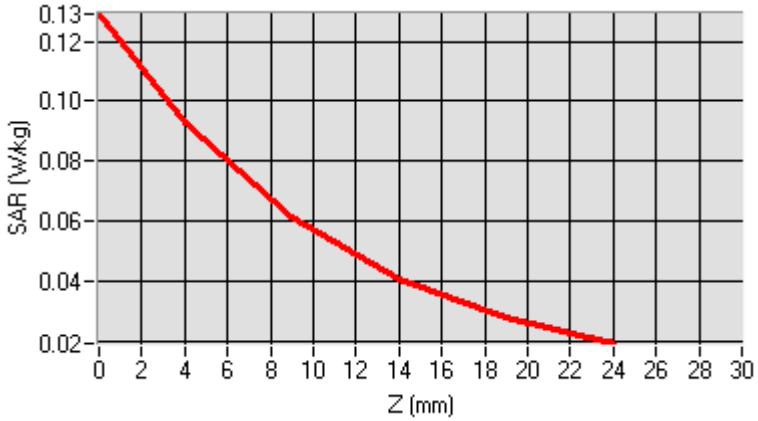
| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | Validation plane |
| **Device Position** | Dipole |
| **Band** | CW835 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 835.000000 |
| **Relative permittivity (real part)** | 41.100000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.919944 |
| **Variation (%)** | -0.620000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

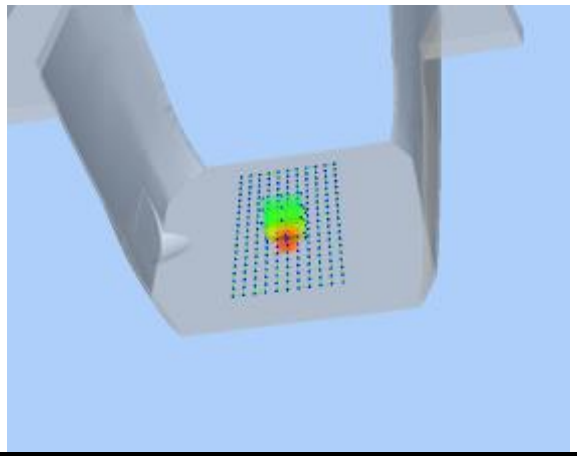
**Maximum location: X=-1.00, Y=-3.00**
**SAR Peak: 0.13 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.066207 |
| **SAR 1g (W/Kg)** | 0.097517 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1292 | 0.0929 | 0.0612 | 0.0409 | 0.0282 |




**3D screen shot**



Date of measurement: 2016/07/01

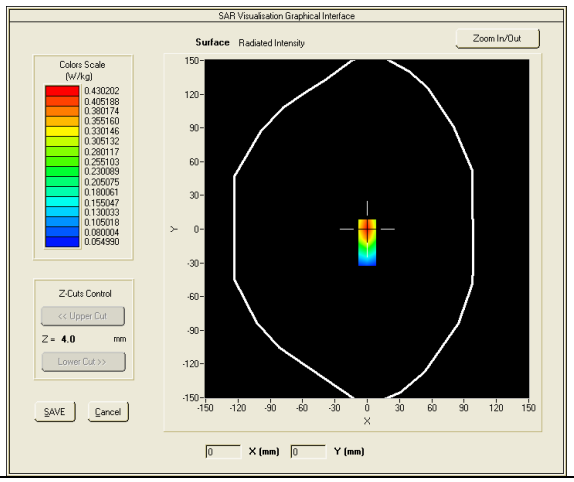
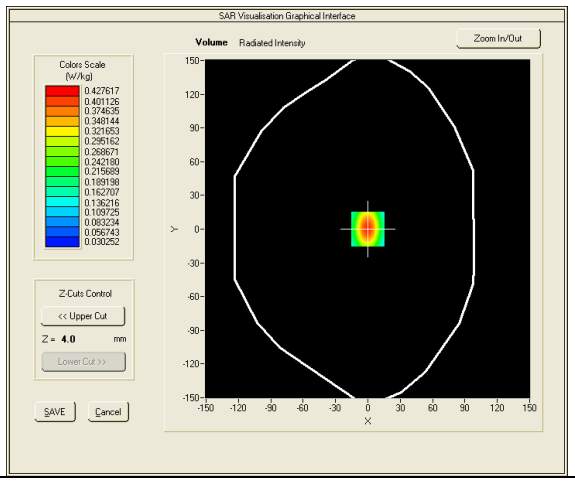
Phantom: Validation plane

SAR Probe: SN_35/11_EP131

Input Power:10dBm

Dipole Model: 1800

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | Validation plane |
| **Device Position** | Dipole |
| **Band** | CW1800 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 1800.000000 |
| **Relative permittivity (real part)** | 39.700000 |
| **Relative permittivity (imaginary part)** | 14.000000 |
| **Conductivity (S/m)** | 1.380000 |
| **Variation (%)** | -0.460000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

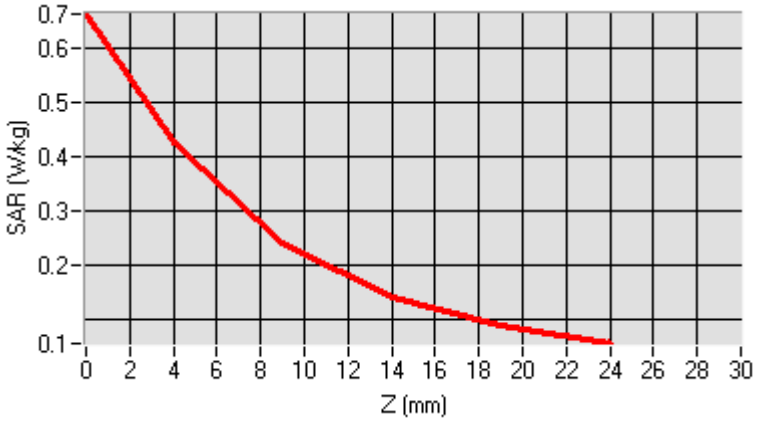




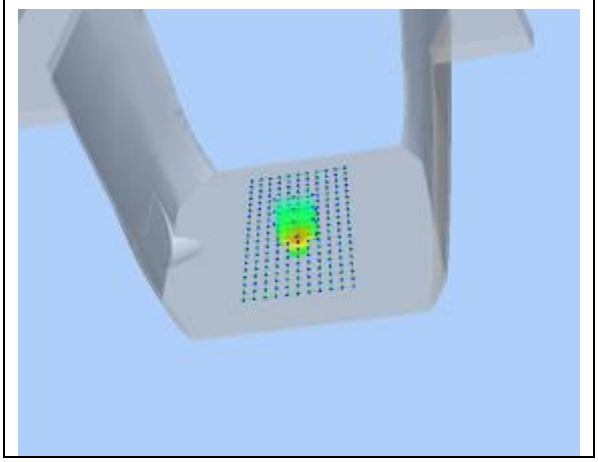
**Maximum location: X=0.00, Y=0.00**
**SAR Peak: 0.66 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.213295 |
| **SAR 1g (W/Kg)** | 0.390663 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.6641 | 0.4276 | 0.2428 | 0.1416 | 0.0889 |




**3D screen shot**



Date of measurement: 2016/07/01

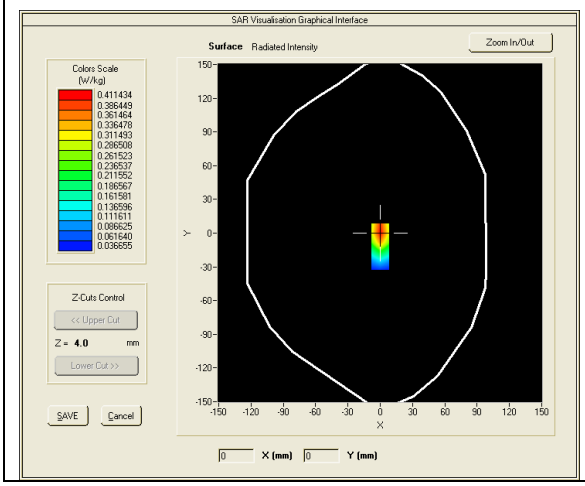
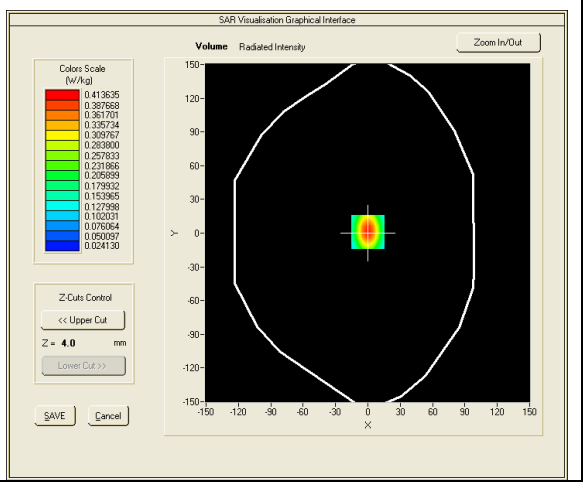
Phantom: Validation plane

SAR Probe: SN_35/11_EP131

Input Power:10dBm

Dipole Model: 1900

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | Validation plane |
| **Device Position** | Dipole |
| **Band** | CW1900 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 1900.000000 |
| **Relative permittivity (real part)** | 39.011199 |
| **Relative permittivity (imaginary part)** | 13.709900 |
| **Conductivity (S/m)** | 1.447156 |
| **Variation (%)** | 0.100000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

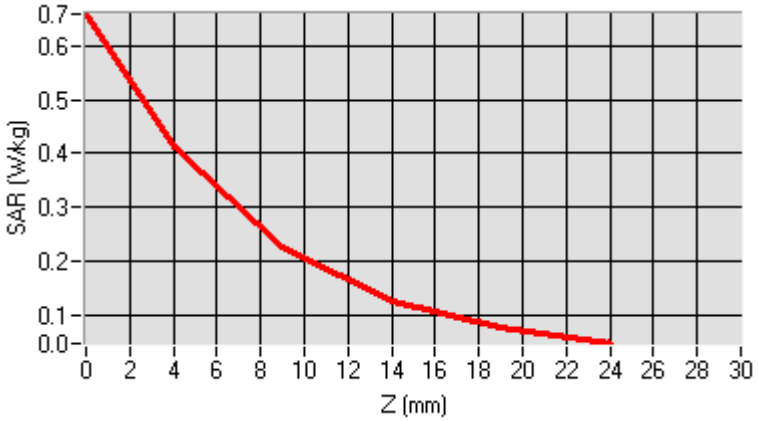




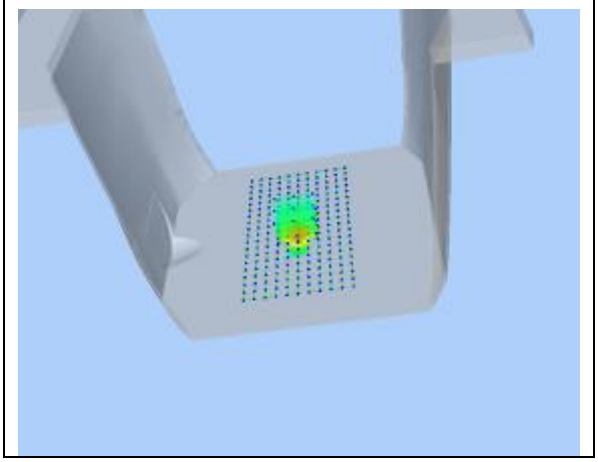
**Maximum location: X=0.00, Y=1.00**
**SAR Peak: 0.66 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.202414 |
| **SAR 1g (W/Kg)** | 0.387940 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.6585 | 0.4136 | 0.2261 | 0.1263 | 0.0762 |




**3D screen shot**



Date of measurement: 2016/07/01

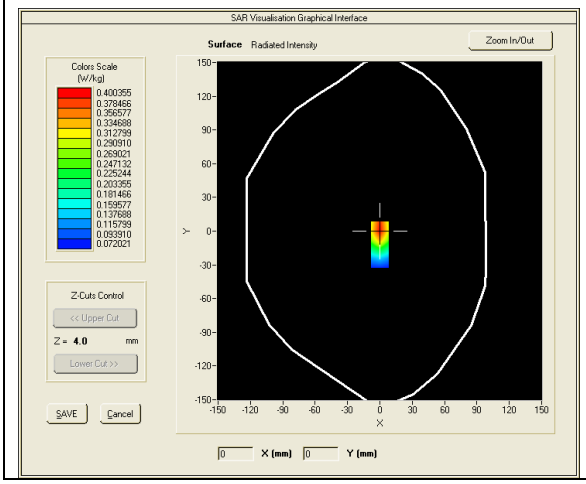
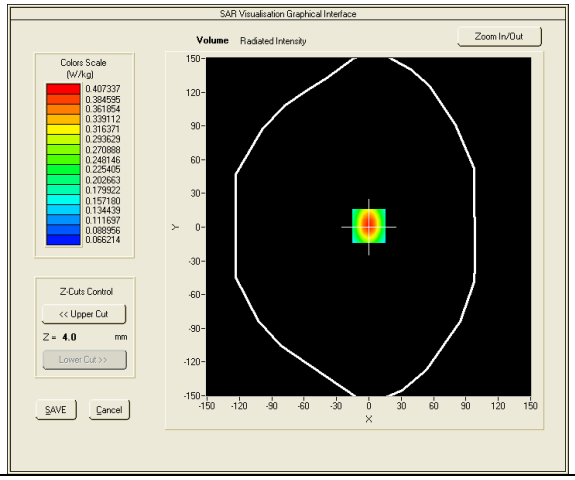
Phantom: Validation plane

SAR Probe: SN_35/11_EP131

Input Power:10dBm

Dipole Model: 2000

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | Validation plane |
| **Device Position** | Dipole |
| **Band** | CW2000 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 2000.000000 |
| **Relative permittivity (real part)** | 39.522998 |
| **Relative permittivity (imaginary part)** | 13.160700 |
| **Conductivity (S/m)** | 1.432300 |
| **Variation (%)** | 1.820000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

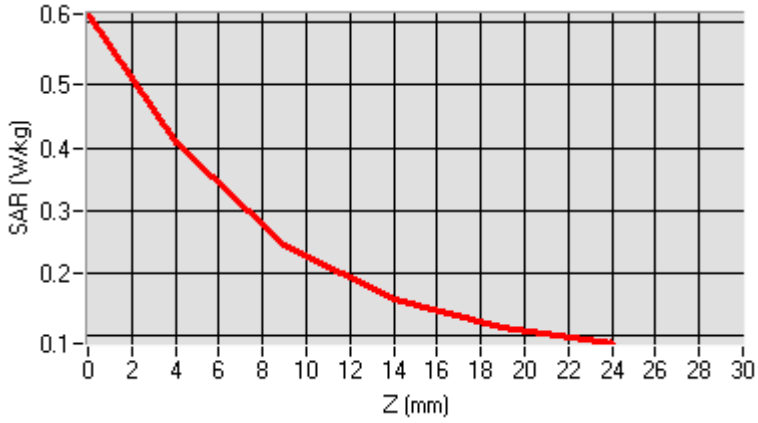




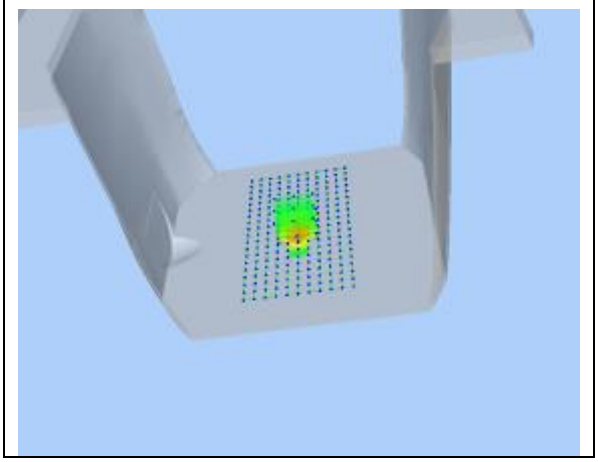
**Maximum location: X=0.00, Y=1.00**
**SAR Peak: 0.61 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.220569 |
| **SAR 1g (W/Kg)** | 0.386965 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.6136 | 0.4073 | 0.2456 | 0.1577 | 0.1132 |




**3D screen shot**



Date of measurement: 2016/07/08

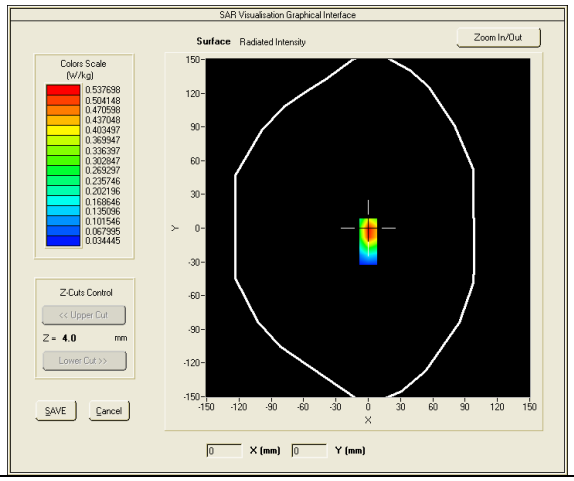
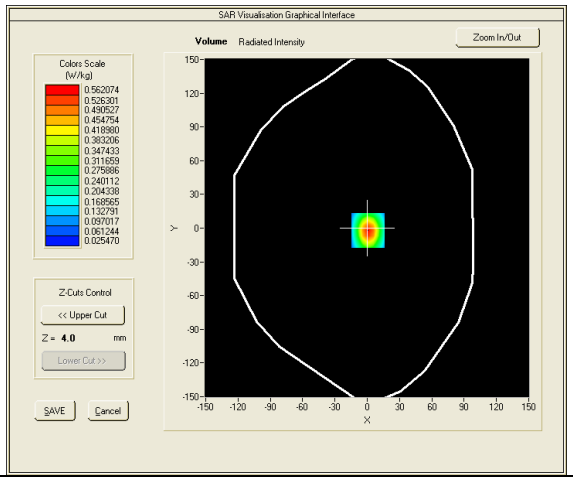
Phantom: Validation plane

SAR Probe: SN_35/11_EP131

Input Power:10dBm

Dipole Model: 2450

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | Validation plane |
| **Device Position** | Dipole |
| **Band** | CW2450 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 2450.000000 |
| **Relative permittivity (real part)** | 38.200001 |
| **Relative permittivity (imaginary part)** | 13.220000 |
| **Conductivity (S/m)** | 1.832389 |
| **Variation (%)** | 0.560000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |



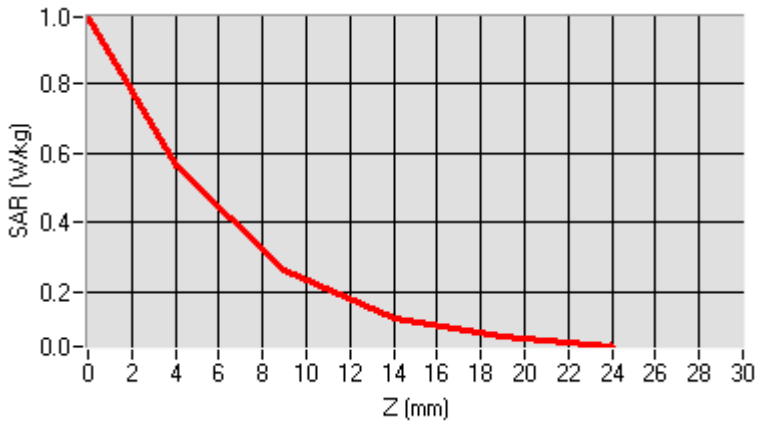


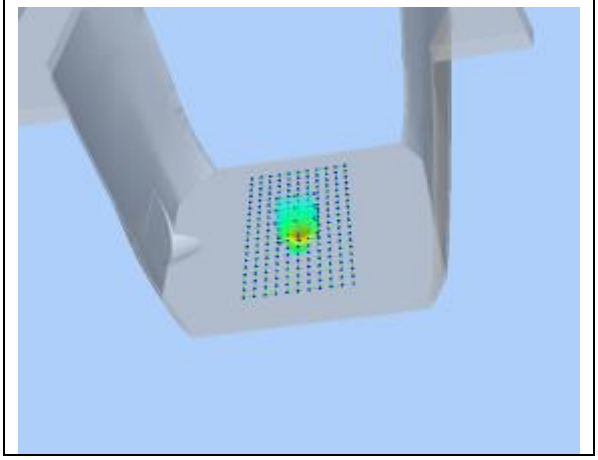
**Maximum location: X=1.00, Y=-2.00**

**SAR Peak: 0.99 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.235625 |
| **SAR 1g (W/Kg)** | 0.507325 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.9928 | 0.5621 | 0.2617 | 0.1241 | 0.0678 |




| 3D screen shot |
|---|
|  |

Date of measurement: 2016/07/05

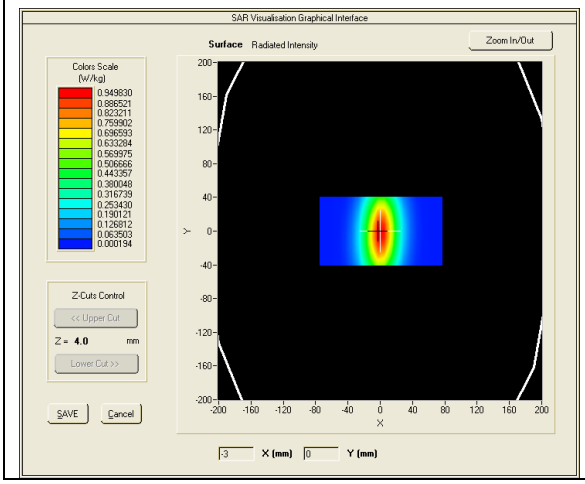
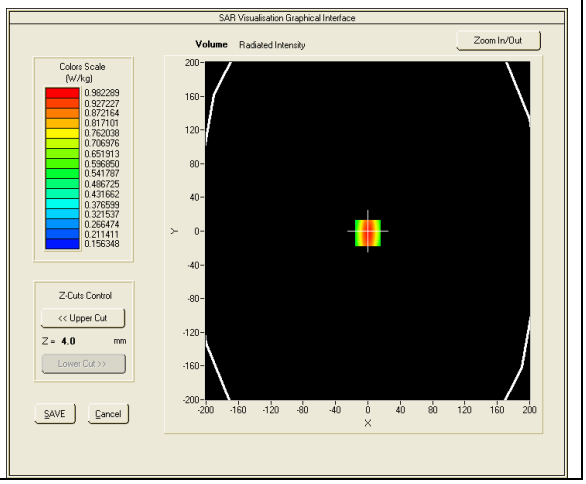
Phantom: ELLI16

SAR Probe: SN_18/11_EP121

Input Power:20dBm

Dipole Model: CW835

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Dipole |
| **Band** | CW835 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 835.000000 |
| **Relative permittivity (real part)** | 53.405901 |
| **Relative permittivity (imaginary part)** | 20.503599 |
| **Conductivity (S/m)** | 0.961139 |
| **Variation (%)** | -0.250000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

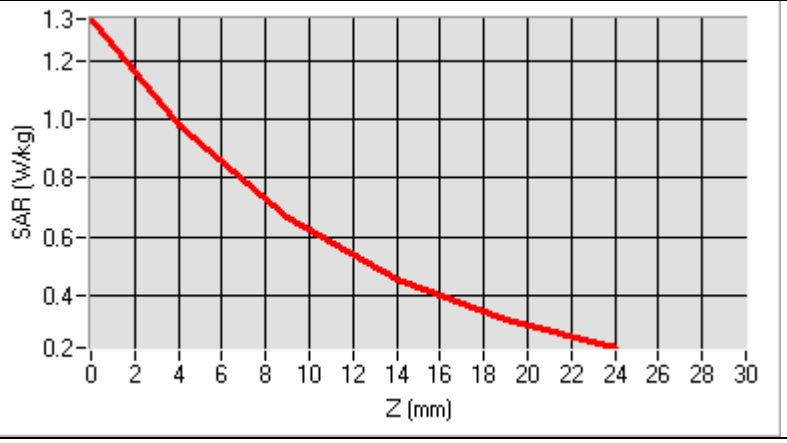


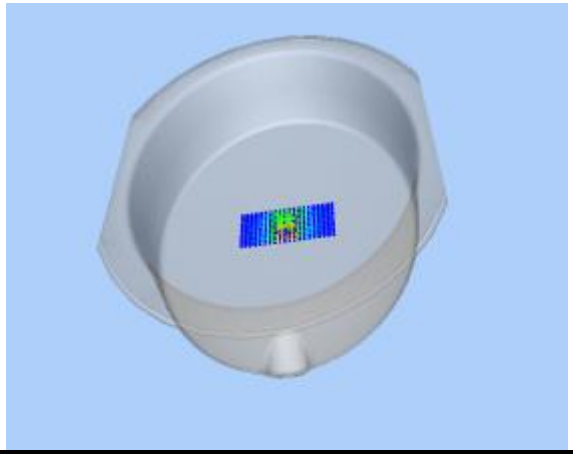
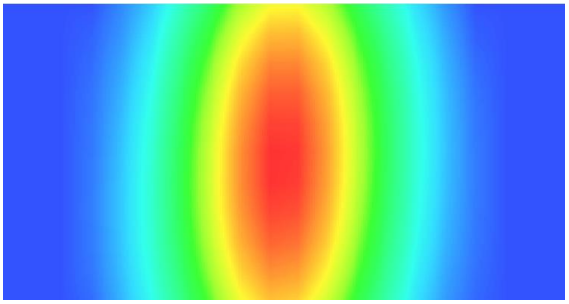


**Maximum location: X=0.00, Y=-2.00**

**SAR Peak: 1.42 W/kg**

| SAR 10g (W/Kg) | | | 0.634428 | | |
|---|---|---|---|---|---|
| SAR 1g (W/Kg) | | | 0.975989 | | |
| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
| SAR (W/Kg) | 1.3404 | 0.9823 | 0.6643 | 0.4556 | 0.3203 |




| 3D screen shot | Hot spot position |
|---|---|
|  |  |

Date of measurement: 2016/07/07

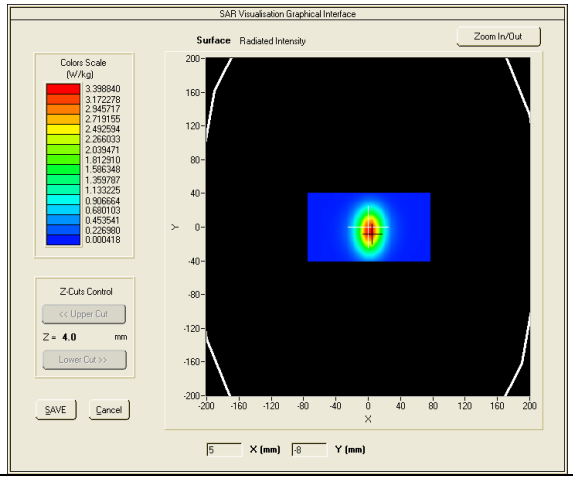
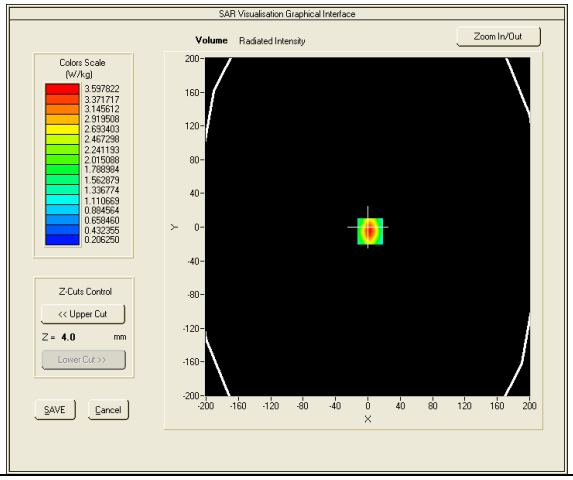
Phantom: ELLI16

SAR Probe: SN_35/11_EP131

Input Power:20dBm

Dipole Model: 1800

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Dipole |
| **Band** | CW1800 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 1800.000000 |
| **Relative permittivity (real part)** | 52.799999 |
| **Relative permittivity (imaginary part)** | 15.200000 |
| **Conductivity (S/m)** | 1.470000 |
| **Variation (%)** | -0.470000 |

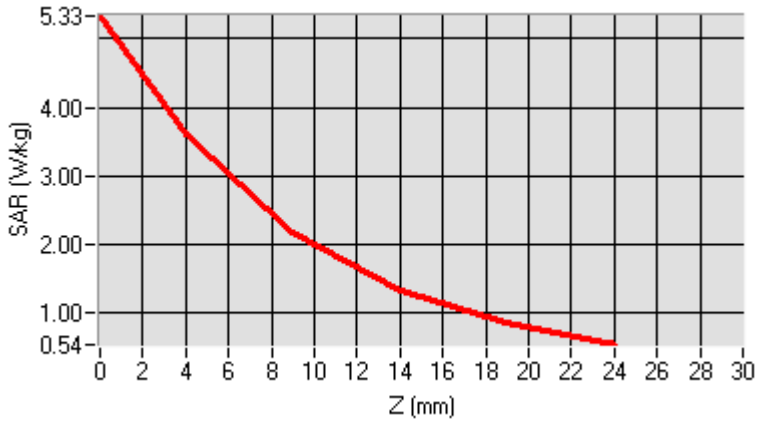
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

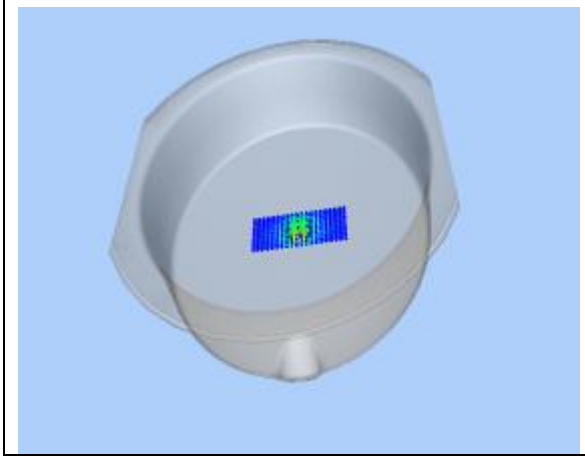
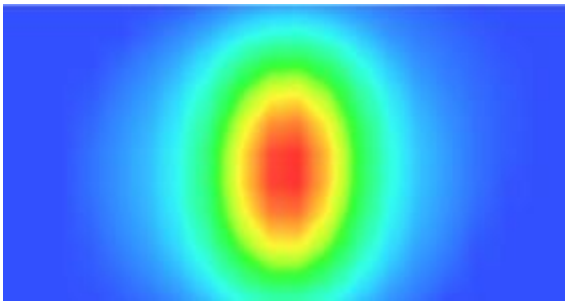




**Maximum location: X=3.00, Y=-5.00**
**SAR Peak: 5.69 W/kg**

| SAR 10g (W/Kg) | | | 1.967121 | | |
|---|---|---|---|---|---|
| SAR 1g (W/Kg) | | | 3.517022 | | |
| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
| SAR (W/Kg) | 5.3304 | 3.5978 | 2.1729 | 1.3308 | 0.8479 |




| 3D screen shot | Hot spot position |
|---|---|
|  |  |

Date of measurement: 2016/07/07

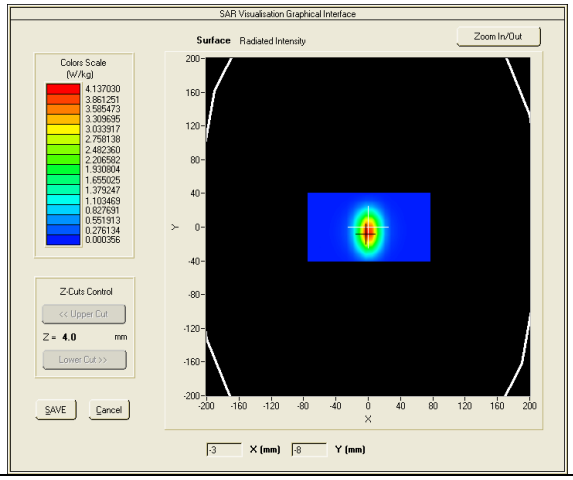
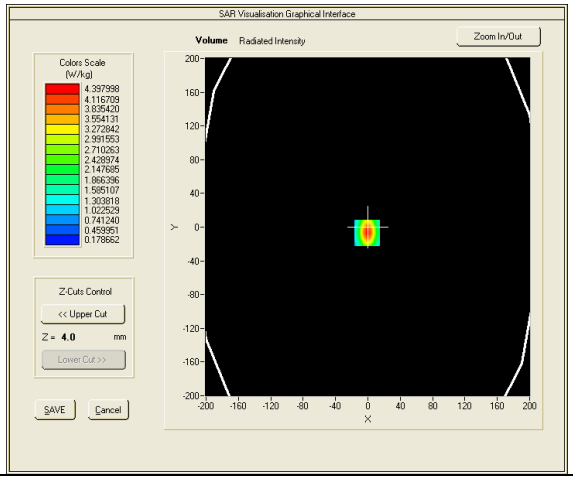
Phantom: ELLI16

SAR Probe: SN_35/11_EP131

Input Power:20dBm

Dipole Model: 1900

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Dipole |
| **Band** | CW1900 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 1900.000000 |
| **Relative permittivity (real part)** | 53.899999 |
| **Relative permittivity (imaginary part)** | 14.400000 |
| **Conductivity (S/m)** | 1.450000 |
| **Variation (%)** | 0.490000 |

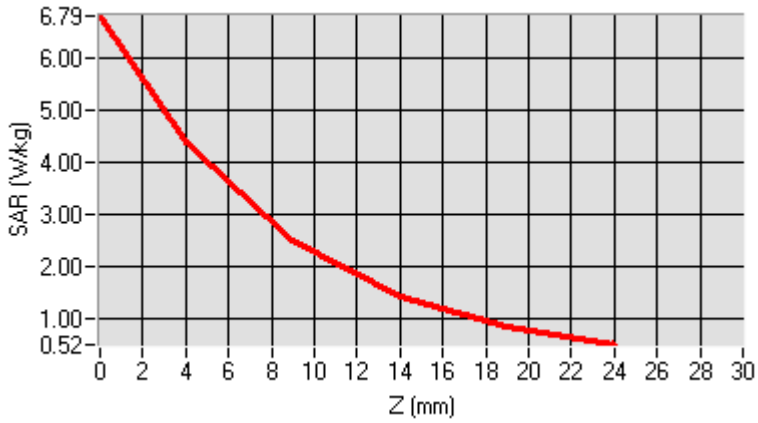
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

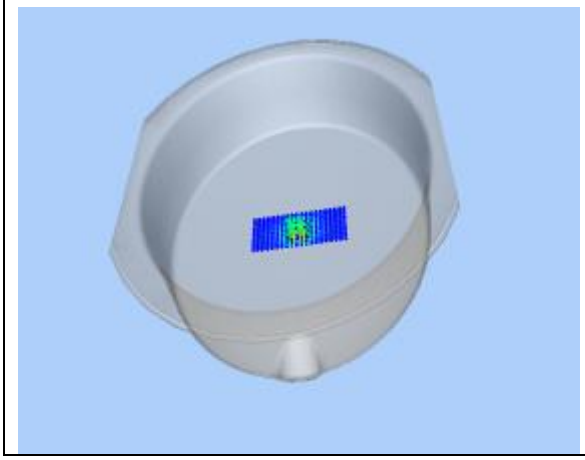
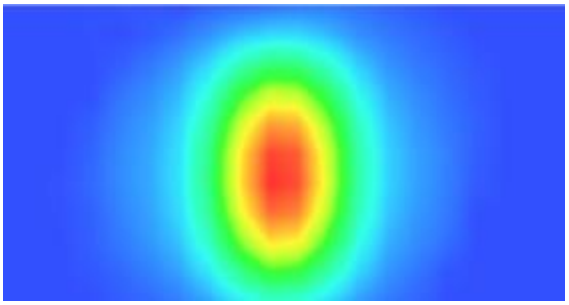




**Maximum location: X=-1.00, Y=-7.00**
**SAR Peak: 7.14 W/kg**

| SAR 10g (W/Kg) | | | 2.214199 | | |
|---|---|---|---|---|---|
| SAR 1g (W/Kg) | | | 4.197266 | | |
| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
| SAR (W/Kg) | 6.7929 | 4.3980 | 2.5012 | 1.4391 | 0.8693 |




| 3D screen shot | Hot spot position |
|---|---|
|  |  |

Date of measurement: 2016/07/07

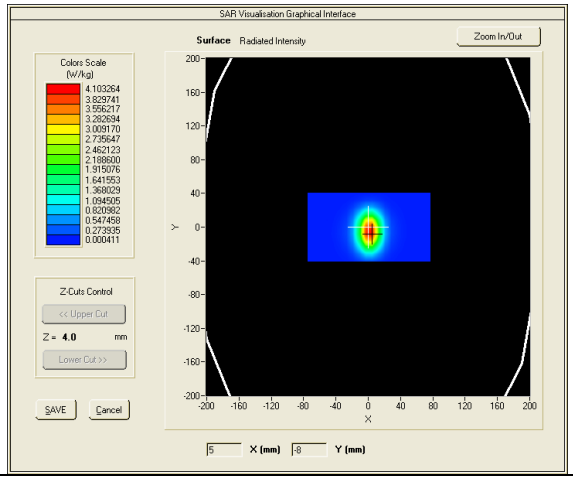
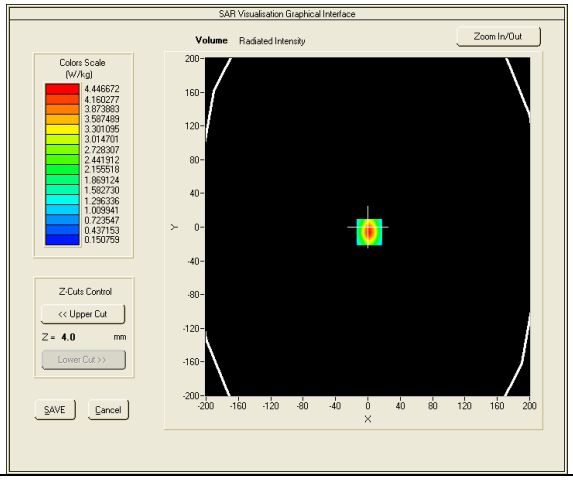
Phantom: ELLI16

SAR Probe: SN_35/11_EP131

Input Power:20dBm

Dipole Model: 2000

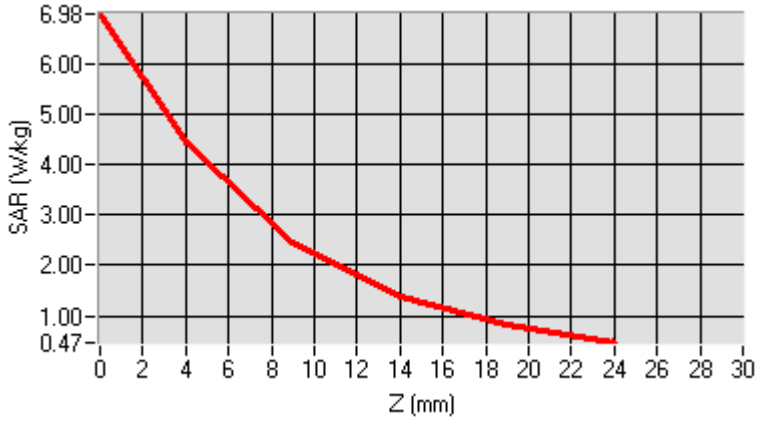
| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Dipole |
| **Band** | CW2000 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 2000.000000 |
| **Relative permittivity (real part)** | 53.879999 |
| **Relative permittivity (imaginary part)** | 13.680000 |
| **Conductivity (S/m)** | 1.520000 |
| **Variation (%)** | -0.170000 |

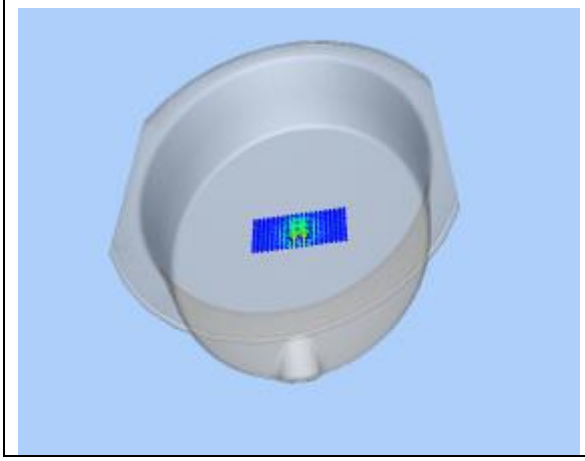
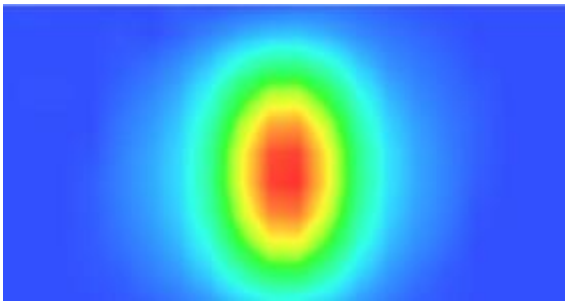
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |



**Maximum location: X=2.00, Y=-6.00**
**SAR Peak: 7.25 W/kg**

| SAR 10g (W/Kg) | | | 2.153966 | | |
|---|---|---|---|---|---|
| SAR 1g (W/Kg) | | | 4.171793 | | |
| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
| SAR (W/Kg) | 6.9824 | 4.4467 | 2.4645 | 1.3752 | 0.8046 |




| 3D screen shot | Hot spot position |
|---|---|
|  |  |

Date of measurement: 2016/07/08

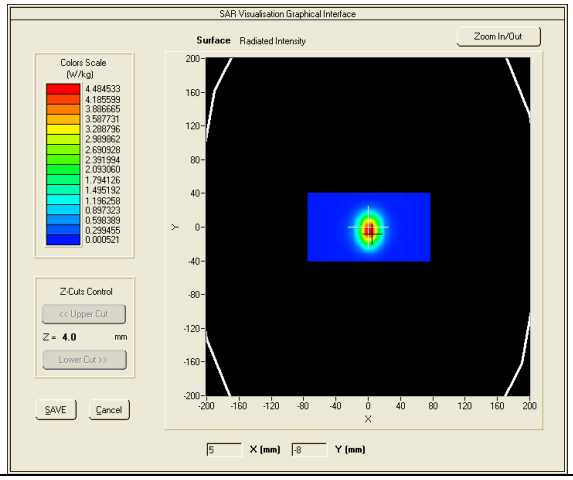
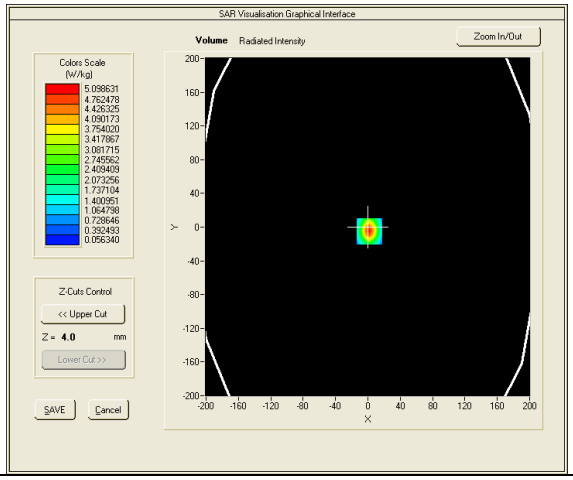
Phantom: ELLI16

SAR Probe: SN_35/11_EP131

Input Power:20dBm

Dipole Model: 2450

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **ZoomScan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Dipole |
| **Band** | CW2450 |
| **Channels** | Middle |
| **Signal** | CW (Crest factor: 1.0) |
| **Frequency (MHz)** | 2450.000000 |
| **Relative permittivity (real part)** | 53.100001 |
| **Relative permittivity (imaginary part)** | 14.330000 |
| **Conductivity (S/m)** | 1.950472 |
| **Variation (%)** | 0.140000 |

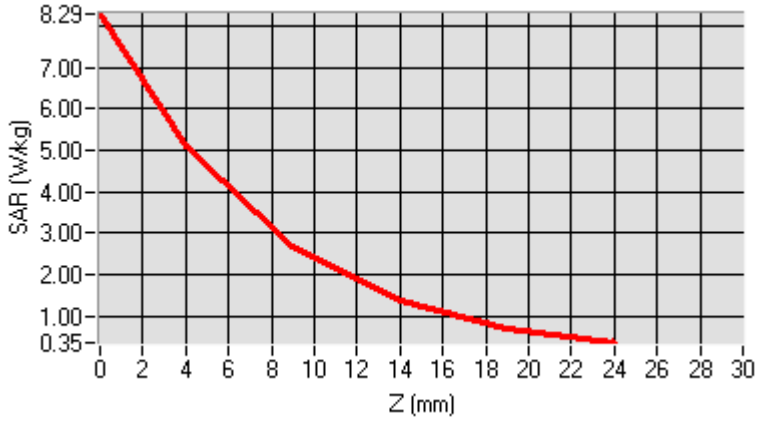
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

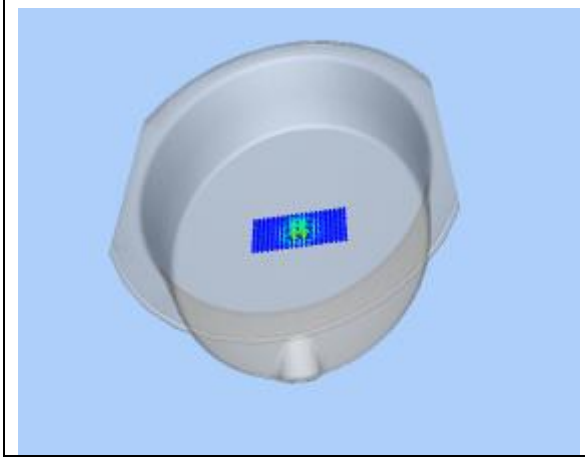
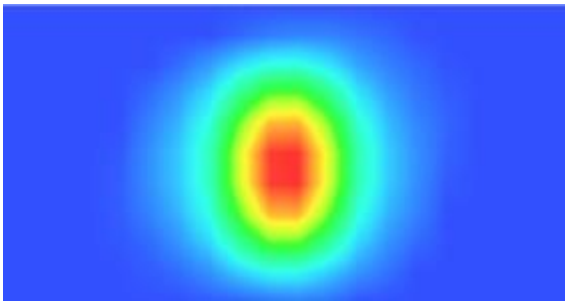




**Maximum location: X=2.00, Y=-5.00**
**SAR Peak: 8.98W/kg**

| SAR 10g (W/Kg) | | | 2.334972 | | |
|---|---|---|---|---|---|
| SAR 1g (W/Kg) | | | 4.909076 | | |
| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
| SAR (W/Kg) | 8.2945 | 5.0986 | 2.6587 | 1.3626 | 0.7136 |




| 3D screen shot | Hot spot position |
|---|---|
|  |  |

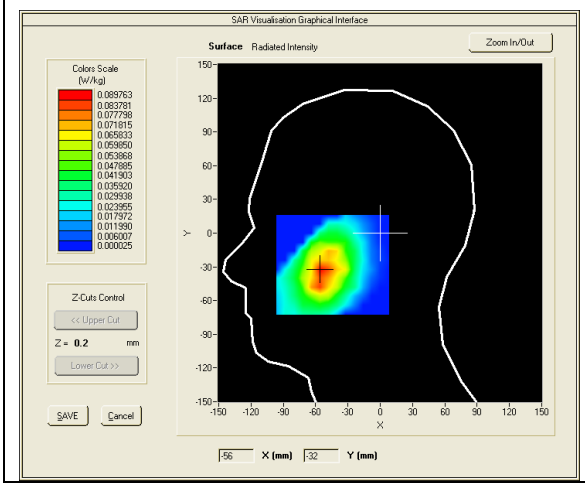
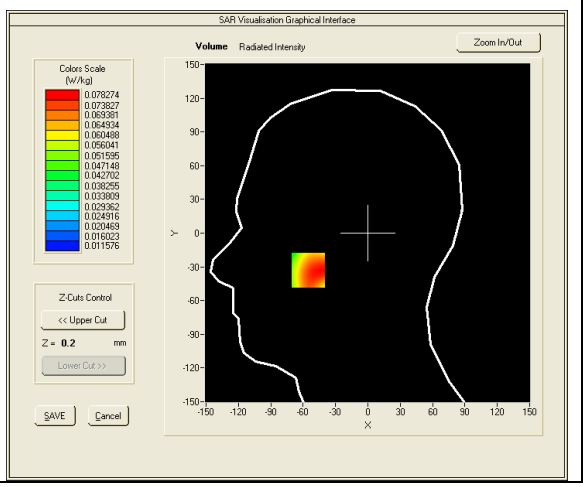
# 11. SAR TEST DATA

## GSM850

| MEASUREMENT 1<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 1.480000 |

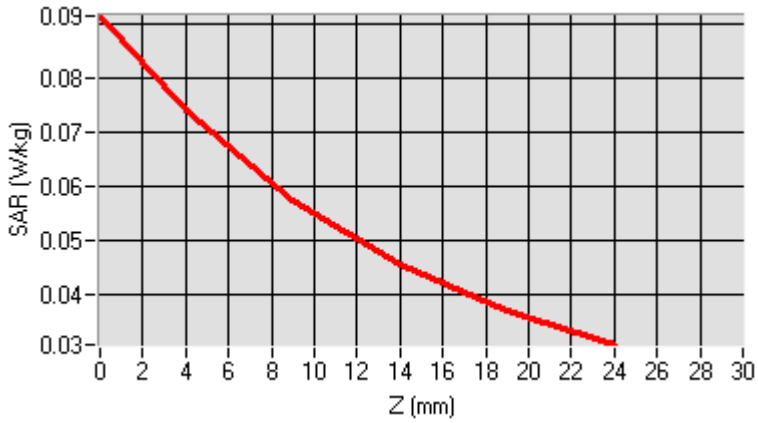
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

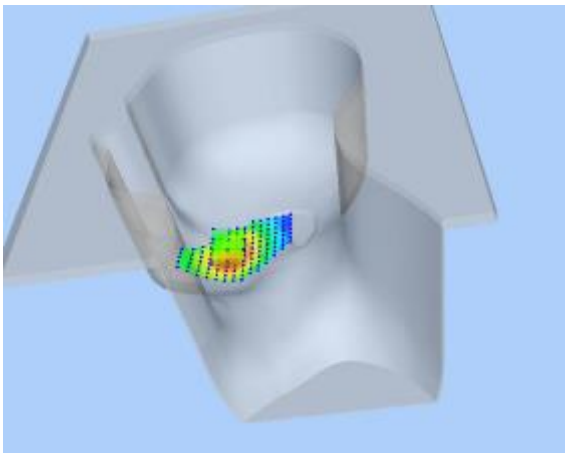
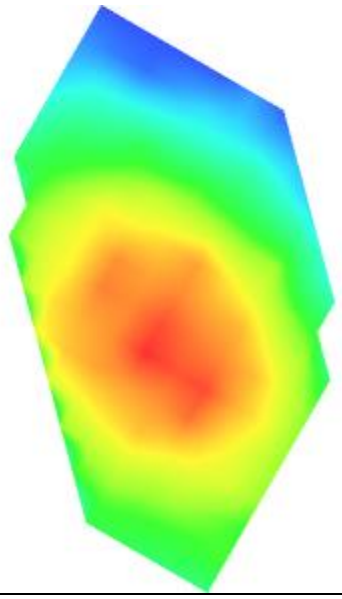


**Maximum location: X=-55.00, Y=-33.00**
**SAR Peak: 0.10 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.054973 |
| **SAR 1g (W/Kg)** | 0.075107 |

| **Z (mm)** | **0.00** | **4.00** | **9.00** | **14.00** | **19.00** |
|---|---|---|---|---|---|
| **SAR (W/Kg)** | **0.0915** | **0.0740** | **0.0574** | **0.0456** | **0.0374** |

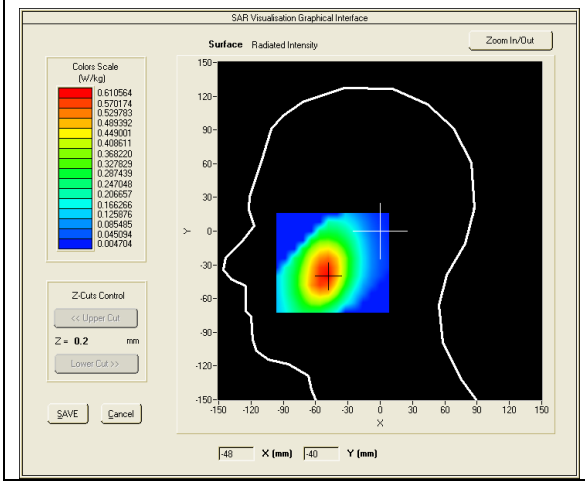
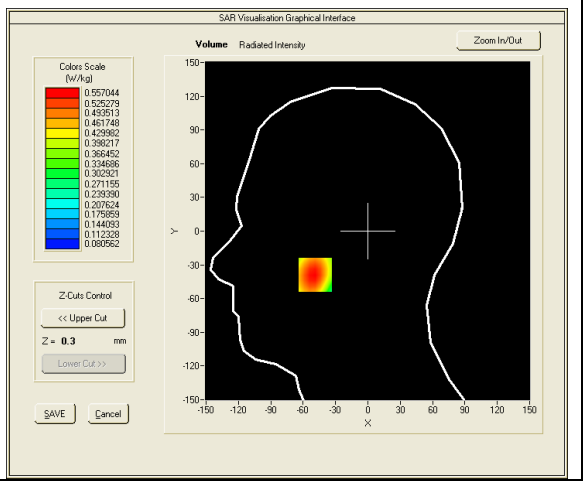



| **3D screen shot** | **Hot spot position** |
|---|---|
|  |  |

| MEASUREMENT 2<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | -0.240000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |



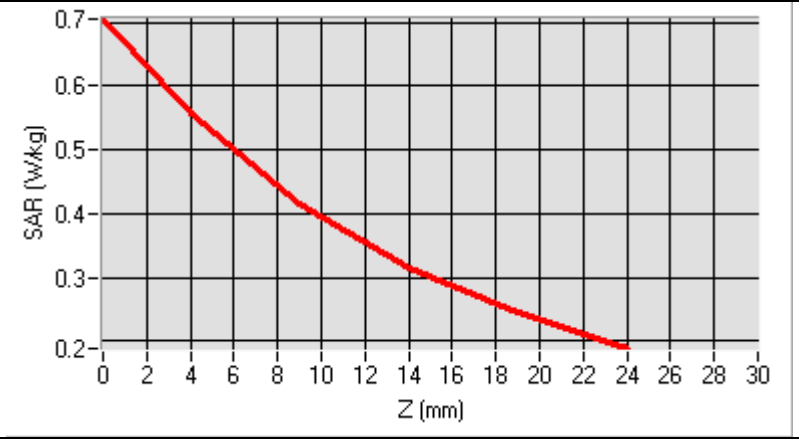


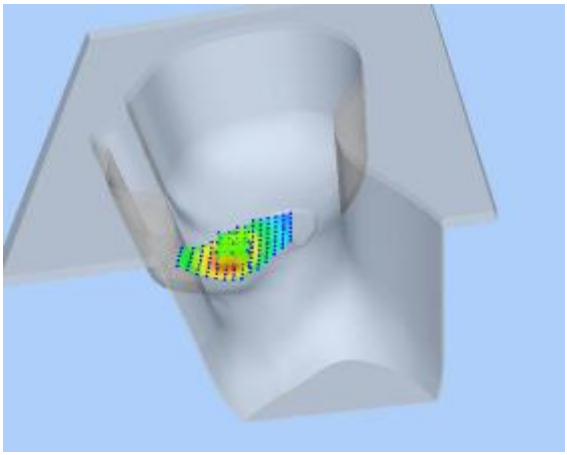
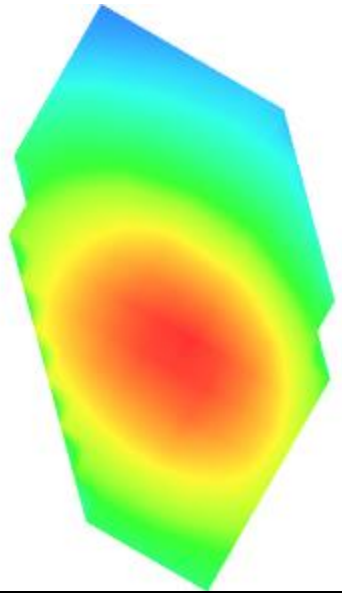
**Maximum location: X=-49.00, Y=-39.00**
**SAR Peak: 0.71 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.380958 |

| SAR 1g (W/Kg) | 0.536970 |
|---|---|

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.7054 | 0.5570 | 0.4164 | 0.3161 | 0.2446 |

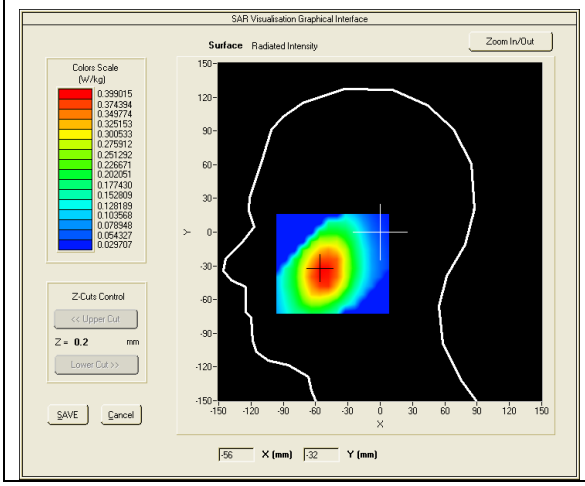
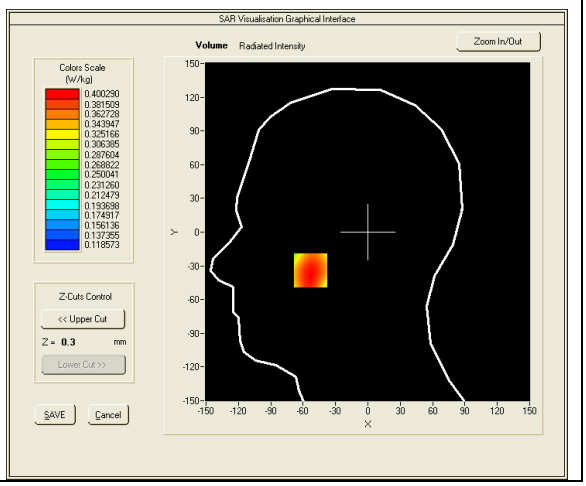



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 3<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 1.550000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

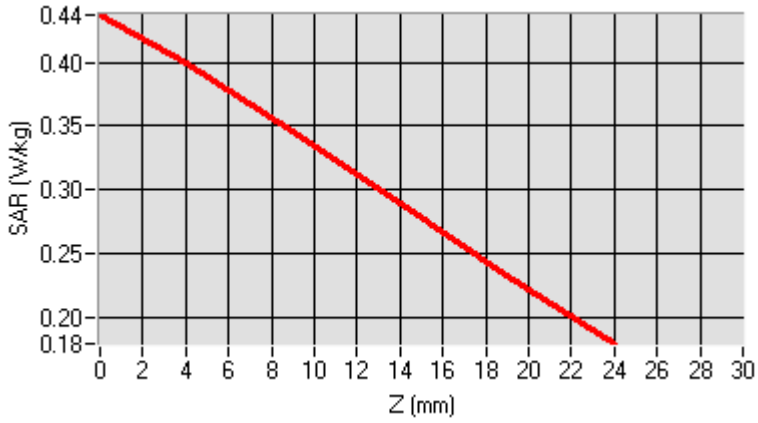


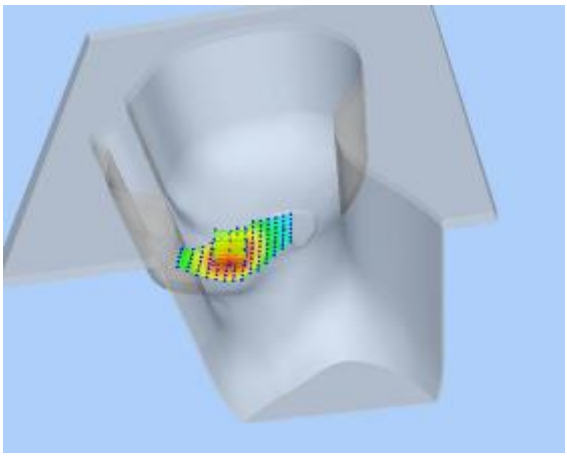
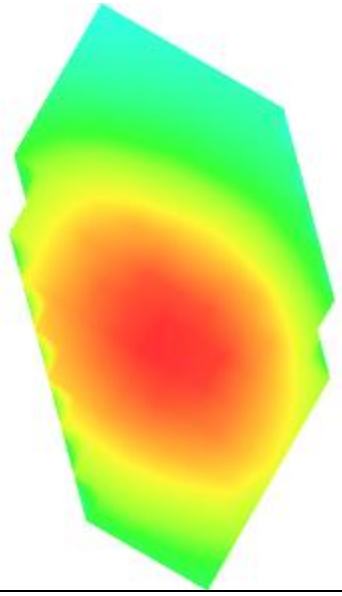


**Maximum location: X=-53.00, Y=-34.00**
**SAR Peak: 0.49 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.307696 |
| **SAR 1g (W/Kg)** | 0.392135 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.4373 | 0.3989 | 0.3462 | 0.2897 | 0.2324 |

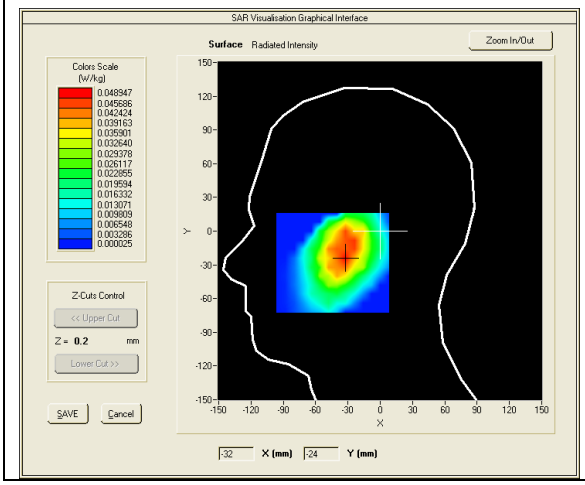
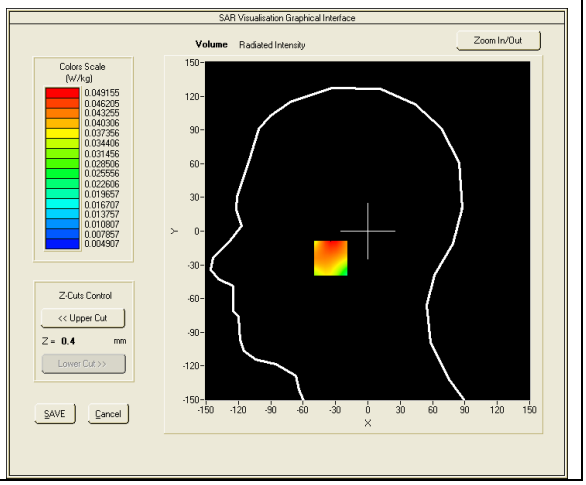



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 4<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 1.690000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

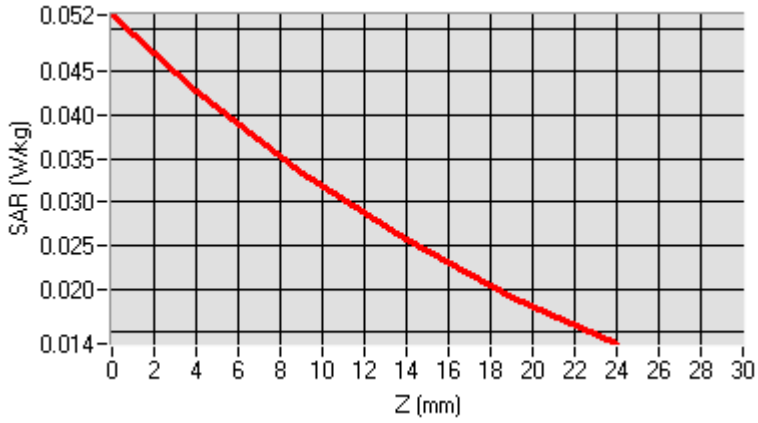


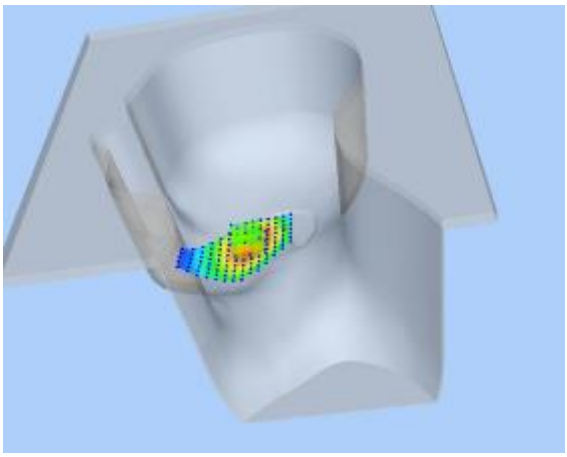
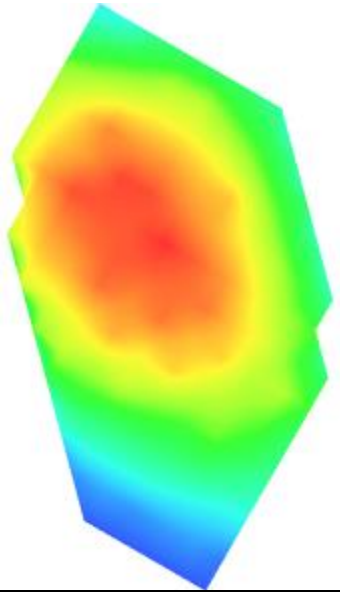


**Maximum location: X=-32.00, Y=-24.00**
**SAR Peak: 0.07 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.031719 |
| **SAR 1g (W/Kg)** | 0.046075 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0515 | 0.0428 | 0.0334 | 0.0256 | 0.0191 |

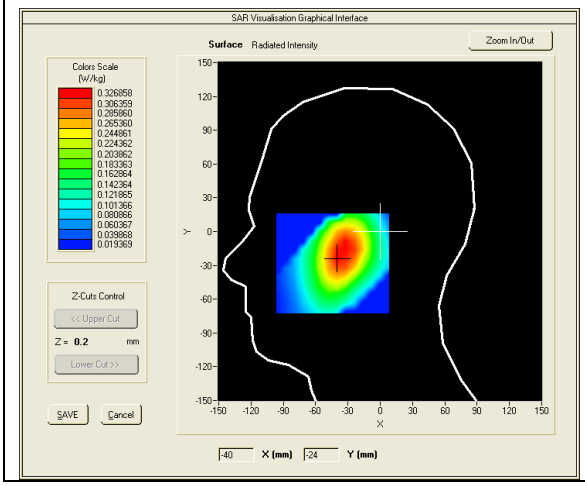
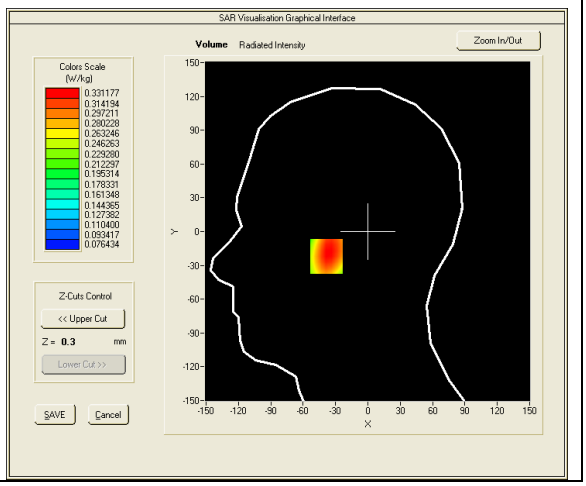



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 5<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 1.120000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

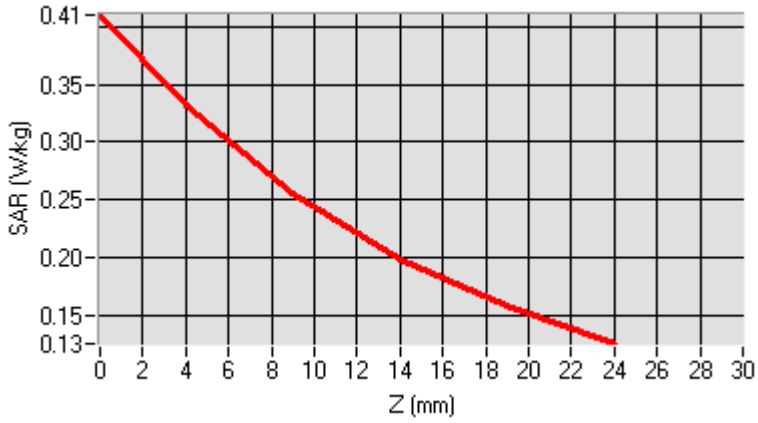


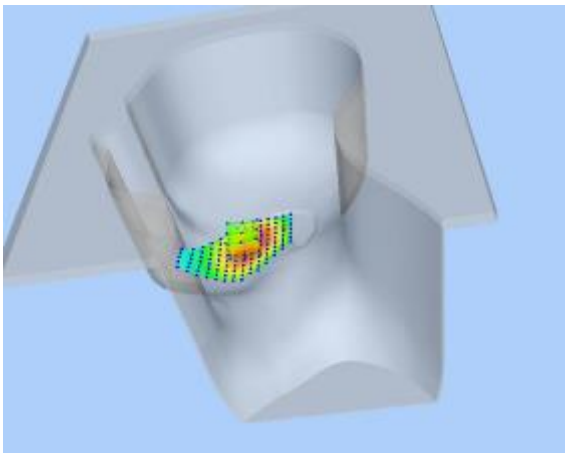
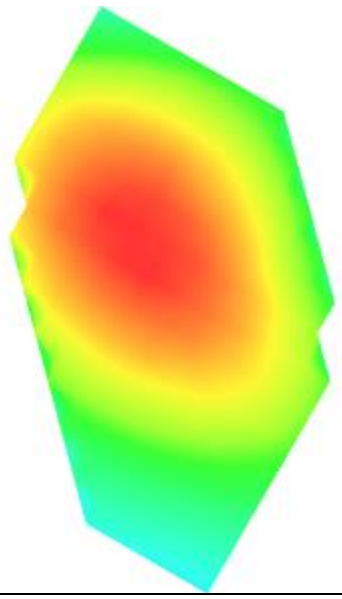


**Maximum location: X=-38.00, Y=-22.00**
**SAR Peak: 0.42 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.235332 |
| **SAR 1g (W/Kg)** | 0.320788 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.4098 | 0.3310 | 0.2547 | 0.1989 | 0.1580 |

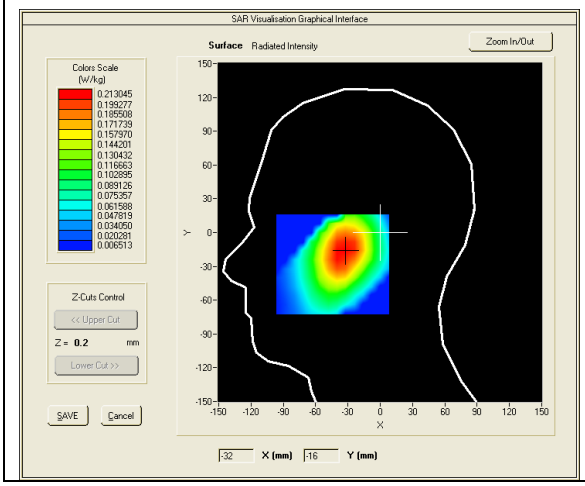
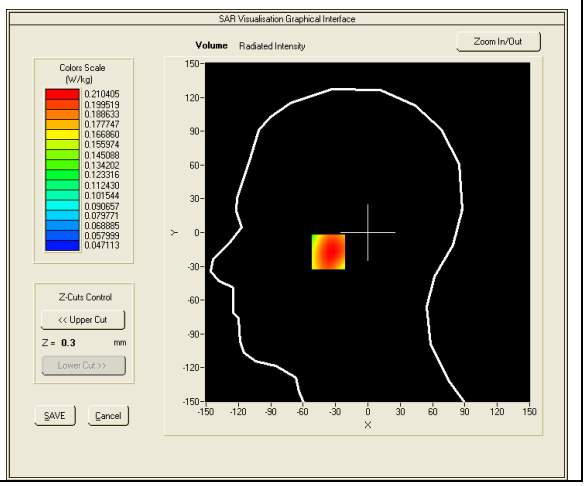



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 6<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 2.290000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

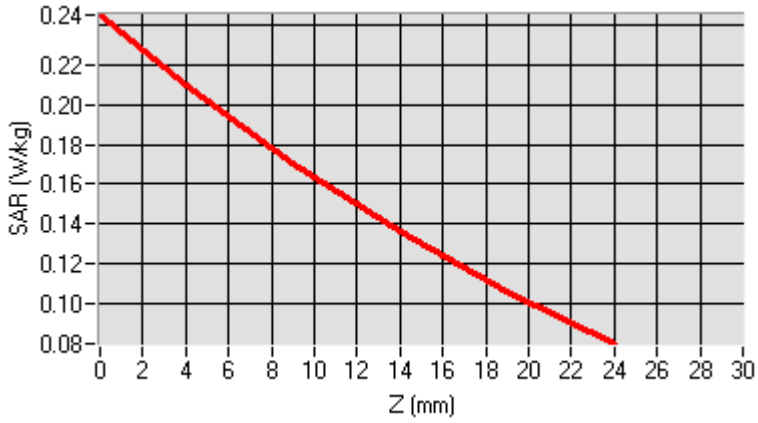


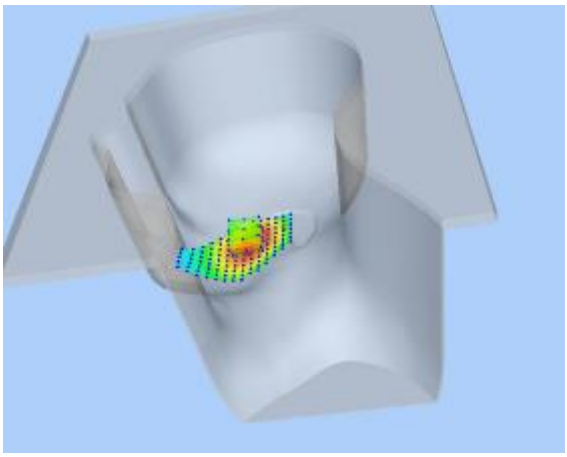
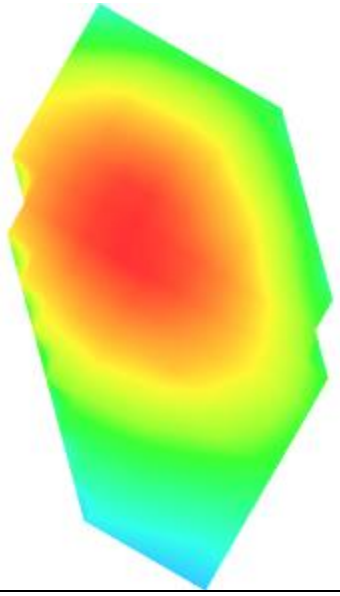


**Maximum location: X=-36.00, Y=-17.00**
**SAR Peak: 0.25 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.153208 |
| **SAR 1g (W/Kg)** | 0.203843 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.2447 | 0.2099 | 0.1708 | 0.1364 | 0.1064 |

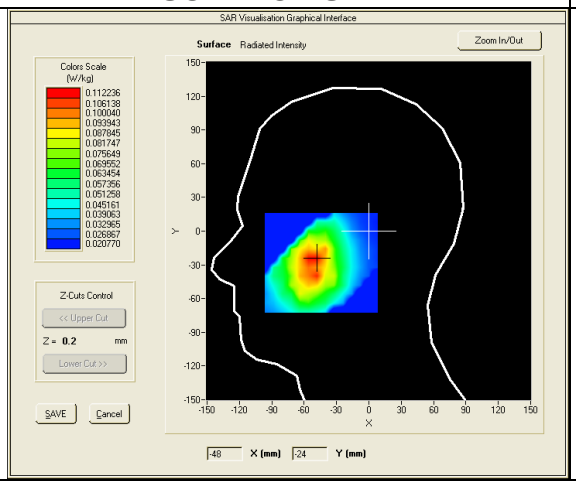
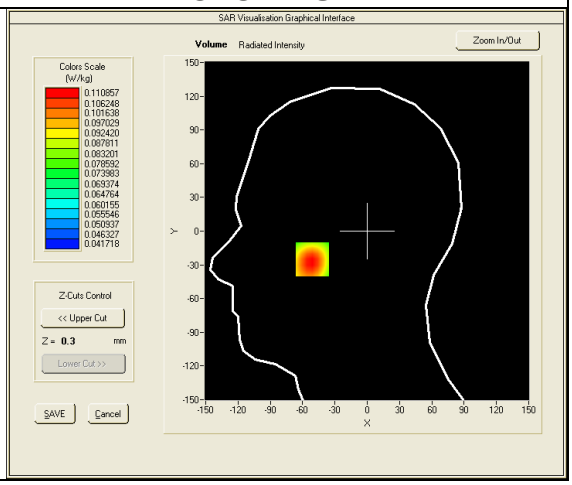



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 7<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 4.570000 |

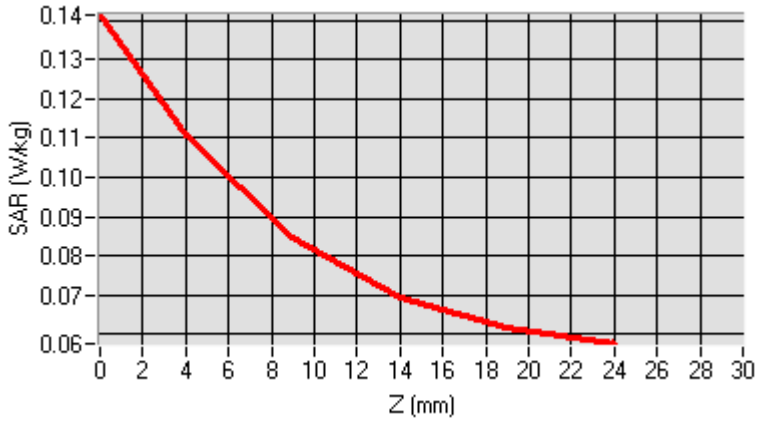
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

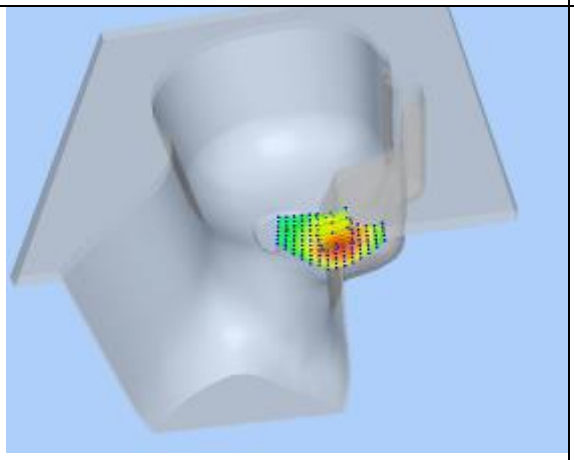
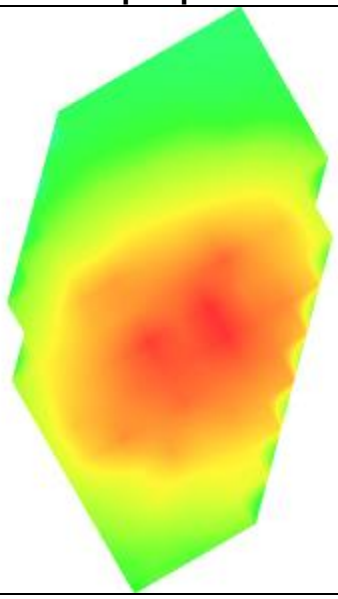


**Maximum location: X=-51.00, Y=-25.00**
**SAR Peak: 0.14 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.083328 |
| **SAR 1g (W/Kg)** | 0.107266 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1414 | 0.1109 | 0.0848 | 0.0696 | 0.0619 |

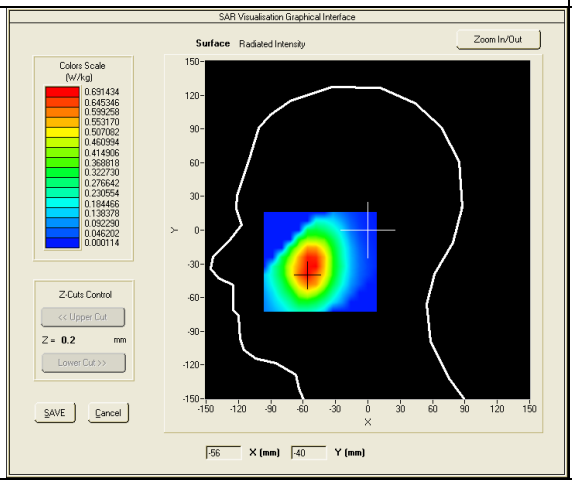
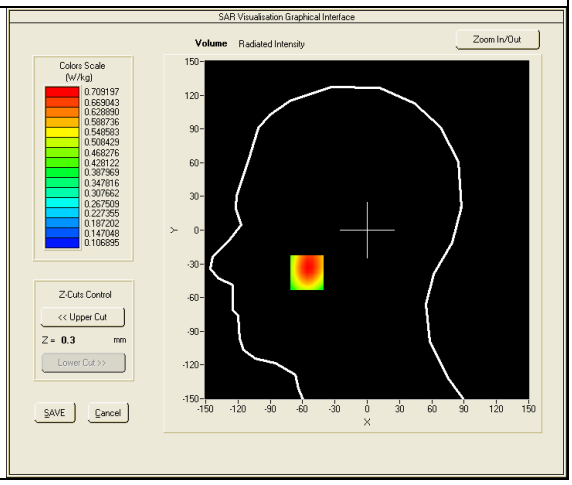



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 8<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | -0.010000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

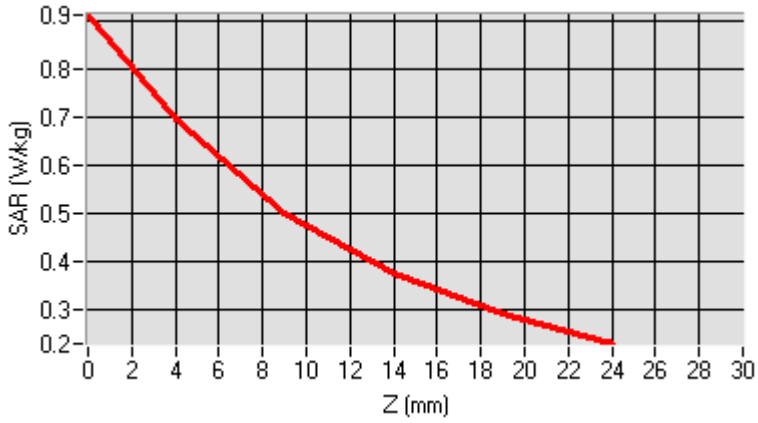


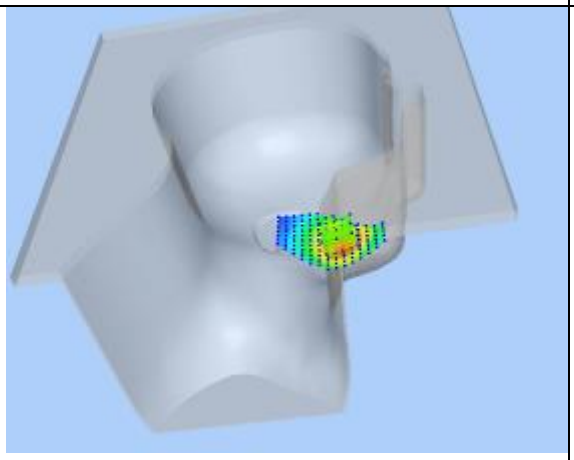
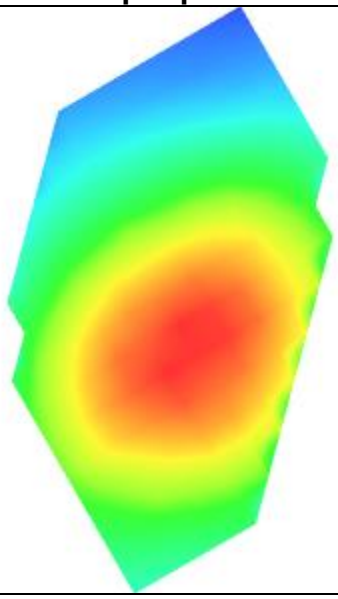


**Maximum location: X=-56.00, Y=-38.00**
**SAR Peak: 0.93 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.472578 |
| **SAR 1g (W/Kg)** | 0.678015 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.9131 | 0.6972 | 0.5033 | 0.3753 | 0.2921 |

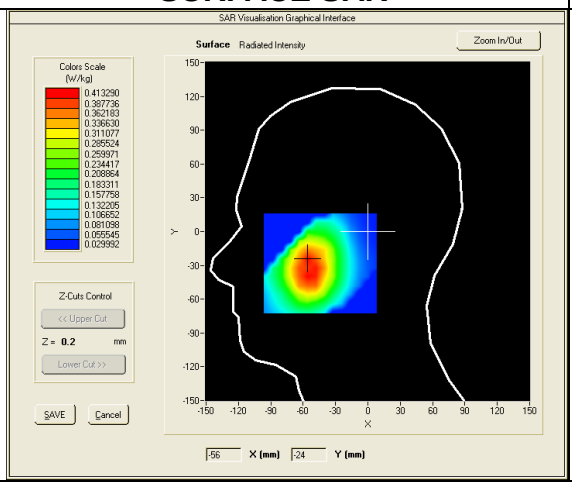
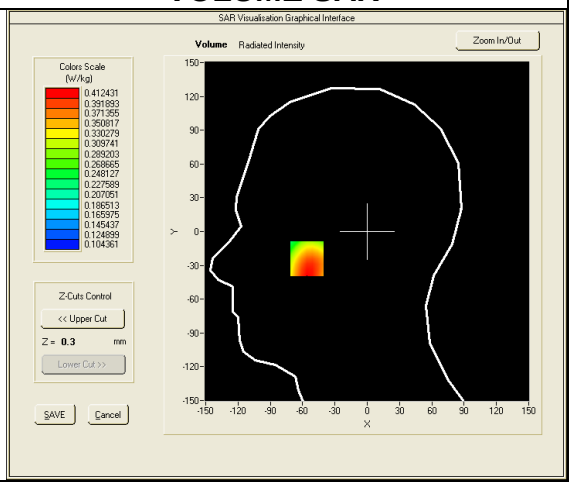



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 9<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | -1.210000 |

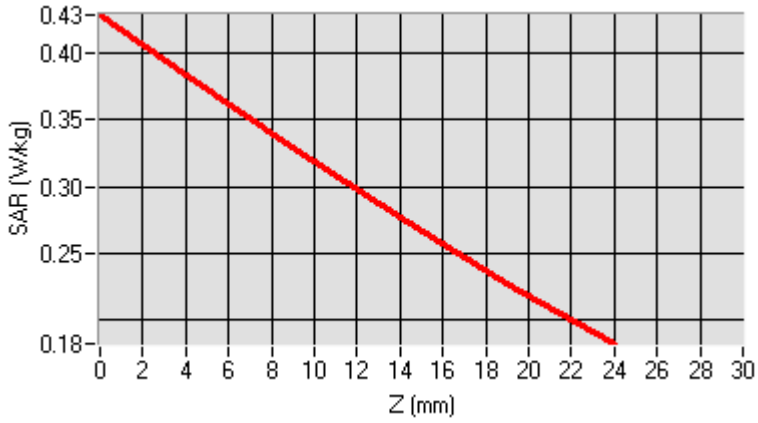
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

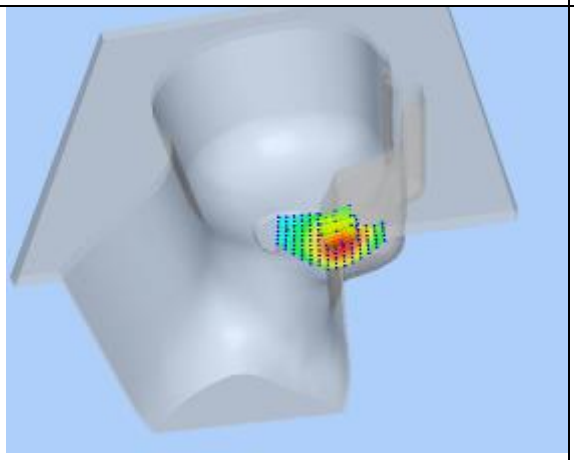
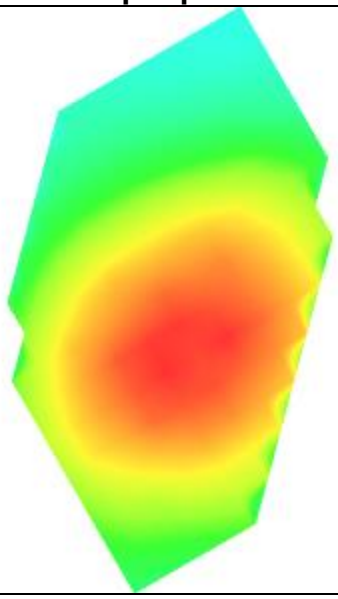


**Maximum location: X=-56.00, Y=-24.00**
**SAR Peak: 0.50 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.305118 |
| **SAR 1g (W/Kg)** | 0.395534 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.4282 | 0.3836 | 0.3293 | 0.2772 | 0.2279 |

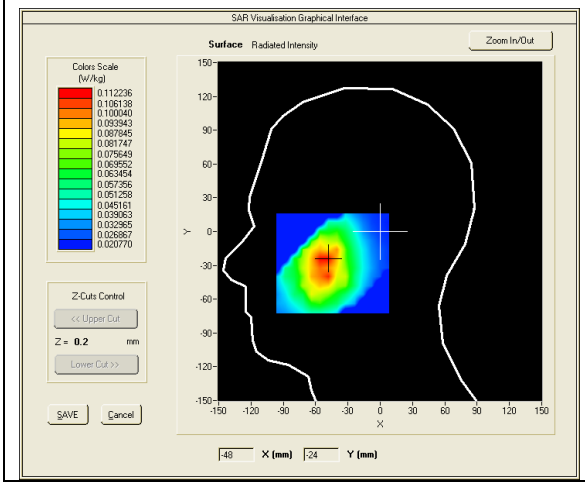
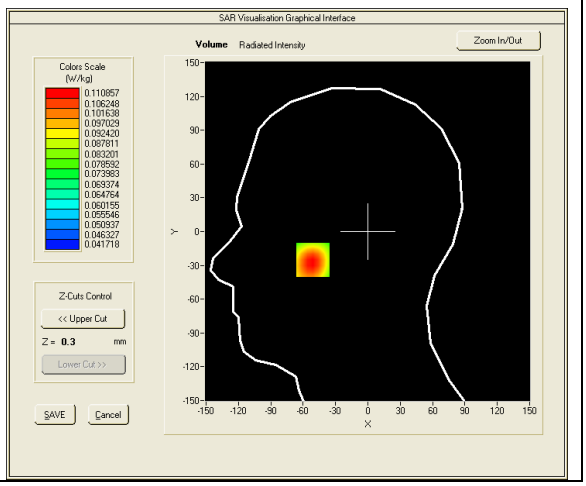



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 10<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 1.330000 |

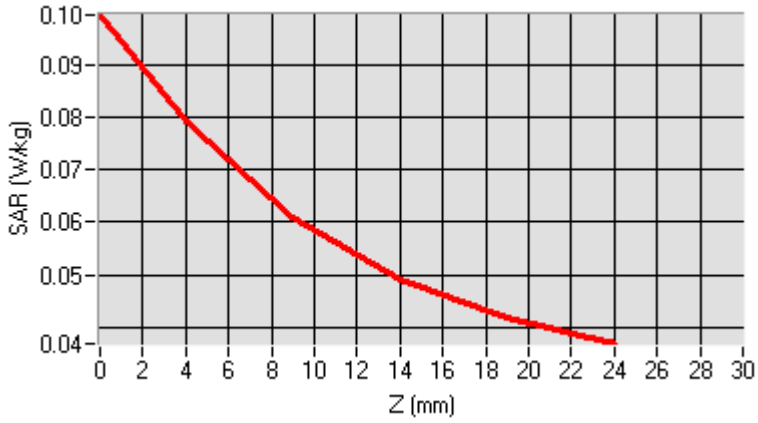
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

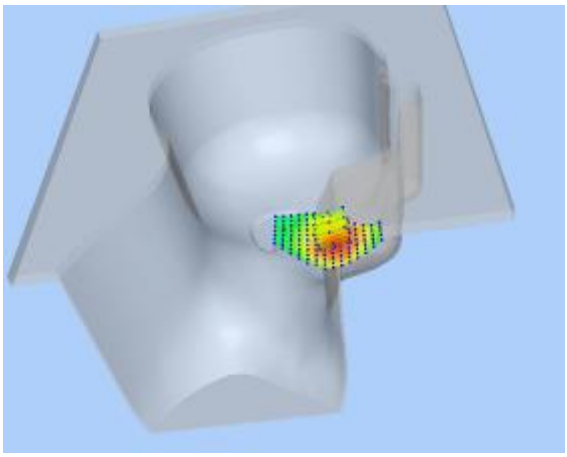
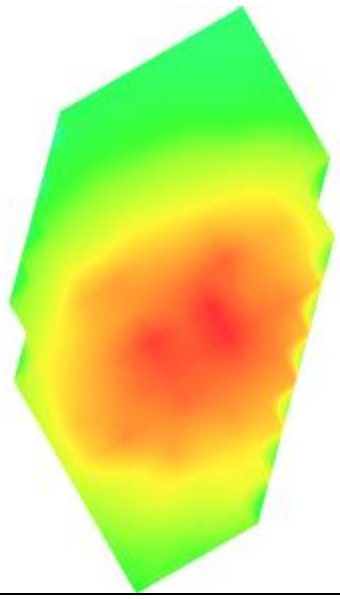


**Maximum location: X=-49.00, Y=-25.00**
**SAR Peak: 0.13 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.056259 |
| **SAR 1g (W/Kg)** | 0.074227 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0457 | 0.0747 | 0.0730 | 0.0567 | 0.0394 |

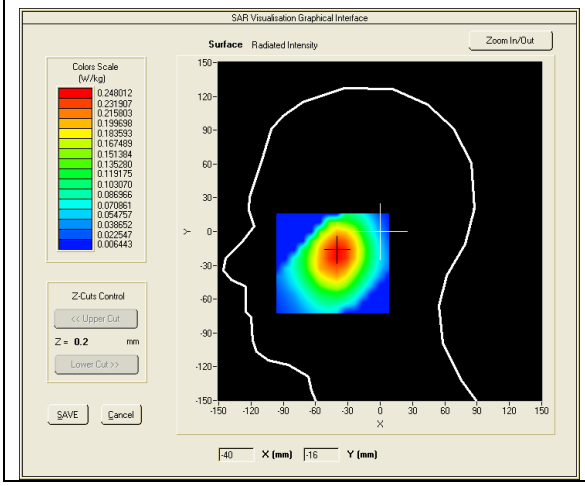
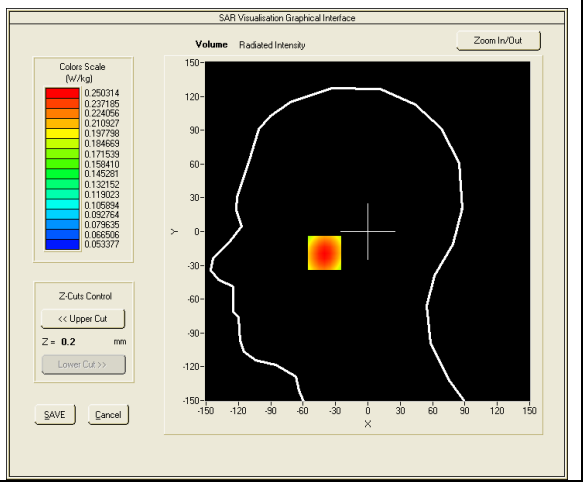



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 11<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | -2.860000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

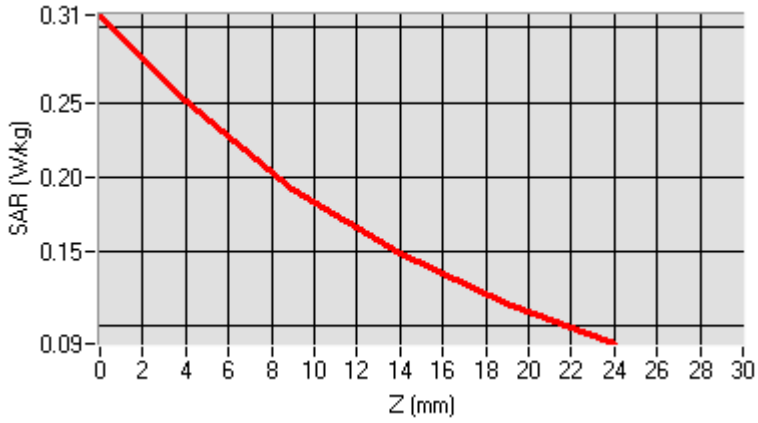


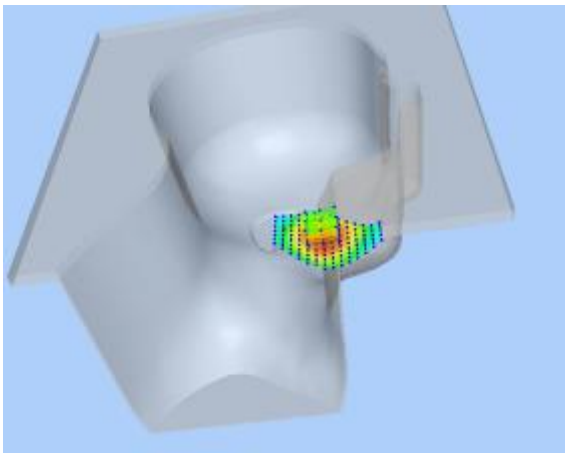
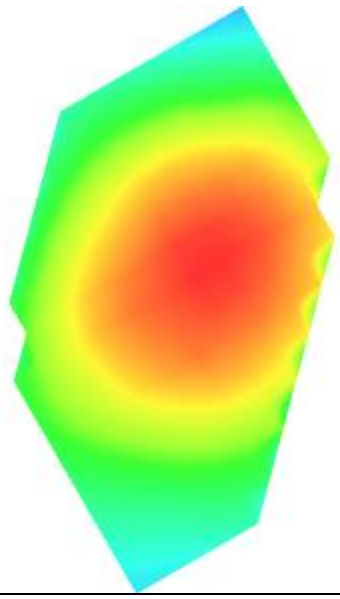


**Maximum location: X=-40.00, Y=-19.00**
**SAR Peak: 0.31 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.174416 |
| **SAR 1g (W/Kg)** | 0.239574 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3087 | 0.2503 | 0.1925 | 0.1486 | 0.1153 |

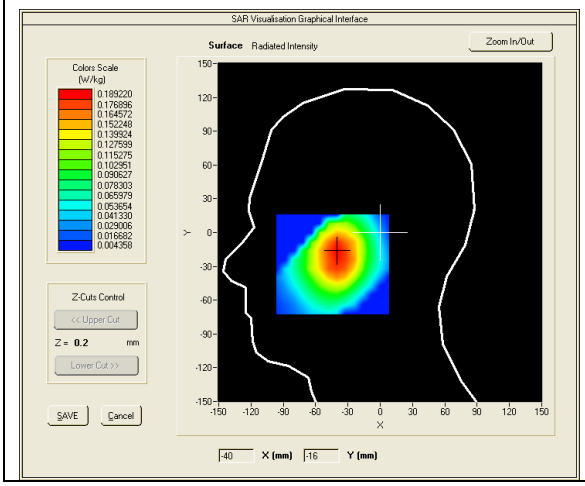
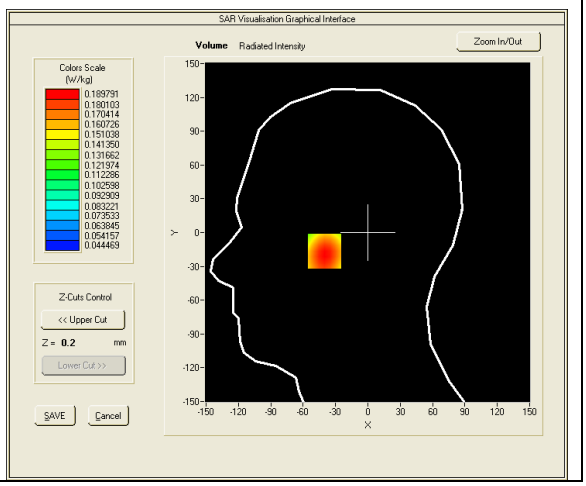



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 12<br>Date of measurement: 2016/07/02 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 41.500000 |
| **Relative permittivity (imaginary part)** | 19.400000 |
| **Conductivity (S/m)** | 0.901669 |
| **Variation (%)** | 0.520000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

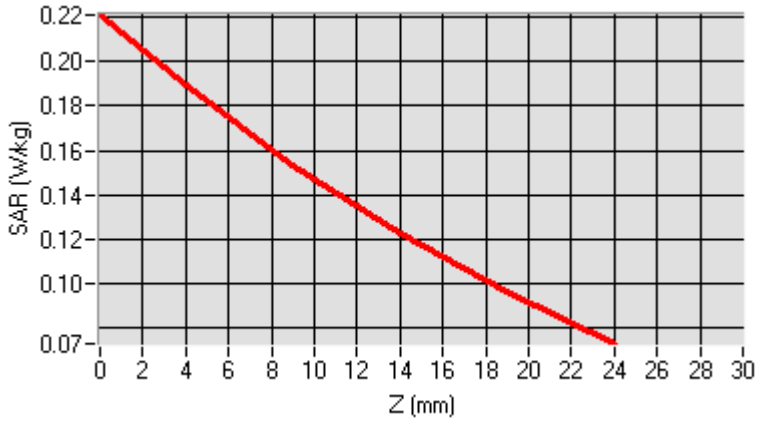


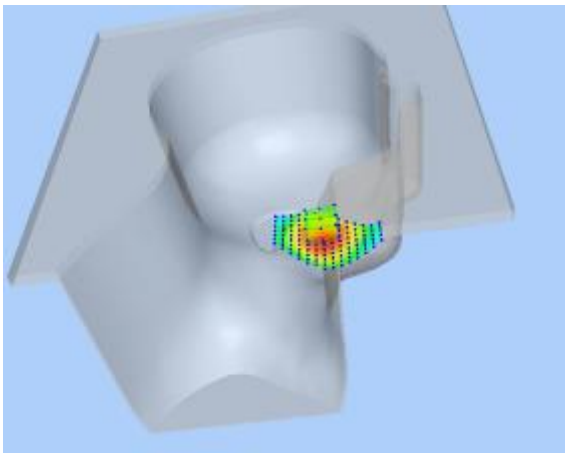
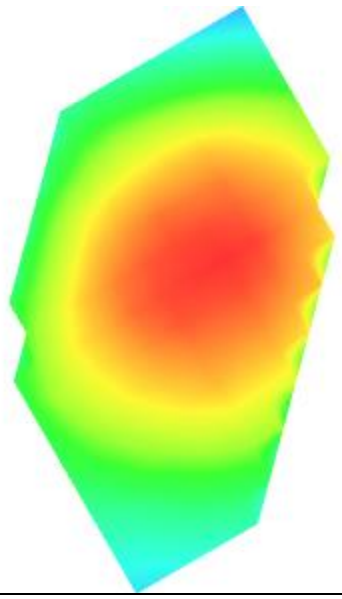


**Maximum location: X=-40.00, Y=-16.00**
**SAR Peak: 0.22 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.138394 |
| **SAR 1g (W/Kg)** | 0.182937 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.2209 | 0.1891 | 0.1537 | 0.1229 | 0.0963 |

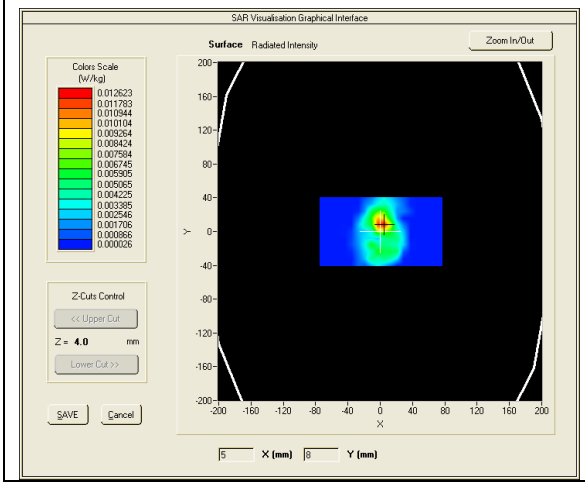
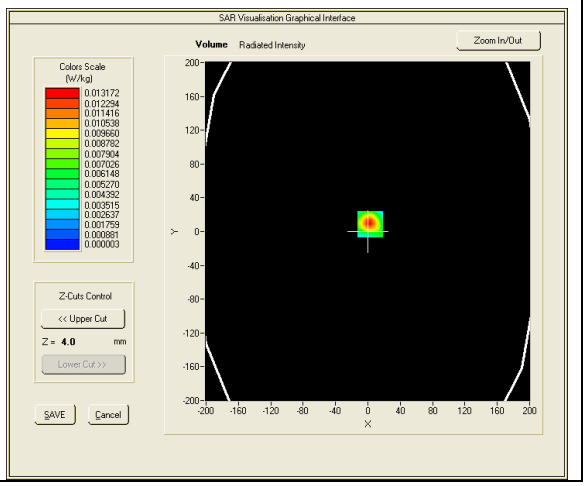



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 13<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Bottom |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -3.180000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

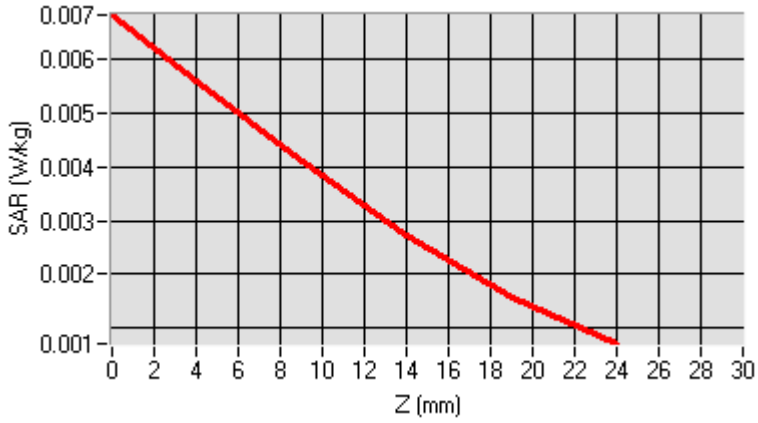


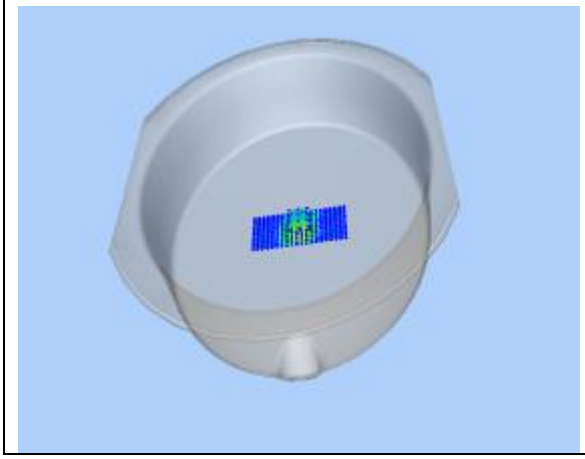
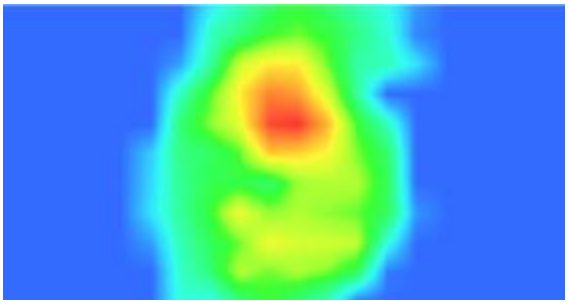


**Maximum location: X=5.00, Y=1.00**
**SAR Peak: 0.04 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.005132 |
| **SAR 1g (W/Kg)** | 0.011354 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0068 | 0.0056 | 0.0041 | 0.0027 | 0.0016 |

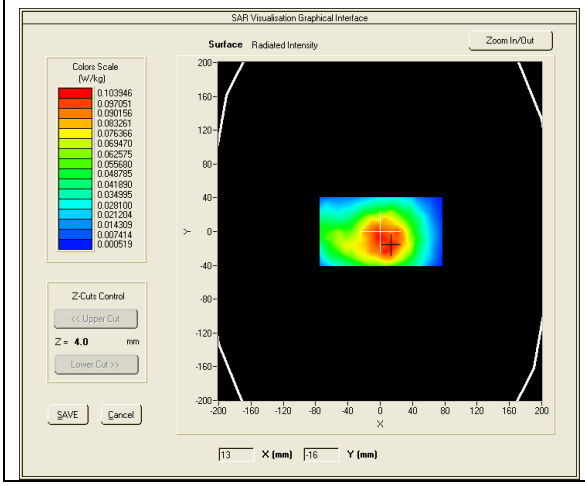
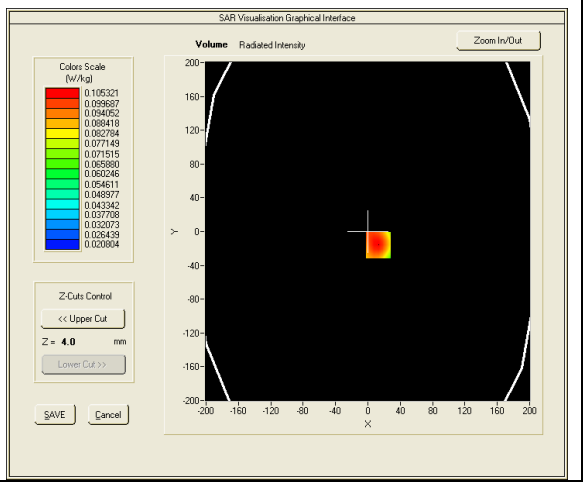



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 14<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Front |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -1.660000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

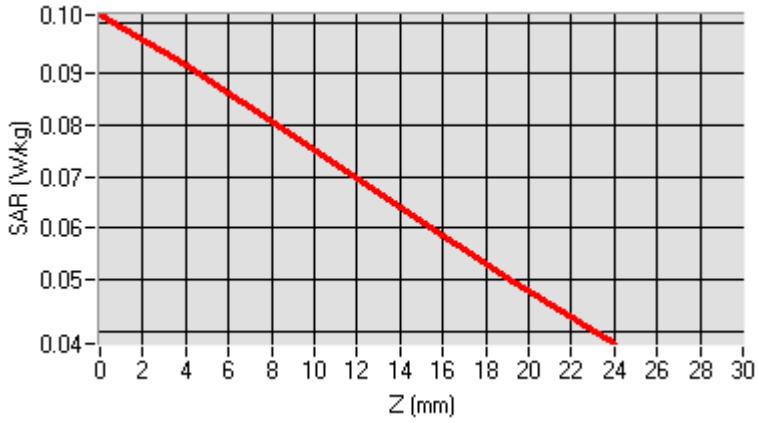


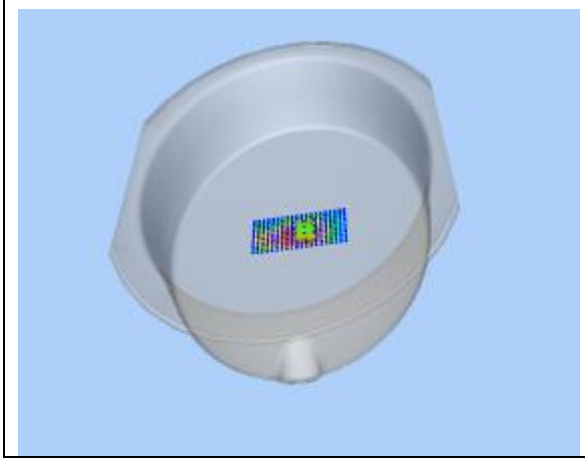
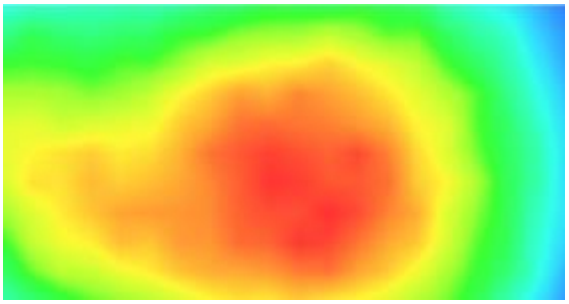


**Maximum location: X=-2.00, Y=-16.00**
**SAR Peak: 0.13 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.077758 |
| **SAR 1g (W/Kg)** | 0.099270 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1015 | 0.0916 | 0.0782 | 0.0642 | 0.0503 |

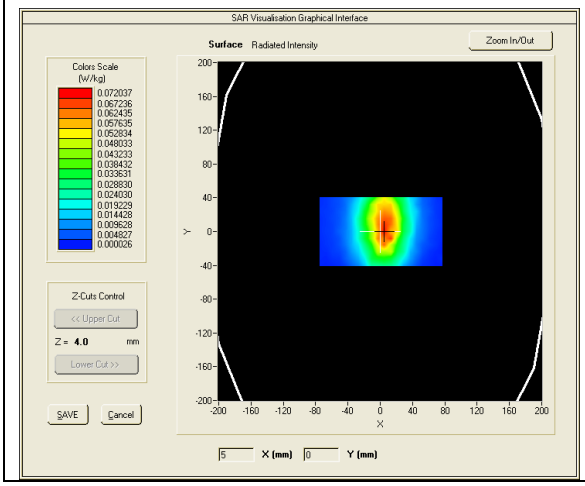
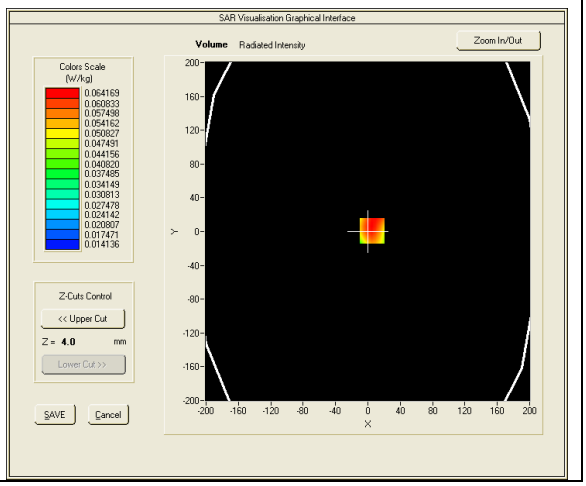



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 15<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Left |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 3.280000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

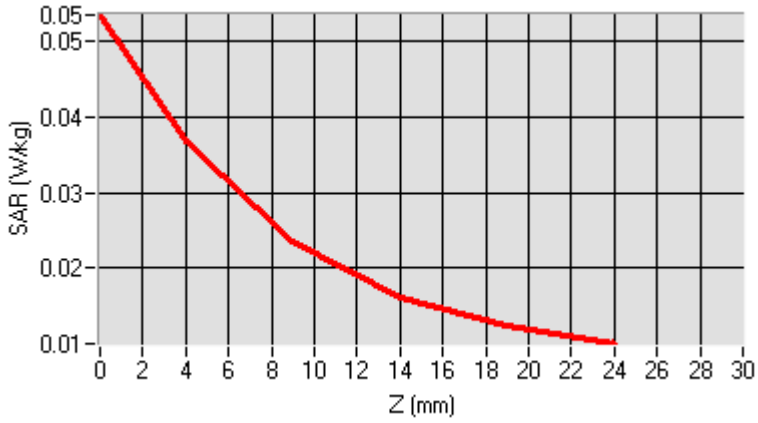


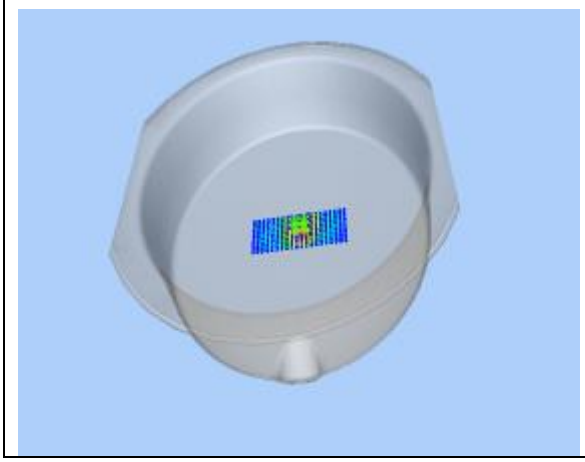
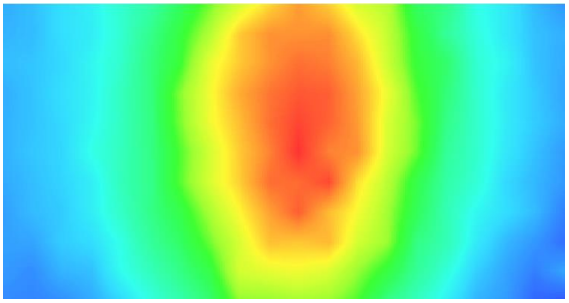


**Maximum location: X=-3.00, Y=-23.00**
**SAR Peak: 0.06 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.025416 |
| **SAR 1g (W/Kg)** | 0.038249 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0535 | 0.0368 | 0.0234 | 0.0160 | 0.0122 |

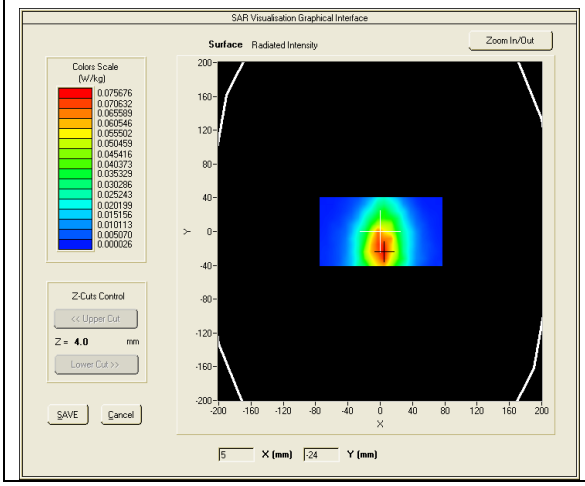
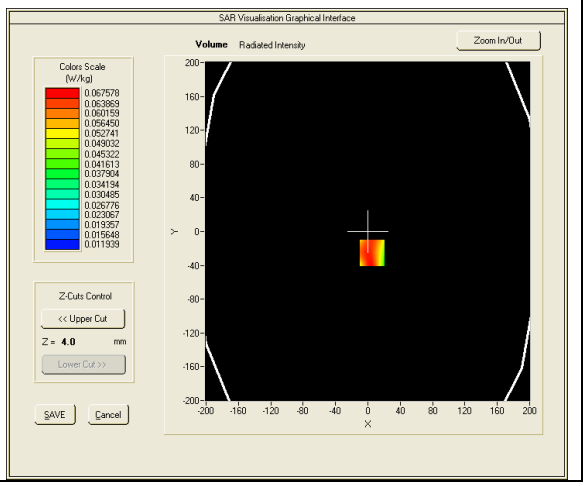



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 16<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Right |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 3.650000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

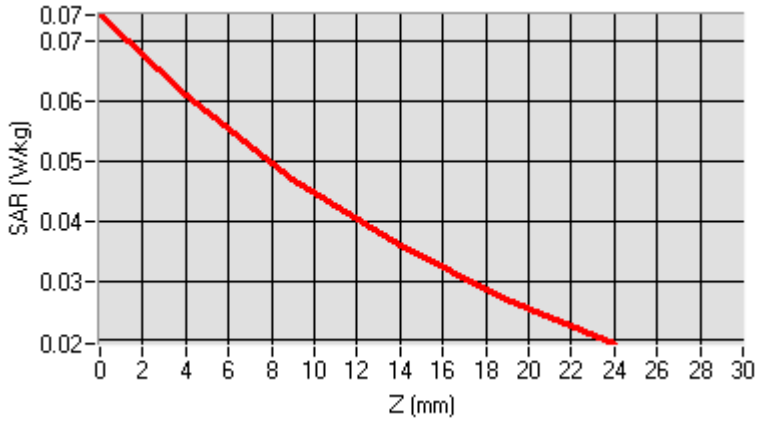


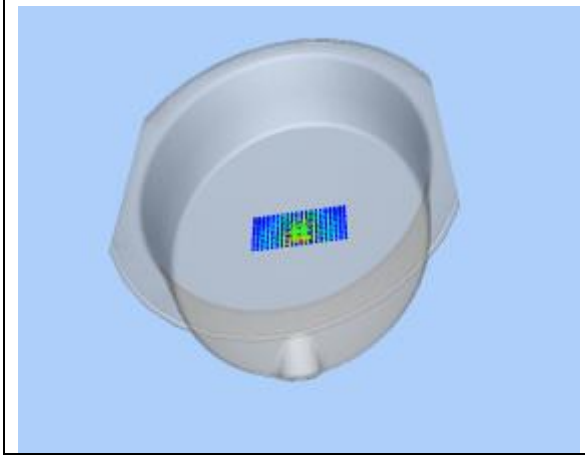
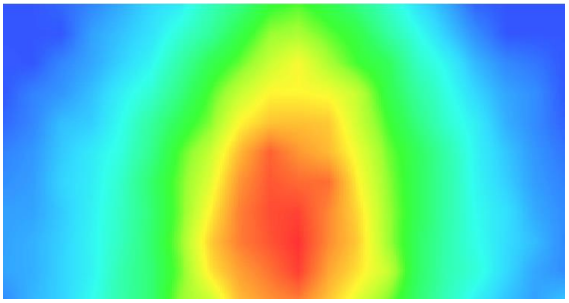


**Maximum location: X=5.00, Y=-8.00**
**SAR Peak: 0.09 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.045989 |
| **SAR 1g (W/Kg)** | 0.065056 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0744 | 0.0609 | 0.0469 | 0.0357 | 0.0268 |

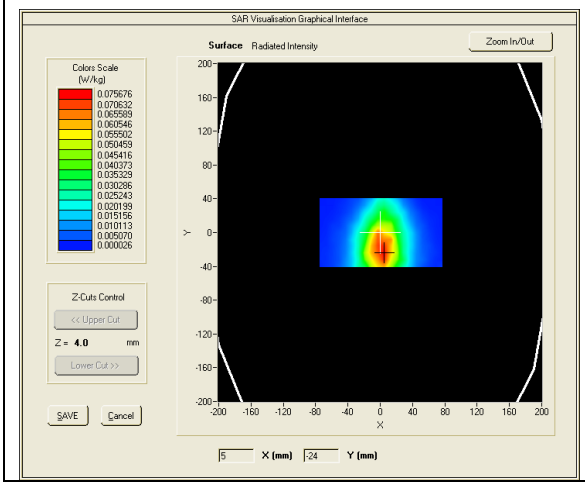
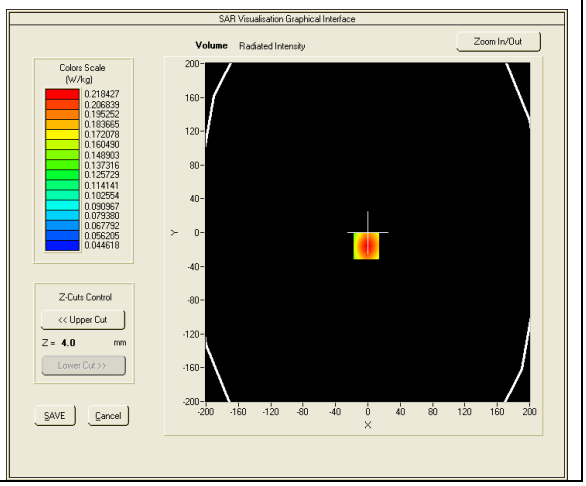



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 17<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Left |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor:2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -3.730000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

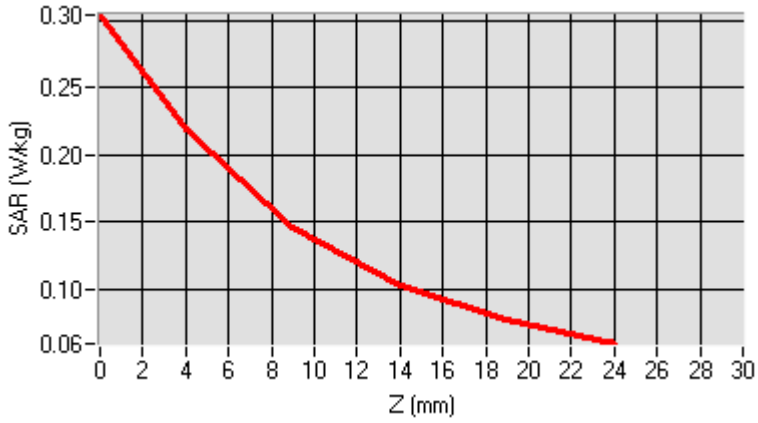


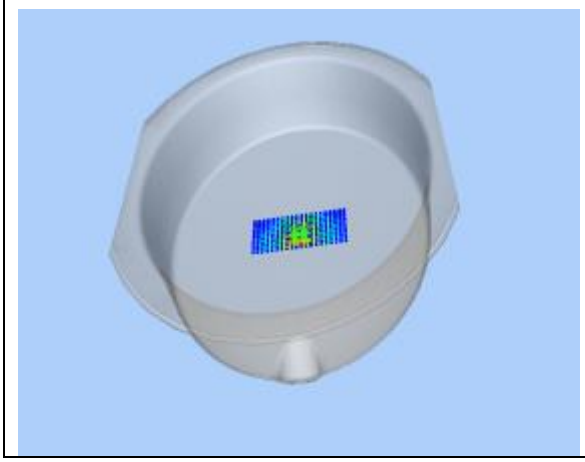
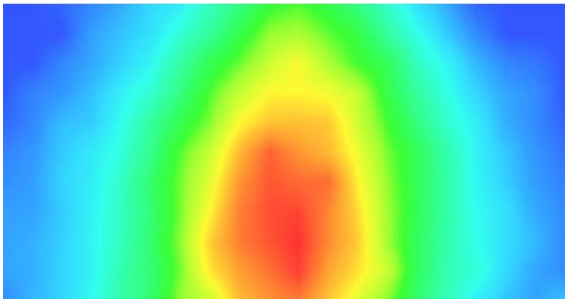


**Maximum location: X=-2.00, Y=-16.00**
**SAR Peak: 0.33 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.150342 |
| **SAR 1g (W/Kg)** | 0.224381 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3042 | 0.2184 | 0.1460 | 0.1022 | 0.0766 |

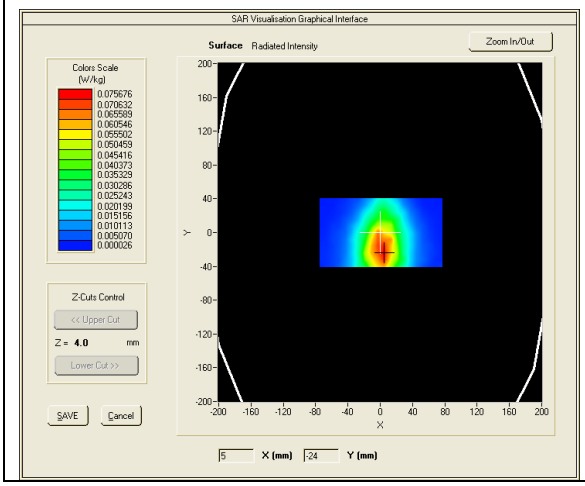
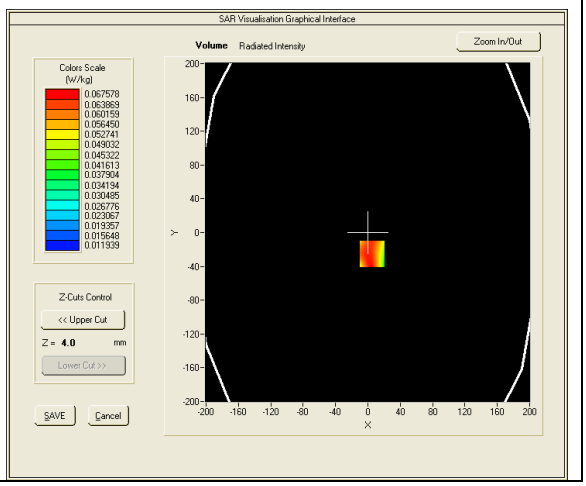



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 18<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Bottom |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -2.130000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

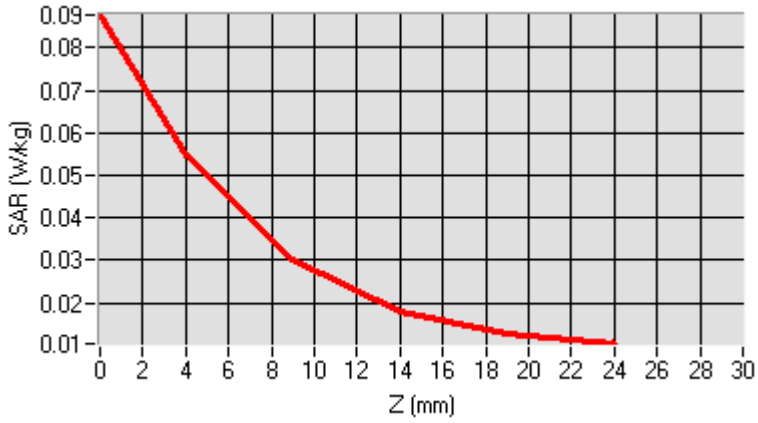


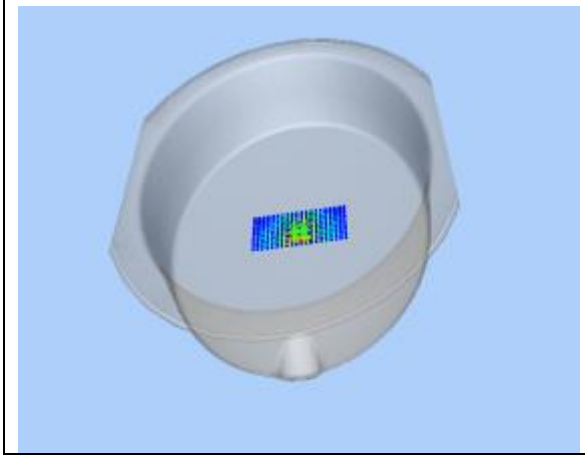
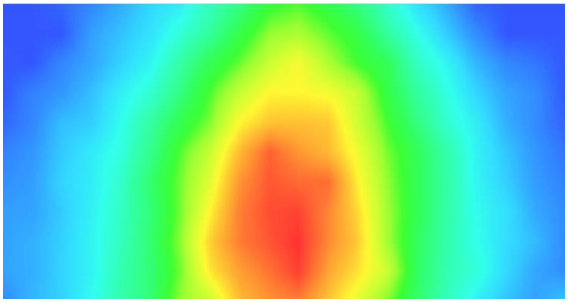


**Maximum location: X=-1.00, Y=14.00**
**SAR Peak: 0.10 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.033850 |
| **SAR 1g (W/Kg)** | 0.056423 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0877 | 0.0546 | 0.0302 | 0.0182 | 0.0130 |

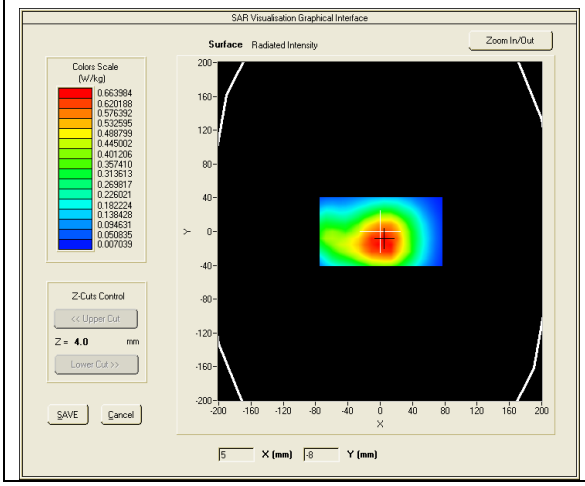
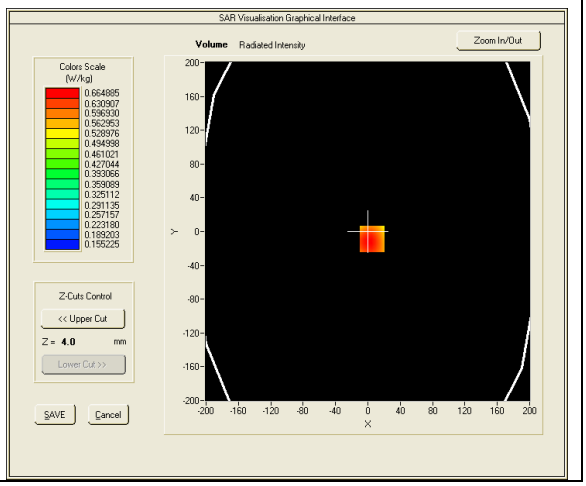



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 19<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Front |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -0.510000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

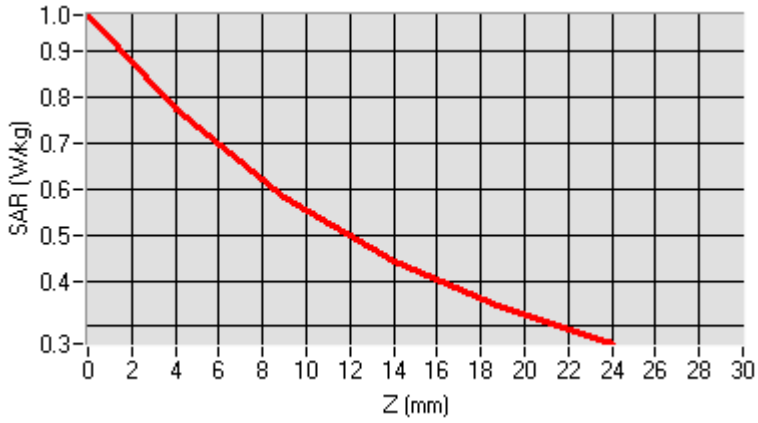


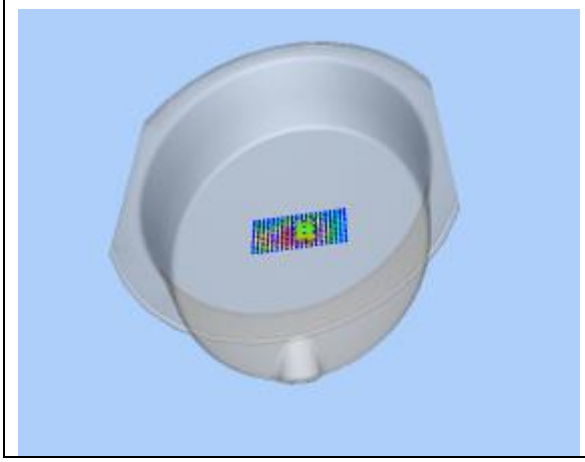
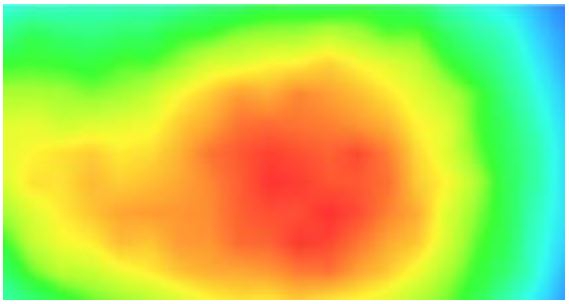


**Maximum location: X=13.00, Y=-8.00**
**SAR Peak: 1.07 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.587667 |
| **SAR 1g (W/Kg)** | 0.807400 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.9785 | 0.7746 | 0.5804 | 0.4410 | 0.3410 |

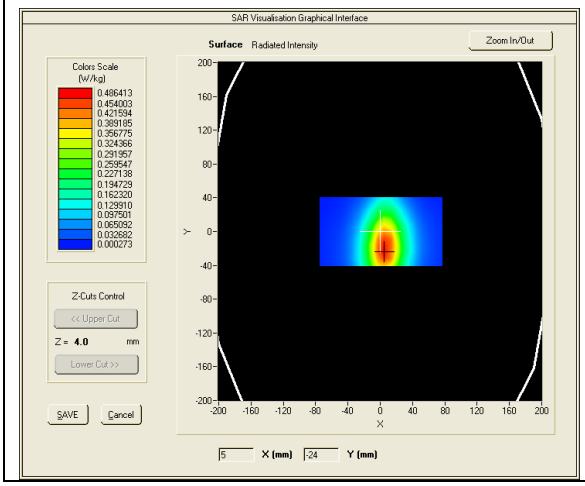
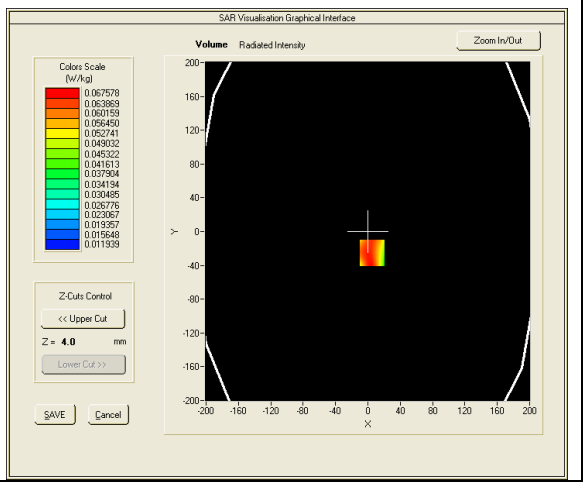



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 20<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Right |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 0.040000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

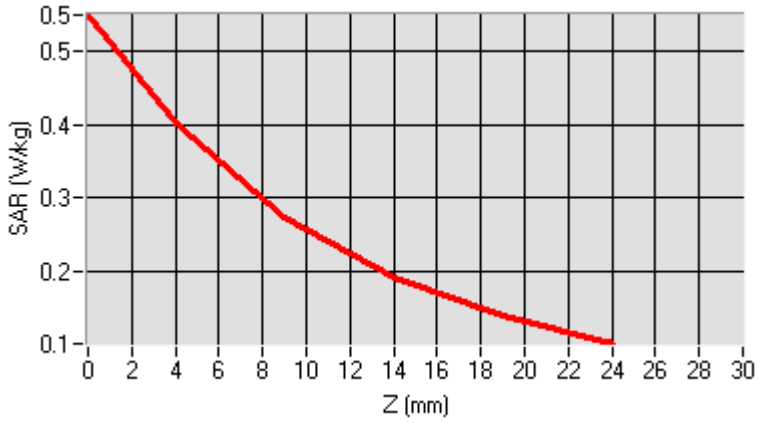


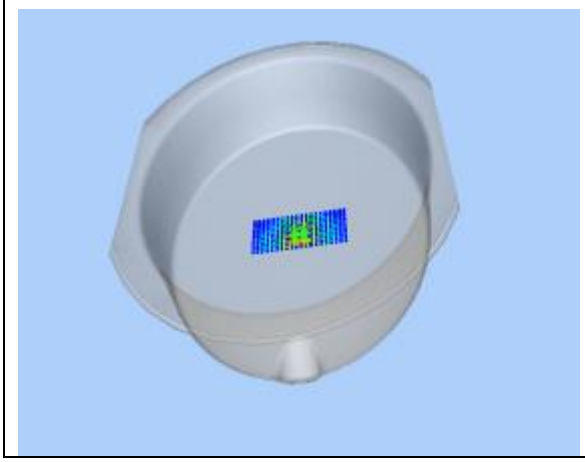
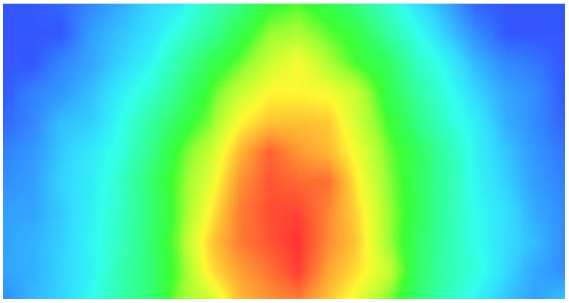


**Maximum location: X=5.00, Y=-9.00**
**SAR Peak: 0.60 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.277469 |
| **SAR 1g (W/Kg)** | 0.415659 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.5491 | 0.4023 | 0.2737 | 0.1909 | 0.1385 |

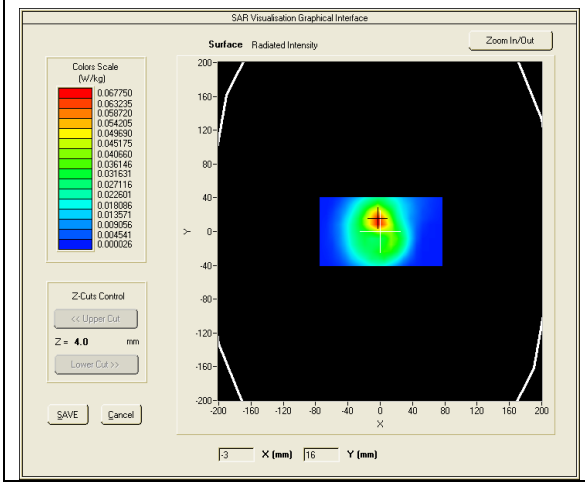
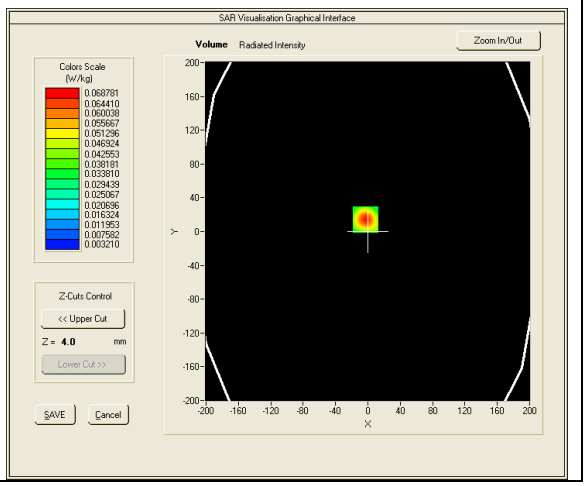



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 21<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Bottom |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -2.660000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

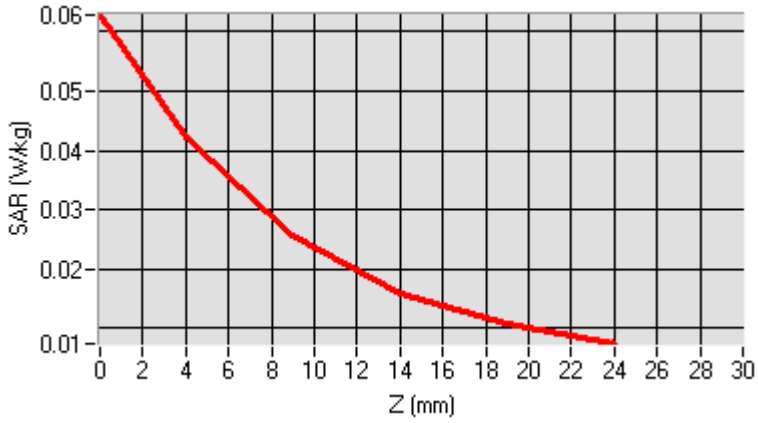


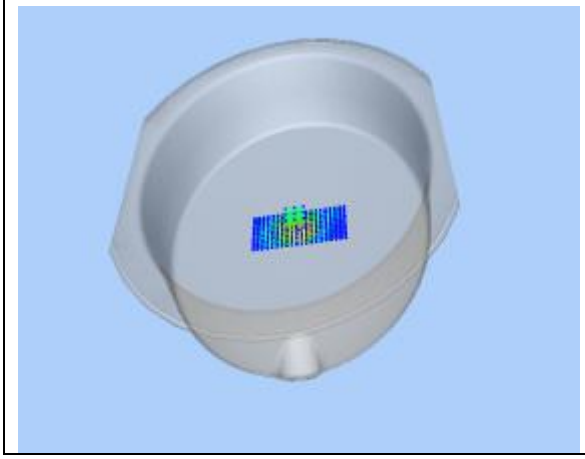
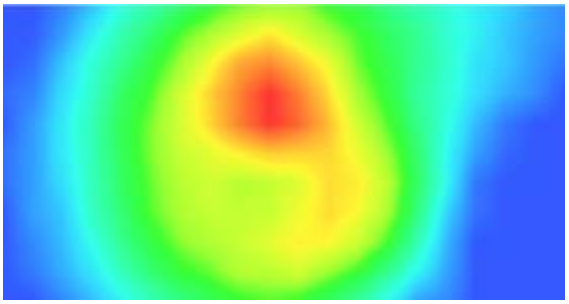


**Maximum location: X=3.00, Y=14.00**
**SAR Peak: 0.07 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.026899 |
| **SAR 1g (W/Kg)** | 0.043102 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0628 | 0.0422 | 0.0255 | 0.0160 | 0.0107 |

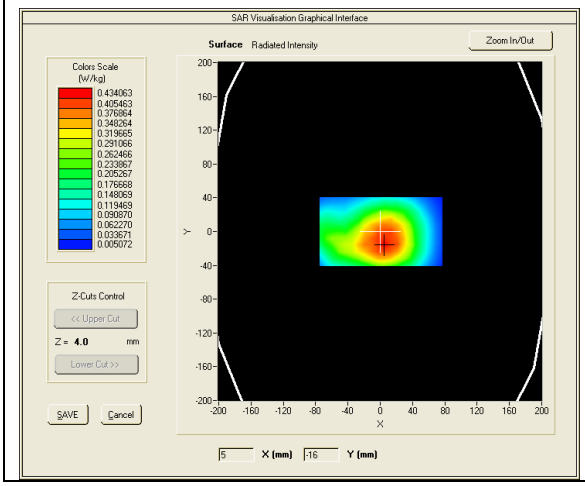
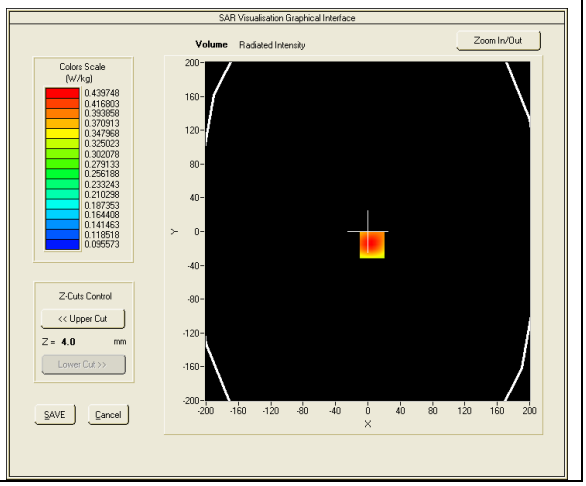



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 22<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Front |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -2.480000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

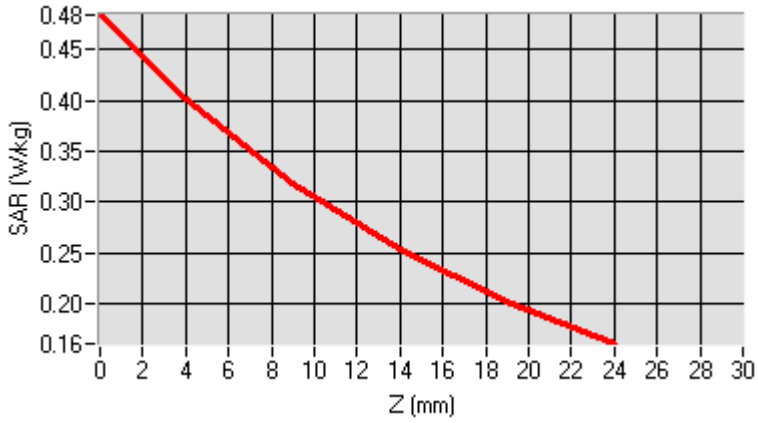


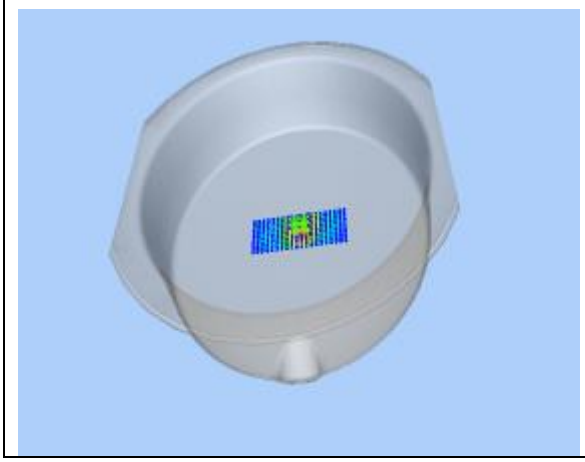
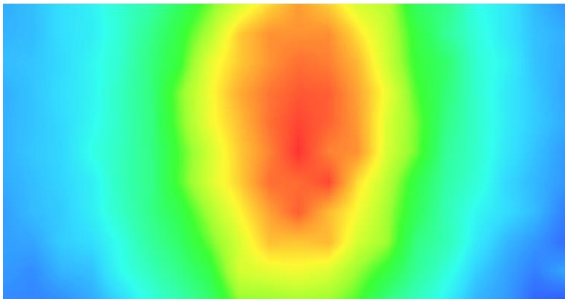


**Maximum location: X=8.00, Y=-15.00**
**SAR Peak: 0.54 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.328632 |
| **SAR 1g (W/Kg)** | 0.428514 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.4841 | 0.4013 | 0.3176 | 0.2527 | 0.2022 |

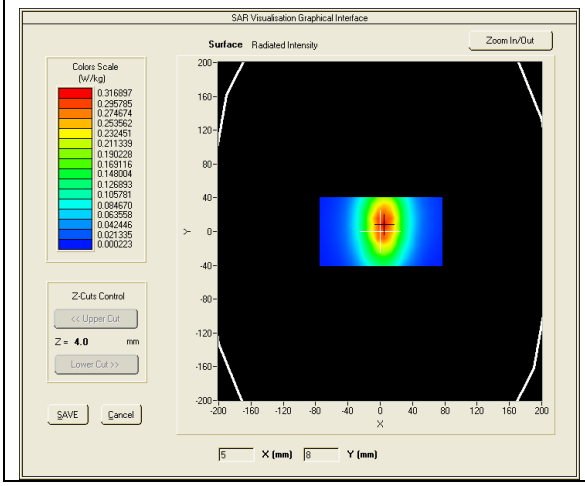
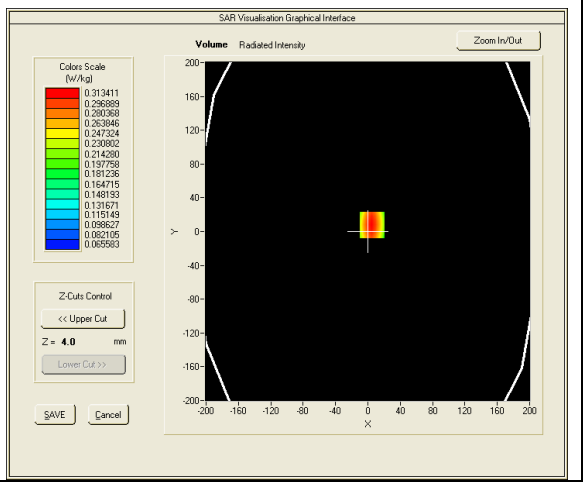



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 23<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Left |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -2.420000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

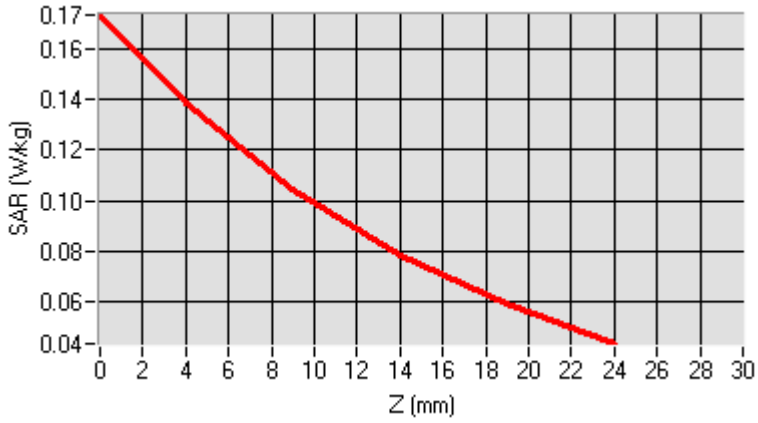


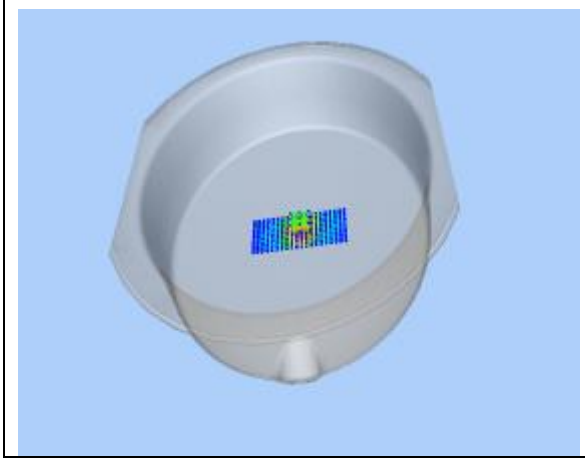
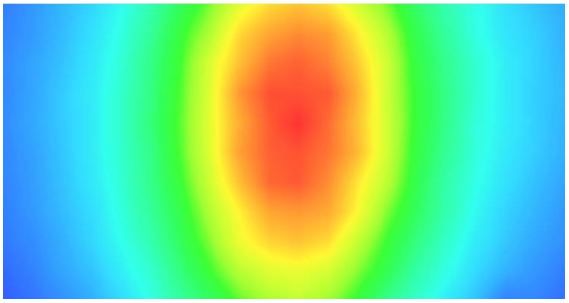


**Maximum location: X=-2.00, Y=-31.00**
**SAR Peak: 0.20 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.104807 |
| **SAR 1g (W/Kg)** | 0.146569 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1736 | 0.1388 | 0.1044 | 0.0785 | 0.0588 |

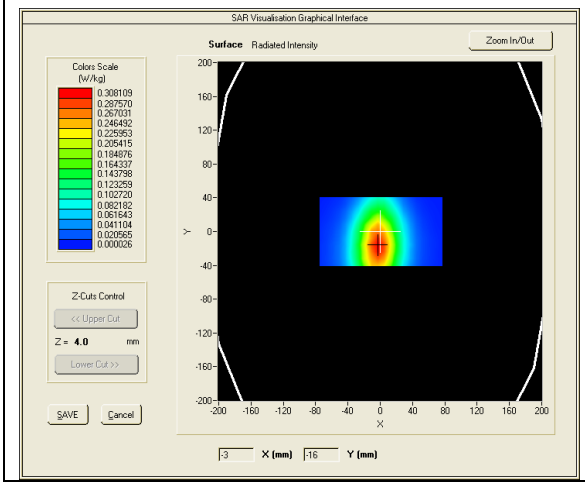
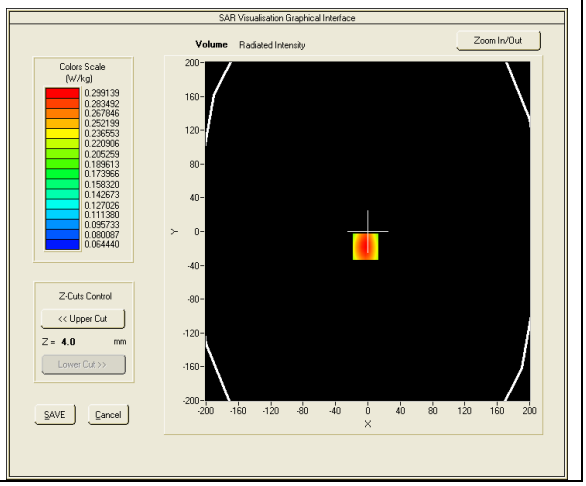



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 24<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Right |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 1.430000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

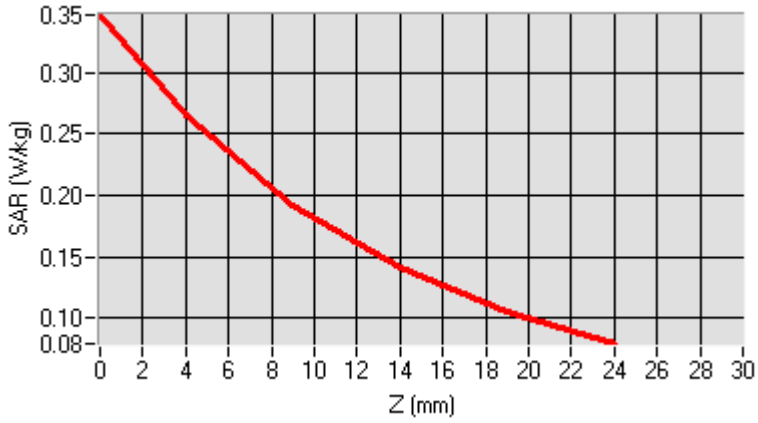


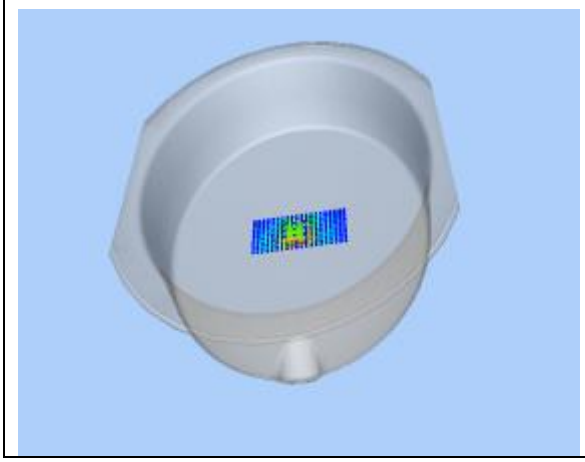
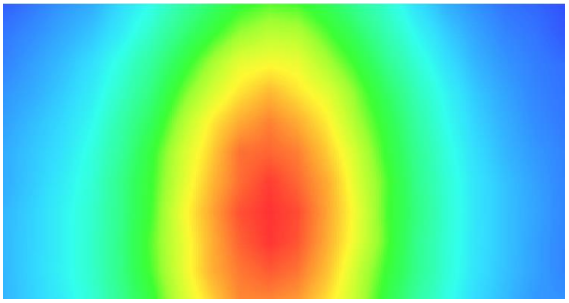


**Maximum location: X=5.00, Y=-5.00**
**SAR Peak: 0.38 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.193585 |
| **SAR 1g (W/Kg)** | 0.275246 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3468 | 0.2660 | 0.1916 | 0.1405 | 0.1056 |

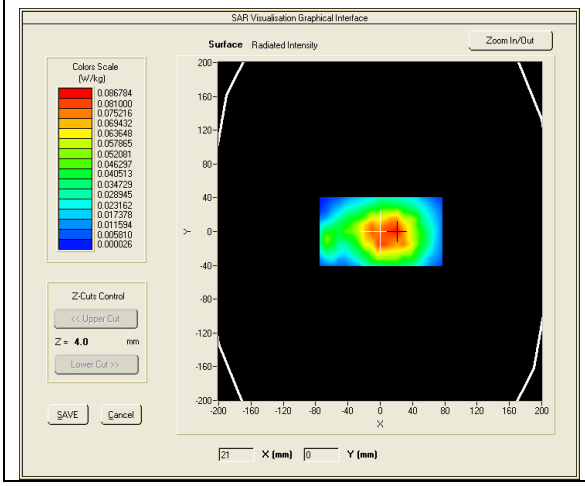
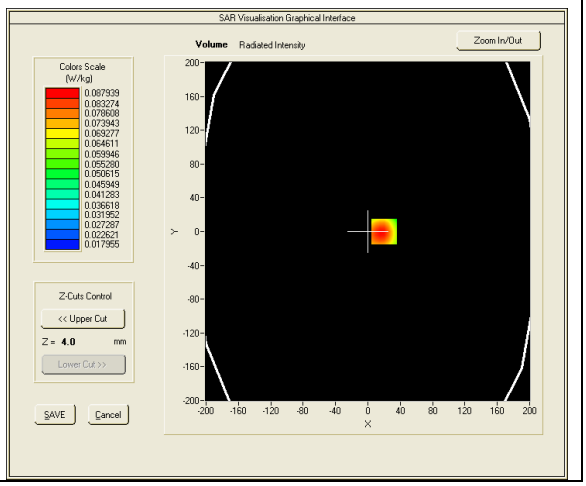



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 25<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Back |
| **Band** | GSM850+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 1.610000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

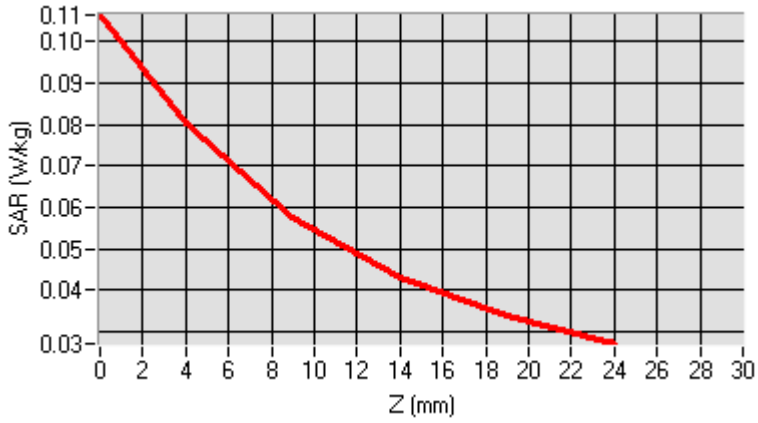


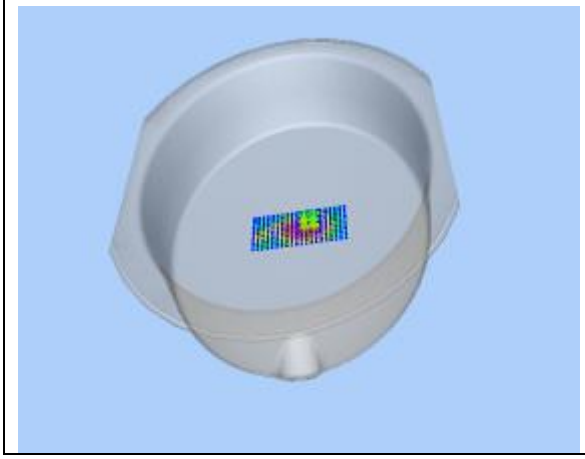
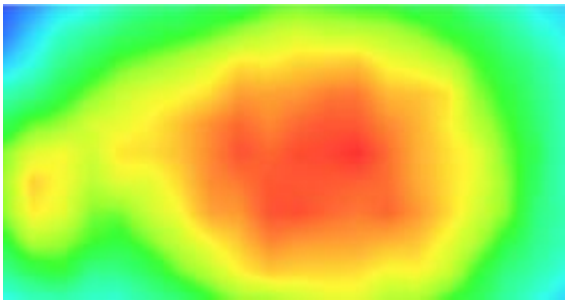


**Maximum location: X=6.00, Y=0.00**
**SAR Peak: 0.11 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.059720 |
| **SAR 1g (W/Kg)** | 0.082649 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1064 | 0.0805 | 0.0576 | 0.0428 | 0.0336 |

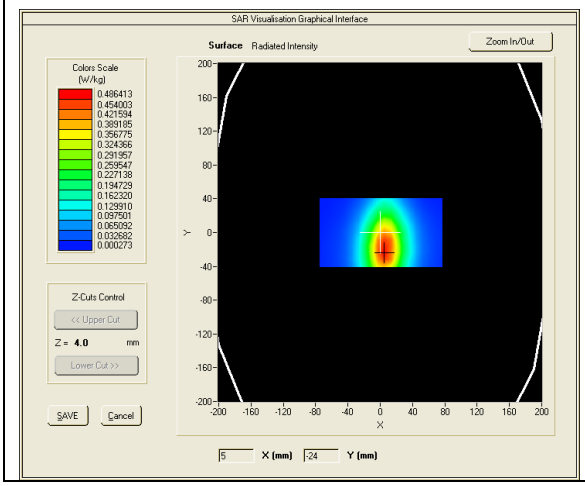
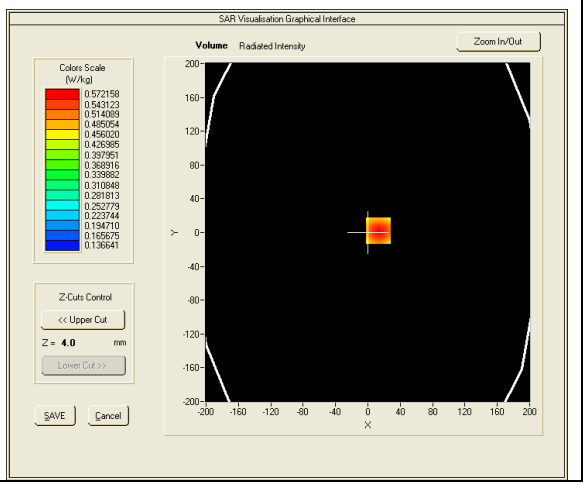



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 26<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Back |
| **Band** | GSM850+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | -1.640000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

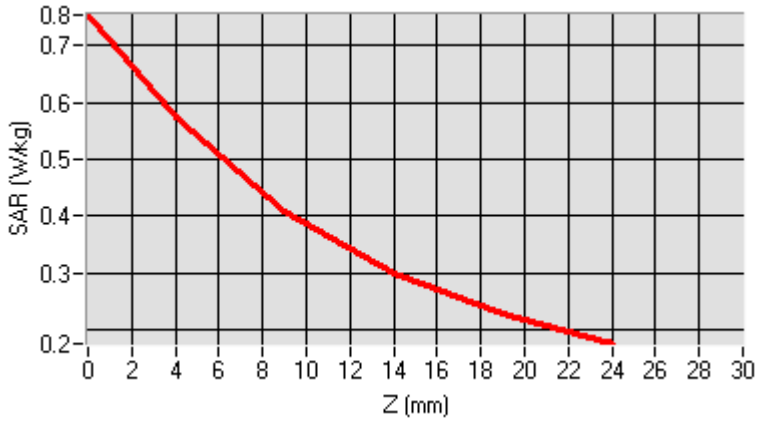


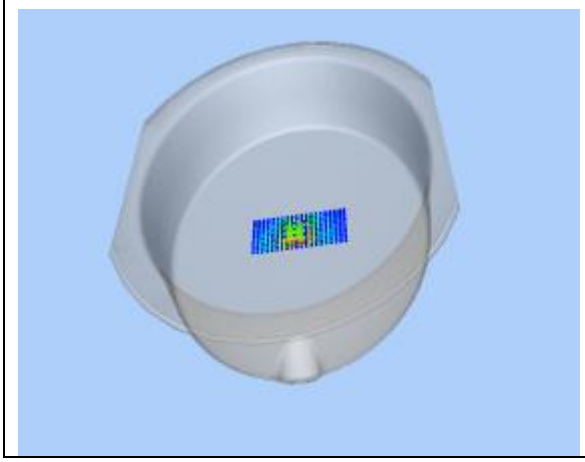
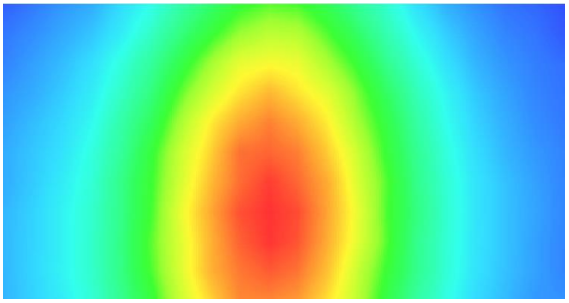


**Maximum location: X=13.00, Y=2.00**
**SAR Peak: 0.81 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.416526 |
| **SAR 1g (W/Kg)** | 0.590187 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.7538 | 0.5722 | 0.4084 | 0.2994 | 0.2277 |

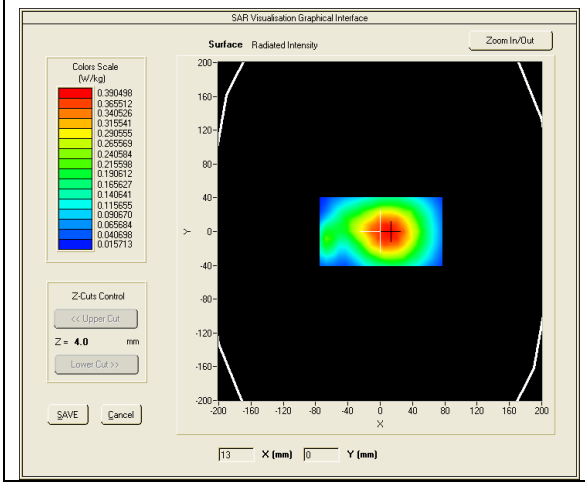
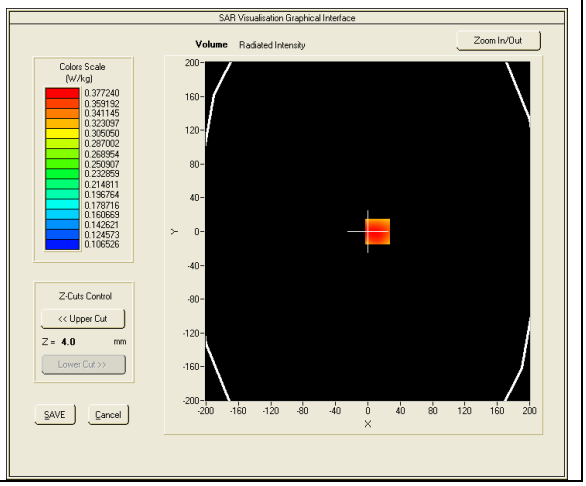



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 27<br>Date of measurement: 2016/07/05 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Back |
| **Band** | GSM850+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 836.599976 |
| **Relative permittivity (real part)** | 55.195076 |
| **Relative permittivity (imaginary part)** | 20.912214 |
| **Conductivity (S/m)** | 0.971953 |
| **Variation (%)** | 0.580000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

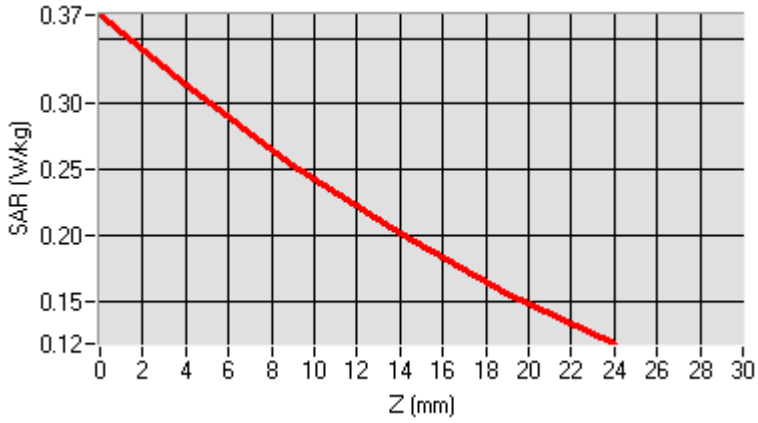


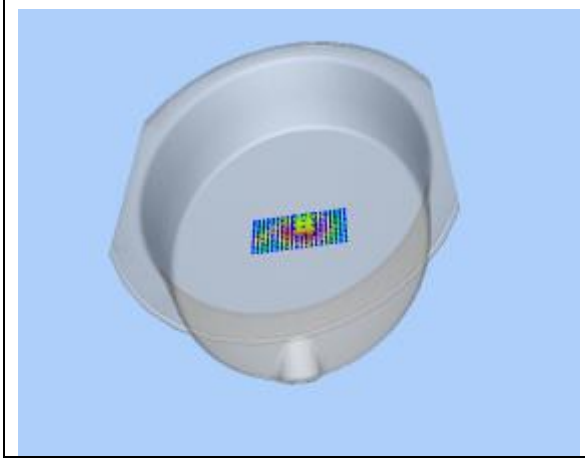
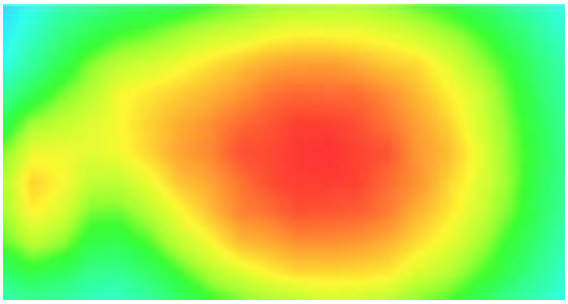


**Maximum location: X=5.00, Y=0.00**
**SAR Peak: 0.45 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.256368 |
| **SAR 1g (W/Kg)** | 0.343143 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3675 | 0.3136 | 0.2536 | 0.2016 | 0.1566 |



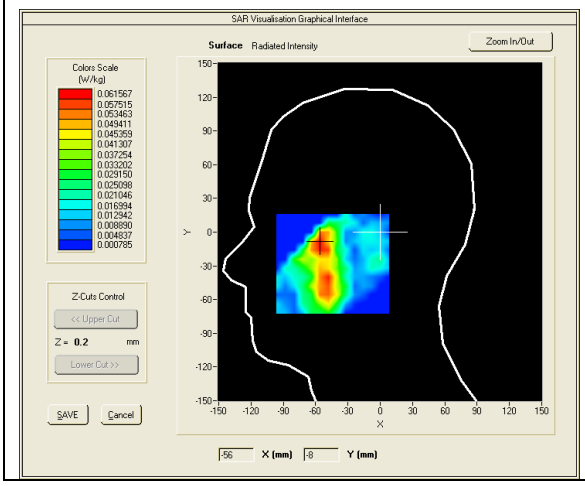
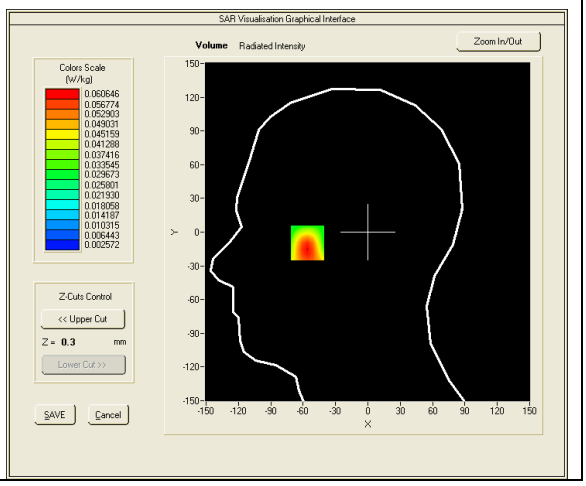

| 3D screen shot | Hot spot position |
|---|---|
|  |  |

GSM1900

| MEASUREMENT 1<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | 2.760000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

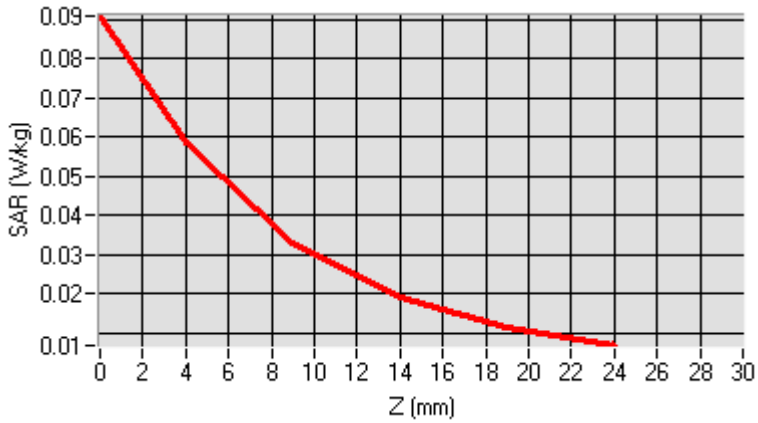


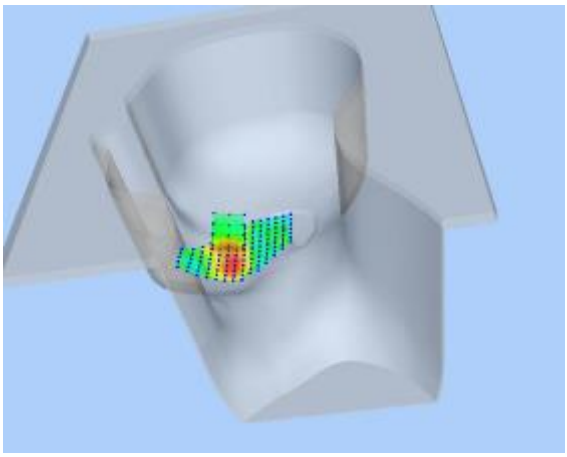
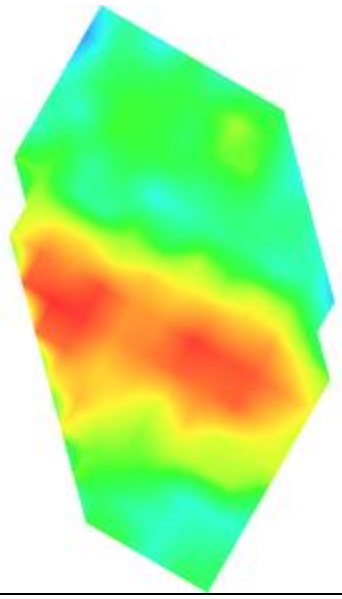


**Maximum location: X=-56.00, Y=-9.00**
**SAR Peak: 0.09 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.033711 |
| **SAR 1g (W/Kg)** | 0.057565 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0909 | 0.0585 | 0.0330 | 0.0188 | 0.0113 |

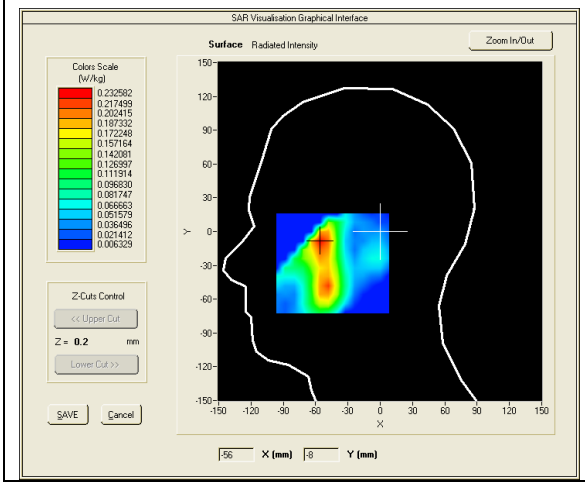
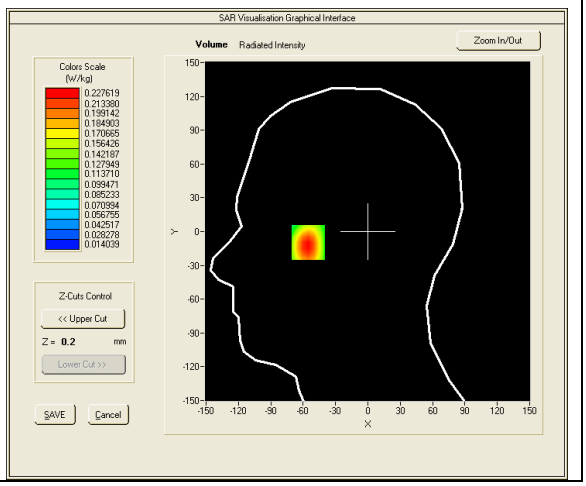



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 2<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -1.180000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

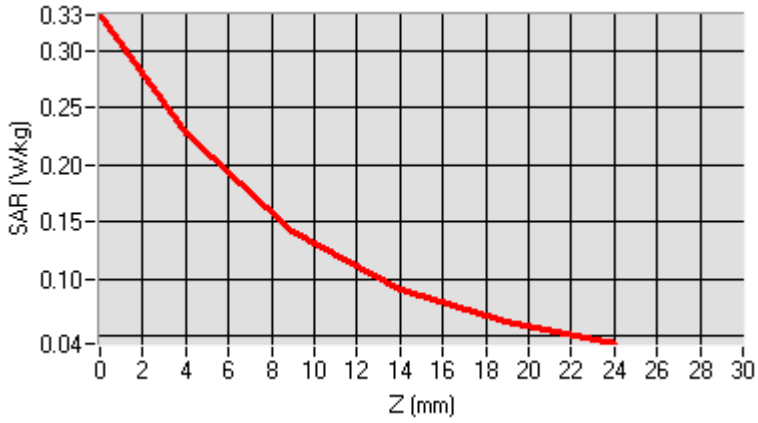


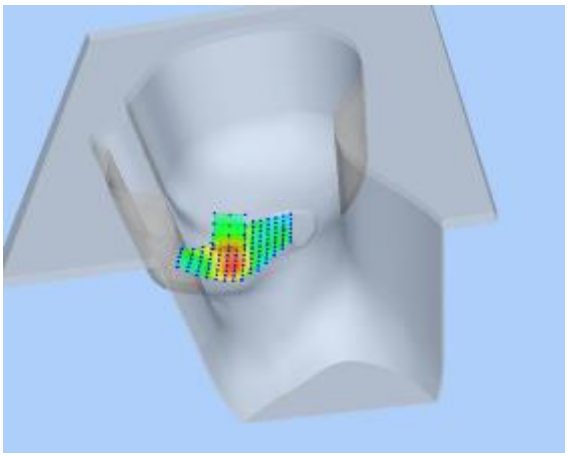
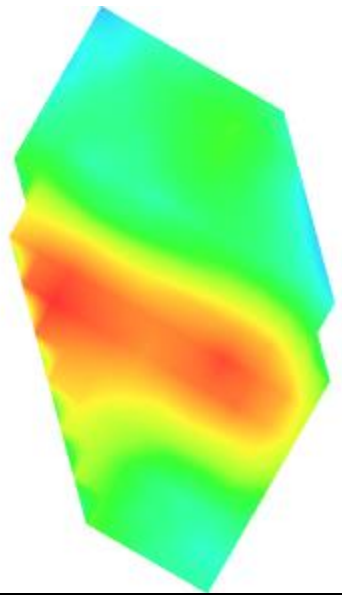


**Maximum location: X=-55.00, Y=-9.00**
**SAR Peak: 0.33 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.130131 |
| **SAR 1g (W/Kg)** | 0.214380 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3313 | 0.2276 | 0.1421 | 0.0916 | 0.0627 |

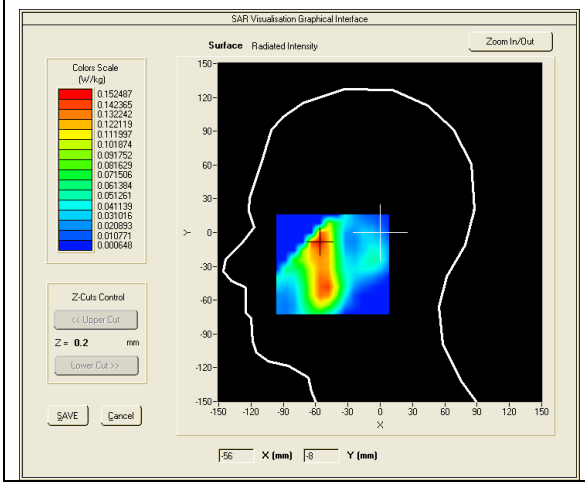
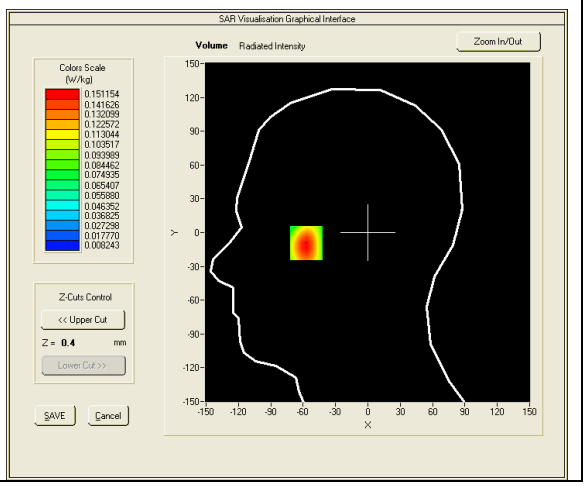



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 3<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Cheek |
| **Band** | GSM1900+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -0.140000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

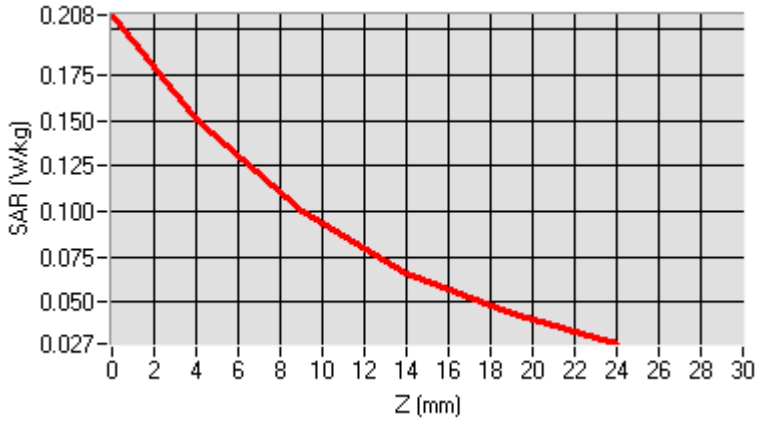


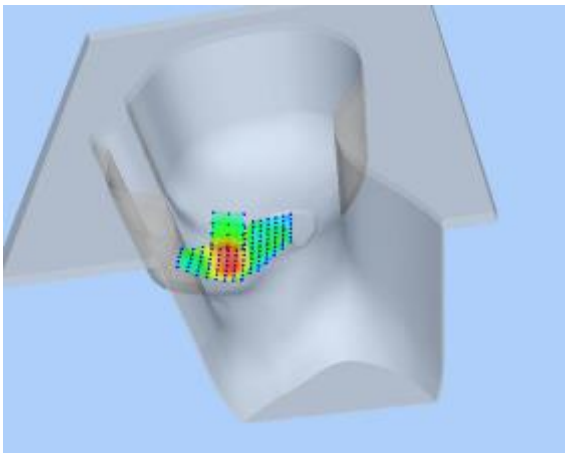
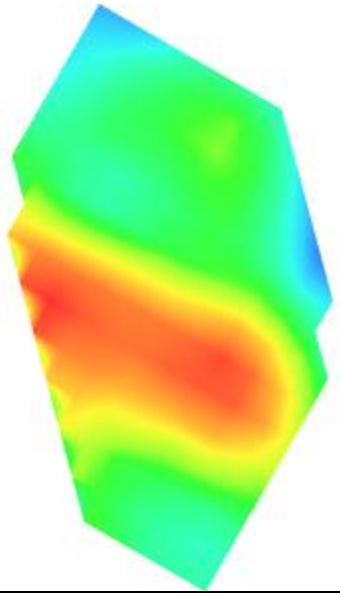


**Maximum location: X=-57.00, Y=-8.00**
**SAR Peak: 0.21 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.088507 |
| **SAR 1g (W/Kg)** | 0.142283 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.2078 | 0.1512 | 0.1002 | 0.0661 | 0.0435 |

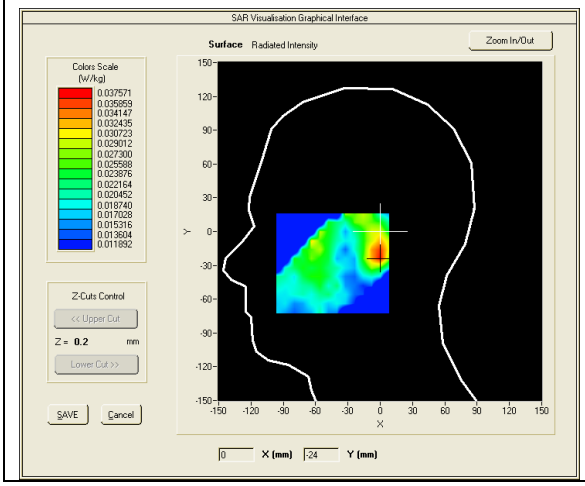
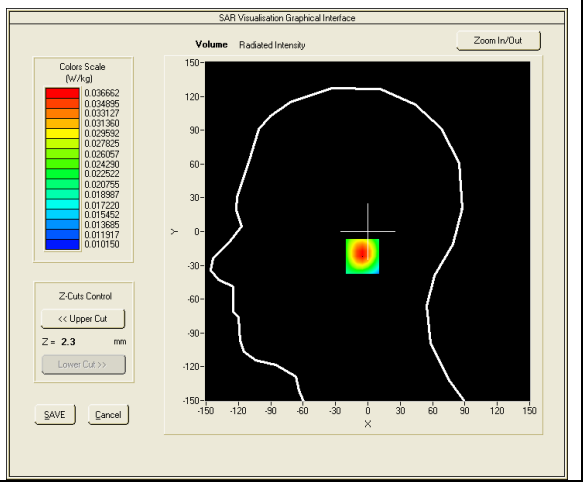



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 4<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -0.900000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

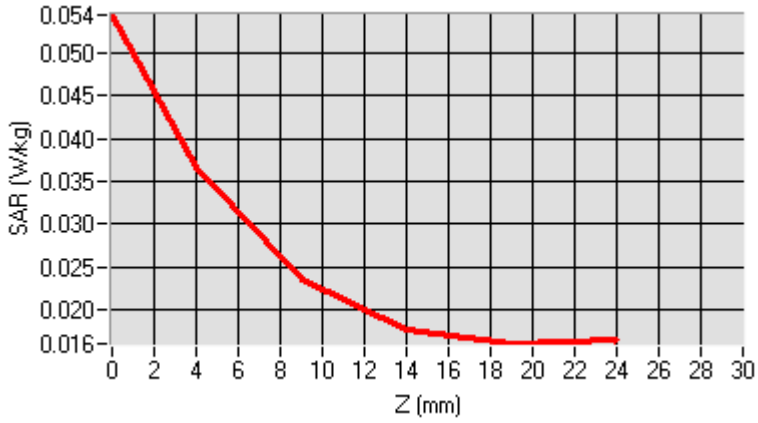


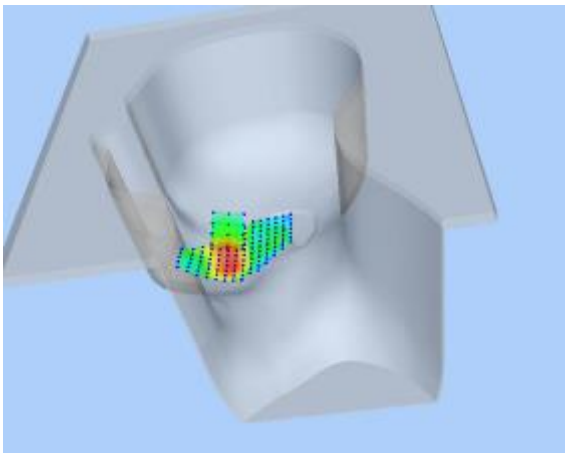
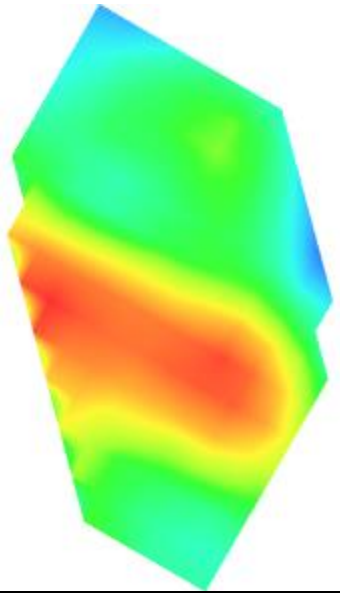


**Maximum location: X=1.00, Y=-22.00**
**SAR Peak: 0.05 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.024210 |
| **SAR 1g (W/Kg)** | 0.035024 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0544 | 0.0367 | 0.0235 | 0.0176 | 0.0161 |

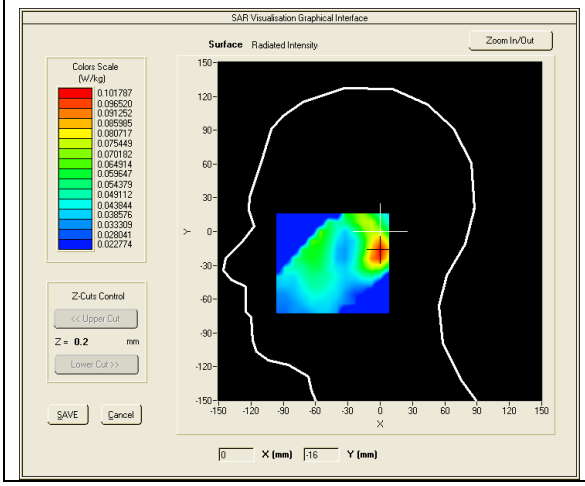
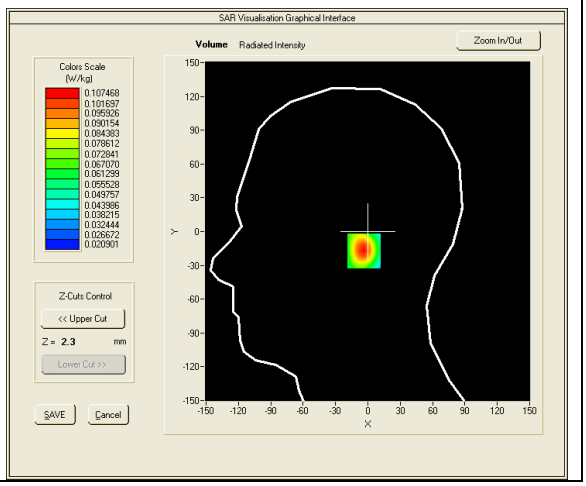



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 5<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -2.820000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

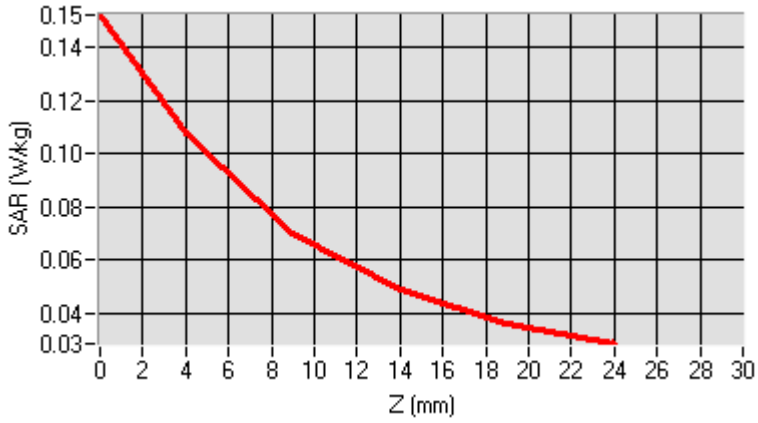


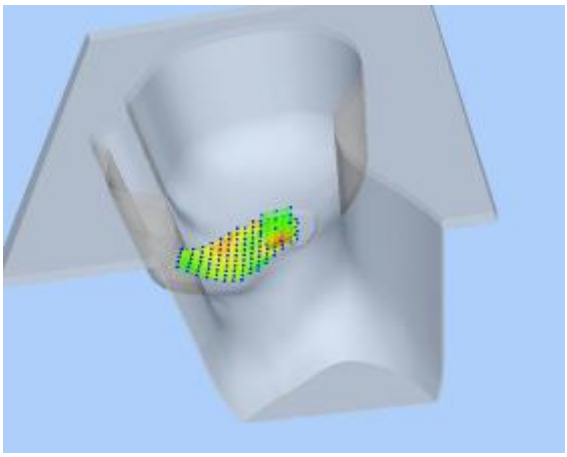
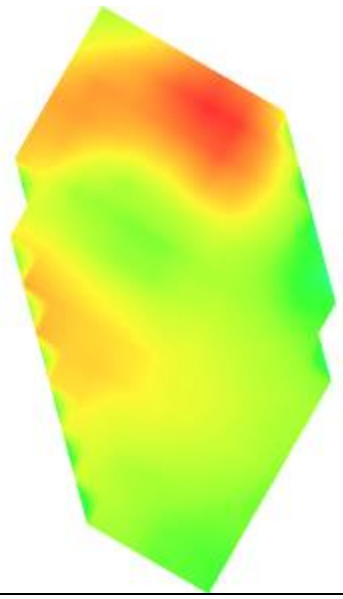


**Maximum location: X=0.00, Y=-17.00**
**SAR Peak: 0.15 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.063471 |
| **SAR 1g (W/Kg)** | 0.099655 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1524 | 0.1075 | 0.0703 | 0.0485 | 0.0363 |

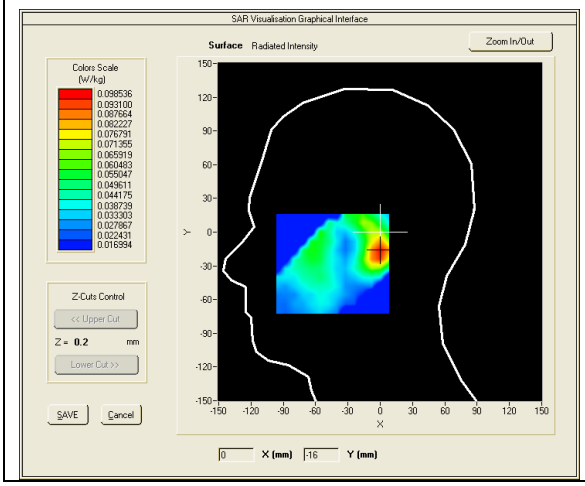
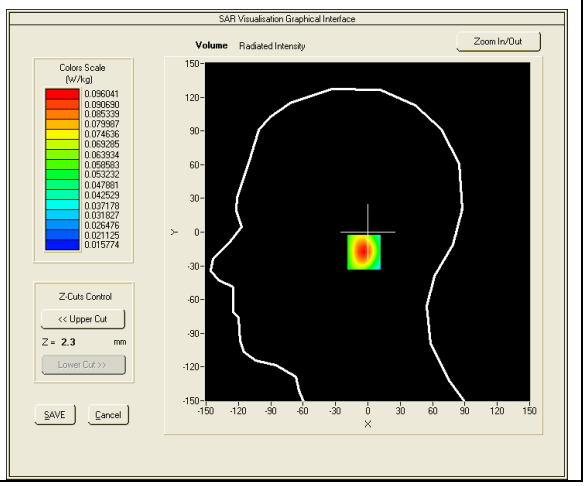



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 6<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Right head |
| **Device Position** | Tilt |
| **Band** | GSM1900+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -2.150000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

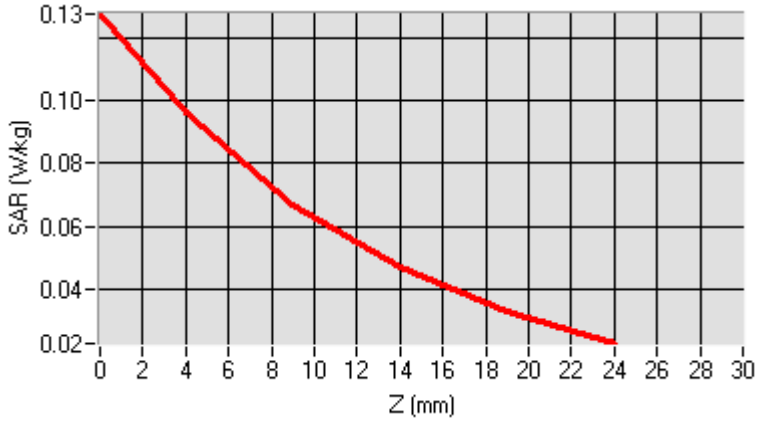


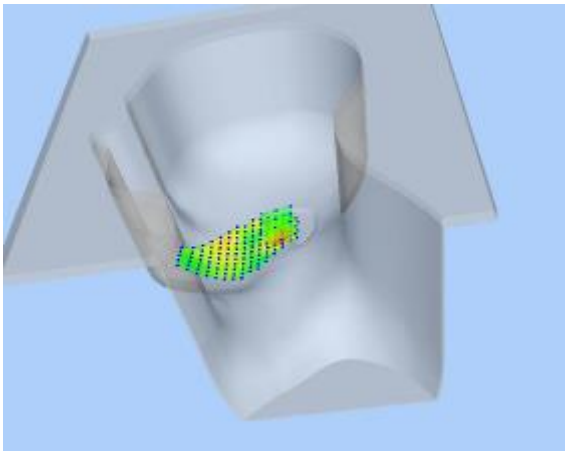
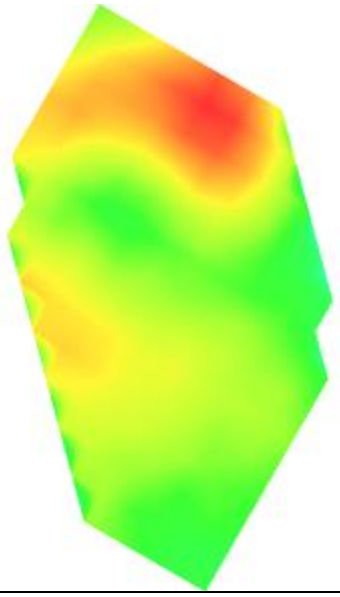
**Maximum location: X=0.00, Y=-18.00**
**SAR Peak: 0.13 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.057698 |

| SAR 1g (W/Kg) | 0.089216 |
|---|---|

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1275 | 0.0960 | 0.0670 | 0.0470 | 0.0332 |

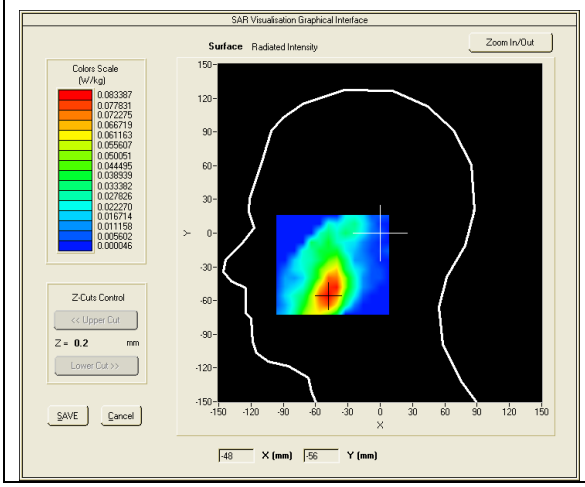
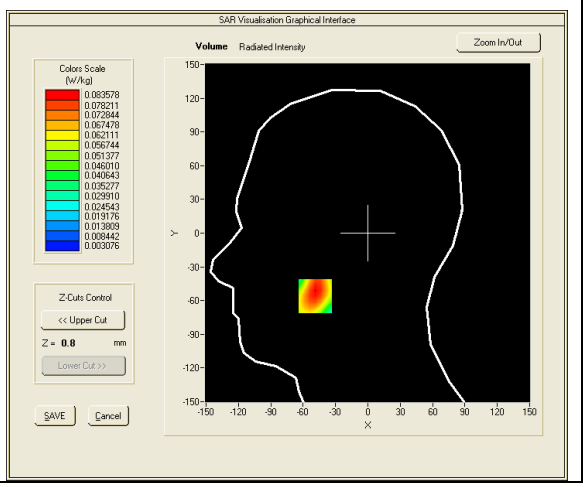



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 7<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -3.750000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

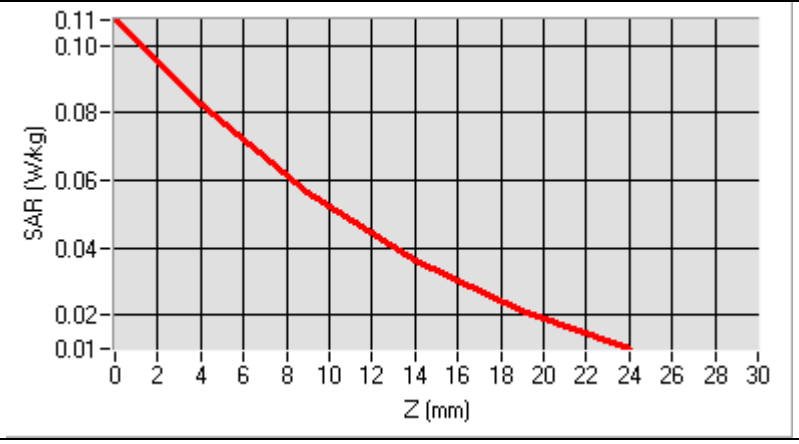


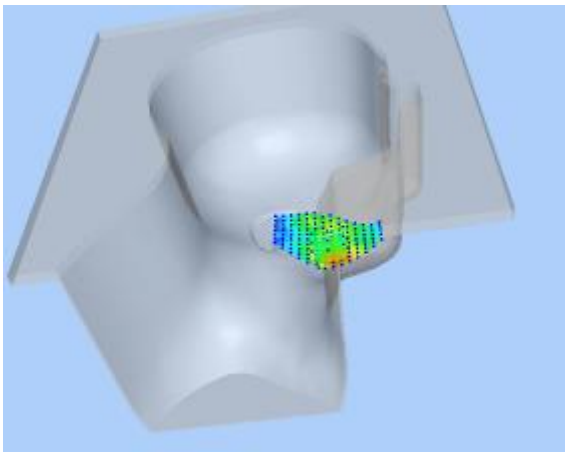
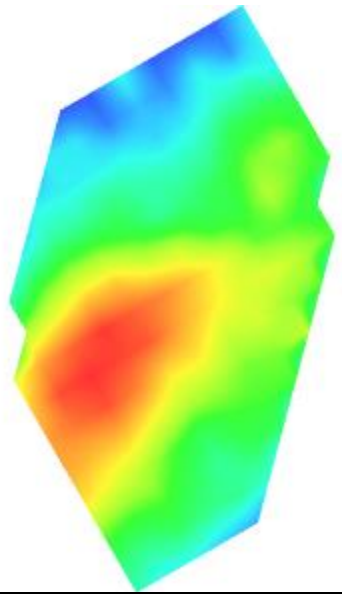


**Maximum location: X=-49.00, Y=-56.00**
**SAR Peak: 0.11 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.048031 |
| **SAR 1g (W/Kg)** | 0.078365 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1075 | 0.0825 | 0.0567 | 0.0364 | 0.0211 |

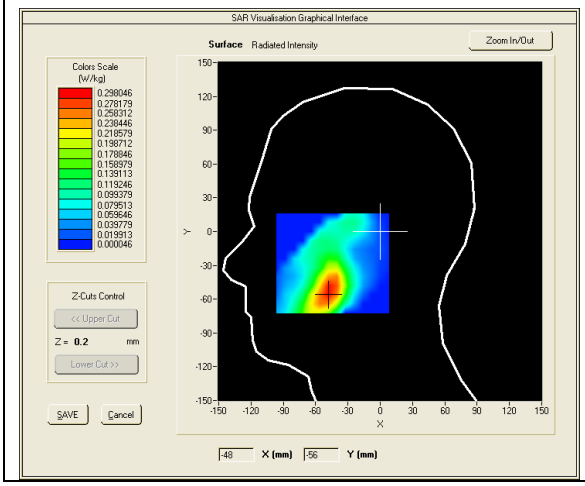
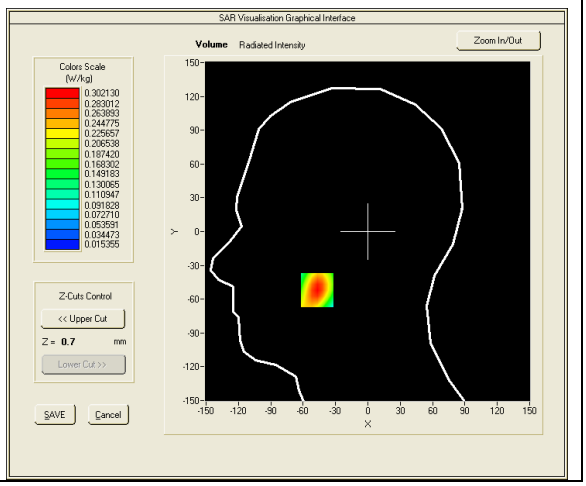



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 8<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -3.670000 |

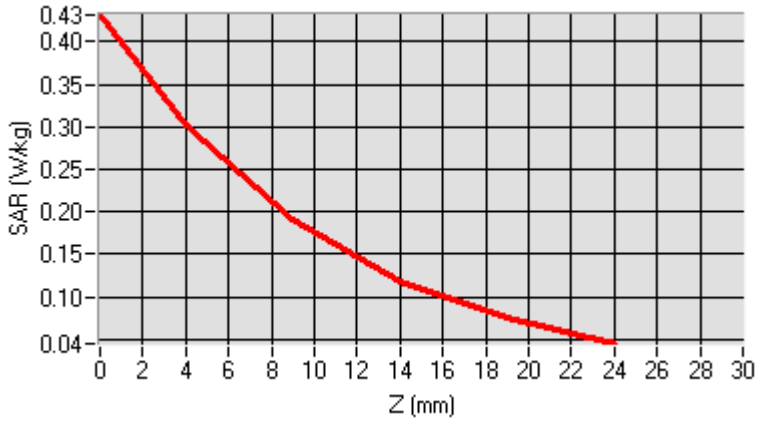
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

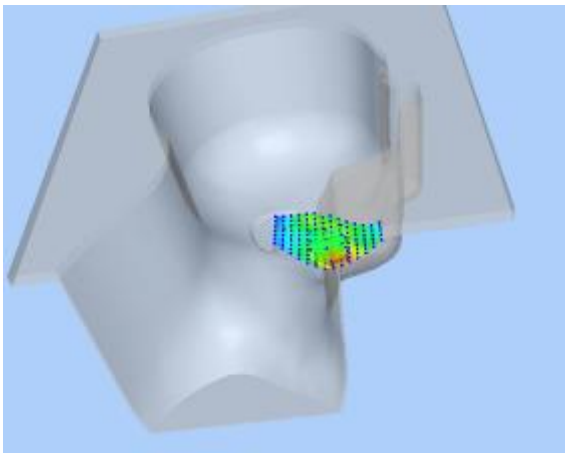
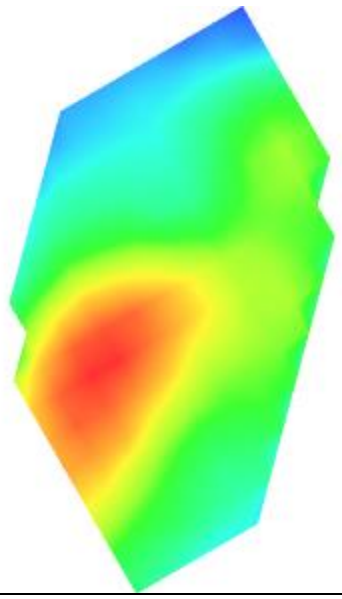


**Maximum location: X=-47.00, Y=-52.00**
**SAR Peak: 0.43 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.166386 |
| **SAR 1g (W/Kg)** | 0.280770 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.4318 | 0.3021 | 0.1901 | 0.1191 | 0.0749 |

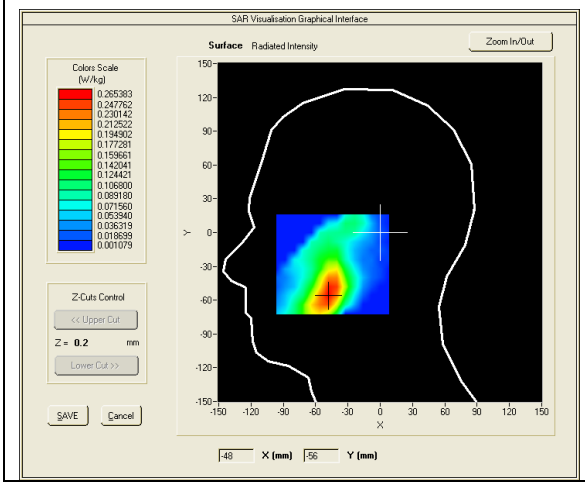
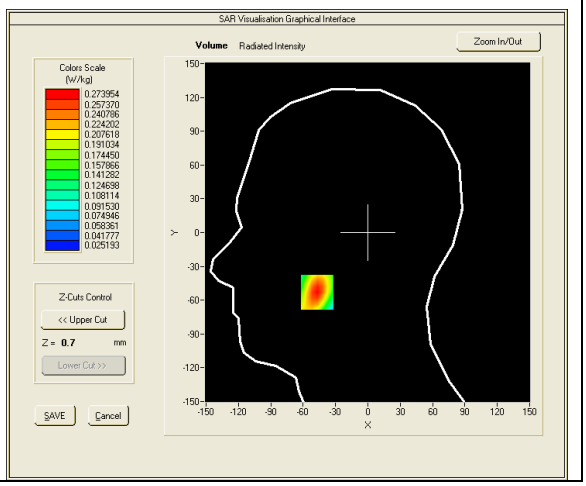



| D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 9<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Cheek |
| **Band** | GSM1900+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -3.920000 |

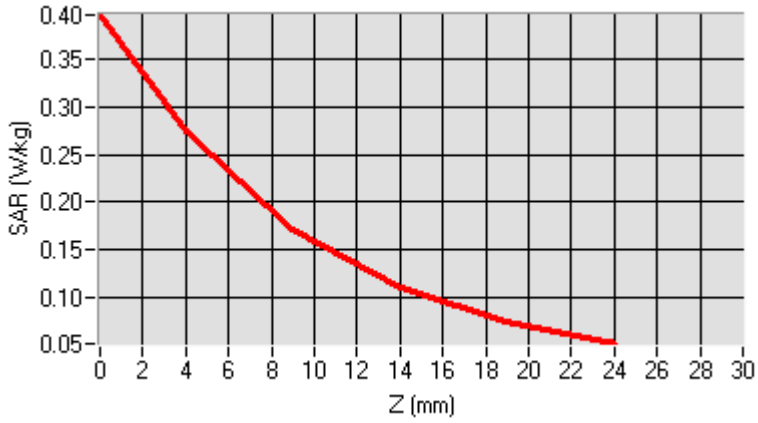
| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

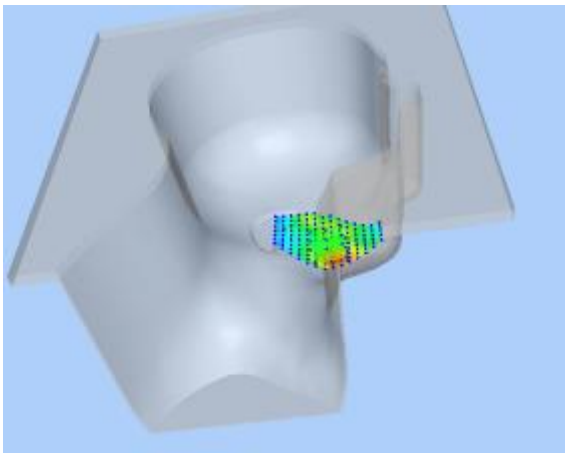
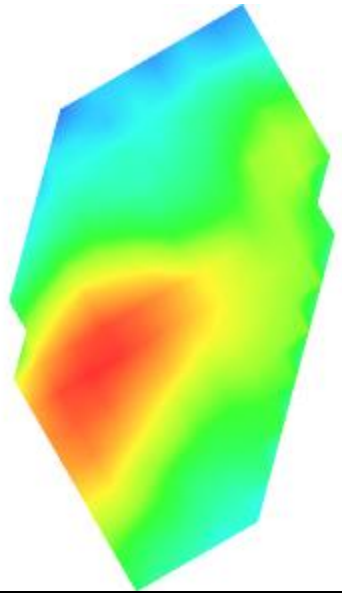


**Maximum location: X=-47.00, Y=-53.00**
**SAR Peak: 0.40 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.154855 |
| **SAR 1g (W/Kg)** | 0.254909 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3965 | 0.2740 | 0.1720 | 0.1108 | 0.0752 |

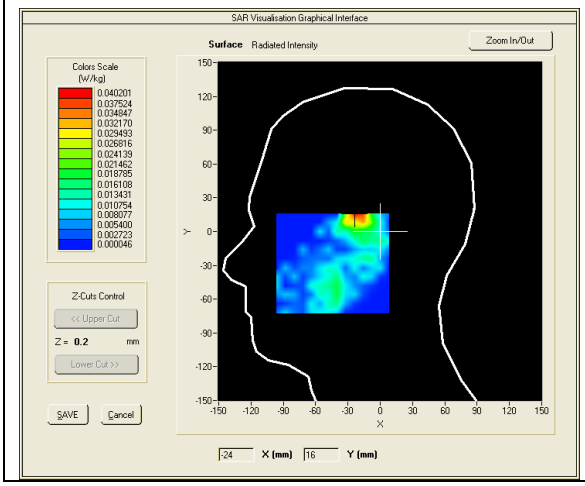
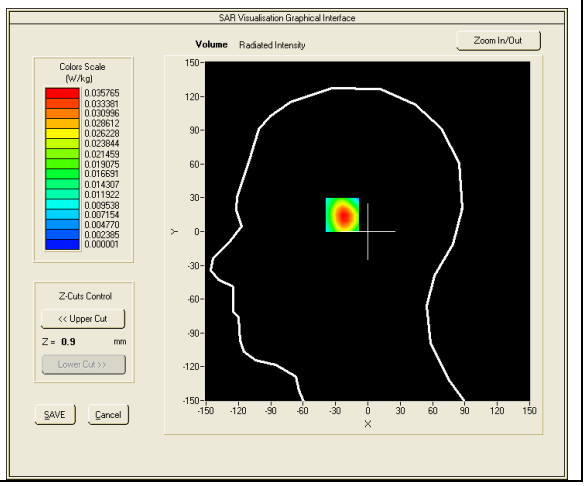



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 10<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -2.410000 |

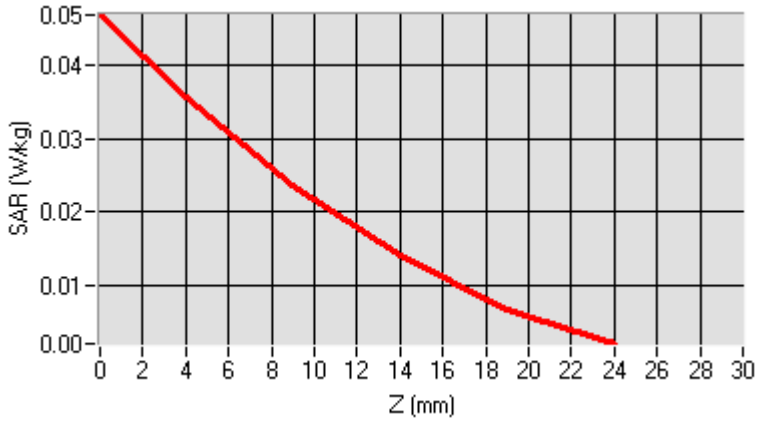
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

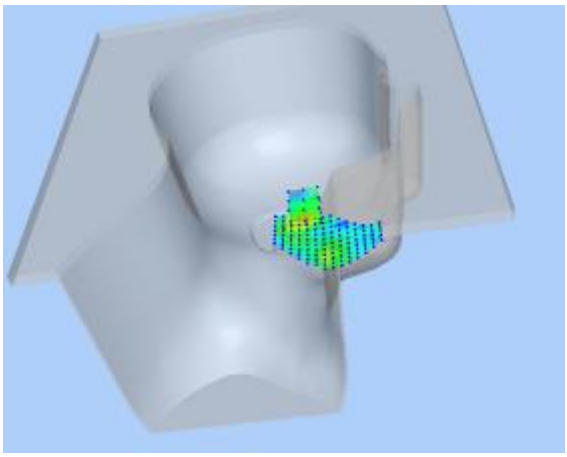
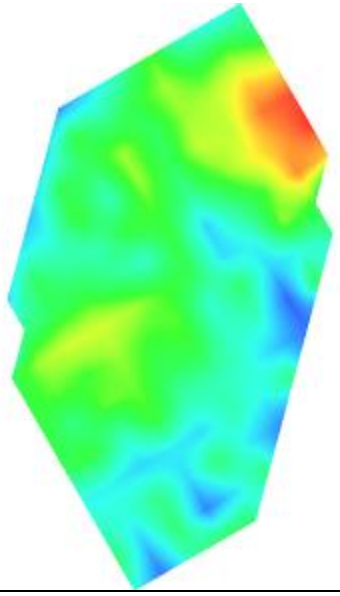


**Maximum location: X=-23.00, Y=16.00**
**SAR Peak: 0.05/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.018860 |
| **SAR 1g (W/Kg)** | 0.033320 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0469 | 0.0358 | 0.0237 | 0.0139 | 0.0066 |

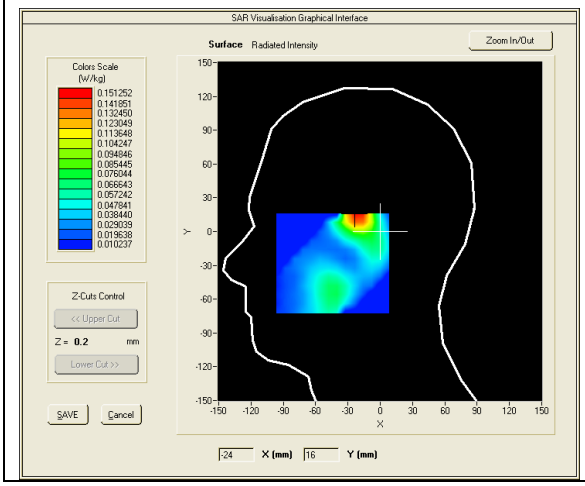
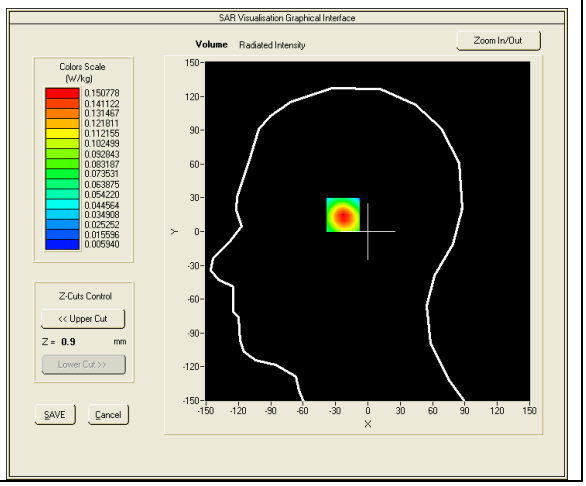



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 11<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -3.600000 |

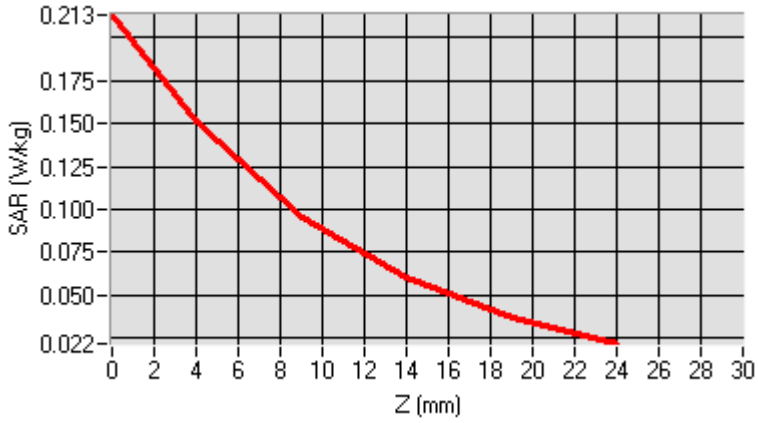
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

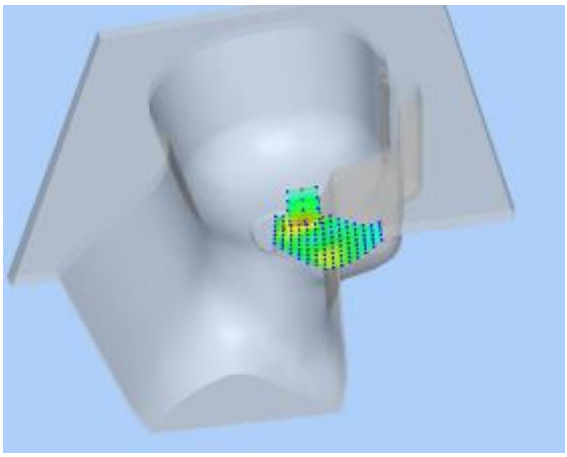
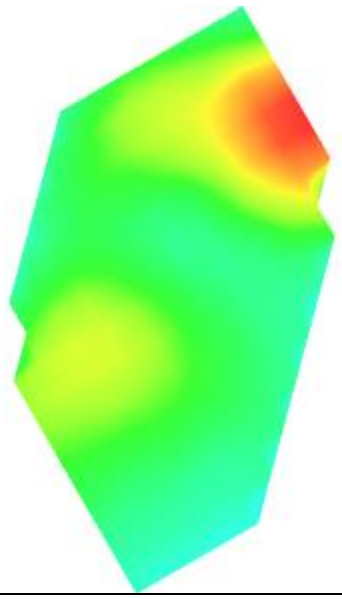


**Maximum location: X=-22.00, Y=16.00**
**SAR Peak: 0.22 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.079154 |
| **SAR 1g (W/Kg)** | 0.138798 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.2133 | 0.1508 | 0.0958 | 0.0601 | 0.0372 |

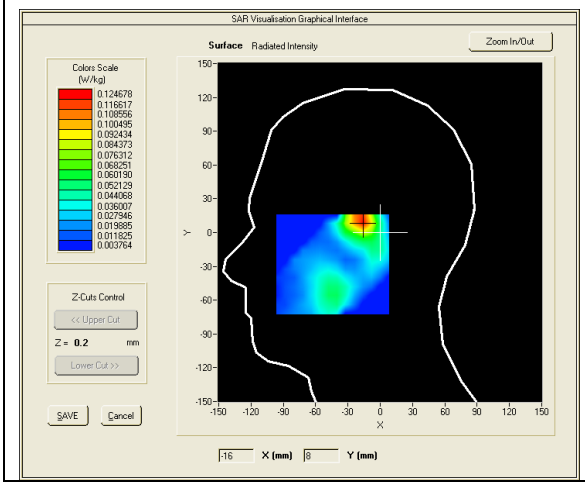
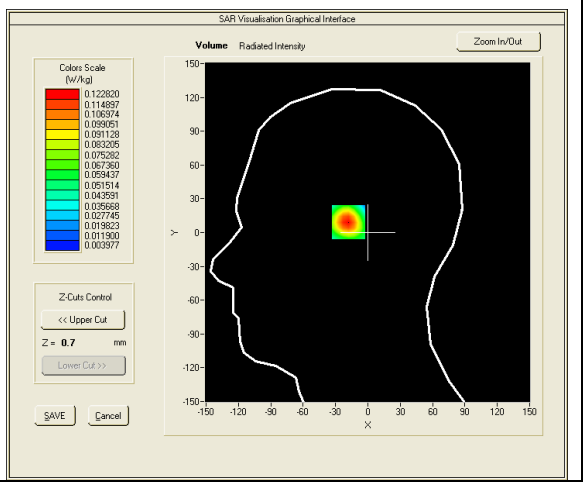



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 12<br>Date of measurement: 2016/07/01 |
|---|

| | |
|---|---|
| **Area Scan** | sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm,<br>sam_direct_droit2_surf8mm.txt, h= 5.00 mm |
| **Phantom** | Left head |
| **Device Position** | Tilt |
| **Band** | GSM1900+VOICE |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 40.000000 |
| **Relative permittivity (imaginary part)** | 13.408000 |
| **Conductivity (S/m)** | 1.400391 |
| **Variation (%)** | -1.670000 |

| SURFACE SAR | VOLUME SAR |
|---|---|
|  |  |

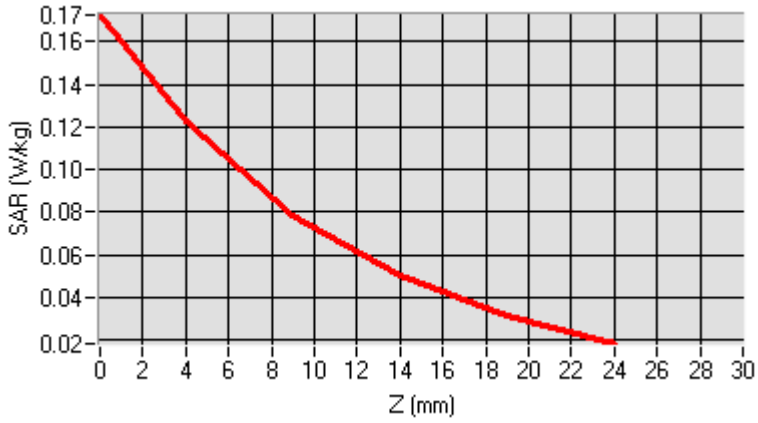


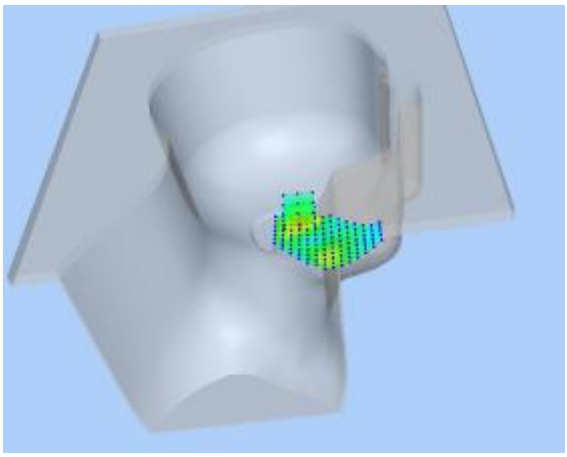
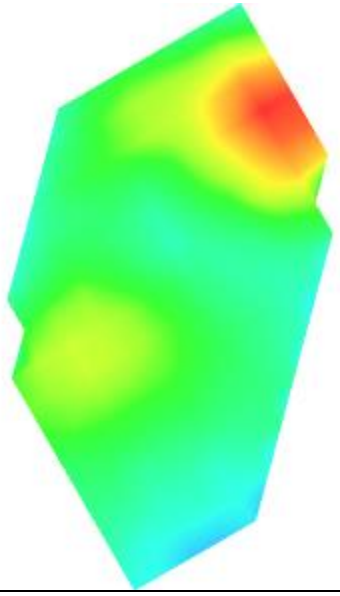


**Maximum location: X=-17.00, Y=10.00**
**SAR Peak: 0.17 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.064123 |
| **SAR 1g (W/Kg)** | 0.112321 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.1724 | 0.1228 | 0.0788 | 0.0499 | 0.0312 |

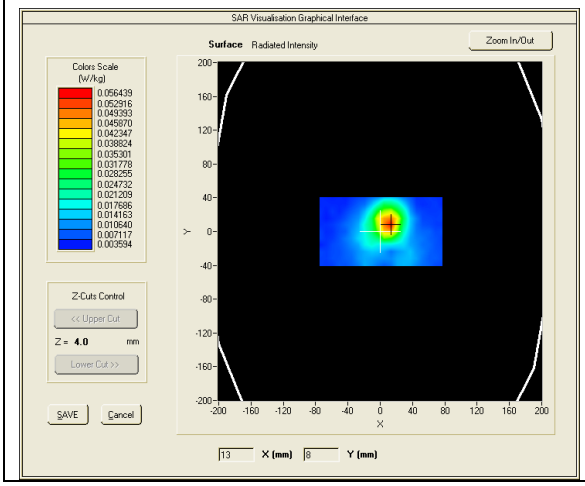
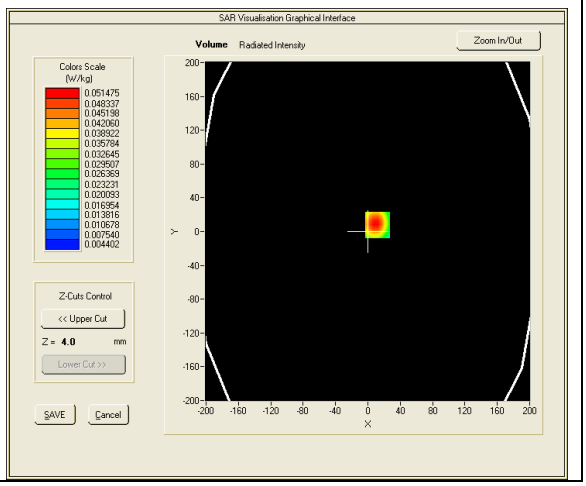



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 13<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | BOTTOM |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | 0.070000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

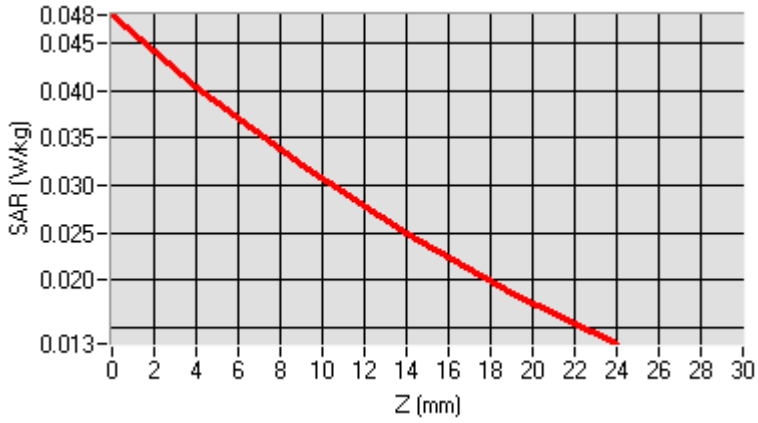


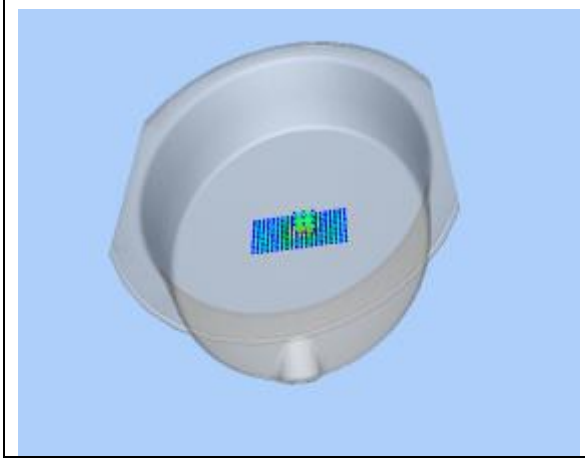
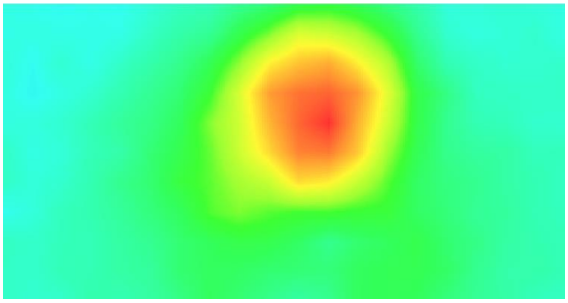


**Maximum location: X=-3.00, Y=1.00**
**SAR Peak: 0.06 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.031848 |
| **SAR 1g (W/Kg)** | 0.044302 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0479 | 0.0404 | 0.0321 | 0.0249 | 0.0186 |

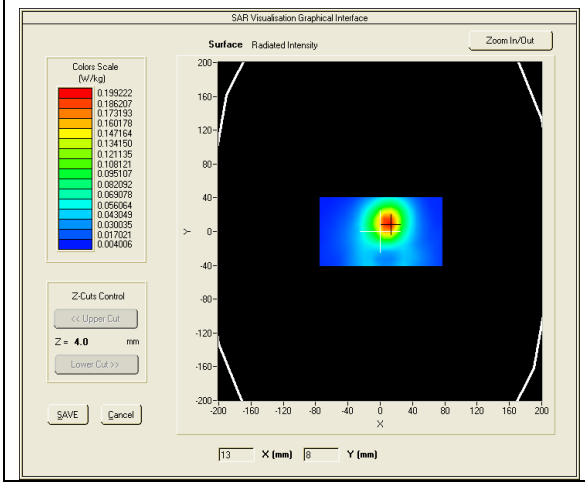
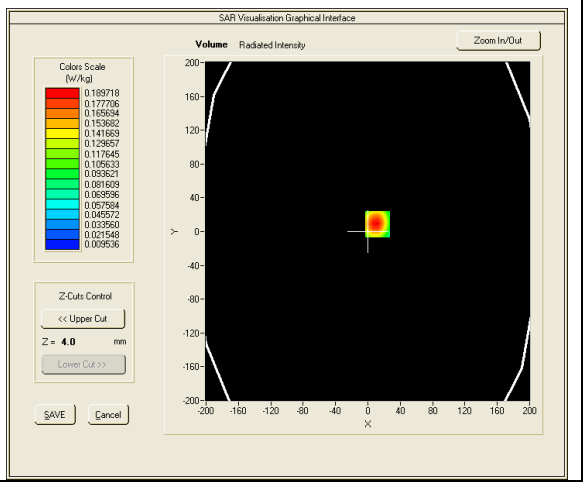



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 14<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Left |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | -4.690000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

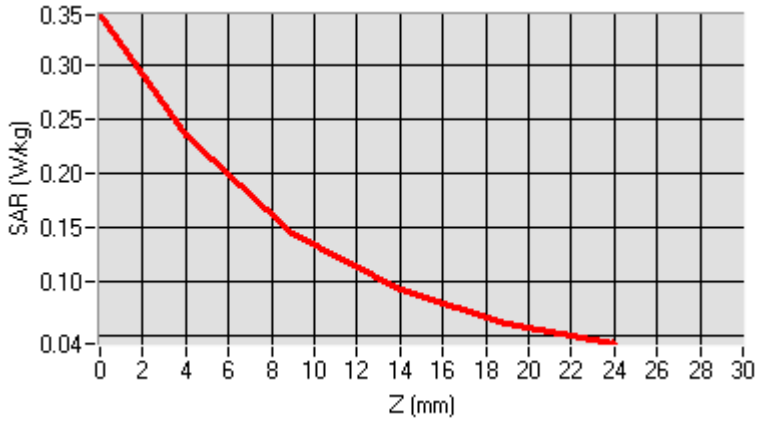


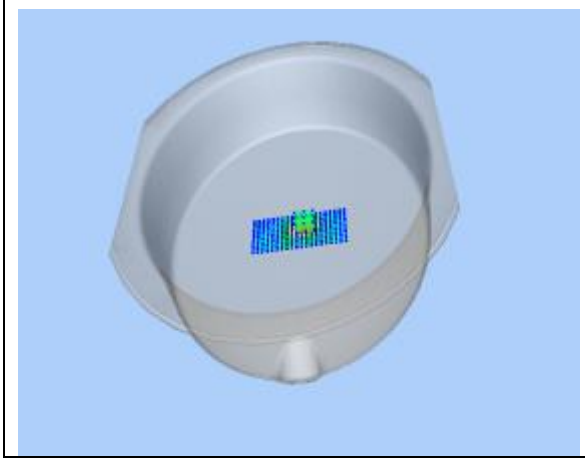
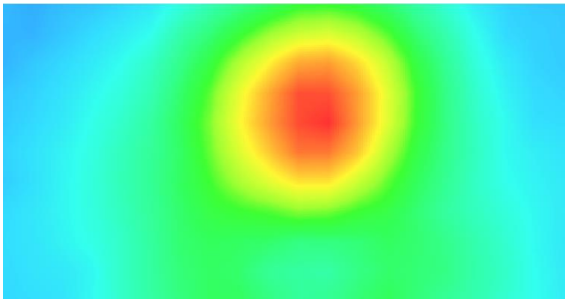


**Maximum location: X=3.00, Y=-16.00**
**SAR Peak: 0.38 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.147049 |
| **SAR 1g (W/Kg)** | 0.240607 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.3467 | 0.2358 | 0.1451 | 0.0920 | 0.0621 |

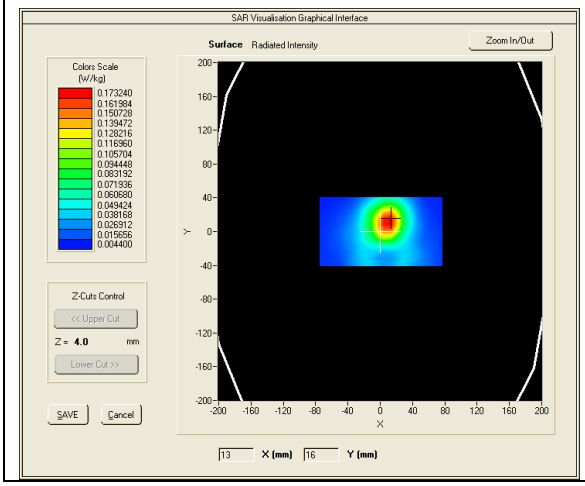
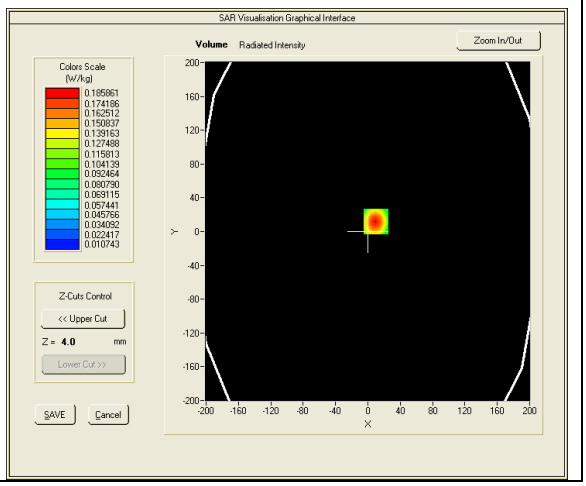



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 15<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Right |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | -3.530000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

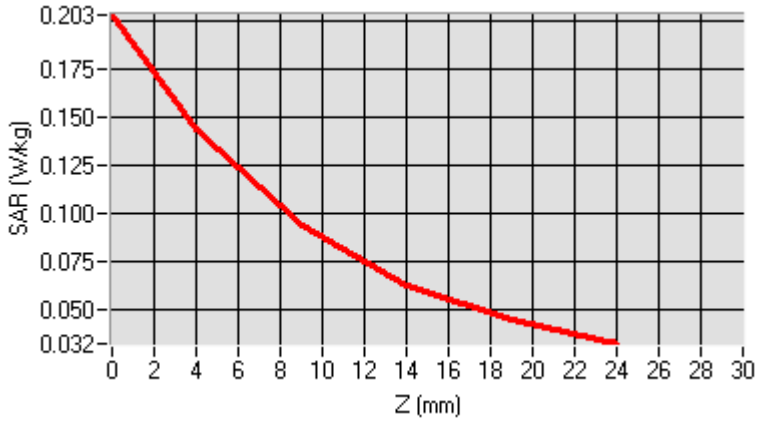


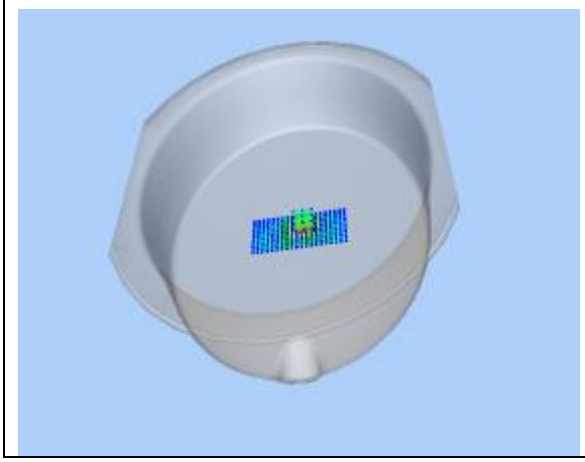
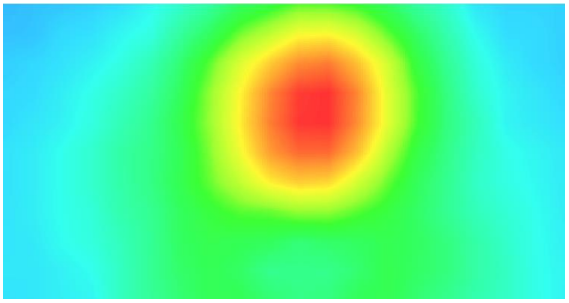


**Maximum location: X=2.00, Y=12.00**
**SAR Peak: 0.22 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.091843 |
| **SAR 1g (W/Kg)** | 0.146106 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.2028 | 0.1435 | 0.0934 | 0.0628 | 0.0446 |

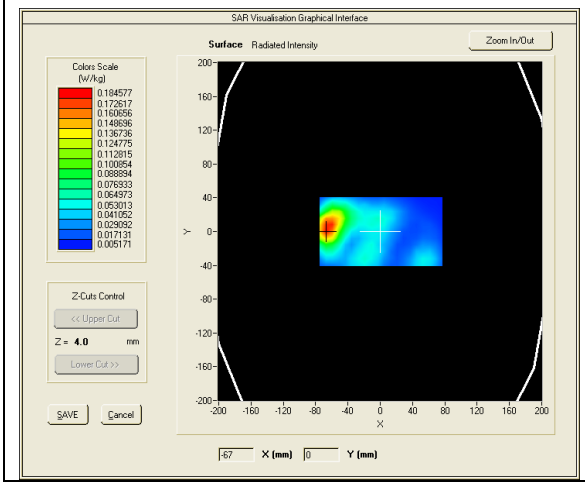
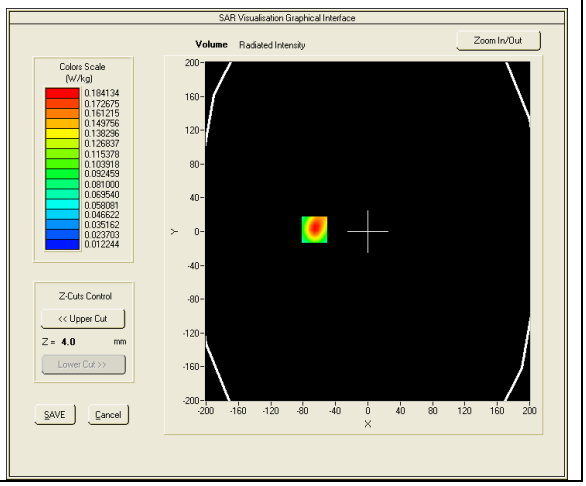



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 16<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Bottom |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | 4.530000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

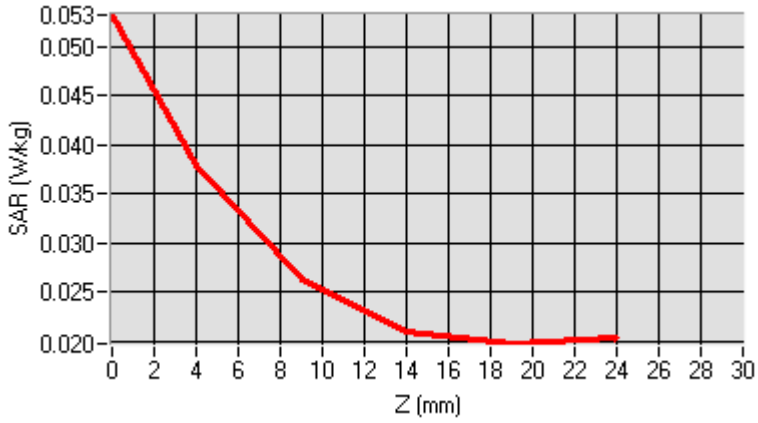


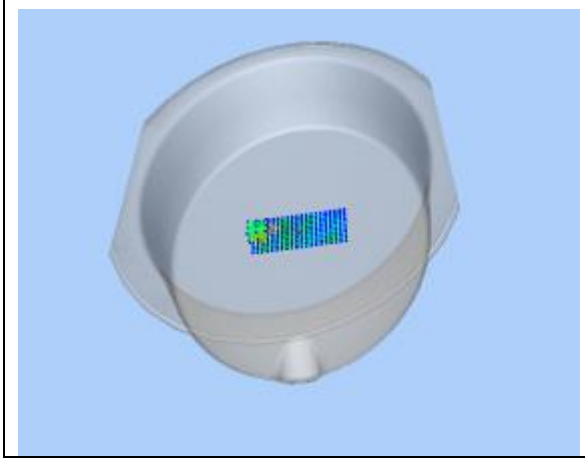
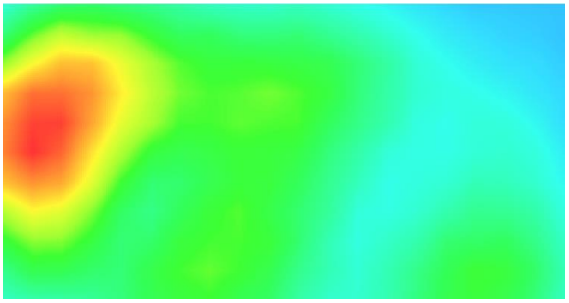


**Maximum location: X=-5.00, Y=14.00**
**SAR Peak: 0.06 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.030019 |
| **SAR 1g (W/Kg)** | 0.040779 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0533 | 0.0380 | 0.0264 | 0.0210 | 0.0198 |

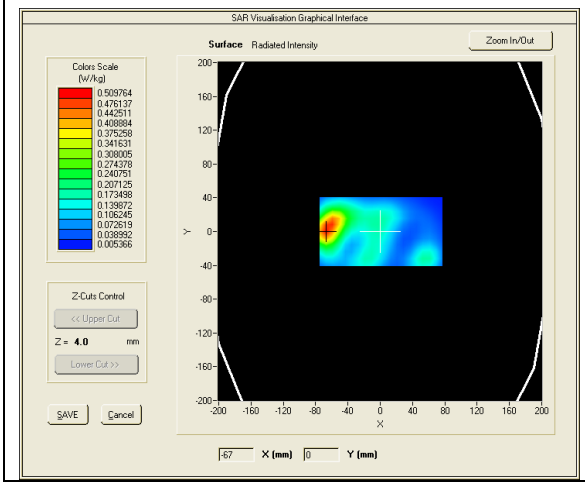
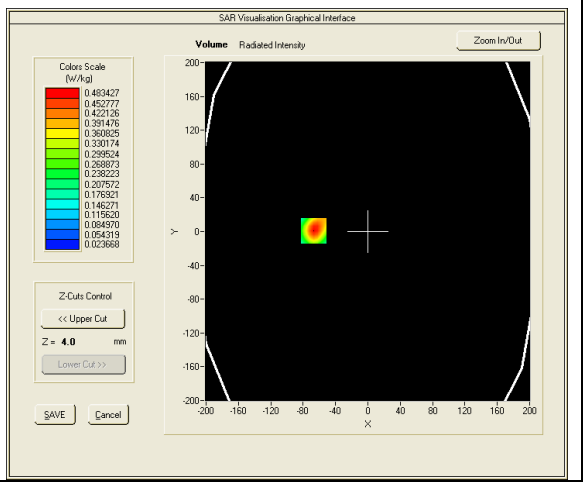



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 17<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Left |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | 2.350000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

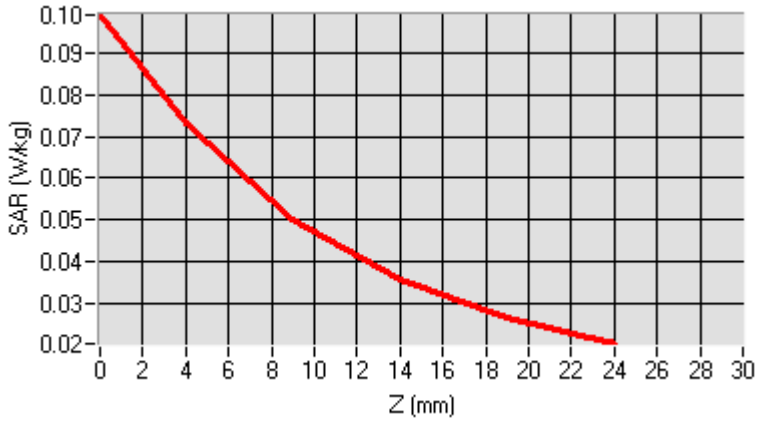


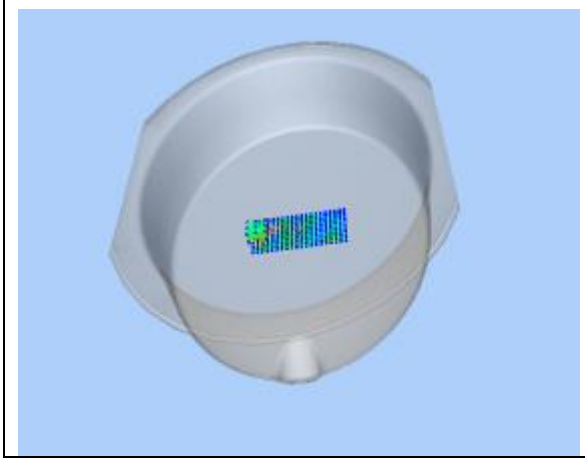
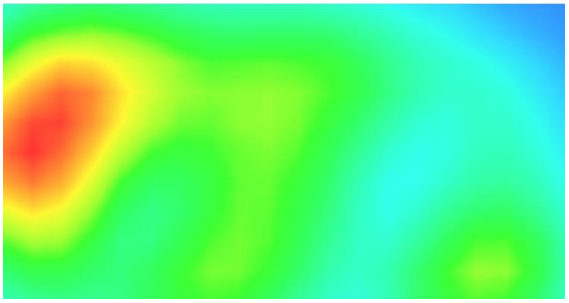


**Maximum location: X=-1.00, Y=-15.00**
**SAR Peak: 0.11 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.051616 |
| **SAR 1g (W/Kg)** | 0.075487 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0990 | 0.0729 | 0.0502 | 0.0357 | 0.0267 |

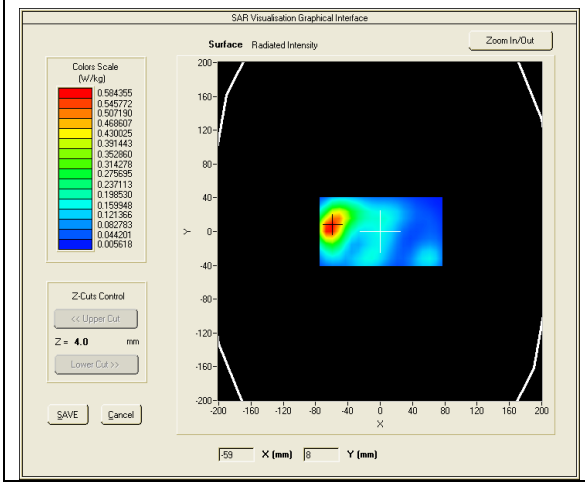
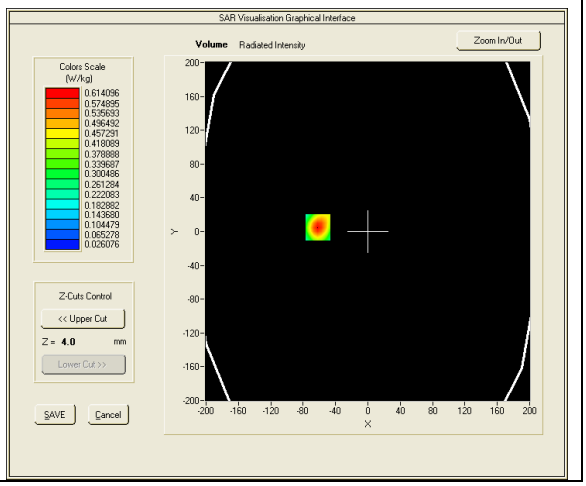



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 18<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Right |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 53.299999 |
| **Relative permittivity (imaginary part)** | 14.560000 |
| **Conductivity (S/m)** | 1.520711 |
| **Variation (%)** | 3.260000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

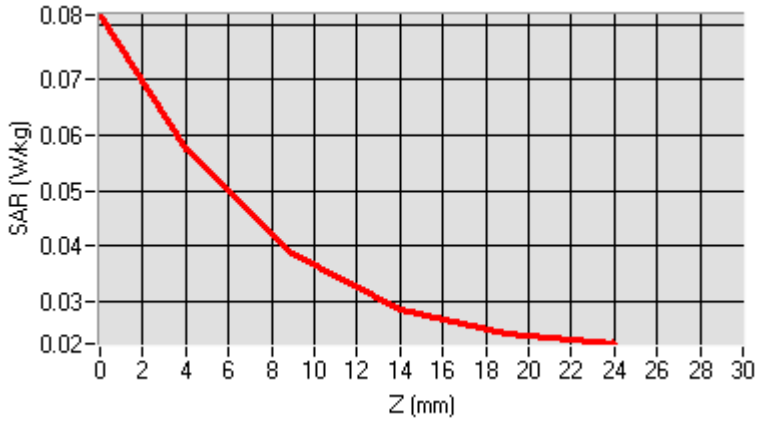


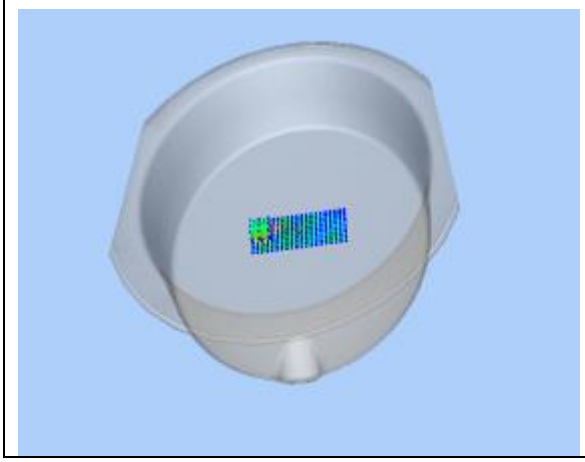
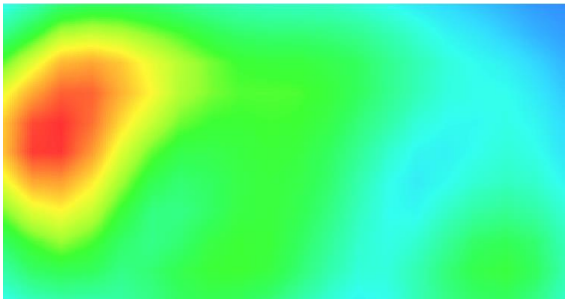


**Maximum location: X=3.00, Y=16.00**
**SAR Peak: 0.09 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.039843 |
| **SAR 1g (W/Kg)** | 0.058955 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 0.0817 | 0.0576 | 0.0385 | 0.0286 | 0.0243 |

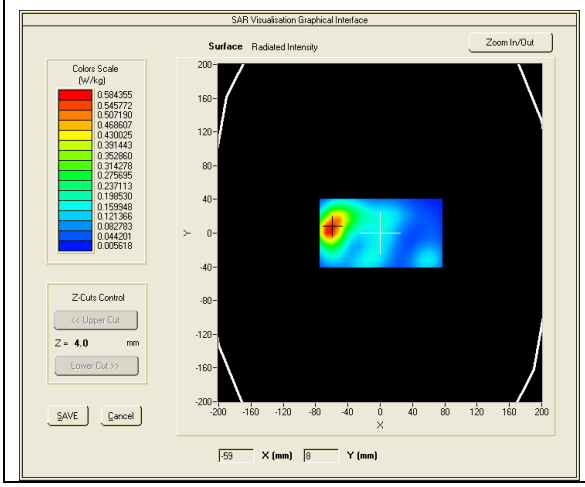
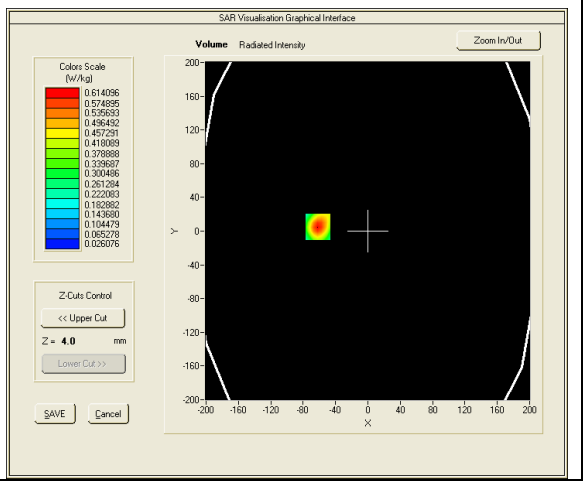



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 19<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Front |
| **Band** | GSM1900+GPRS(4up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 2.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 51.181801 |
| **Relative permittivity (imaginary part)** | 14.969100 |
| **Conductivity (S/m)** | 1.563439 |
| **Variation (%)** | -1.510000 |

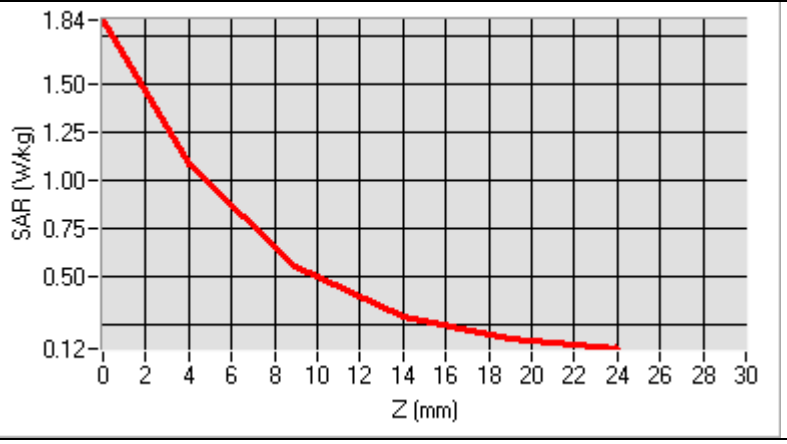
| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |

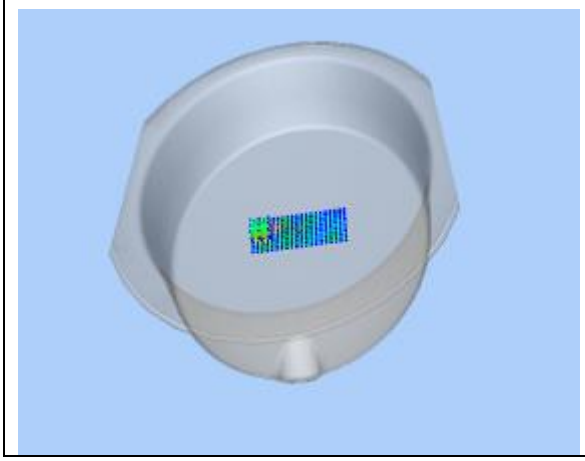
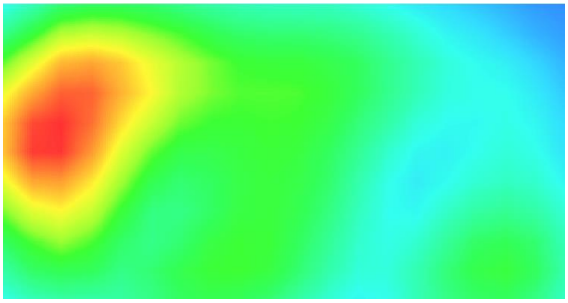


**Maximum location: X=-58.00, Y=7.00**
**SAR Peak: 2.05 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.610041 |
| **SAR 1g (W/Kg)** | 1.158622 |

| Z (mm) | 0.00 | 4.00 | 9.00 | 14.00 | 19.00 |
|---|---|---|---|---|---|
| SAR (W/Kg) | 1.8362 | 1.0882 | 0.5500 | 0.2915 | 0.1796 |

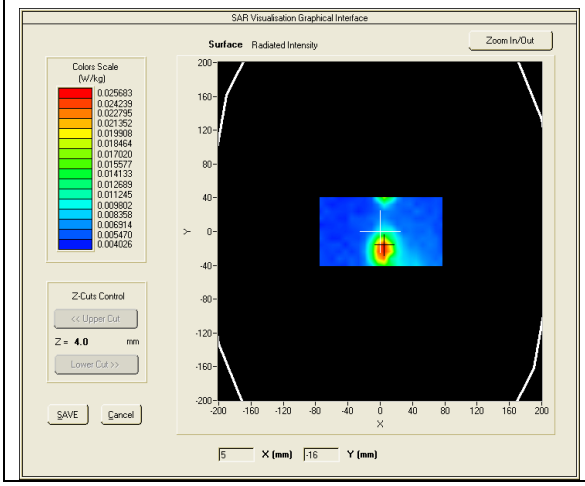
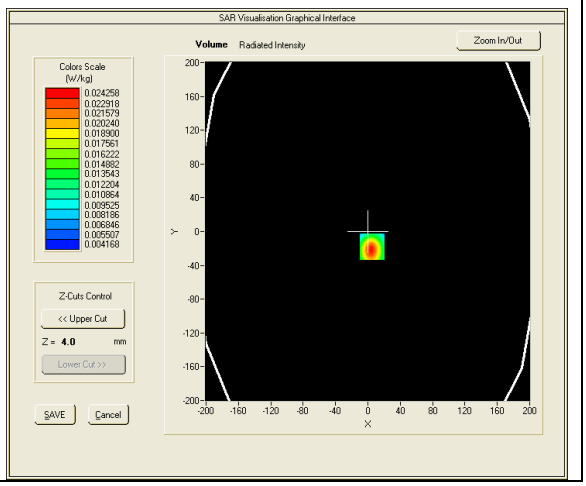



| 3D screen shot | Hot spot position |
|---|---|
|  |  |

| MEASUREMENT 20<br>Date of measurement: 2016/07/07 |
|---|

| | |
|---|---|
| **Area Scan** | dx=8mm dy=8mmh= 5.00 mm |
| **Zoom Scan** | 7x7x7,dx=5mm dy=5mm dz=5mm, dx=8mm dy=8mm, h= 5.00 mm |
| **Phantom** | ELLI16 |
| **Device Position** | Front |
| **Band** | GSM1900+EDGE(1up1down) |
| **Channels** | Middle |
| **Signal** | TDMA (Crest factor: 8.0) |

| | |
|---|---|
| **Frequency (MHz)** | 1880.000000 |
| **Relative permittivity (real part)** | 51.181801 |
| **Relative permittivity (imaginary part)** | 14.969100 |
| **Conductivity (S/m)** | 1.563439 |
| **Variation (%)** | 2.960000 |

| **SURFACE SAR** | **VOLUME SAR** |
|---|---|
|  |  |





**Maximum location: X=-58.00, Y=2.00**
**SAR Peak: 0.40 W/kg**

| | |
|---|---|
| **SAR 10g (W/Kg)** | 0.155860 |
| **SAR 1g (W/Kg)** | 0.257741 |