

# SAR TEST REPORT

HCT CO., LTD

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| EUT Type:                                        | Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| FCC ID:                                          | ZNFP895                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
| Model:                                           | LG-P895                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |
| Additional model:                                | P895, LGP895                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Date of Issue:                                   | Aug. 1, 2012                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
| Test report No.:                                 | HCTA1208FS01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |
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| Testing has been carried out in accordance with: | RSS-102 Issue 4; Health Canada Safety Code 6<br>47CFR §2.1093<br>FCC OET Bulletin 65(Edition 97-01), Supplement C (Edition 01-01)<br>ANSI/ IEEE C95.1 – 1992<br>IEEE 1528-2003                                                                                                                                                                                                                                                                                                                                                                       |  |  |
| Test result:                                     | The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.                                                                                                                                                                                                                                                                              |  |  |
| Signature                                        | <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <br/> <hr style="width: 100%;"/> Report prepared by<br/> : Yun-Jeang Heo<br/> Test Engineer of SAR Part </div> <div style="text-align: center;"> <br/> <hr style="width: 100%;"/> Approved by<br/> : Jae-Sang So<br/> Manager of SAR Part </div> </div> |  |  |

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## 1. INTRODUCTION

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

### SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density ( $\rho$ ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

$$SAR = \frac{d}{dt} \left( \frac{dU}{dm} \right) = \frac{d}{dt} \left( \frac{dU}{\rho dV} \right)$$

**Figure 2. SAR Mathematical Equation**

**SAR is expressed in units of Watts per Kilogram (W/kg).**

where:

$$SAR = \sigma E^2 / \rho$$

|          |   |                                                                   |
|----------|---|-------------------------------------------------------------------|
| $\sigma$ | = | conductivity of the tissue-simulant material (S/m)                |
| $\rho$   | = | mass density of the tissue-simulant material (kg/m <sup>3</sup> ) |
| $E$      | = | Total RMS electric field strength (V/m)                           |

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

## 2. DESCRIPTION OF DEVICE

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

|                                        |                                                                                                                                                                                                                                              |                   |              |         |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|---------|
| EUT Type                               | Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC                                                                                                                                                               |                   |              |         |
| FCC ID:                                | ZNFP895                                                                                                                                                                                                                                      |                   |              |         |
| Model:                                 | LG-P895                                                                                                                                                                                                                                      | Additional model: | P895, LGP895 |         |
| Trade Name                             | LG Electronics, MobileComm U.S.A., Inc.                                                                                                                                                                                                      |                   |              |         |
| Application Type                       | Certification                                                                                                                                                                                                                                |                   |              |         |
| Mode(s) of Operation                   | GSM850/GSM1900 /WCDMA850 / WCDMA1900/802.11a/b/g/n                                                                                                                                                                                           |                   |              |         |
| Tx Frequency                           | 824.20 - 848.80 MHz (GSM850) /1 850.20 – 1 909.80 MHz (GSM1900)<br>826.4-846.6 MHz (WCDMA850) /1 852.4 – 1 907.6 MHz (WCDMA1900)<br>2 412- 2 462 MHz (802.11b/g/n)<br>802.11a/n: 5180-5240MHz/ 5260-5320 MHz/ 5500-5700 MHz/ 5745-5825 MHz   |                   |              |         |
| Rx Frequency                           | 869.20 - 893.80 MHz (GSM850)/ 1 930.20 – 1 989.80 MHz (GSM1900)<br>871.4 - 891.6 MHz (WCDMA850)/ 1 932.4 – 1 987.6 MHz (WCDMA1900)<br>2 412- 2 462 MHz (802.11b/g/n)<br>802.11a/n: 5180-5240MHz/ 5260-5320 MHz/ 5500-5700 MHz/ 5745-5825 MHz |                   |              |         |
| FCC Classification                     | Licensed Portable Transmitter Held to Ear (PCE)                                                                                                                                                                                              |                   |              |         |
| Production Unit or Identical Prototype | Prototype                                                                                                                                                                                                                                    |                   |              |         |
| Max SAR                                | Band                                                                                                                                                                                                                                         | 1g SAR (W/kg)     |              |         |
|                                        |                                                                                                                                                                                                                                              | Head              | Body-worn    | Hotspot |
|                                        | GSM850                                                                                                                                                                                                                                       | 0.098             | 0.39         | 0.39    |
|                                        | GSM1900                                                                                                                                                                                                                                      | 0.164             | 0.969        | 0.969   |
|                                        | WCDMA850                                                                                                                                                                                                                                     | 0.080             | 0.176        | 0.176   |
|                                        | WCDMA1900                                                                                                                                                                                                                                    | 0.256             | 1.19         | 1.19    |
|                                        | 802.11b                                                                                                                                                                                                                                      | 0.174             | 0.152        | 0.152   |
|                                        | 802.11a                                                                                                                                                                                                                                      | 0.418             | 0.072        | -       |
| Simultaneous SAR per KDB 690783 D01    |                                                                                                                                                                                                                                              | 0.674             | 1.342        | 1.342   |
| Date(s) of Tests                       | Jul.10, 2012 ~ Jul. 30, 2012                                                                                                                                                                                                                 |                   |              |         |
| Antenna Type                           | Integral Antenna                                                                                                                                                                                                                             |                   |              |         |
| GPRS                                   | Multislot Class: 33, Mode Class: B                                                                                                                                                                                                           |                   |              |         |
| Key Feature(s)                         | This device support Mobile Hotspot. But, Hotspot is not supported with 5GHz WiFi.                                                                                                                                                            |                   |              |         |

## 3. DESCRIPTION OF TEST EQUIPMENT

### 3.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Figure.3.1).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC consists of the HP Pentium IV 3.0 GHz computer with Windows XP system and SAR Measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

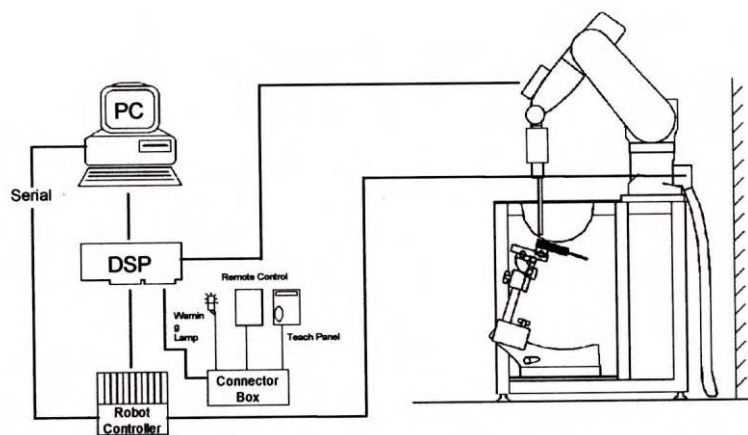


Figure 3.1 HCT SAR Lab. Test Measurement Set-up

The DAE4 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

## 3.2 DASY4 E-FIELD PROBE SYSTEM

### 3.2.1 EX3DV4 Probe Specification

|               |                                                                                                                                                                                 |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction  | Symmetrical design with triangular core Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |
| Calibration   | Basic Broad Band Calibration in air<br>Conversion Factors (CF) for HSL 900 and HSL 1810<br>Additional CF for other liquids and frequencies upon request                         |
| Frequency     | 10 MHz to 4 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 4 GHz)                                                                                                                      |
| Directivity   | $\pm 0.2$ dB in HSL (rotation around probe axis)<br>$\pm 0.3$ dB in tissue material (rotation normal to probe axis)                                                             |
| Dynamic Range | 5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                                              |
| Dimensions    | Overall length: 330 mm (Tip: 20 mm)<br>Tip diameter: 3.9 mm (Body: 12 mm)<br>Distance from probe tip to dipole centers: 2.0 mm                                                  |
| Application   | General dosimetry up to 4 GHz<br>Dosimetry in strong gradient fields<br>Compliance tests of mobile phones                                                                       |

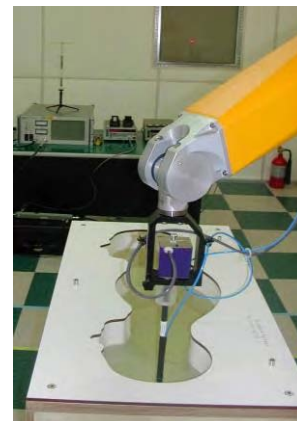


Figure 3.1 Photograph of the probe and the Phantom



Figure 3.2 EX3DV4 E-field

The SAR measurements were conducted with the dosimetric probe EX3DV4, designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches a maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY4 software reads the reflection during a software approach and looks for the maximum using a 2<sup>nd</sup> order fitting. The approach is stopped at reaching the maximum.



## 3.3 PROBE CALIBRATION PROCESS

### 3.3.1 E-Probe Calibration

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

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a waveguide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

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

where:

$\Delta t$  = exposure time (30 seconds),

C = heat capacity of tissue (brain or muscle),

$\Delta T$  = temperature increase due to RF exposure.

SAR is proportional to  $\Delta T / \Delta t$ , the initial rate of tissue heating, before thermal diffusion takes place. Now it's possible to quantify the electric field in the simulated tissue by equating the thermally derived SAR to the E-field;

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

where:

$\sigma$  = simulated tissue conductivity,

$\rho$  = Tissue density (1.25 g/cm<sup>3</sup> for brain tissue)

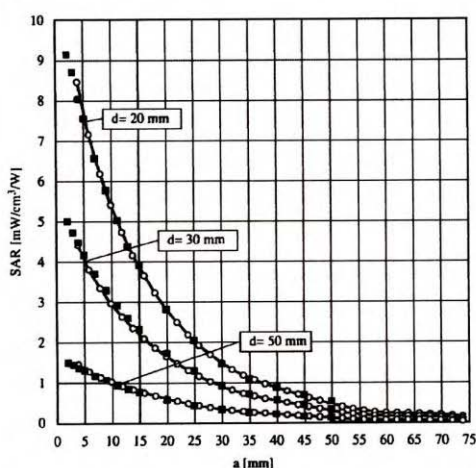


Figure 3.4 E-Field and Temperature measurements at 900 MHz

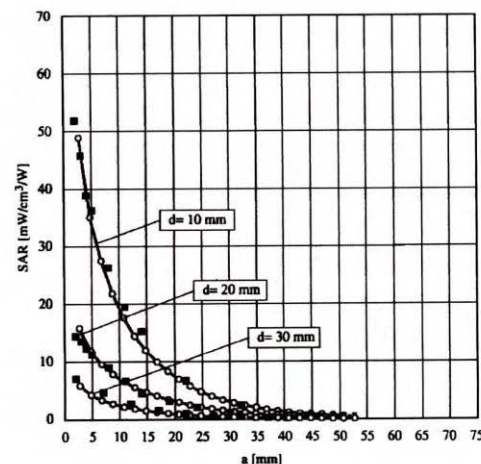


Figure 3.5 E-Field and temperature measurements at 1.8 GHz

### 3.3.2 Data Extrapolation

The DASY4 software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given like below;

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

with  $V_i$  = compensated signal of channel i (i=x,y,z)  
 $U_i$  = input signal of channel i (i=x,y,z)  
 $cf$  = crest factor of exciting field (DASY parameter)  
 $dcp_i$  = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:

$$E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

with  $V_i$  = compensated signal of channel i (i = x,y,z)  
 $Norm_i$  = sensor sensitivity of channel i (i = x,y,z)  
 $\mu V/(V/m)^2$  for E-field probes  
 $ConvF$  = sensitivity of enhancement in solution  
 $E_i$  = electric field strength of channel i in V/m

The RSS value of the field components gives the total field strength (Hermetian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with  $SAR$  = local specific absorption rate in W/g  
 $E_{tot}$  = total field strength in V/m  
 $\sigma$  = conductivity in [mho/m] or [Siemens/m]  
 $\rho$  = equivalent tissue density in g/cm<sup>3</sup>

The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = \frac{E_{tot}^2}{3770}$$

with  $P_{pwe}$  = equivalent power density of a plane wave in W/cm<sup>2</sup>  
 $E_{tot}$  = total electric field strength in V/m



### **3.4 SAM Phantom**

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.



Figure 3.6 SAM Phantom

|                 |                                                   |
|-----------------|---------------------------------------------------|
| Shell Thickness | 2.0 mm $\pm$ 0.2 mm (6 $\pm$ 0.2 mm at ear point) |
| Filling Volume  | about 25 L                                        |
| Dimensions      | 1 000 mm x 500 mm (L x W)                         |

### **3.5 Device Holder for Transmitters**

In combination with the SAM Phantom V 4.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Note: A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produced infinite number of configurations. To produce the Worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.



Figure 3.7 Device Holder

### 3.6 Brain & Muscle Simulating Mixture Characterization

The brain and muscle mixtures consist of a viscous gel using hydrox-ethyl cellulose (HEC) gelling agent and saline solution (see Table 3.1). Preservation with a bactericide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The mixture characterizations used for the brain and muscle tissue simulating liquids are according to the data by C. Gabriel and G. Hartsgrove.

| O.Ingredients<br>(% by weight) | Frequency (MHz) |      |       |       |       |      |       |      |           |       |
|--------------------------------|-----------------|------|-------|-------|-------|------|-------|------|-----------|-------|
|                                | 835             |      | 915   |       | 1 900 |      | 2 450 |      | 5200-5800 |       |
| Tissue Type                    | Head            | Body | Head  | Body  | Head  | Body | Head  | Body | Head      | Body  |
| Water                          | 41.45           | 52.4 | 41.05 | 56.0  | 54.9  | 40.4 | 62.7  | 73.2 | 65.52     | 78.66 |
| Salt (NaCl)                    | 1.45            | 1.4  | 1.35  | 0.76  | 0.18  | 0.5  | 0.5   | 0.04 | 0.0       | 0.0   |
| Sugar                          | 56.0            | 45.0 | 56.5  | 41.76 | 0.0   | 58.0 | 0.0   | 0.0  | 0.0       | 0.0   |
| HEC                            | 1.0             | 1.0  | 1.0   | 1.21  | 0.0   | 1.0  | 0.0   | 0.0  | 0.0       | 0.0   |
| Bactericide                    | 0.1             | 0.1  | 0.1   | 0.27  | 0.0   | 0.1  | 0.0   | 0.0  | 0.0       | 0.0   |
| Triton X-100                   | 0.0             | 0.0  | 0.0   | 0.0   | 0.0   | 0.0  | 36.8  | 0.0  | 17.24     | 10.67 |
| DGBE                           | 0.0             | 0.0  | 0.0   | 0.0   | 44.92 | 0.0  | 0.0   | 26.7 | 0.0       | 0.0   |
| Diethylene glycol hexyl ether  |                 |      |       |       |       |      |       |      | 17.24     | 10.67 |

|                           |                                                                    |        |                        |
|---------------------------|--------------------------------------------------------------------|--------|------------------------|
| Salt:                     | 99 % Pure Sodium Chloride                                          | Sugar: | 98 % Pure Sucrose      |
| Water:                    | De-ionized, 16M 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 |        |                        |

**Table 3.1 Composition of the Tissue Equivalent Matter**

### 3.7 SAR TEST EQUIPMENT

| Manufacturer | Type / Model                | S/N             | Calib. Date   | Calib.Interval | Calib.Due     |
|--------------|-----------------------------|-----------------|---------------|----------------|---------------|
| SPEAG        | SAM Phantom                 | -               | N/A           | N/A            | N/A           |
| Staubli      | Robot RX90L                 | F01/5K09A1/A/01 | N/A           | N/A            | N/A           |
| Staubli      | Robot ControllerCS7MB       | F99/5A82A1/C/01 | N/A           | N/A            | N/A           |
| HP           | Pavilion t000_puffer        | KRJ51201TV      | N/A           | N/A            | N/A           |
| SPEAG        | Light Alignment Sensor      | 265             | N/A           | N/A            | N/A           |
| Staubli      | Teach Pendant (Joystick)    | D221340.01      | N/A           | N/A            | N/A           |
| SPEAG        | DAE3                        | 446             | Sep. 27, 2011 | Annual         | Sep. 27, 2012 |
| SPEAG        | DAE4                        | 648             | Apr. 27, 2012 | Annual         | Apr. 27, 2013 |
| SPEAG        | E-Field Probe EX3DV4        | 3797            | July 25, 2011 | Annual         | July 25, 2012 |
| SPEAG        | E-Field Probe EX3DV4        | 3863            | July 13, 2012 | Annual         | July 13, 2013 |
| SPEAG        | Validation Dipole D835V2    | 441             | May 16, 2012  | Annual         | May 16, 2013  |
| SPEAG        | Validation Dipole D1900V2   | 5d032           | July 22, 2011 | Annual         | July 22, 2012 |
| SPEAG        | Validation Dipole D2450V2   | 743             | Aug. 29, 2011 | Annual         | Aug. 29, 2012 |
| Agilent      | Power Meter(F) E4419B       | MY41291386      | Nov. 04, 2011 | Annual         | Nov. 04, 2012 |
| Agilent      | Power Sensor(G) 8481        | MY41090870      | Nov. 04, 2011 | Annual         | Nov. 04, 2012 |
| HP           | Dielectric Probe Kit 85070C | 00721521        | N/A           | N/A            | N/A           |
| HP           | Dual Directional Coupler    | 16072           | Nov. 04, 2011 | Annual         | Nov. 04, 2012 |
| R&S          | Base Station CMU200         | 110740          | July 26, 2011 | Annual         | July 26, 2012 |
| Agilent      | Base Station E5515C         | GB44400269      | Feb. 10, 2012 | Annual         | Feb. 10, 2013 |
| HP           | Signal Generator E4438C     | MY42082646      | Nov. 11, 2011 | Annual         | Nov. 11, 2012 |
| HP           | Network Analyzer 8753ES     | JP39240221      | Apr. 3, 2012  | Annual         | Apr. 3, 2013  |

**NOTE:**

The E-field probe was calibrated by SPEAG, by the waveguide technique procedure. Dipole Validation measurement is performed by HCT Lab. before each test. The brain simulating material is calibrated by HCT using the dielectric probe system and network analyzer to determine the conductivity and permittivity (dielectric constant) of the brain-equivalent material.

## 4. SAR MEASUREMENT PROCEDURE

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The evaluation was performed with the following procedure:

1. The SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drop.
2. The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15 mm x 15 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.
3. Around this point, a volume of 32 mm x 32 mm x 30 mm was assessed by measuring 5 x 5 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:
  - a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
  - b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR value, at the same location as procedure #1, was re-measured. If the value changed by more than 5 %, the evaluation is repeated.

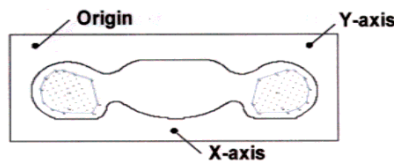


Figure 4.1 SAR Measurement Point in Area Scan

## 5. DESCRIPTION OF TEST POSITION

### 5.1 HEAD POSITION

The device was placed in a normal operating position with the Point A on the device, as illustrated in following drawing, aligned with the location of the RE(ERP) on the phantom. With the ear-piece pressed against the head, the vertical center line of the body of the handset was aligned with an imaginary plane consisting of the RE, LE and M. While maintaining these alignments, the body of the handset was gradually moved towards the cheek until any point on the mouth-piece or keypad contacted the cheek. This is a cheek/touch position. For ear/tilt position, while maintain the device aligned with the BM and FN lines, the device was pivot against ERP back for 15° or until the device antenna touch the phantom. Please refer to IEEE 1528-2003 illustration below.

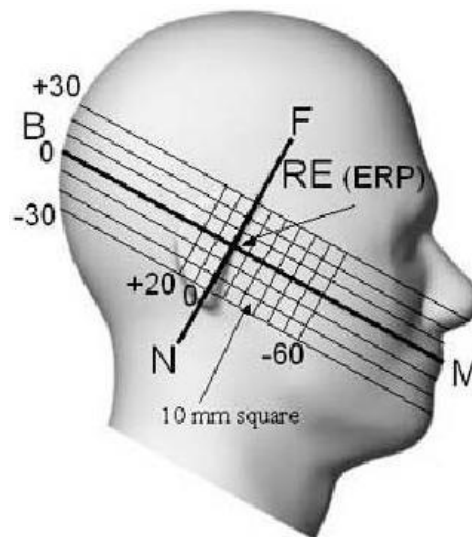


Figure 5.1 Side view of the phantom

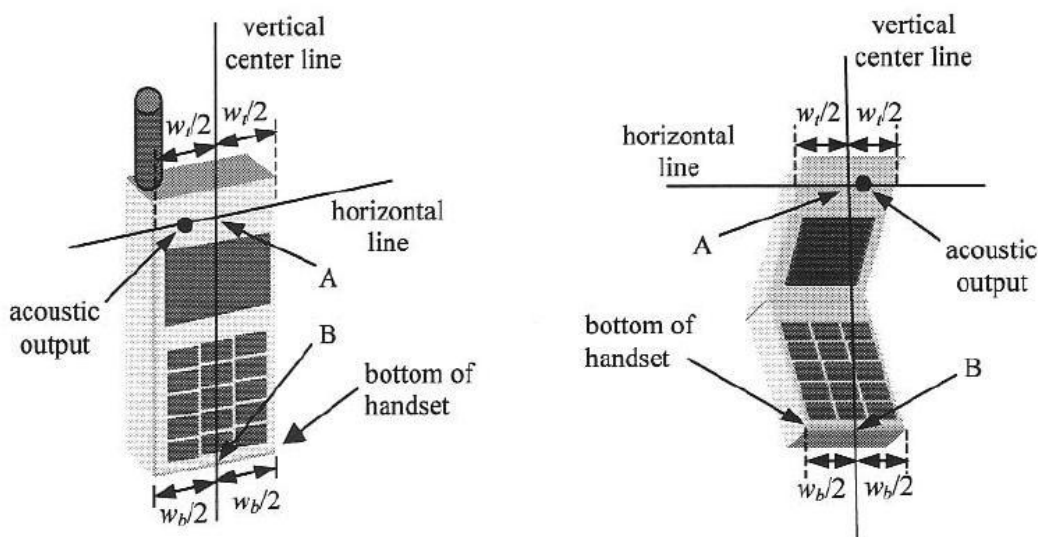


Figure 5.2 Handset vertical and horizontal reference lines



## **5.2 Body Holster/Belt Clip Configurations**

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with each accessory. If multiple accessory share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some Devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used.

Since this EUT does not supply any body worn accessory to the end user a distance of 1.0 cm from the EUT back surface to the liquid interface is configured for the generic test.

"See the Test SET-UP Photo"

Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessory(ies), including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

In all cases SAR measurements are performed to investigate the worst-case positioning. Worstcase positioning is then documented and used to perform Body SAR testing.

## 6. MEASUREMENT UNCERTAINTY

| Error Description                   | Tol<br>(± %) | Prob.<br>dist. | Div. | C <sub>i</sub> | Standard<br>Uncertainty<br>(± %) | V <sub>eff</sub> |
|-------------------------------------|--------------|----------------|------|----------------|----------------------------------|------------------|
| <b>1. Measurement System</b>        |              |                |      |                |                                  |                  |
| Probe Calibration                   | 6.00         | N              | 1    | 1              | 6.00                             | ∞                |
| Axial Isotropy                      | 4.70         | R              | 1.73 | 0.7            | 1.90                             | ∞                |
| Hemispherical Isotropy              | 9.60         | R              | 1.73 | 0.7            | 3.88                             | ∞                |
| Boundary Effects                    | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| Linearity                           | 4.70         | R              | 1.73 | 1              | 2.71                             | ∞                |
| System Detection Limits             | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| Readout Electronics                 | 0.30         | N              | 1.00 | 1              | 0.30                             | ∞                |
| Response Time                       | 0.8          | R              | 1.73 | 1              | 0.46                             | ∞                |
| Integration Time                    | 2.6          | R              | 1.73 | 1              | 1.50                             | ∞                |
| RF Ambient Conditions               | 3.00         | R              | 1.73 | 1              | 1.73                             | ∞                |
| Probe Positioner                    | 0.40         | R              | 1.73 | 1              | 0.23                             | ∞                |
| Probe Positioning                   | 2.90         | R              | 1.73 | 1              | 1.67                             | ∞                |
| Max SAR Eval                        | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| <b>2. Test Sample Related</b>       |              |                |      |                |                                  |                  |
| Device Positioning                  | 2.90         | N              | 1.00 | 1              | 2.90                             | 145              |
| Device Holder                       | 3.60         | N              | 1.00 | 1              | 3.60                             | 5                |
| Power Drift                         | 5.00         | R              | 1.73 | 1              | 2.89                             | ∞                |
| <b>3. Phantom and Setup</b>         |              |                |      |                |                                  |                  |
| Phantom Uncertainty                 | 4.00         | R              | 1.73 | 1              | 2.31                             | ∞                |
| Liquid Conductivity(target)         | 5.00         | R              | 1.73 | 0.64           | 1.85                             | ∞                |
| Liquid Conductivity(meas.)          | 2.07         | N              | 1    | 0.64           | 1.32                             | 9                |
| Liquid Permittivity(target)         | 5.00         | R              | 1.73 | 0.6            | 1.73                             | ∞                |
| Liquid Permittivity(meas.)          | 5.02         | N              | 1    | 0.6            | 3.01                             | 9                |
| <b>Combine Standard Uncertainty</b> |              |                |      |                | 11.13                            |                  |
| <b>Coverage Factor for 95 %</b>     |              |                |      |                | k=2                              |                  |
| <b>Expanded STD Uncertainty</b>     |              |                |      |                | 22.25                            |                  |

Table 6.1 Uncertainty (800 MHz- 2450 MHz)

| Error Description                   | Tol<br>(± %) | Prob.<br>dist. | Div. | c <sub>i</sub> | Standard<br>Uncertainty<br>(± %) | V <sub>eff</sub> |
|-------------------------------------|--------------|----------------|------|----------------|----------------------------------|------------------|
| <b>1. Measurement System</b>        |              |                |      |                |                                  |                  |
| Probe Calibration                   | 6.55         | N              | 1    | 1              | 6.55                             | ∞                |
| Axial Isotropy                      | 4.70         | R              | 1.73 | 0.7            | 1.90                             | ∞                |
| Hemispherical Isotropy              | 9.60         | R              | 1.73 | 0.7            | 3.88                             | ∞                |
| Boundary Effects                    | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| Linearity                           | 4.70         | R              | 1.73 | 1              | 2.71                             | ∞                |
| System Detection Limits             | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| Readout Electronics                 | 0.30         | N              | 1.00 | 1              | 0.30                             | ∞                |
| Response Time                       | 0.8          | R              | 1.73 | 1              | 0.46                             | ∞                |
| Integration Time                    | 2.6          | R              | 1.73 | 1              | 1.50                             | ∞                |
| RF Ambient Conditions               | 3.00         | R              | 1.73 | 1              | 1.73                             | ∞                |
| Probe Positioner                    | 0.40         | R              | 1.73 | 1              | 0.23                             | ∞                |
| Probe Positioning                   | 2.90         | R              | 1.73 | 1              | 1.67                             | ∞                |
| Max SAR Eval                        | 1.00         | R              | 1.73 | 1              | 0.58                             | ∞                |
| <b>2. Test Sample Related</b>       |              |                |      |                |                                  |                  |
| Device Positioning                  | 2.90         | N              | 1.00 | 1              | 2.90                             | 145              |
| Device Holder                       | 3.60         | N              | 1.00 | 1              | 3.60                             | 5                |
| Power Drift                         | 5.00         | R              | 1.73 | 1              | 2.89                             | ∞                |
| <b>3. Phantom and Setup</b>         |              |                |      |                |                                  |                  |
| Phantom Uncertainty                 | 4.00         | R              | 1.73 | 1              | 2.31                             | ∞                |
| Liquid Conductivity(target)         | 5.00         | R              | 1.73 | 0.64           | 1.85                             | ∞                |
| Liquid Conductivity(meas.)          | 2.07         | N              | 1    | 0.64           | 1.32                             | 9                |
| Liquid Permittivity(target)         | 5.00         | R              | 1.73 | 0.6            | 1.73                             | ∞                |
| Liquid Permittivity(meas.)          | 5.02         | N              | 1    | 0.6            | 3.01                             | 9                |
| <b>Combine Standard Uncertainty</b> |              |                |      |                | 11.43                            |                  |
| <b>Coverage Factor for 95 %</b>     |              |                |      |                | k = 2                            |                  |
| <b>Expanded STD Uncertainty</b>     |              |                |      |                | 22.86                            |                  |

Table 6.2 Uncertainty (5000-5900 MHz)

## 7. ANSI/ IEEE C95.1 - 1992 RF EXPOSURE LIMITS

| HUMAN EXPOSURE                                         | UNCONTROLLED ENVIRONMENT<br>General Population<br>(W/kg) or (mW/g) | CONTROLLED ENVIRONMENT<br>Occupational<br>(W/kg) or (mW/g) |
|--------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|
| SPATIAL PEAK SAR *<br>(Brain)                          | 1.60                                                               | 8.00                                                       |
| SPATIAL AVERAGE SAR **<br>(Whole Body)                 | 0.08                                                               | 0.40                                                       |
| SPATIAL PEAK SAR ***<br>(Hands / Feet / Ankle / Wrist) | 4.00                                                               | 20.00                                                      |

**Table 7.1 Safety Limits for Partial Body Exposure**

### NOTES:

\* The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

\*\* The Spatial Average value of the SAR averaged over the whole-body.

\*\*\* The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

**Uncontrolled Environments** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**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).

## 8. SYSTEM VERIFICATION

### 8.1 Tissue Verification

| Freq.<br>[MHz] | Date         | Liquid | Liquid<br>Temp.[°C] | Parameters   | Target<br>Value | Measured<br>Value | Deviation<br>[%] | Limit<br>[%] |
|----------------|--------------|--------|---------------------|--------------|-----------------|-------------------|------------------|--------------|
| 835            | Jul.17, 2012 | Head   | 21.3                | $\epsilon_r$ | 41.5            | 42.9              | + 3.37           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 0.90            | 0.899             | - 0.11           | $\pm 5$      |
| 835            |              | Body   |                     | $\epsilon_r$ | 55.2            | 54.5              | - 1.27           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 0.97            | 1.01              | + 4.12           | $\pm 5$      |
| 1 900          | Jul.10, 2012 | Head   | 21.2                | $\epsilon_r$ | 40.0            | 39.8              | - 0.50           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 1.40            | 1.41              | + 0.71           | $\pm 5$      |
| 1 900          |              | Body   |                     | $\epsilon_r$ | 53.3            | 53.5              | + 0.38           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 1.52            | 1.5               | - 1.32           | $\pm 5$      |
| 2 450          | Jul.19, 2012 | Head   | 21.1                | $\epsilon_r$ | 39.2            | 38                | - 3.06           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 1.80            | 1.86              | + 3.33           | $\pm 5$      |
| 2 450          |              | Body   |                     | $\epsilon_r$ | 52.7            | 51.8              | - 1.71           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 1.95            | 1.92              | - 1.54           | $\pm 5$      |
| 5500           | Jul.30, 2012 | Head   | 21.3                | $\epsilon_r$ | 35.6            | 35.8              | + 0.56           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 4.96            | 4.88              | - 1.61           | $\pm 5$      |
| 5500           |              | Body   |                     | $\epsilon_r$ | 48.6            | 46.5              | - 4.32           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 5.65            | 5.52              | - 2.30           | $\pm 5$      |
| 5800           |              | Head   |                     | $\epsilon_r$ | 35.3            | 35                | - 0.85           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 5.27            | 5.27              | 0.00             | $\pm 5$      |
| 5800           |              | Body   |                     | $\epsilon_r$ | 48.2            | 46                | - 4.56           | $\pm 5$      |
|                |              |        |                     | $\sigma$     | 6.00            | 6.06              | + 1.00           | $\pm 5$      |

The Tissue dielectronic parameters were measured prior to the SAR evaluation using an Agilent 85070C Dielectronic Probe Kit and Agilent Network Analyzer.

### 8.2 System Validation

Prior to assessment, the system is verified to the  $\pm 10\%$  of the specifications at 835 MHz / 1 900 MHz/ 2 450 MHz/5.5GHz/5.8GHz by using the system validation kit. (Graphic Plots Attached)

| Freq.<br>[MHz] | Date         | Probe<br>(SN) | Liquid | Amb.<br>Temp.<br>[°C] | Liquid<br>Temp.<br>[°C] | 1 W Target<br>SAR <sub>1g</sub><br>(SPEAG)<br>(mW/g) | Measured<br>SAR <sub>1g</sub><br>(mW/g) | 1 W<br>Normalized<br>SAR <sub>1g</sub><br>(mW/g) | Deviation<br>[%] | Limit<br>[%] |
|----------------|--------------|---------------|--------|-----------------------|-------------------------|------------------------------------------------------|-----------------------------------------|--------------------------------------------------|------------------|--------------|
| 835            | Jul.17, 2012 | 3797          | Head   | 21.5                  | 21.3                    | 9.43                                                 | 0.967                                   | 9.67                                             | + 2.55           | ± 10         |
|                |              |               | Body   |                       |                         | 9.50                                                 | 0.952                                   | 9.52                                             | + 0.21           | ± 10         |
| 1 900          | Jul.10, 2012 |               | Head   | 21.4                  | 21.2                    | 39.9                                                 | 4.17                                    | 41.7                                             | + 4.51           | ± 10         |
|                |              |               | Body   |                       |                         | 40.9                                                 | 4.12                                    | 41.2                                             | + 0.73           | ± 10         |
| 2 450          | Jul.19, 2012 |               | Head   | 21.3                  | 21.1                    | 53.8                                                 | 5.28                                    | 52.8                                             | - 1.86           | ± 10         |
|                |              |               | Body   |                       |                         | 51.7                                                 | 5.28                                    | 52.8                                             | + 2.13           | ± 10         |
| 5 500          | Jul.30, 2012 | 3863          | Head   | 21.5                  | 21.3                    | 87.8                                                 | 8.79                                    | 87.9                                             | + 0.11           | ± 10         |
| Body           |              |               | 81.6   |                       |                         | 8.1                                                  | 81                                      | - 0.74                                           | ± 10             |              |
| 5 800          |              |               | Head   |                       |                         | 78.9                                                 | 7.63                                    | 76.3                                             | - 3.30           | ± 10         |
|                |              |               | Body   |                       |                         | 76.9                                                 | 7.95                                    | 79.5                                             | + 3.38           | ± 10         |

## **8.3 System Validation Procedure**

SAR measurement was prior to assessment, the system is verified to the  $\pm 10\%$  of the specifications at each frequency band by using the system validation kit. (Graphic Plots Attached)

- Cabling the system, using the validation kit equipments.
- Generate about 100 mW Input Level from the Signal generator to the Dipole Antenna.
- Dipole Antenna was placed below the Flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % of the target reference value.
- The results are normalized to 1 W input power.

Note;

SAR Verification was performed according to the FCC KDB 450824.



## **9. RF CONDUCTED POWER MEASUREMENT**

Power measurements were performed using a base station simulator under digital average power.

The handset was placed into a simulated call using a base station simulator in a shielded chamber.

Such test signals offer a consistent means for testing SAR and are recommended for evaluation SAR

SAR measurements were taken with a fully charged battery. In order to verify that the device was tested

and maintained at full power, this was configured with the base station simulator. The SAR measurement

Software calculates a reference point at the start and end of the test to check for power drifts. If conducted

Power deviations of more than 5 % occurred, the tests were repeated.

### **9.1 GSM**

Conducted output power measurements were performed using a base station simulator under digital average power.



SAR Test for WWAN were performed with a base station simulator Agilent E5515C. Communication between the device and the emulator was established by air link. Set base station emulator to allow DUT to radiate maximum output power during all tests. Please refer to the below worst case SAR operation setup.

- GSM voice: Head SAR
- GPRS Multi-slots : Body SAR with GPRS Multi-slot Class33 with CS 1 (GMSK)

#### **Note;**

CS1/MCS7 coding scheme was used in GPRS/EDGE output power measurements and SAR Testing, as a condition where GMSK/8PSK modulation was ensured. Investigation has shown that CS1 - CS4/ MCS5 – MCS9 settings do not have any impact on the output levels in the GPRS/EDGE modes.

GSM Conducted output powers (Burst-Average)

| Band        | Channel | GSM            | GPRS(GMSK) Data – CS1 |                       |                       |                       | EDGE(8PSK) Data – MCS7 |                       |                       |                       |
|-------------|---------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|
|             |         | Voice<br>(dBm) | GPRS                  | GPRS                  | GPRS                  | GPRS                  | EDGE                   | EDGE                  | EDGE                  | EDGE                  |
|             |         |                | 1 TX<br>Slot<br>(dBm) | 2 TX<br>Slot<br>(dBm) | 3 TX<br>Slot<br>(dBm) | 4 TX<br>Slot<br>(dBm) | 1 TX<br>Slot<br>(dBm)  | 2 TX<br>Slot<br>(dBm) | 3 TX<br>Slot<br>(dBm) | 4 TX<br>Slot<br>(dBm) |
| GSM<br>850  | 128     | 33.28          | 33.28                 | 31.53                 | 29.59                 | 28.58                 | 27.13                  | 25.10                 | 23.24                 | 22.24                 |
|             | 190     | 33.32          | 33.32                 | 31.54                 | 29.60                 | 28.61                 | 27.15                  | 25.12                 | 23.26                 | 22.31                 |
|             | 251     | 33.34          | 33.34                 | 31.53                 | 29.58                 | 28.61                 | 27.20                  | 25.18                 | 23.32                 | 22.35                 |
| GSM<br>1900 | 512     | 29.23          | 29.23                 | 26.82                 | 25.31                 | 23.87                 | 26.25                  | 24.38                 | 22.44                 | 21.28                 |
|             | 661     | 29.16          | 29.16                 | 26.75                 | 25.27                 | 23.82                 | 26.19                  | 24.32                 | 22.37                 | 21.21                 |
|             | 810     | 29.12          | 29.12                 | 26.73                 | 25.24                 | 23.79                 | 26.15                  | 24.28                 | 22.34                 | 21.15                 |

GSM Conducted output powers (Frame-Average)

| Band        | Channel | GSM            | GPRS Data             |                       |                       |                       | EDGE Data             |                       |                       |                       |
|-------------|---------|----------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|             |         | Voice<br>(dBm) | GPRS                  | GPRS                  | GPRS                  | GPRS                  | EDGE                  | EDGE                  | EDGE                  | EDGE                  |
|             |         |                | 1 TX<br>Slot<br>(dBm) | 2 TX<br>Slot<br>(dBm) | 3 TX<br>Slot<br>(dBm) | 4 TX<br>Slot<br>(dBm) | 1 TX<br>Slot<br>(dBm) | 2 TX<br>Slot<br>(dBm) | 3 TX<br>Slot<br>(dBm) | 4 TX<br>Slot<br>(dBm) |
| GSM<br>850  | 128     | 24.25          | 24.25                 | 25.51                 | 25.33                 | 25.57                 | 18.10                 | 19.08                 | 18.98                 | 19.23                 |
|             | 190     | 24.29          | 24.29                 | 25.52                 | 25.34                 | 25.6                  | 18.12                 | 19.10                 | 19.00                 | 19.30                 |
|             | 251     | 24.31          | 24.31                 | 25.51                 | 25.32                 | 25.6                  | 18.17                 | 19.16                 | 19.06                 | 19.34                 |
| GSM<br>1900 | 512     | 20.2           | 20.2                  | 20.8                  | 21.05                 | 20.86                 | 17.22                 | 18.36                 | 18.18                 | 18.27                 |
|             | 661     | 20.13          | 20.13                 | 20.73                 | 21.01                 | 20.81                 | 17.16                 | 18.3                  | 18.11                 | 18.20                 |
|             | 810     | 20.09          | 20.09                 | 20.71                 | 20.98                 | 20.78                 | 17.12                 | 18.26                 | 18.08                 | 18.14                 |

# Note:

Time slot average factor is as follows:

1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB

2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB

3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB

4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

## 9.2 WCDMA

Body SAR is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is  $\leq 75\%$  of the SAR limit. Otherwise, SAR is Measured for HSDPA, using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel.

### 9.2.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3 GPP TS 34.121, using the appropriate RMC or AMR with TPC(transmit power control) set to all "1s".

### 9.2.2 Head SAR Measurements

SAR for head exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all "1s". SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than ¼ dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 AMR with a 3.4 kbps SRB (signaling radio bearer using the exposure configuration that results in the highest SAR for that RF channel in 12.2 RMC.

### 9.2.3 Body SAR Measurement

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all "1s".

### 9.2.4 Handsets with Release 5 HSDPA

Body SAR is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is  $\leq 75\%$  of the SAR limit. Otherwise, SAR is Measured for HSDPA, using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel.

**Sub-Test 1 Setup for Release 5 HSDPA**

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | $\beta_c$            | $\beta_d$            | $\beta_d$<br>(SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(2)}$ | CM (dB) <sup>(2,3)</sup> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------|-------------------|----------------------|--------------------|--------------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2/15                 | 15/15                | 64                | 2/15                 | 4/15               | 0.0                      |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 12/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64                | 12/15 <sup>(3)</sup> | 24/15              | 1.0                      |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15/15                | 8/15                 | 64                | 15/8                 | 30/15              | 1.5                      |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 15/15                | 4/15                 | 64                | 15/4                 | 30/15              | 1.5                      |
| Note 1: $\Delta_{ACK}$ , $\Delta_{NACK}$ and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$<br>Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$ , $\beta_{hs}/\beta_c = 24/15$ .<br>Note 3: For subtest 2 the $\beta_c/\beta_d$ ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$ . |                      |                      |                   |                      |                    |                          |

## 9.2.5 Handsets with Release 6 HSPA (HSDPA/HSUPA)

Body SAR is not required for handsets with HSPA capabilities when the maximum average output of each RF channel with HSUPA/HSDPA active is less than ¼ dB higher than that measured without HSUPA/HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 75 % of the SAR limit. Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 with power control algorithm 2, according to the highest body SAR configuration in 12.1 kbps RMC without HSPA. When VOIP is applicable for head exposure, SAR is not required when the maximum output of each RF channel with HSPA is less than ¼ dB higher than that measured using 12.2 kbps RMC; otherwise, the same HSPA configuration used for body measurement should be used to test for head exposure.

| Sub-test | $\beta_c$            | $\beta_d$            | $\beta_d$ (SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | $\beta_{ec}$ | $\beta_{ed}$                                 | $\beta_{ed}$ (SF) | $\beta_{ed}$ (codes) | CM <sup>(2)</sup> (dB) | MPR (dB) | AG <sup>(4)</sup> Index | E-TFCI |
|----------|----------------------|----------------------|----------------|----------------------|--------------------|--------------|----------------------------------------------|-------------------|----------------------|------------------------|----------|-------------------------|--------|
| 1        | 11/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64             | 11/15 <sup>(3)</sup> | 22/15              | 209/225      | 1039/225                                     | 4                 | 1                    | 1.0                    | 0.0      | 20                      | 75     |
| 2        | 6/15                 | 15/15                | 64             | 6/15                 | 12/15              | 12/15        | 94/75                                        | 4                 | 1                    | 3.0                    | 2.0      | 12                      | 67     |
| 3        | 15/15                | 9/15                 | 64             | 15/9                 | 30/15              | 30/15        | $\beta_{ed1}: 47/15$<br>$\beta_{ed2}: 47/15$ | 4                 | 2                    | 2.0                    | 1.0      | 15                      | 92     |
| 4        | 2/15                 | 15/15                | 64             | 2/15                 | 4/15               | 2/15         | 56/75                                        | 4                 | 1                    | 3.0                    | 2.0      | 17                      | 71     |
| 5        | 15/15 <sup>(4)</sup> | 15/15 <sup>(4)</sup> | 64             | 15/15 <sup>(4)</sup> | 30/15              | 24/15        | 134/15                                       | 4                 | 1                    | 1.0                    | 0.0      | 21                      | 81     |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{16} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .  
Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCCH, HS-DPCCCH, E-DPDCH and E-DPCCCH the MPR is based on the relative CM difference.  
Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .  
Note 4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .  
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.  
Note 6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

WCDMA Average Conducted output powers

| 3GPP    | Mode  | 3GPP<br>34.121   | Cellular Band [dBm] |                            |                    |                            |                    |                            | MPR<br>Target |
|---------|-------|------------------|---------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|---------------|
| Release |       | Subtest          |                     |                            |                    |                            |                    |                            |               |
| Version |       |                  | UL 4132<br>DL 4357  | Power<br>reduction<br>(dB) | UL 4183<br>DL 4408 | Power<br>reduction<br>(dB) | UL 4233<br>DL 4458 | Power<br>reduction<br>(dB) |               |
| 99      | WCDMA | 12.2 kbps<br>RMC | 23.18               |                            | 23.14              |                            | 23.14              |                            | -             |
| 99      | WCDMA | 12.2 kbps<br>AMR | 23.18               |                            | 23.13              |                            | 23.13              |                            |               |
| 5       | HSDPA | Subtest 1        | 23.18               |                            | 23.16              |                            | 23.10              |                            | 0             |
| 5       |       | Subtest 2        | 23.21               | 0.03                       | 23.18              | 0.02                       | 23.15              | 0.05                       | 0             |
| 5       |       | Subtest 3        | 22.84               | -0.34                      | 22.81              | -0.35                      | 22.79              | -0.36                      | -0.5          |
| 5       |       | Subtest 4        | 22.58               | -0.60                      | 22.52              | -0.64                      | 22.52              | -0.27                      | -0.5          |
| 6       | HSUPA | Subtest 1        | 22.65               |                            | 22.59              |                            | 22.56              |                            | 0             |
| 6       |       | Subtest 2        | 20.98               | -1.67                      | 22.97              | 0.38                       | 22.97              | 0.41                       | -2            |
| 6       |       | Subtest 3        | 21.81               | -0.84                      | 21.97              | -0.62                      | 22.00              | -0.56                      | -1            |
| 6       |       | Subtest 4        | 21.11               | -1.54                      | 21.07              | -1.52                      | 21.04              | -1.52                      | -2            |
| 6       |       | Subtest 5        | 22.70               | 0.05                       | 22.66              | 0.07                       | 22.70              | 0.14                       | 0             |

| 3GPP    | Mode  | 3GPP<br>34.121   | PCS Band [dBm]     |                            |                    |                            |                    |                            | MPR<br>Target |
|---------|-------|------------------|--------------------|----------------------------|--------------------|----------------------------|--------------------|----------------------------|---------------|
| Release |       | Subtest          |                    |                            |                    |                            |                    |                            |               |
| Version |       |                  | UL 9262<br>DL 9662 | Power<br>reduction<br>(dB) | UL 9400<br>DL 9800 | Power<br>reduction<br>(dB) | UL 9538<br>DL 9938 | Power<br>reduction<br>(dB) |               |
| 99      | WCDMA | 12.2 kbps<br>RMC | 22.14              |                            | 21.94              |                            | 22.02              |                            | -             |
| 99      | WCDMA | 12.2 kbps<br>AMR | 22.15              |                            | 21.97              |                            | 22.01              |                            |               |
| 5       | HSDPA | Subtest 1        | 22.11              |                            | 21.94              |                            | 22.02              |                            | 0             |
| 5       |       | Subtest 2        | 22.21              | 0.10                       | 22.02              | 0.08                       | 22.08              | 0.06                       | 0             |
| 5       |       | Subtest 3        | 22.21              | 0.10                       | 22.03              | 0.09                       | 22.10              | 0.08                       | -0.5          |
| 5       |       | Subtest 4        | 22.23              | 0.12                       | 22.05              | 0.11                       | 22.12              | 0.10                       | -0.5          |
| 6       | HSUPA | Subtest 1        | 20.80              |                            | 20.64              |                            | 20.70              |                            | 0             |
| 6       |       | Subtest 2        | 20.85              | 0.05                       | 20.67              | 0.03                       | 20.73              | 0.03                       | -2            |
| 6       |       | Subtest 3        | 21.02              | 0.22                       | 20.69              | 0.05                       | 20.90              | 0.20                       | -1            |
| 6       |       | Subtest 4        | 20.93              | 0.13                       | 20.74              | 0.10                       | 20.77              | 0.07                       | -2            |
| 6       |       | Subtest 5        | 20.73              | -0.07                      | 20.50              | -0.14                      | 20.64              | -0.06                      | 0             |

## 9.3 WiFi

### 9.3.1 SAR Testing for 802.11a/b/g/n modes

#### General Device Setup

Normal Network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

#### Frequency Channel Configurations

80.11 a/b/g and 4.9 GHz operating modes are tested independently according to the service requirements in each frequency band. 80.211 b/g modes are tested on channels 1, 6 and 11. 802.11a is tested for UNII operations on channels 36 and 48 in the 5.15-5.25 GHz band; channels 52 and 64 in the 5.25-5.35 GHz band; Channels 104, 116, 124 and 136 in the 5.470-5.725 GHz band; and channels 149 and 161 in the 5.8 GHz band. When 5.8 GHz § 15.247 is also available, channels 149, 157 and 165 should be tested instead of the UNII channels. 4.9 GHz is tested on channels 1, 10 and 5 or 6, whichever has the higher output power, for 5 MHz channels; channels 11, 15 and 19 for 10 MHz channels; and channels 21 and 25 for 20 MHz channels.

These are referred to as the "default test channels". 802.11g mode was evaluated only if the output power was 0.25 dB higher than the 802.11b mode.

| Mode                  | GHz     | Channel | Turbo Channel  | "Default Test Channels" |         |      |   |
|-----------------------|---------|---------|----------------|-------------------------|---------|------|---|
|                       |         |         |                | §15.247                 |         | UNII |   |
|                       |         |         |                | 802.11b                 | 802.11g |      |   |
| 802.11 b/g            | 2.412   | 1       |                | ✓                       | ▽       |      |   |
|                       | 2.437   | 6       |                | ✓                       | ▽       |      |   |
|                       | 2.462   | 11      |                | ✓                       | ▽       |      |   |
| 802.11a               | 5.18    | 36      |                |                         |         | ✓    |   |
|                       | 5.20    | 40      | 42 (5.21 GHz)  |                         |         |      | * |
|                       | 5.22    | 44      |                |                         |         |      | * |
|                       | 5.24    | 48      | 50 (5.25 GHz)  |                         |         | ✓    |   |
|                       | 5.26    | 52      |                |                         |         | ✓    |   |
|                       | 5.28    | 56      | 58 (5.29 GHz)  |                         |         |      | * |
|                       | 5.30    | 60      |                |                         |         |      | * |
|                       | 5.32    | 64      |                |                         |         | ✓    |   |
|                       | 5.500   | 100     |                |                         |         |      | * |
|                       | 5.520   | 104     |                |                         |         | ✓    |   |
|                       | 5.540   | 108     |                |                         |         |      | * |
|                       | 5.560   | 112     |                |                         |         |      | * |
|                       | 5.580   | 116     |                |                         |         | ✓    |   |
|                       | 5.600   | 120     |                |                         |         |      | * |
|                       | 5.620   | 124     |                |                         |         | ✓    |   |
|                       | 5.640   | 128     |                |                         |         |      | * |
|                       | 5.660   | 132     |                |                         |         |      | * |
|                       | 5.680   | 136     |                |                         |         | ✓    |   |
|                       | 5.700   | 140     |                |                         |         |      | * |
|                       | 5.745   | 149     |                | ✓                       |         | ✓    |   |
|                       | 5.765   | 153     | 152 (5.76 GHz) |                         | *       |      | * |
| UNII<br>or<br>§15.247 | 5.785   | 157     |                | ✓                       |         |      | * |
|                       | 5.805   | 161     | 160 (5.80 GHz) |                         | *       | ✓    |   |
|                       | §15.247 | 5.825   | 165            | ✓                       |         |      |   |

802.11 Test Channels per FCC Requirements



| Band         | Channel | Conducted Power (dBm) |       |       |       |
|--------------|---------|-----------------------|-------|-------|-------|
|              |         | Data Rate (Mbps)      |       |       |       |
|              |         | 1                     | 2     | 5.5   | 11    |
| IEEE 802.11b | 1       | 11.71                 | 11.72 | 11.51 | 11.52 |
|              | 6       | 11.86                 | 11.83 | 11.67 | 11.52 |
|              | 11      | 12.41                 | 12.38 | 12.18 | 12.00 |

Average IEEE 802.11b Conducted output power

| Band         | Channel | Conducted Power (dBm) |       |       |       |       |       |       |       |
|--------------|---------|-----------------------|-------|-------|-------|-------|-------|-------|-------|
|              |         | Data Rate (Mbps)      |       |       |       |       |       |       |       |
|              |         | 6                     | 9     | 12    | 18    | 24    | 36    | 48    | 54    |
| IEEE 802.11g | 1       | 11.71                 | 11.63 | 11.55 | 11.30 | 11.18 | 10.86 | 10.54 | 10.44 |
|              | 6       | 11.90                 | 11.78 | 11.69 | 11.41 | 11.18 | 10.86 | 10.64 | 10.48 |
|              | 11      | 12.50                 | 12.32 | 12.15 | 11.93 | 11.74 | 11.46 | 11.17 | 11.01 |

Average IEEE 802.11g Conducted output power

| Band                 | Channel | Conducted Power (dBm) |       |       |       |       |       |      |      |
|----------------------|---------|-----------------------|-------|-------|-------|-------|-------|------|------|
|                      |         | Data Rate (Mbps)      |       |       |       |       |       |      |      |
|                      |         | 6.5                   | 13    | 19.5  | 26    | 39    | 52    | 58.5 | 65   |
| IEEE 802.11n (HT-20) | 1       | 10.67                 | 10.42 | 10.30 | 10.11 | 9.85  | 9.58  | 9.47 | 9.34 |
|                      | 6       | 10.84                 | 10.59 | 10.39 | 10.23 | 9.89  | 9.65  | 9.58 | 9.39 |
|                      | 11      | 11.22                 | 11.11 | 10.89 | 10.69 | 10.40 | 10.05 | 9.97 | 9.85 |

Average IEEE 802.11n Conducted output power



## WLAN 5GHz Average Conducted Powers

### 802.11 a

| Mode    | Freq<br>[MHz] | Channel | conducted Power [dBm] |       |       |       |       |       |       |       |
|---------|---------------|---------|-----------------------|-------|-------|-------|-------|-------|-------|-------|
|         |               |         | Data Rate [Mbps]      |       |       |       |       |       |       |       |
|         |               |         | 6                     | 9     | 12    | 18    | 24    | 36    | 48    | 54    |
| 802.11a | 5180          | 36      | 6.66                  | 6.58  | 6.47  | 6.35  | 6.27  | 5.99  | 5.71  | 5.65  |
| 802.11a | 5200          | 40      | 6.48                  | 6.35  | 6.25  | 6.13  | 5.93  | 5.64  | 5.35  | 5.24  |
| 802.11a | 5220          | 44      | <b>7.17</b>           | 7.14  | 7.05  | 6.75  | 6.55  | 6.30  | 6.05  | 5.94  |
| 802.11a | 5240          | 48      | 6.31                  | 6.20  | 6.12  | 5.88  | 5.78  | 5.51  | 5.23  | 5.01  |
| 802.11a | 5260          | 52      | 6.29                  | 6.17  | 6.09  | 5.92  | 5.65  | 5.35  | 5.08  | 4.98  |
| 802.11a | 5280          | 56      | <b>7.12</b>           | 6.86  | 6.79  | 6.65  | 6.50  | 6.01  | 5.80  | 5.71  |
| 802.11a | 5300          | 60      | 6.22                  | 6.05  | 5.95  | 5.78  | 5.55  | 5.29  | 5.10  | 4.91  |
| 802.11a | 5320          | 64      | 6.12                  | 6.01  | 5.88  | 5.70  | 5.57  | 5.21  | 4.91  | 4.78  |
| 802.11a | 5500          | 100     | 8.18                  | 8.06  | 7.91  | 7.77  | 7.62  | 7.35  | 7.06  | 6.94  |
| 802.11a | 5520          | 104     | 8.13                  | 8.04  | 7.99  | 7.88  | 7.71  | 7.443 | 6.96  | 6.84  |
| 802.11a | 5540          | 108     | 8.05                  | 8.03  | 7.89  | 7.78  | 7.63  | 7.36  | 6.92  | 6.80  |
| 802.11a | 5560          | 112     | 8.04                  | 7.96  | 7.84  | 7.74  | 7.60  | 7.35  | 6.99  | 6.86  |
| 802.11a | 5580          | 116     | 7.84                  | 7.79  | 7.72  | 7.54  | 7.39  | 7.15  | 6.81  | 6.70  |
| 802.11a | 5660          | 132     | 7.86                  | 7.72  | 7.61  | 7.45  | 7.30  | 6.97  | 6.69  | 6.61  |
| 802.11a | 5680          | 136     | 7.95                  | 7.75  | 7.67  | 7.56  | 7.40  | 7.13  | 6.84  | 6.60  |
| 802.11a | 5700          | 140     | <b>8.40</b>           | 8.37  | 8.27  | 8.19  | 7.93  | 7.63  | 7.35  | 7.27  |
| 802.11a | 5745          | 149     | <b>11.88</b>          | 11.76 | 11.65 | 11.50 | 11.38 | 11.00 | 10.75 | 10.62 |
| 802.11a | 5765          | 153     | 11.56                 | 11.49 | 11.37 | 11.20 | 11.06 | 10.70 | 10.37 | 10.37 |
| 802.11a | 5785          | 157     | 11.55                 | 11.47 | 11.43 | 11.20 | 11.06 | 10.75 | 10.48 | 10.30 |
| 802.11a | 5805          | 161     | 11.44                 | 11.33 | 11.27 | 11.11 | 10.97 | 10.69 | 10.34 | 10.21 |
| 802.11a | 5825          | 165     | 11.42                 | 11.32 | 11.20 | 11.03 | 11.94 | 10.54 | 10.20 | 10.10 |

## 802.11 n

| Mode    | Freq<br>[MHz] | Channel | conducted Power [dBm] |       |       |      |      |      |      |      |
|---------|---------------|---------|-----------------------|-------|-------|------|------|------|------|------|
|         |               |         | Data Rate [Mbps]      |       |       |      |      |      |      |      |
|         |               |         | 6.5                   | 13    | 19.5  | 26   | 39   | 52   | 58.5 | 65   |
| 802.11n | 5180          | 36      | 5.52                  | 5.36  | 5.17  | 5.00 | 4.69 | 4.47 | 4.39 | 4.19 |
| 802.11n | 5200          | 40      | 5.27                  | 5.02  | 4.83  | 4.64 | 4.30 | 4.12 | 4.00 | 3.91 |
| 802.11n | 5220          | 44      | 5.61                  | 5.48  | 5.30  | 5.16 | 4.74 | 4.62 | 4.30 | 4.21 |
| 802.11n | 5240          | 48      | 5.11                  | 4.95  | 4.67  | 4.47 | 4.16 | 3.92 | 3.76 | 3.72 |
| 802.11n | 5260          | 52      | 5.09                  | 4.87  | 4.66  | 4.40 | 4.13 | 3.86 | 3.79 | 3.71 |
| 802.11n | 5280          | 56      | 5.53                  | 5.36  | 5.22  | 5.07 | 4.80 | 4.30 | 4.21 | 4.08 |
| 802.11n | 5300          | 60      | 4.89                  | 4.71  | 4.49  | 4.39 | 4.10 | 3.76 | 3.60 | 3.50 |
| 802.11n | 5320          | 64      | 4.90                  | 4.64  | 4.48  | 4.26 | 4.02 | 3.73 | 3.65 | 3.67 |
| 802.11n | 5500          | 100     | 6.89                  | 6.77  | 6.51  | 6.34 | 6.08 | 5.82 | 5.65 | 5.57 |
| 802.11n | 5520          | 104     | 6.82                  | 6.77  | 6.38  | 6.23 | 5.98 | 5.72 | 5.67 | 5.54 |
| 802.11n | 5540          | 108     | 6.94                  | 6.59  | 6.45  | 6.27 | 6.04 | 5.79 | 5.54 | 5.45 |
| 802.11n | 5560          | 112     | 6.82                  | 6.67  | 6.48  | 6.19 | 6.01 | 5.66 | 5.52 | 5.42 |
| 802.11n | 5580          | 116     | 6.87                  | 6.71  | 6.51  | 6.40 | 6.11 | 5.88 | 5.72 | 5.71 |
| 802.11n | 5660          | 132     | 6.51                  | 6.36  | 6.21  | 6.04 | 5.80 | 5.48 | 5.25 | 5.14 |
| 802.11n | 5680          | 136     | 6.69                  | 6.46  | 6.17  | 5.96 | 5.73 | 5.51 | 5.41 | 5.33 |
| 802.11n | 5700          | 140     | 7.05                  | 6.97  | 6.82  | 6.66 | 6.34 | 5.97 | 5.83 | 5.77 |
| 802.11n | 5745          | 149     | 10.55                 | 10.34 | 10.15 | 9.98 | 9.70 | 9.46 | 9.35 | 9.29 |
| 802.11n | 5765          | 153     | 10.31                 | 10.16 | 9.97  | 9.85 | 9.48 | 9.27 | 9.13 | 9.06 |
| 802.11n | 5785          | 157     | 10.38                 | 10.15 | 9.97  | 9.79 | 9.48 | 9.29 | 9.16 | 9.08 |
| 802.11n | 5805          | 161     | 10.29                 | 10.12 | 9.93  | 9.79 | 9.51 | 9.29 | 9.17 | 9.06 |
| 802.11n | 5825          | 165     | 10.27                 | 10.13 | 9.94  | 9.78 | 9.51 | 9.22 | 9.14 | 8.99 |

Note;  
SAR testing was performed according to the FCC KDB 248227.

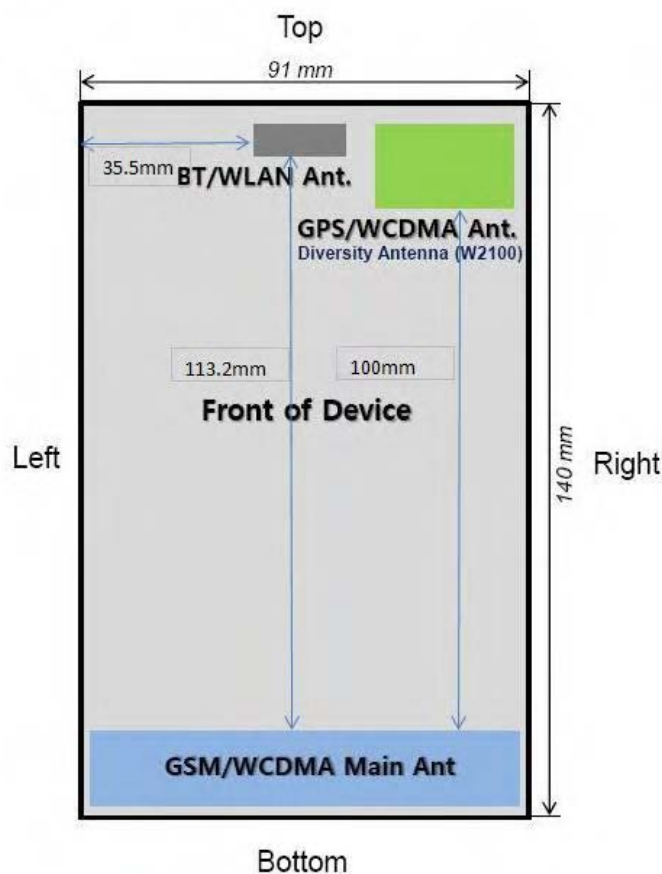
## 10. SAR Test configuration & Antenna Information

### 10.1 SAR Test configurations

| Mode        | Back | Front | Left | Right | Bottom | Top |
|-------------|------|-------|------|-------|--------|-----|
| 850 GPRS    | Yes  | Yes   | Yes  | Yes   | Yes    | No  |
| 1900 GPRS   | Yes  | Yes   | Yes  | Yes   | Yes    | No  |
| WCDMA850    | Yes  | Yes   | Yes  | Yes   | Yes    | No  |
| WCDMA1900   | Yes  | Yes   | Yes  | Yes   | Yes    | No  |
| 2.4GHz WLAN | Yes  | Yes   | No   | No    | No     | Yes |

### 10.2 Antenna and Device Information

#### P895 Antenna Distance



#### ① GSM/WCDMA Tx/Rx

| MODE  | BAND | TX(MHz)     | RX(MHz)     |
|-------|------|-------------|-------------|
| GSM   | 850  | 824 ~ 849   | 869 ~ 894   |
|       | 900  | 1850 ~ 1910 | 1930 ~ 1990 |
|       | DCS  | 824 ~ 849   | 869 ~ 894   |
|       | PCS  | 1850 ~ 1910 | 1930 ~ 1990 |
| WCDMA | B1   | 1920 ~ 1980 | 2110 ~ 2170 |
| WCDMA | B2   | 1850 ~ 1910 | 1930 ~ 1990 |
| WCDMA | B5   | 824 ~ 849   | 869 ~ 894   |
| WCDMA | B8   | 880 ~ 915   | 925 ~ 960   |

#### ② WCDMA Band 1/8 2<sup>nd</sup> Rx, GPS Rx

| MODE  | BAND | TX(MHz)     | RX(MHz)     |
|-------|------|-------------|-------------|
| GPS   | -    |             |             |
| WCDMA | B1   | 1920 ~ 1980 | 2110 ~ 2170 |
| WCDMA | B8   | 880 ~ 915   | 925 ~ 960   |

#### ③ BT/WiFi Tx/Rx

| MODE | TX(MHz) | RX(MHz) |
|------|---------|---------|
|      |         |         |

[Rear side View]

#### Note;

Per FCC KDB Publication 941225 D06, we performed the SAR testing at 1 cm from the top & bottom surfaces and also from side edges with a transmitting antenna  $\leq 2.5$  cm from an edge.

## 11. SAR Considerations for Multiple Transmitters and Antennas

### 11.1 SAR Evaluation Considerations

These procedures were followed according to FCC "SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas", May 2008. The procedures are applicable to phones with built-in unlicensed transmitters, such as 802.11 a/b/g and Bluetooth devices.

|                                                                                                  | 2.45 | 5.15 - 5.35 | 5.47 - 5.85 | GHz |
|--------------------------------------------------------------------------------------------------|------|-------------|-------------|-----|
| $P_{Ref}$                                                                                        | 12   | 6           | 5           | mW  |
| Device output power should be rounded to the nearest mW to compare with values specified in this |      |             |             |     |

Table. 11.1 Output Power Thresholds for Unlicensed Transmitters

|                                | Individual Transmitter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Simultaneous Transmission                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Licensed Transmitters</b>   | <u>Routine evaluation required</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>SAR not required:</b><br><u>Unlicensed only</u><br><ul style="list-style-type: none"> <li>when stand-alone 1-g SAR is not required and antenna is <math>\geq 5</math> cm from other antennas</li> </ul> <u>Licensed &amp; Unlicensed</u><br><ul style="list-style-type: none"> <li>when the sum of the 1-g SAR is <math>&lt; 1.6</math> W/kg for all simultaneous transmitting antennas</li> <li>when SAR to peak location separation ratio of simultaneous transmitting antenna pair is <math>&lt; 0.3</math></li> </ul> <b>SAR required:</b><br><u>Licensed &amp; Unlicensed</u><br>antenna pairs with SAR to peak location separation ratio $\geq 0.3$ ; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition<br><b>Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply</b> |
| <b>Unlicensed Transmitters</b> | <u>When there is no simultaneous transmission –</u> <ul style="list-style-type: none"> <li>output <math>\leq 60</math> f: SAR not required</li> <li>output <math>&gt; 60</math> f: stand-alone SAR required</li> </ul> <u>When there is simultaneous transmission –</u><br><u>Stand-alone SAR not required when</u> <ul style="list-style-type: none"> <li>output <math>\leq 2 \cdot P_{Ref}</math> and antenna is <math>\geq 5.0</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>\geq 2.5</math> cm from other antennas</li> <li>output <math>\leq P_{Ref}</math> and antenna is <math>&lt; 2.5</math> cm from other antennas, each with either output power <math>\leq P_{Ref}</math> or 1-g SAR <math>&lt; 1.2</math> W/kg</li> </ul> <u>Otherwise stand-alone SAR is required</u><br><u>When stand-alone SAR is required</u> <ul style="list-style-type: none"> <li>test SAR on highest output channel for each wireless mode and exposure condition</li> <li>if SAR for highest output channel is <math>&gt; 50\%</math> of SAR limit, evaluate all channels according to normal procedures</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Jaw, Mouth and Nose</b>     | <u>Flat phantom SAR required</u> <ul style="list-style-type: none"> <li>when measurement is required in tight regions of SAM and it is not feasible or the results can be questionable due to probe tilt, calibration, positioning and orientation issues</li> <li>position rectangular and clam-shell phones according to flat phantom procedures and conduct SAR measurements for these specific locations</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | When simultaneous transmission SAR testing is required, contact the FCC Laboratory for interim guidance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

SAR Evaluation Requirements for Multiple Transmitters Handsets

FCC ID: ZNFP895

BT Max. RF output power: 5.93 dBm (3.9174 mW)

WLAN 802.11b (2 412 MHz - 2 462 MHz) (12.41 dBm)

WLAN 802.11a (5180 MHz ~5240 MHz) (7.17 dBm)/ WLAN 802.11a (5260 MHz ~5350 MHz) (7.12 dBm)/

WLAN 802.11a (5500 MHz ~5700 MHz) (8.40 dBm)/ WLAN 802.11a (5745 MHz ~5825 MHz) (11.88 dBm)

## 11.2 SAR Summation Scenario

### Simultaneous Transmission Summation for Held to Ear

| Simultaneous TX | configuration | 850 GSM SAR(W/kg)   | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 GSM SAR(W/kg)   | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
|-----------------|---------------|---------------------|-------------------------|---------------------|-----------------|---------------|----------------------|-------------------------|---------------------|
| Head SAR        | Left Cheek    | 0.09                | 0.141                   | 0.231               | Head SAR        | Left Cheek    | 0.152                | 0.141                   | 0.293               |
|                 | Left Tilt     | 0.048               | 0.121                   | 0.169               |                 | Left Tilt     | 0.02                 | 0.121                   | 0.141               |
|                 | Right Cheek   | 0.098               | 0.174                   | 0.272               |                 | Right Cheek   | 0.164                | 0.174                   | 0.338               |
|                 | Right Tilt    | 0.049               | 0.144                   | 0.193               |                 | Right Tilt    | 0.032                | 0.144                   | 0.176               |
| Simultaneous TX | configuration | 850 GSM SAR(W/kg)   | 5G WIFI SAR (W/kg)      | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 GSM SAR(W/kg)   | 5G WIFI SAR (W/kg)      | $\Sigma$ SAR (W/kg) |
| Head SAR        | Left Cheek    | 0.09                | 0.295                   | 0.385               | Head SAR        | Left Cheek    | 0.152                | 0.295                   | 0.447               |
|                 | Left Tilt     | 0.048               | 0.33                    | 0.378               |                 | Left Tilt     | 0.02                 | 0.33                    | 0.350               |
|                 | Right Cheek   | 0.098               | 0.418                   | 0.516               |                 | Right Cheek   | 0.164                | 0.418                   | 0.582               |
|                 | Right Tilt    | 0.049               | 0.361                   | 0.410               |                 | Right Tilt    | 0.032                | 0.361                   | 0.393               |
| Simultaneous TX | configuration | 850 WCDMA SAR(W/kg) | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 WCDMA SAR(W/kg) | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
| Head SAR        | Left Cheek    | 0.08                | 0.141                   | 0.221               | Head SAR        | Left Cheek    | 0.243                | 0.141                   | 0.384               |
|                 | Left Tilt     | 0.046               | 0.121                   | 0.167               |                 | Left Tilt     | 0.051                | 0.121                   | 0.172               |
|                 | Right Cheek   | 0.074               | 0.174                   | 0.248               |                 | Right Cheek   | 0.256                | 0.174                   | 0.430               |
|                 | Right Tilt    | 0.054               | 0.144                   | 0.198               |                 | Right Tilt    | 0.074                | 0.144                   | 0.218               |
| Simultaneous TX | configuration | 850 WCDMA SAR(W/kg) | 5G WIFI SAR (W/kg)      | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 WCDMA SAR(W/kg) | 5G WIFI SAR (W/kg)      | $\Sigma$ SAR (W/kg) |
| Head SAR        | Left Cheek    | 0.08                | 0.295                   | 0.375               | Head SAR        | Left Cheek    | 0.243                | 0.295                   | 0.538               |
|                 | Left Tilt     | 0.046               | 0.33                    | 0.376               |                 | Left Tilt     | 0.051                | 0.33                    | 0.381               |
|                 | Right Cheek   | 0.074               | 0.418                   | 0.492               |                 | Right Cheek   | 0.256                | 0.418                   | <b>0.674</b>        |
|                 | Right Tilt    | 0.054               | 0.361                   | 0.415               |                 | Right Tilt    | 0.074                | 0.361                   | 0.435               |

### Simultaneous Transmission Summation for Body-Worn (1cm)

| Simultaneous TX | configuration | 850 GPRS SAR(W/kg)   | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 850 GPRS SAR(W/kg)   | 5 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
|-----------------|---------------|----------------------|-------------------------|---------------------|-----------------|---------------|----------------------|-----------------------|---------------------|
| Body SAR        | Back          | 0.39                 | 0.152                   | 0.542               | Body SAR        | Back          | 0.39                 | 0.057                 | 0.447               |
| Simultaneous TX | configuration | 1900 GPRS SAR(W/kg)  | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 GPRS SAR(W/kg)  | 5 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
| Body SAR        | Back          | 0.969                | 0.152                   | 1.121               | Body SAR        | Back          | 0.969                | 0.057                 | 1.026               |
| Simultaneous TX | configuration | 850 WCDMA SAR(W/kg)  | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 850 WCDMA SAR(W/kg)  | 5 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
| Body SAR        | Back          | 0.176                | 0.152                   | 0.328               | Body SAR        | Back          | 0.176                | 0.057                 | 0.233               |
| Simultaneous TX | configuration | 1900 WCDMA SAR(W/kg) | 2.4 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 WCDMA SAR(W/kg) | 5 GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
| Body SAR        | Back          | 1.19                 | 0.152                   | <b>1.342</b>        | Body SAR        | Back          | 1.19                 | 0.057                 | 1.247               |

### Simultaneous Transmission Summation for Hotspot (1cm)

| Simultaneous TX | configuration | 850 GPRS SAR(W/kg)  | 2.4GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 GPRS SAR(W/kg)  | 2.4GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
|-----------------|---------------|---------------------|------------------------|---------------------|-----------------|---------------|----------------------|------------------------|---------------------|
| Body SAR        | Back          | 0.39                | 0.152                  | 0.542               | Body SAR        | Back          | 0.969                | 0.152                  | 1.121               |
|                 | Front         | 0.153               | 0.059                  | 0.212               |                 | Front         | 0.196                | 0.059                  | 0.255               |
|                 | Left          | 0.153               | -                      | 0.153               |                 | Left          | 0.111                | -                      | 0.111               |
|                 | Right         | 0.185               | -                      | 0.185               |                 | Right         | 0.026                | -                      | 0.026               |
|                 | Bottom        | 0.088               | -                      | 0.088               |                 | Bottom        | 0.464                | -                      | 0.464               |
|                 | Top           | -                   | 0.055                  | 0.055               |                 | Top           | -                    | 0.055                  | 0.055               |
| Simultaneous TX | configuration | 850 WCDMA SAR(W/kg) | 2.4GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) | Simultaneous TX | configuration | 1900 WCDMA SAR(W/kg) | 2.4GHz WIFI SAR (W/kg) | $\Sigma$ SAR (W/kg) |
| Body SAR        | Back          | 0.176               | 0.152                  | 0.328               | Body SAR        | Back          | 1.19                 | 0.152                  | <b>1.342</b>        |
|                 | Front         | 0.105               | 0.059                  | 0.164               |                 | Front         | 0.451                | 0.059                  | 0.510               |
|                 | Left          | 0.106               | -                      | 0.106               |                 | Left          | 0.17                 | -                      | 0.170               |
|                 | Right         | 0.13                | -                      | 0.130               |                 | Right         | 0.059                | -                      | 0.059               |
|                 | Bottom        | 0.063               | -                      | 0.063               |                 | Bottom        | 1.07                 | -                      | 1.070               |
|                 | Top           | -                   | 0.055                  | 0.055               |                 | Top           | -                    | 0.055                  | 0.055               |

The above tables represent a portable hotspot condition.

#### Note;

**Body-Worn SAR** : The Rear side hotspot SAR test configurations can be considered for body-worn accessory SAR. Although body-worn accessory conditions are typically for voice configurations, the GPRS slot frame averaged output power was more conservative and was included for the body-worn accessory SAR assessment.

### 11.3 Simultaneous Transmission Conclusion

The above tables represent the worst-case simultaneous transmission scenarios possibility with this device.

The conducted output power level of the BT, WLAN 802.11a(5180~5240), WLAN 802.11a(5260~5350) transmitter are less than  $2 \cdot P_{\text{ref}}$ , the BT /WLAN antenna is more than 5 cm from the other antenna, therefore, stand-alone BT, WLAN 802.11a(5180~5240), WLAN 802.11a(5260~5350) SAR evaluation are not required.



## 12. SAR TEST DATA SUMMARY

### 12.1 Measurement Results (GSM850 Head SAR)

| Frequency                                                                                          |           | Modulation | Conducted Power (dBm) | Power Drift (dB) | Battery  | Phantom Position                                | SAR(mW/g) |
|----------------------------------------------------------------------------------------------------|-----------|------------|-----------------------|------------------|----------|-------------------------------------------------|-----------|
| MHz                                                                                                | Channel   |            |                       |                  |          |                                                 |           |
| 836.6                                                                                              | 190 (Mid) | GSM850     | 33.32                 | 0.048            | Standard | Left Ear                                        | 0.09      |
|                                                                                                    |           |            | 33.32                 | 0.174            | Standard | Left Tilt 15°                                   | 0.048     |
|                                                                                                    |           |            | 33.32                 | 0.001            | Standard | Right Ear                                       | 0.098     |
|                                                                                                    |           |            | 33.32                 | 0.039            | Standard | Right Tilt 15°                                  | 0.049     |
| ANSI/ IEEE C95.1 - 1992– Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |           |            |                       |                  |          | Head<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |

#### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).

## 12.2 Measurement Results (GSM1900 Head SAR)

| Frequency                                                                                          |           | Modulation | ConductedPower (dBm) | Power Drift (dB) | Battery  | Phantom Position                                | SAR(mW/g) |
|----------------------------------------------------------------------------------------------------|-----------|------------|----------------------|------------------|----------|-------------------------------------------------|-----------|
| MHz                                                                                                | Channel   |            |                      |                  |          |                                                 |           |
| 1 880.0                                                                                            | 661 (Mid) | GSM1900    | 29.16                | -0.017           | Standard | Left Ear                                        | 0.152     |
|                                                                                                    |           |            | 29.16                | 0.057            | Standard | Left Tilt 15°                                   | 0.02      |
|                                                                                                    |           |            | 29.16                | 0.008            | Standard | Right Ear                                       | 0.164     |
|                                                                                                    |           |            | 29.16                | -0.064           | Standard | Right Tilt 15°                                  | 0.032     |
| ANSI/ IEEE C95.1 - 1992– Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |           |            |                      |                  |          | Head<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).

## 12.3 Measurement Results (WCDMA850 Head SAR)

| Frequency                                                                                                               |            | Modulation | Conducted Power (dBm) | Power Drift (dB) | Battery  | Phantom Position                                              | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|------------|------------|-----------------------|------------------|----------|---------------------------------------------------------------|-----------|
| MHz                                                                                                                     | Channel    |            |                       |                  |          |                                                               |           |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.018           | Standard | Left Ear                                                      | 0.08      |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | 0.087            | Standard | Left Tilt 15°                                                 | 0.046     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.02            | Standard | Right Ear                                                     | 0.074     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.076           | Standard | Right Tilt 15°                                                | 0.054     |
| <b>ANSI/ IEEE C95.1 - 2005– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |            |            |                       |                  |          | <b>Head</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.

## 12.4 Measurement Results (WCDMA1900 Head SAR)

| Frequency                                                                                                               |            | Modulation | Conducted Power<br>(dBm) | Power<br>Drift<br>(dB) | Battery  | Phantom<br>Position                                           | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|------------|------------|--------------------------|------------------------|----------|---------------------------------------------------------------|-----------|
| MHz                                                                                                                     | Channel    |            |                          |                        |          |                                                               |           |
| 1 880.0                                                                                                                 | 9400 (Mid) | WCDMA1900  | 21.94                    | -0.029                 | Standard | Left Ear                                                      | 0.243     |
| 1 880.0                                                                                                                 | 9400 (Mid) | WCDMA1900  | 21.94                    | -0.024                 | Standard | Left Tilt 15°                                                 | 0.051     |
| 1 880.0                                                                                                                 | 9400 (Mid) | WCDMA1900  | 21.94                    | 0.015                  | Standard | Right Ear                                                     | 0.256     |
| 1 880.0                                                                                                                 | 9400 (Mid) | WCDMA1900  | 21.94                    | 0.127                  | Standard | Right Tilt 15°                                                | 0.074     |
| <b>ANSI/ IEEE C95.1 - 2005– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |            |            |                          |                        |          | <b>Head</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.

## 12.5 Measurement Results (802.11b/g/n Head)

| Frequency                                                                                          |           | Modulation | Conducted Power (dBm) | Power Drift (dB) | Battery  | Phantom Position                                | Data Rate | SAR(mW/g) |
|----------------------------------------------------------------------------------------------------|-----------|------------|-----------------------|------------------|----------|-------------------------------------------------|-----------|-----------|
| MHz                                                                                                | Channel   |            |                       |                  |          |                                                 |           |           |
| 2 462                                                                                              | 11 (High) | 802.11b    | 12.41                 | 0.078            | Standard | Left Ear                                        | 1 Mbps    | 0.141     |
| 2 462                                                                                              | 11 (High) | 802.11b    | 12.41                 | 0.003            | Standard | Left Tilt 15°                                   | 1 Mbps    | 0.121     |
| 2 462                                                                                              | 11 (High) | 802.11b    | 12.41                 | -0.07            | Standard | Right Ear                                       | 1 Mbps    | 0.174     |
| 2 462                                                                                              | 11 (High) | 802.11b    | 12.41                 | 0.013            | Standard | Right Tilt 15                                   | 1 Mbps    | 0.144     |
| ANSI/ IEEE C95.1 - 1992– Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |           |            |                       |                  |          | Head<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☒ Manual Test cord ☐ Base Station Simulator
- IEEE 802.11g(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB Than the conducted powers in IEEE 802.11b.
- For 2.4GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.

## 12.6 Measurement Results (802.11a/n 5GHz Head SAR)

| Frequency                                                                                                               |         | Modulation | Conducted Power (dBm) | Power Drift (dB) | Battery  | Phantom Position                                              | Data Rate | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|---------|------------|-----------------------|------------------|----------|---------------------------------------------------------------|-----------|-----------|
| MHz                                                                                                                     | Channel |            |                       |                  |          |                                                               |           |           |
| 5 700                                                                                                                   | 140     | 802.11a    | 8.40                  | -0.088           | Standard | Left Ear                                                      | 6Mbps     | 0.216     |
| 5 700                                                                                                                   | 140     | 802.11a    | 8.40                  | 0.106            | Standard | Left Tilt 15°                                                 | 6Mbps     | 0.172     |
| 5 700                                                                                                                   | 140     | 802.11a    | 8.40                  | 0.103            | Standard | Right Ear                                                     | 6Mbps     | 0.195     |
| 5 700                                                                                                                   | 140     | 802.11a    | 8.40                  | 0.109            | Standard | Right Tilt 15                                                 | 6Mbps     | 0.241     |
| 5 765                                                                                                                   | 149     | 802.11a    | 11.88                 | -0.084           | Standard | Left Ear                                                      | 6Mbps     | 0.295     |
| 5 765                                                                                                                   | 149     | 802.11a    | 11.88                 | -0.084           | Standard | Left Tilt 15°                                                 | 6Mbps     | 0.330     |
| 5 765                                                                                                                   | 149     | 802.11a    | 11.88                 | 0.09             | Standard | Right Ear                                                     | 6Mbps     | 0.418     |
| 5 765                                                                                                                   | 149     | 802.11a    | 11.88                 | 0.08             | Standard | Right Tilt 15                                                 | 6Mbps     | 0.361     |
| <b>ANSI/ IEEE C95.1 - 1992– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |         |            |                       |                  |          | <b>Head</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |           |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☒ Manual Test cord ☐ Base Station Simulator
- Highest average RF output power channel for the lowest data rate were selected for SAR testing. IEEE 802.11(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB than the conducted powers in IEEE 802.11a.
- When Hotspot is enabled, 5 GHz Bands are disabled
- For 5GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.

## 12.7 Measurement Results (GSM850 Hotspot SAR)

| Frequency                                                                                                               |           | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration | Separation Distance                                           | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|-----------|------------|-----------------------|------------------|---------------|---------------------------------------------------------------|-----------|
| MHz                                                                                                                     | Channel   |            |                       |                  |               |                                                               |           |
| 836.6                                                                                                                   | 190 (Mid) | GPRS 4Tx   | 28.61                 | 0.018            | Rear          | 1.0 cm                                                        | 0.390     |
| 836.6                                                                                                                   | 190 (Mid) | GPRS 4Tx   | 28.61                 | -0.004           | Front         | 1.0 cm                                                        | 0.153     |
| 836.6                                                                                                                   | 190 (Mid) | GPRS 4Tx   | 28.61                 | -0.035           | Left          | 1.0 cm                                                        | 0.153     |
| 836.6                                                                                                                   | 190 (Mid) | GPRS 4Tx   | 28.61                 | 0.052            | Right         | 1.0 cm                                                        | 0.185     |
| 836.6                                                                                                                   | 190 (Mid) | GPRS 4Tx   | 28.61                 | -0.005           | Bottom        | 1.0 cm                                                        | 0.088     |
| <b>ANSI/ IEEE C95.1 - 1992– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |           |            |                       |                  |               | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm  $\pm$  0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Test Configuration ☐ With Holster ☒ Without Holster
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- For body SAR testing, the EUT was set in GPRS multi-slot class33 with 3uplink slots for GSM850 due to maximum source-based time-averaged output power.  
According to the KDB 941225 D03 SAR test reduction GSM/GPRS/EDGE, the maximum output power configuration were chosen for Body SAR testing.



## 12.8 Measurement Results (GSM1900 Hotspot SAR)

| Frequency                                                                                          |            | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration | Separation Distance                             | SAR(mW/g) |
|----------------------------------------------------------------------------------------------------|------------|------------|-----------------------|------------------|---------------|-------------------------------------------------|-----------|
| MHz                                                                                                | Channel    |            |                       |                  |               |                                                 |           |
| 1 850.0                                                                                            | 512 (Low)  | GPRS 3Tx   | 25.31                 | -0.086           | Rear          | 1.0 cm                                          | 0.771     |
| 1 880.0                                                                                            | 661 (Mid)  | GPRS 3Tx   | 25.27                 | 0.086            | Rear          | 1.0 cm                                          | 0.864     |
| 1 909.8                                                                                            | 810 (High) | GPRS 3Tx   | 25.24                 | -0.092           | Rear          | 1.0 cm                                          | 0.969     |
| 1 880.0                                                                                            | 661 (Mid)  | GPRS 3Tx   | 25.27                 | -0.059           | Front         | 1.0 cm                                          | 0.196     |
| 1 880.0                                                                                            | 661 (Mid)  | GPRS 3Tx   | 25.27                 | 0.126            | Left          | 1.0 cm                                          | 0.111     |
| 1 880.0                                                                                            | 661 (Mid)  | GPRS 3Tx   | 25.27                 | -0.113           | Right         | 1.0 cm                                          | 0.026     |
| 1 880.0                                                                                            | 661 (Mid)  | GPRS 3Tx   | 25.27                 | -0.052           | Bottom        | 1.0 cm                                          | 0.464     |
| ANSI/ IEEE C95.1 - 1992- Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |            |            |                       |                  |               | Body<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm  $\pm$  0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Test Configuration ☐ With Holster ☒ Without Holster
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- For body SAR testing, the EUT was set in GPRS multi-slot class33 with 4uplink slots for GSM1900 due to maximum source-based time-averaged output power.  
According to the KDB 941225 D03 SAR test reduction GSM/GPRS/EDGE, the maximum output power configuration were chosen for Body SAR testing.

## 12.9 Measurement Results (WCDMA850 Hotspot SAR)

| Frequency                                                                                                               |            | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration                                                 | Separation Distance | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|------------|------------|-----------------------|------------------|---------------------------------------------------------------|---------------------|-----------|
| MHz                                                                                                                     | Channel    |            |                       |                  |                                                               |                     |           |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.116           | Rear                                                          | 1.0 cm              | 0.176     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | 0.027            | Front                                                         | 1.0 cm              | 0.105     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.030           | Left                                                          | 1.0 cm              | 0.106     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | 0.020            | Right                                                         | 1.0 cm              | 0.130     |
| 836.6                                                                                                                   | 4183 (Mid) | WCDMA850   | 23.14                 | -0.056           | Bottom                                                        | 1.0 cm              | 0.063     |
| <b>ANSI/ IEEE C95.1 - 2005– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |            |            |                       |                  | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |                     |           |

- The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Test Configuration ☐ With Holster ☒ Without Holster
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.

## 12.10 Measurement Results (WCDMA1900 Hotspot SAR)

| Frequency                                                                                                               |             | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration | Separation Distance                                           | SAR(mW/g) |
|-------------------------------------------------------------------------------------------------------------------------|-------------|------------|-----------------------|------------------|---------------|---------------------------------------------------------------|-----------|
| MHz                                                                                                                     | Channel     |            |                       |                  |               |                                                               |           |
| 1 852.4                                                                                                                 | 9262 (Low)  | WCDMA1900  | 22.14                 | -0.072           | Rear          | 1.0 cm                                                        | 0.861     |
| 1 880.0                                                                                                                 | 9400 (Mid)  | WCDMA1900  | 21.94                 | -0.045           | Rear          | 1.0 cm                                                        | 1.05      |
| 1 907.4                                                                                                                 | 9538 (High) | WCDMA1900  | 22.02                 | -0.036           | Rear          | 1.0 cm                                                        | 1.19      |
| 1 880.0                                                                                                                 | 9400 (Mid)  | WCDMA1900  | 21.94                 | 0.052            | Front         | 1.0 cm                                                        | 0.451     |
| 1 880.0                                                                                                                 | 9400 (Mid)  | WCDMA1900  | 21.94                 | -0.059           | Left          | 1.0 cm                                                        | 0.17      |
| 1 880.0                                                                                                                 | 9400 (Mid)  | WCDMA1900  | 21.94                 | -0.019           | Right         | 1.0 cm                                                        | 0.059     |
| 1 852.4                                                                                                                 | 9262 (Low)  | WCDMA1900  | 22.14                 | 0.045            | Bottom        | 1.0 cm                                                        | 0.914     |
| 1 880.0                                                                                                                 | 9400 (Mid)  | WCDMA1900  | 21.94                 | 0.009            | Bottom        | 1.0 cm                                                        | 0.986     |
| 1 907.4                                                                                                                 | 9538 (High) | WCDMA1900  | 22.02                 | 0.094            | Bottom        | 1.0 cm                                                        | 1.07      |
| <b>ANSI/ IEEE C95.1 - 2005– Safety Limit</b><br><b>Spatial Peak</b><br><b>Uncontrolled Exposure/ General Population</b> |             |            |                       |                  |               | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>Averaged over 1 gram |           |

- The test data reported are the worst-case SAR value with the antenna-Body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm  $\pm$  0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
- Test Configuration ☐ With Holster ☒ Without Holster
- Justification for reduced test configurations: per FCC/OET Supplement C (July, 2001), if the SAR measured at the middle channel for each test configuration (Left, right, cheek/touch, tilt/ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s).
- WCDMA Mode was tested under RMC 12.2 kbps and HSPA Inactive.

## 12.11 Measurement Results (802.11b/g/n Hotspot SAR)

| Frequency                                                                                         |           | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration | Separation Distance                             | Data Rate | SAR(mW/g) |
|---------------------------------------------------------------------------------------------------|-----------|------------|-----------------------|------------------|---------------|-------------------------------------------------|-----------|-----------|
| MHz                                                                                               | Channel   |            |                       |                  |               |                                                 |           |           |
| 2 462                                                                                             | 11 (High) | 802.11b    | 12.41                 | -0.041           | Rear          | 1.0 cm                                          | 1 Mbps    | 0.152     |
| 2 462                                                                                             | 11 (High) | 802.11b    | 12.41                 | -0.065           | Front         | 1.0 cm                                          | 1 Mbps    | 0.059     |
| 2 462                                                                                             | 11 (High) | 802.11b    | 12.41                 | -0.052           | Top           | 1.0 cm                                          | 1 Mbps    | 0.055     |
| ANSI/ IEEE C95.1 1992 – Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |           |            |                       |                  |               | Body<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-body position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm  $\pm$  0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☒ Manual Test code ☐ Base Station Simulator
- IEEE 802.11g(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB Than the conducted powers in IEEE 802.11b.
- For 2.4GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.

## 12.12 Measurement Results (802.11a/n 5GHz Body-Worn)

| Frequency                                                                                          |         | Modulation | Conducted Power (dBm) | Power Drift (dB) | Configuration | Separation Distance                             | Data Rate | SAR(mW/g) |
|----------------------------------------------------------------------------------------------------|---------|------------|-----------------------|------------------|---------------|-------------------------------------------------|-----------|-----------|
| MHz                                                                                                | Channel |            |                       |                  |               |                                                 |           |           |
| 5 700                                                                                              | 140     | 802.11a    | 8.40                  | 0.04             | Rear          | 1.0 cm                                          | 6Mbps     | 0.025     |
| 5 700                                                                                              | 140     | 802.11a    | 8.40                  | 0.10             | Front         | 1.0 cm                                          | 6Mbps     | 0.037     |
| 5 765                                                                                              | 153     | 802.11a    | 11.88                 | 0.01             | Rear          | 1.0 cm                                          | 6Mbps     | 0.057     |
| 5 765                                                                                              | 153     | 802.11a    | 11.88                 | -0.05            | Front         | 1.0 cm                                          | 6Mbps     | 0.072     |
| ANSI/ IEEE C95.1 - 1992– Safety Limit<br>Spatial Peak<br>Uncontrolled Exposure/ General Population |         |            |                       |                  |               | Body<br>1.6 W/kg (mW/g)<br>Averaged over 1 gram |           |           |

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration. Test procedures used are according to FCC/OET Bulletin 65, Supplement C [July 2001].
- All modes of operation were investigated and the worst-case are reported.
- Measured Depth of Simulating Tissue is 15.0 cm  $\pm$  0.2 cm.
- Tissue parameters and temperatures are listed on the SAR plot.
- Battery Type ☒ Standard ☐ Extended ☐ Slim  
Batteries are fully charged for all readings.
- Test Signal Call Mode ☒ Manual Test cord ☐ Base Station Simulator
- Highest average RF output power channel for the lowest data rate were selected for SAR testing. IEEE 802.11(including 802.11n) SAR testing is required when the conducted powers are equal to or greater than 0.25 dB than the conducted powers in IEEE 802.11a.
- When Hotspot is enabled, 5 GHz Bands are disabled
- For 5GHz WLAN, Highest average power channel for the lowest data rate was selected for SAR evaluation based on KDB 248227. Other channels are not necessary because 1g-average SAR < 0.8 W/Kg and peak SAR < 1.6W/Kg per KDB 248227.

## 13. CONCLUSION

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The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the ANSI/IEEE C95.1 1992.

These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests.

## 14. REFERENCES

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## Attachment 1. – SAR Test Plots

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3  
Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Left Touch 190/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.095 mW/g

**Left Touch 190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

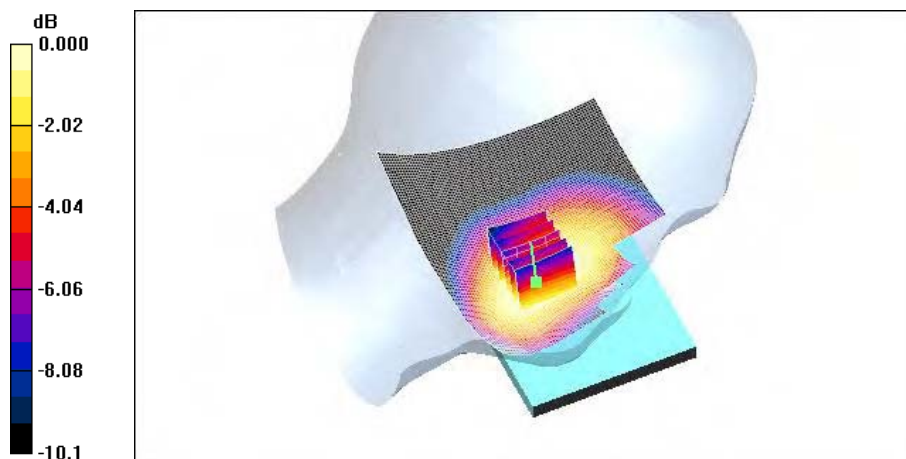
Reference Value = 1.43 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 0.113 W/kg

**SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.068 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.094 mW/g



0 dB = 0.094mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Left Tilt 190/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.051 mW/g

**Left Tilt 190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

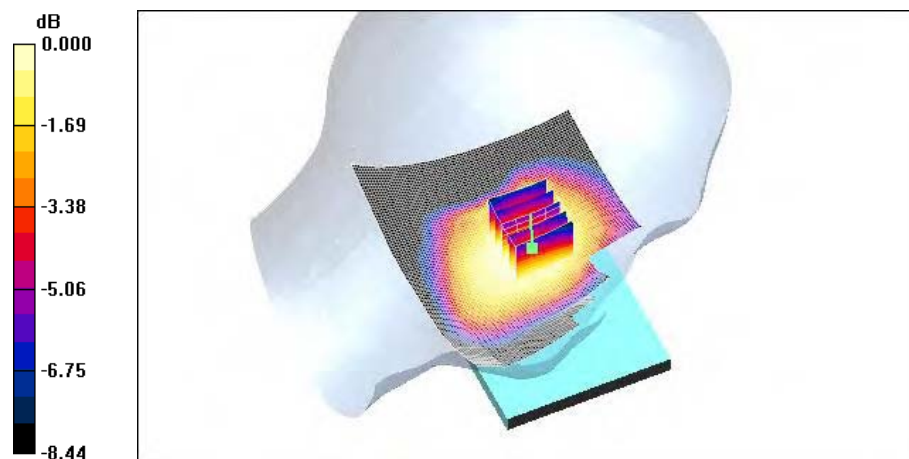
Reference Value = 3.26 V/m; Power Drift = 0.174 dB

Peak SAR (extrapolated) = 0.057 W/kg

**SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.038 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.050 mW/g



0 dB = 0.050mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012

DUT: LG-P895; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.9$  mho/m;  $\epsilon_r = 42.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right touch 190/Area Scan (81x111x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.105 mW/g

Right touch 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

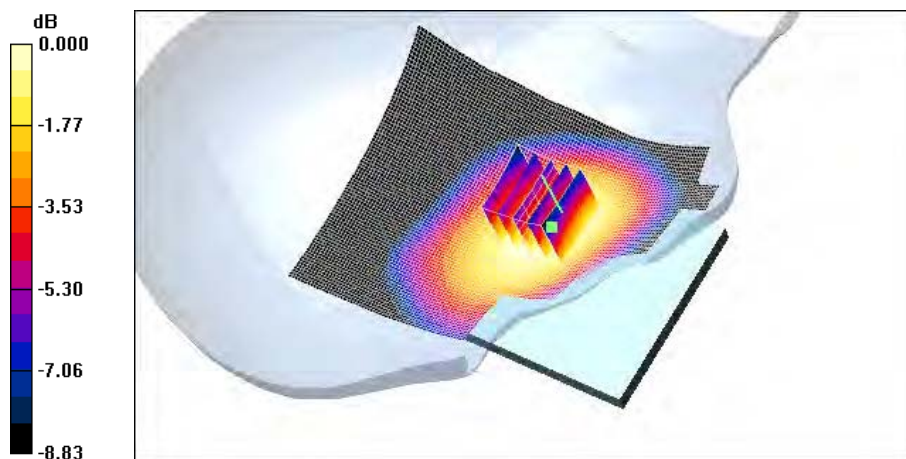
Reference Value = 2.17 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.122 W/kg

SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.076 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.103 mW/g



0 dB = 0.103mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012

DUT: LG-P895; Type: bar; Serial: #1

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.9$  mho/m;  $\epsilon_r = 42.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right tilt 190/Area Scan (81x111x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.052 mW/g

Right tilt 190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

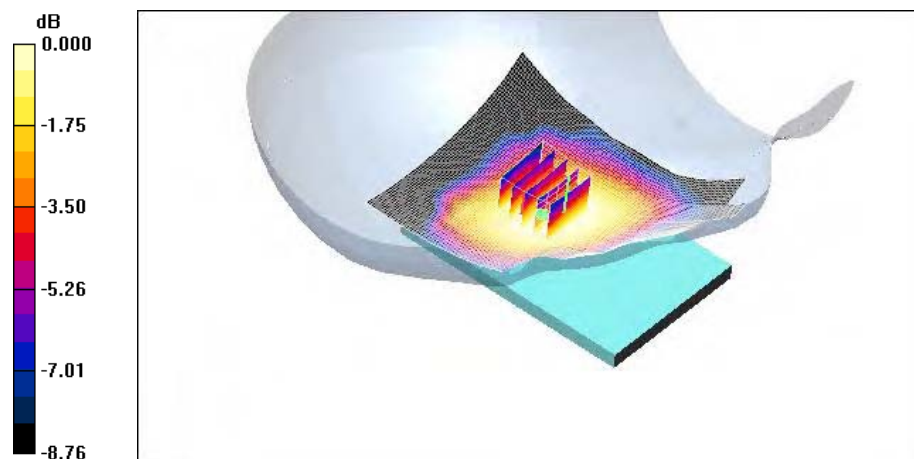
Reference Value = 3.43 V/m; Power Drift = 0.039 dB

Peak SAR (extrapolated) = 0.059 W/kg

SAR(1 g) = 0.049 mW/g; SAR(10 g) = 0.038 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.051 mW/g



0 dB = 0.051mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

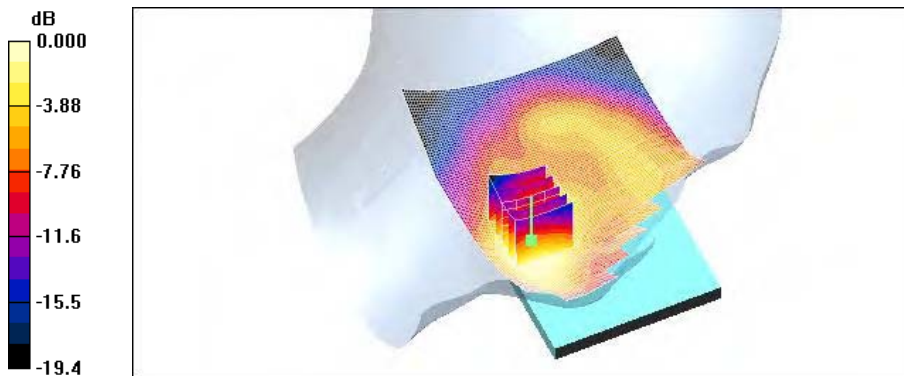
Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Left touch 661/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.168 mW/g

**Left touch 661/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.07 V/m; Power Drift = -0.017 dB  
Peak SAR (extrapolated) = 0.243 W/kg  
**SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.092 mW/g**  
Maximum value of SAR (measured) = 0.166 mW/g



0 dB = 0.166mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

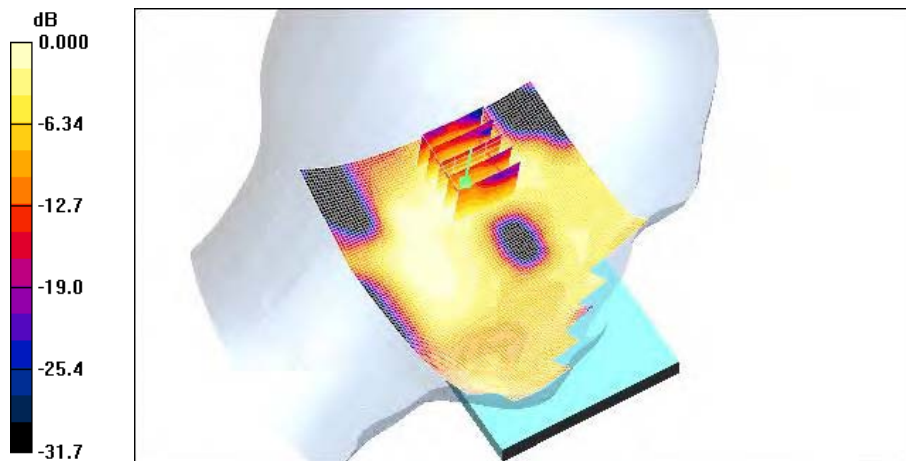
Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Left tilt 661/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.022 mW/g

**Left tilt 661/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 3.39 V/m; Power Drift = 0.057 dB  
Peak SAR (extrapolated) = 0.033 W/kg  
**SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.011 mW/g**  
Maximum value of SAR (measured) = 0.022 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

DUT: LG-P895; Type: bar; Serial: #1

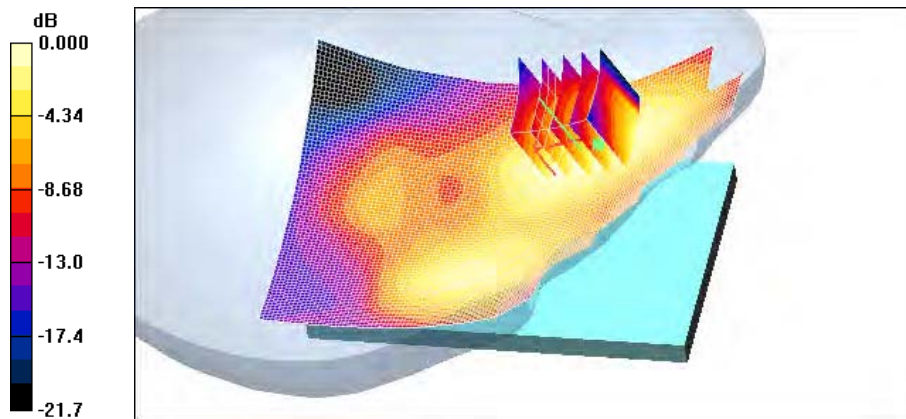
Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.38$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right touch 661/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.183 mW/g

**Right touch 661/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.83 V/m; Power Drift = 0.008 dB  
Peak SAR (extrapolated) = 0.276 W/kg  
**SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.102 mW/g**  
Maximum value of SAR (measured) = 0.177 mW/g



0 dB = 0.177mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

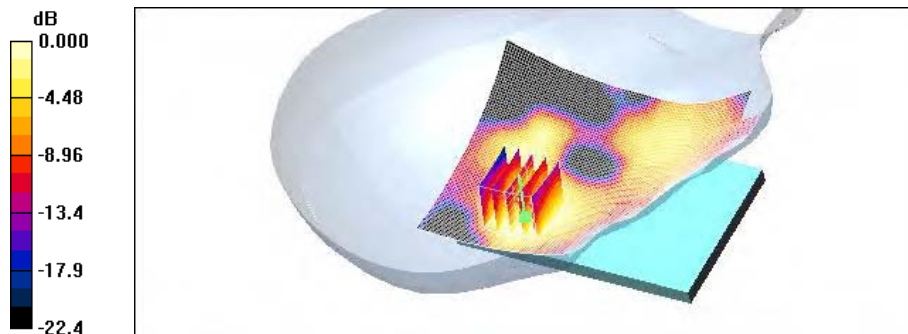
Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right tilt 661/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.038 mW/g

**Right tilt 661/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 3.15 V/m; Power Drift = -0.064 dB  
Peak SAR (extrapolated) = 0.049 W/kg  
**SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.020 mW/g**  
Maximum value of SAR (measured) = 0.034 mW/g



0 dB = 0.034mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Left Touch 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.085 mW/g

**Left Touch 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

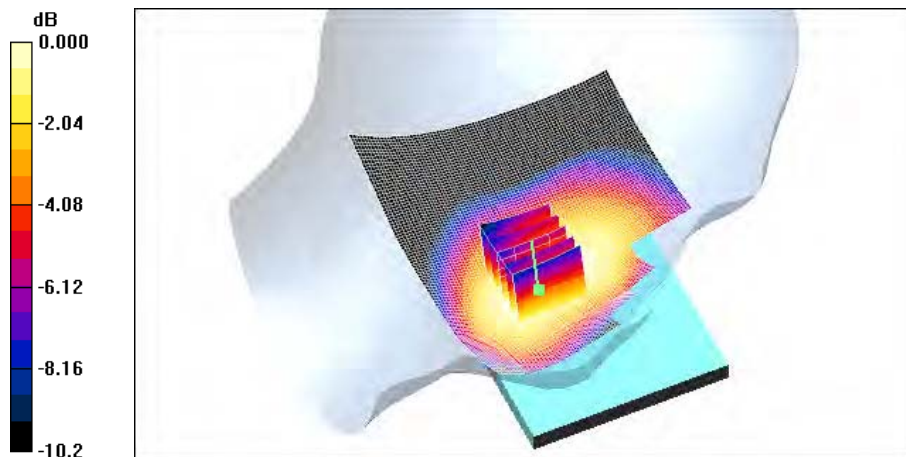
Reference Value = 1.57 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.101 W/kg

**SAR(1 g) = 0.080 mW/g; SAR(10 g) = 0.062 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.084 mW/g



0 dB = 0.084mW/g

Test Laboratory: HCT CO., LTD

EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC

Liquid Temperature: 21.3 °C

Ambient Temperature: 21.5 °C

Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.9$  mho/m;  $\epsilon_r = 42.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Left Tilt 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.048 mW/g

**Left Tilt 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

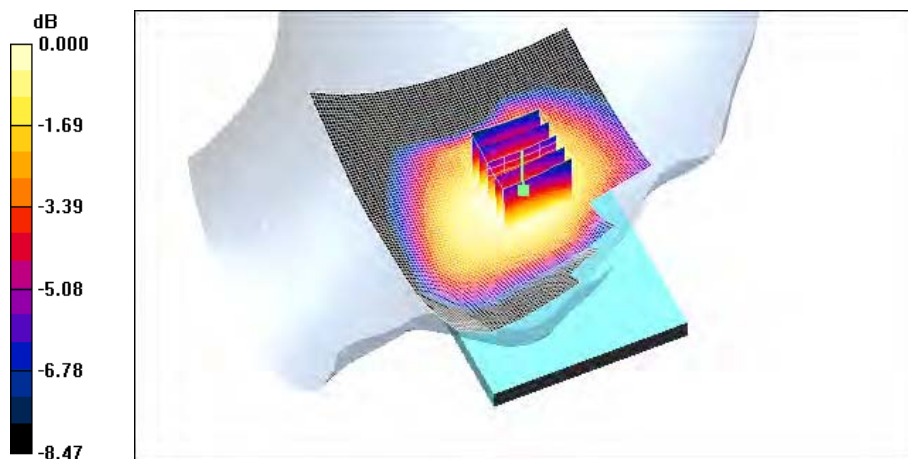
Reference Value = 2.81 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 0.055 W/kg

**SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.036 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.048 mW/g



0 dB = 0.048mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Right Touch 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.078 mW/g

**Right Touch 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

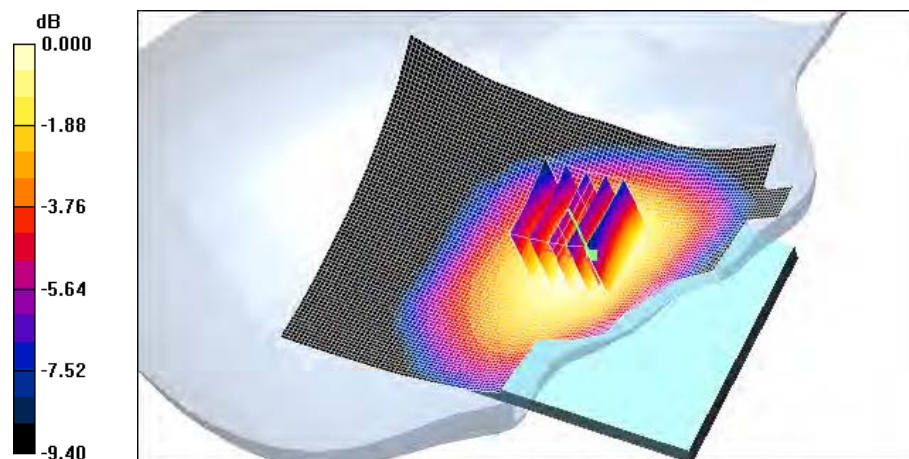
Reference Value = 2.00 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.092 W/kg

**SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.057 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.078 mW/g



0 dB = 0.078mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right Tilt 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.056 mW/g

**Right Tilt 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

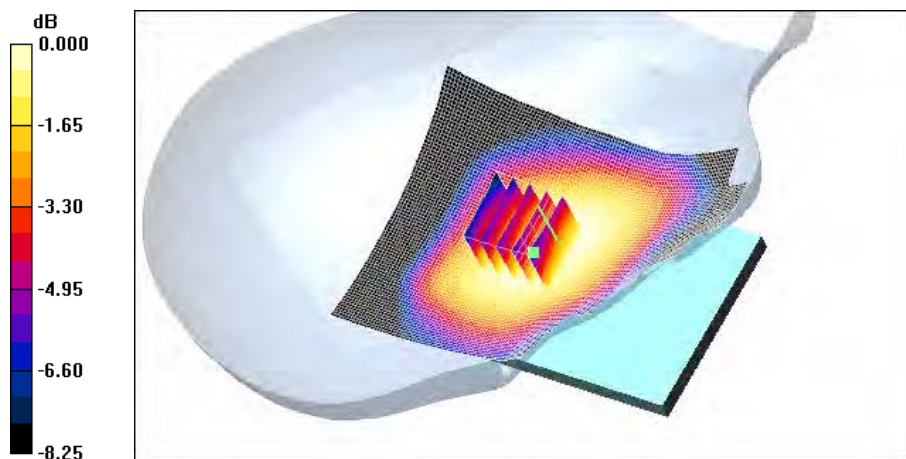
Reference Value = 4.10 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 0.064 W/kg

**SAR(1 g) = 0.054 mW/g; SAR(10 g) = 0.043 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.055 mW/g



0 dB = 0.055mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

DUT: LG-P895; Type: bar; Serial: #1

Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

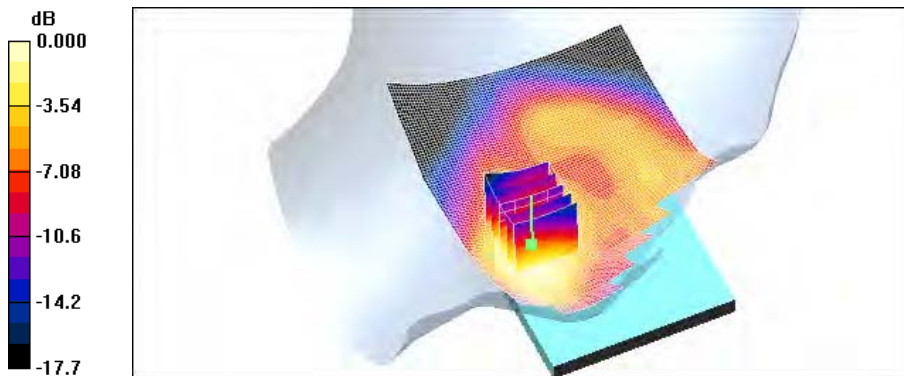
**Left Touch 9400/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.274 mW/g

**Left Touch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.87 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.390 W/kg

**SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.147 mW/g**

Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

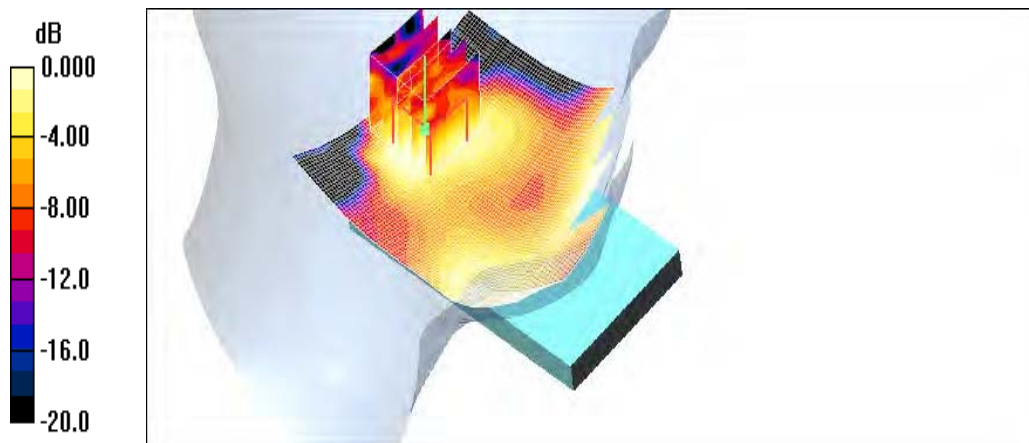
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.39 \text{ mho/m}$ ;  $\epsilon_r = 39.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Left tilt 9400/Area Scan (81x111x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.057 mW/g

**Left tilt 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 5.23 V/m; Power Drift = -0.024 dB  
 Peak SAR (extrapolated) = 0.095 W/kg  
**SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.028 mW/g**  
 Maximum value of SAR (measured) = 0.060 mW/g



0 dB = 0.060mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

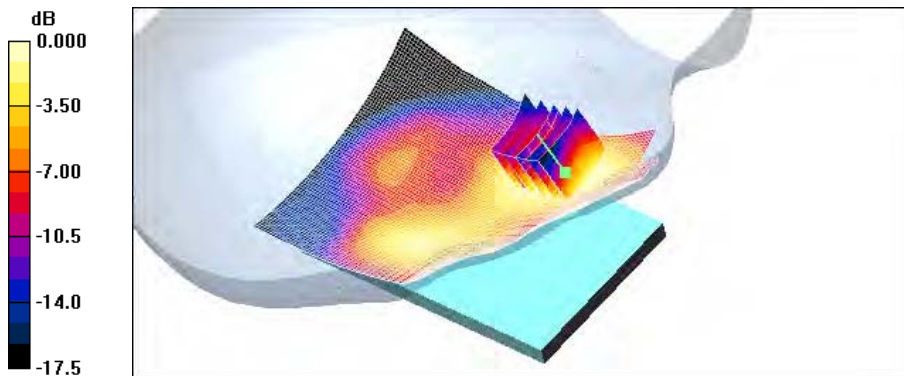
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.39 \text{ mho/m}$ ;  $\epsilon_r = 39.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right Touch 9400/Area Scan (81x111x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 0.283 mW/g

**Right Touch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 5.92 V/m; Power Drift = 0.015 dB  
Peak SAR (extrapolated) = 0.383 W/kg  
**SAR(1 g) = 0.256 mW/g; SAR(10 g) = 0.158 mW/g**  
Maximum value of SAR (measured) = 0.274 mW/g



0 dB = 0.274mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

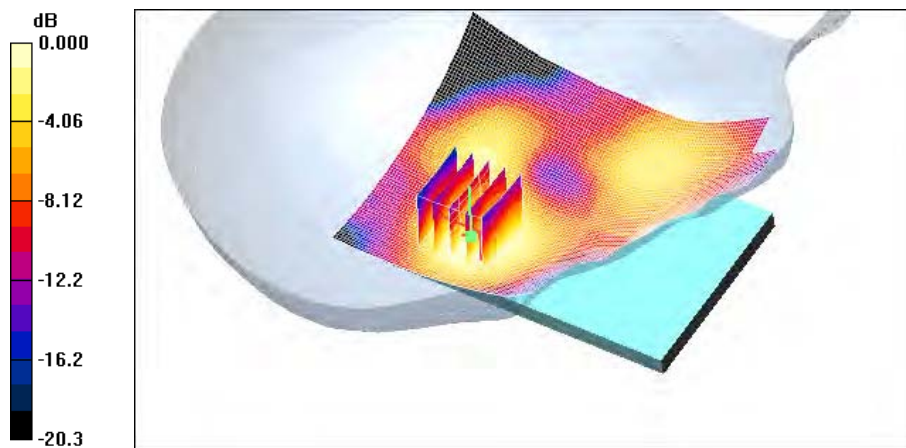
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right Tilt 9400/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.086 mW/g

**Right Tilt 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.81 V/m; Power Drift = 0.127 dB  
Peak SAR (extrapolated) = 0.108 W/kg  
**SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.046 mW/g**  
Maximum value of SAR (measured) = 0.079 mW/g



0 dB = 0.079mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.1 °C  
Ambient Temperature: 21.3 °C  
Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.88 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**802.11b Left Touch 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.146 mW/g

**802.11b Left Touch 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

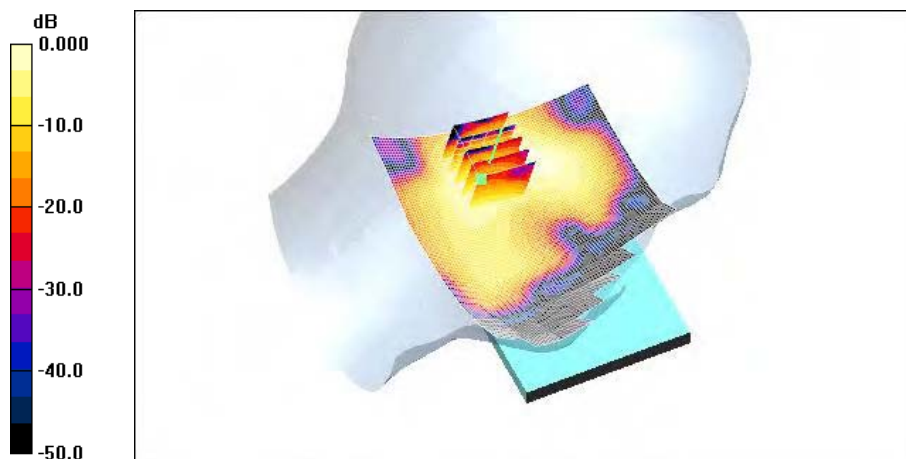
Reference Value = 8.67 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 0.320 W/kg

**SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.061 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.153 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.1 °C  
 Ambient Temperature: 21.3 °C  
 Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.88 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**802.11b Left Tilt 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.134 mW/g

**802.11b Left Tilt 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

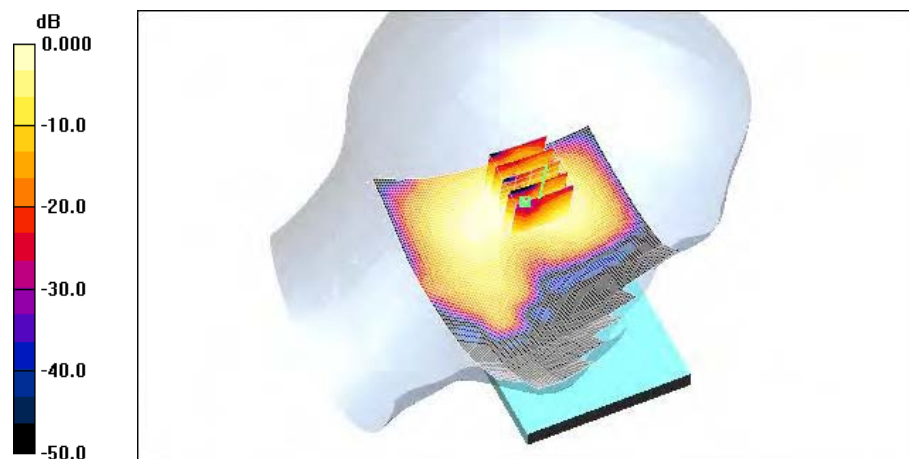
Reference Value = 8.29 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 0.259 W/kg

**SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.056 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.134 mW/g



0 dB = 0.134mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.1 °C  
 Ambient Temperature: 21.3 °C  
 Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.88 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**801.11b Right touch 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.203 mW/g

**801.11b Right touch 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

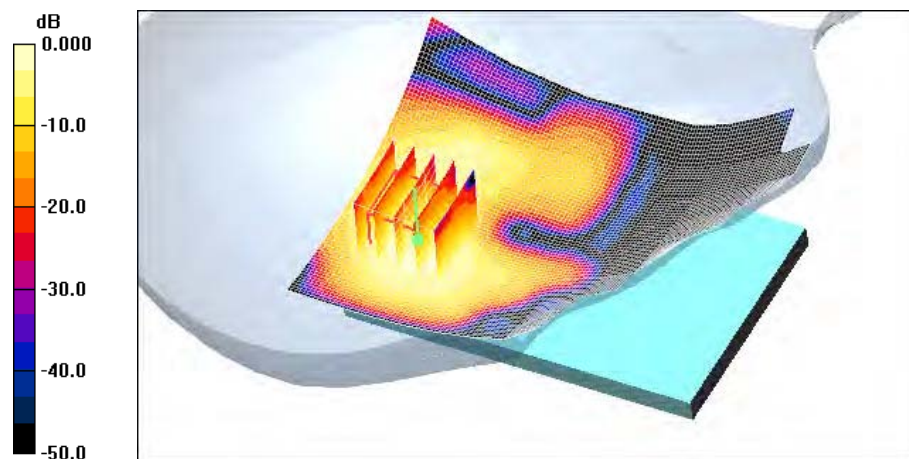
Reference Value = 7.30 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.378 W/kg

**SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.076 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.183 mW/g



0 dB = 0.183mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.1 °C  
 Ambient Temperature: 21.3 °C  
 Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.88 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**801.11b Right tilt 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.158 mW/g

**801.11b Right tilt 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

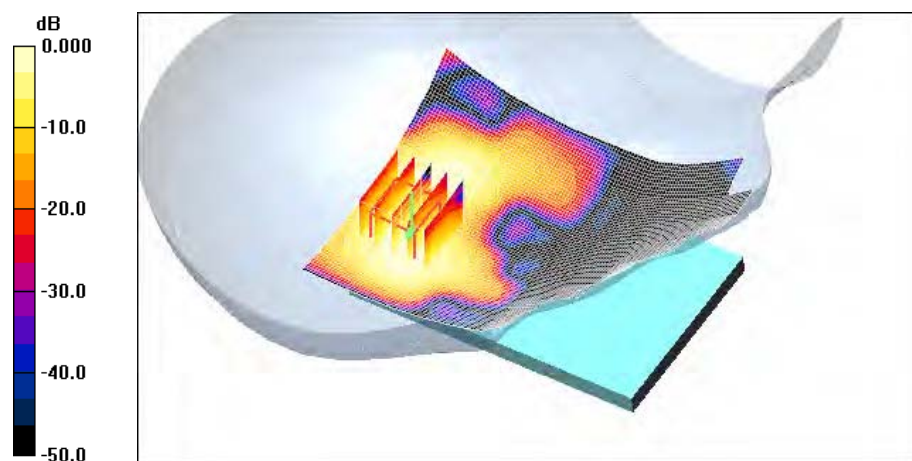
Reference Value = 6.21 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.297 W/kg

**SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.066 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.159 mW/g



0 dB = 0.159mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

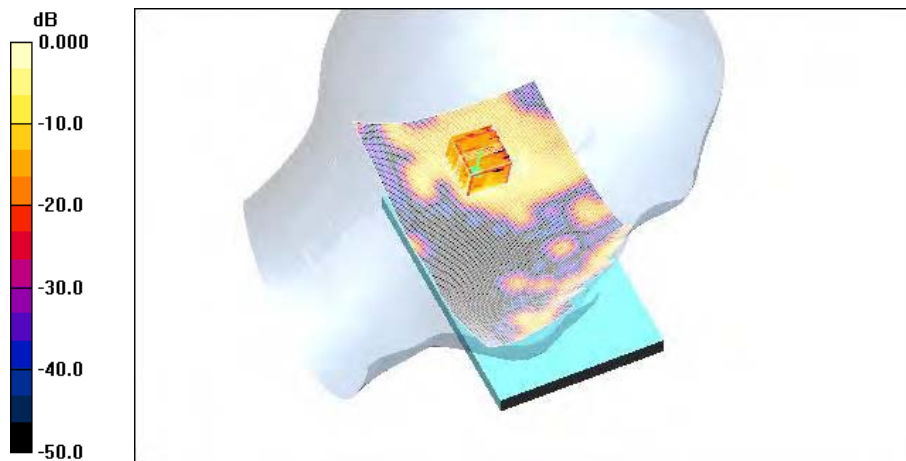
Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.12$  mho/m;  $\epsilon_r = 35.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.56, 4.56, 4.56); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**802.11a Left touch 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 0.259 mW/g

**802.11a Left touch 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 7.53 V/m; Power Drift = -0.088 dB  
Peak SAR (extrapolated) = 0.768 W/kg  
**SAR(1 g) = 0.216 mW/g; SAR(10 g) = 0.064 mW/g**  
Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

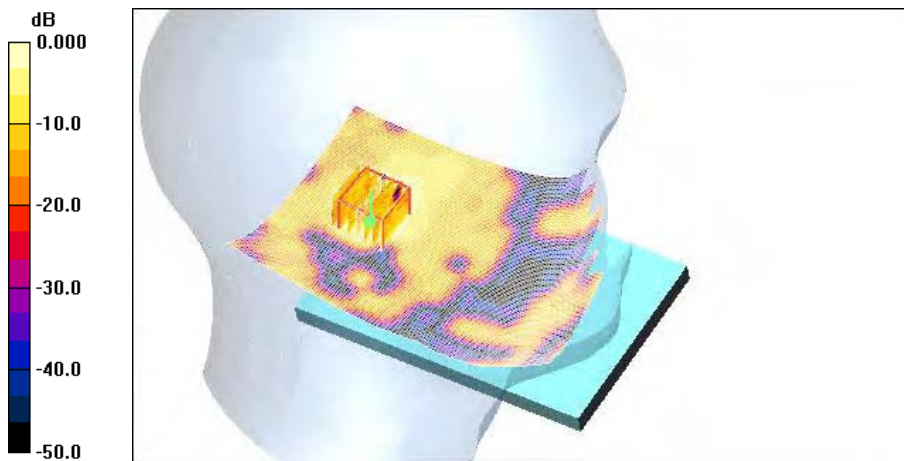
Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.12$  mho/m;  $\epsilon_r = 35.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.56, 4.56, 4.56); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**802.11a Left tilt 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 0.221 mW/g

**802.11a Left tilt 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 6.11 V/m; Power Drift = 0.106 dB  
Peak SAR (extrapolated) = 0.598 W/kg  
**SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.052 mW/g**  
Maximum value of SAR (measured) = 0.209 mW/g



0 dB = 0.209mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

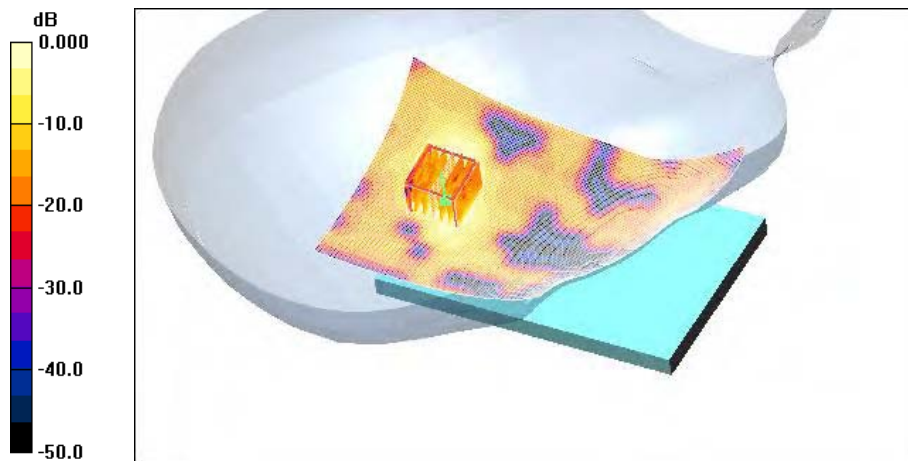
Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.12$  mho/m;  $\epsilon_r = 35.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.56, 4.56, 4.56); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Right touch 802.11a 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 0.402 mW/g

**Right touch 802.11a 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 6.73 V/m; Power Drift = 0.103 dB  
Peak SAR (extrapolated) = 0.761 W/kg  
**SAR(1 g) = 0.195 mW/g; SAR(10 g) = 0.059 mW/g**  
Maximum value of SAR (measured) = 0.425 mW/g



0 dB = 0.425mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

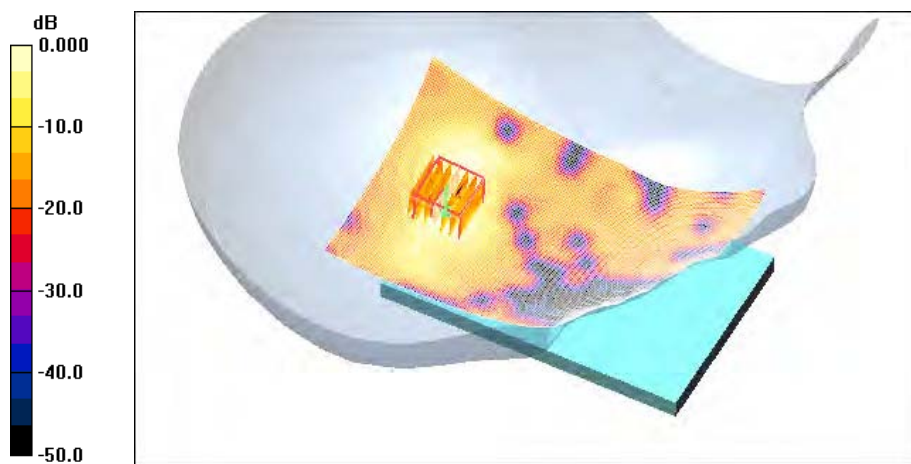
Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.12$  mho/m;  $\epsilon_r = 35.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.56, 4.56, 4.56); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Right tilt 802.11a 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 0.462 mW/g

**Right tilt 802.11a 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 6.71 V/m; Power Drift = 0.109 dB  
Peak SAR (extrapolated) = 1.15 W/kg  
**SAR(1 g) = 0.241 mW/g; SAR(10 g) = 0.080 mW/g**  
Maximum value of SAR (measured) = 0.502 mW/g



0 dB = 0.502mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 35.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Left touch 802.11a 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.316 mW/g

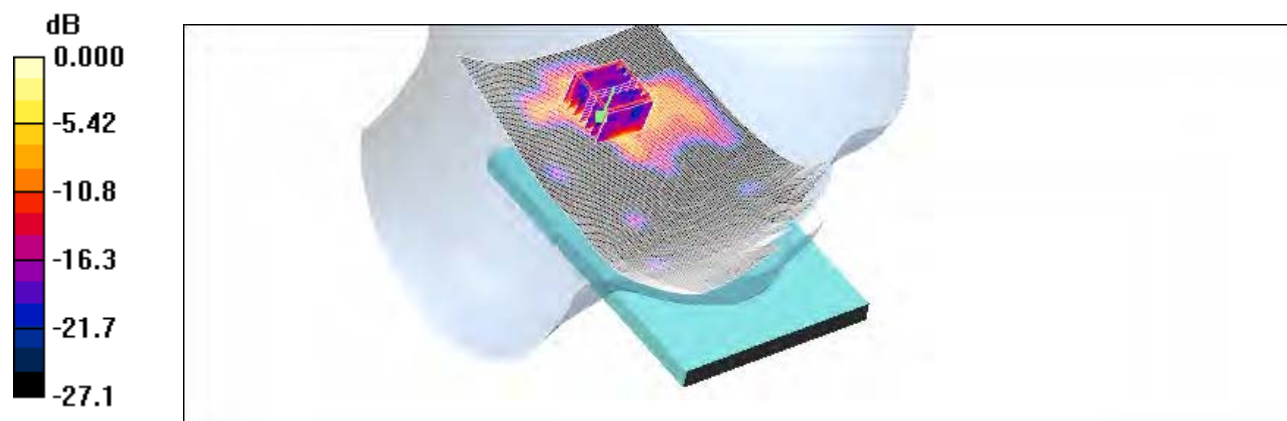
**Left touch 802.11a 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 11.7 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.094 mW/g**

Maximum value of SAR (measured) = 0.607 mW/g



0 dB = 0.607mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 35.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Left tilt 802.11a 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.330 mW/g

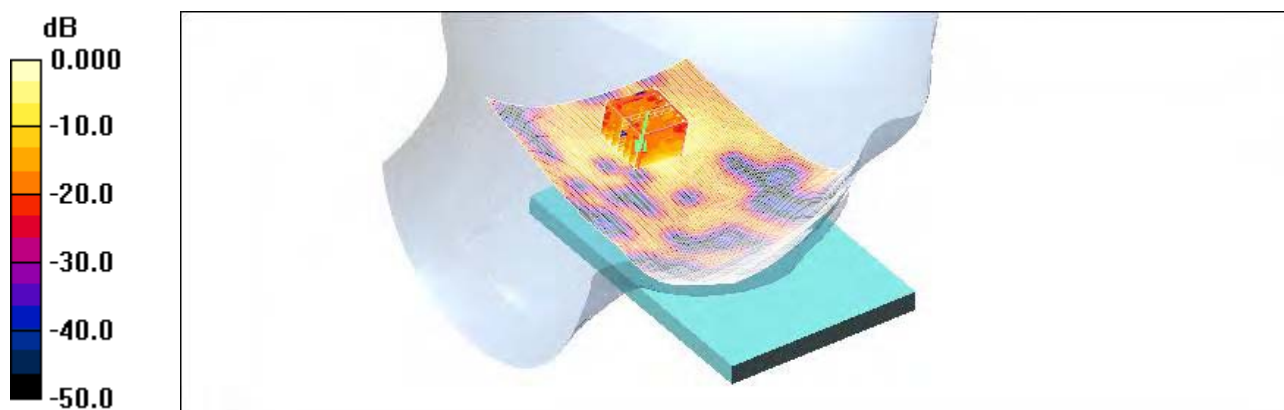
**Left tilt 802.11a 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 11.8 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.101 mW/g**

Maximum value of SAR (measured) = 0.669 mW/g



0 dB = 0.669mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 35.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Right touch 802.11a 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.572 mW/g

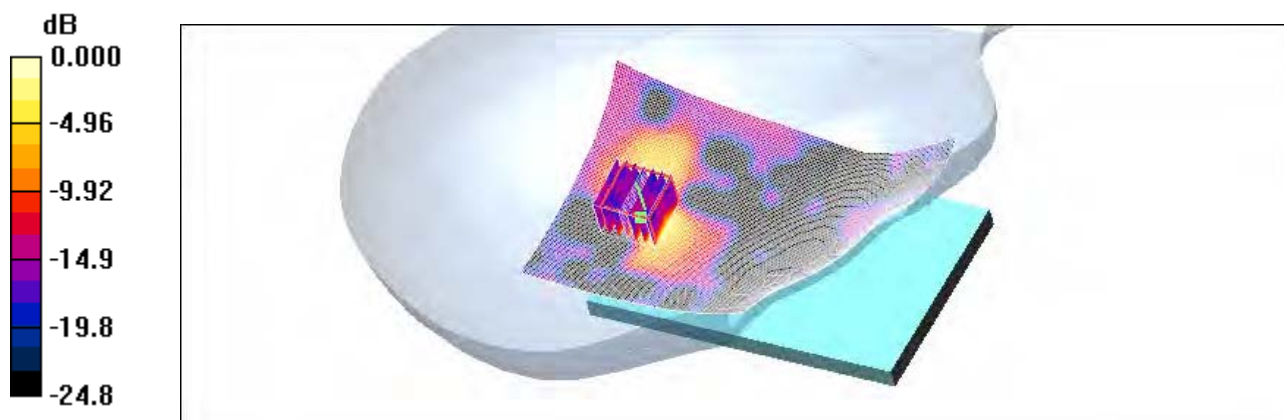
**Right touch 802.11a 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.75 V/m; Power Drift = 0.090 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.128 mW/g**

Maximum value of SAR (measured) = 0.484 mW/g



0 dB = 0.484mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 35.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Right tilt 802.11a 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.393 mW/g

**Right tilt 802.11a 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

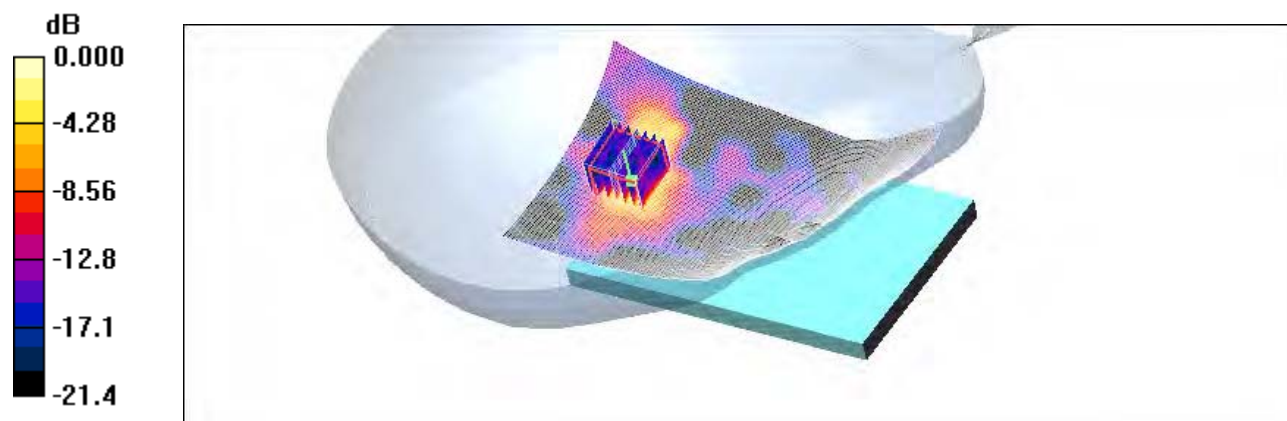
Reference Value = 8.90 V/m; Power Drift = 0.080 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.107 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.429 mW/g



0 dB = 0.429mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Rear 190 4Tx/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.408 mW/g

**GSM850 GPRS Hotspot Rear 190 4Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

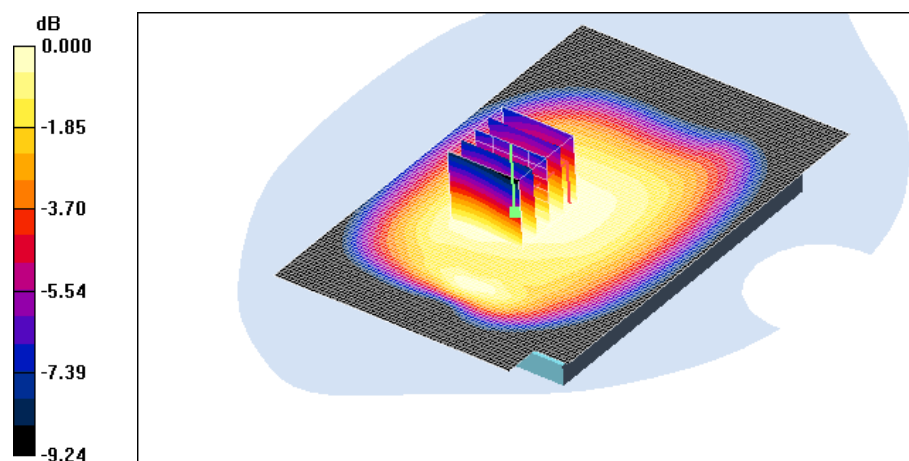
Reference Value = 18.9 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.499 W/kg

**SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.299 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.408 mW/g



0 dB = 0.408mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075  
Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Front 190 4Tx /Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.162 mW/g

**GSM850 GPRS Hotspot Front 190 4Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

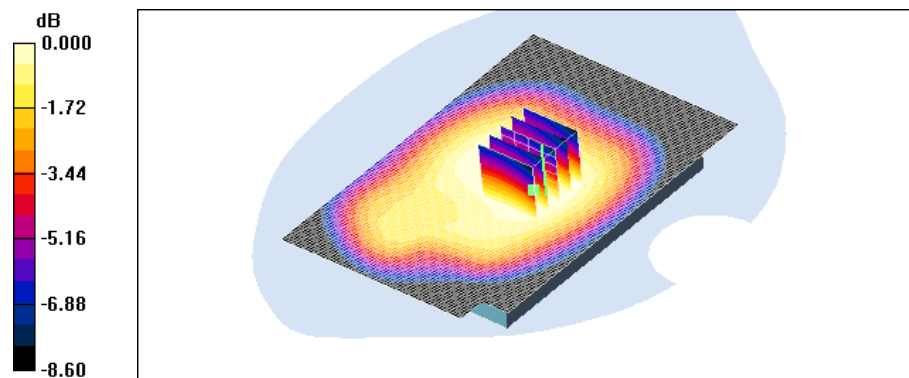
Reference Value = 12.3 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 0.199 W/kg

**SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.117 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.160 mW/g



0 dB = 0.160mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895(side); Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Left 190 4Tx/Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.162 mW/g

**GSM850 GPRS Hotspot Left 190 4Tx/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

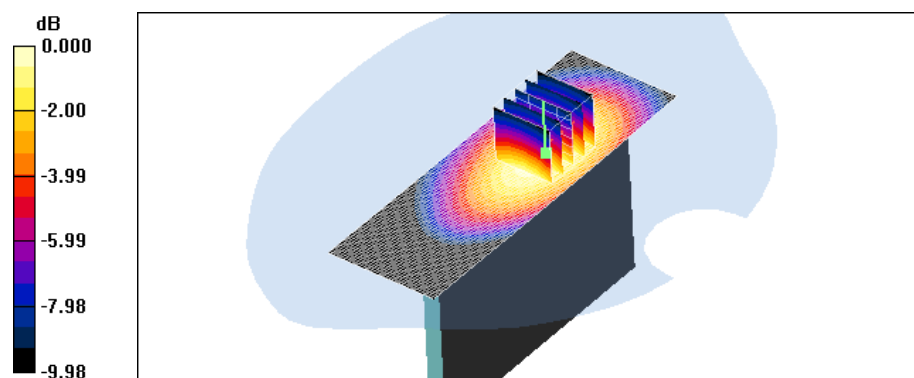
Reference Value = 12.1 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 0.216 W/kg

**SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.104 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.164 mW/g



0 dB = 0.164mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(side); Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Right side 190 4Tx/Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.196 mW/g

**GSM850 GPRS Hotspot Right side 190 4Tx/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

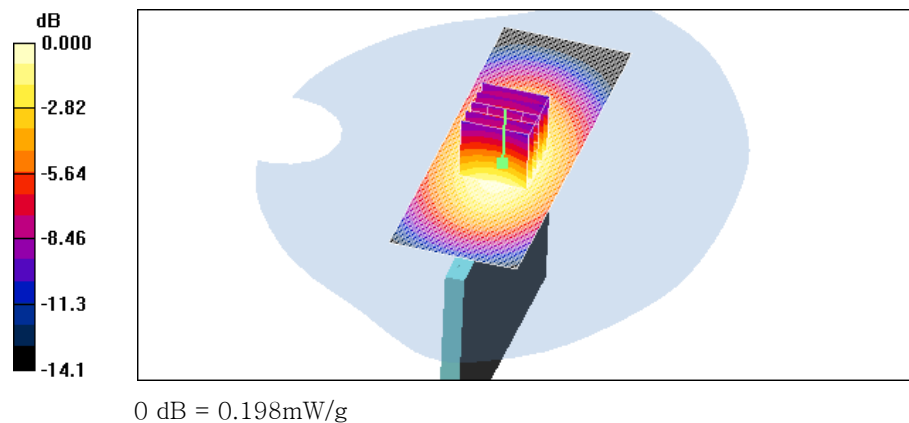
Reference Value = 13.8 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 0.265 W/kg

**SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.126 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.198 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.075  
Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Bottom 190 4Tx/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.099 mW/g

**GSM850 GPRS Hotspot Bottom 190 4Tx/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

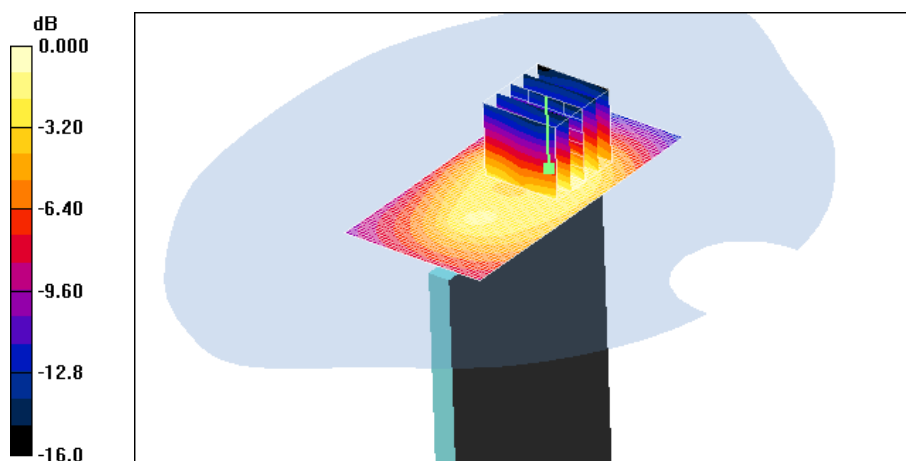
Reference Value = 6.44 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.170 W/kg

**SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.047 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:2.77

Medium parameters used (interpolated):  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 53.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Rear 512 3Tx/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.871 mW/g

**GSM1900 GPRS Hotspot Rear 512 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

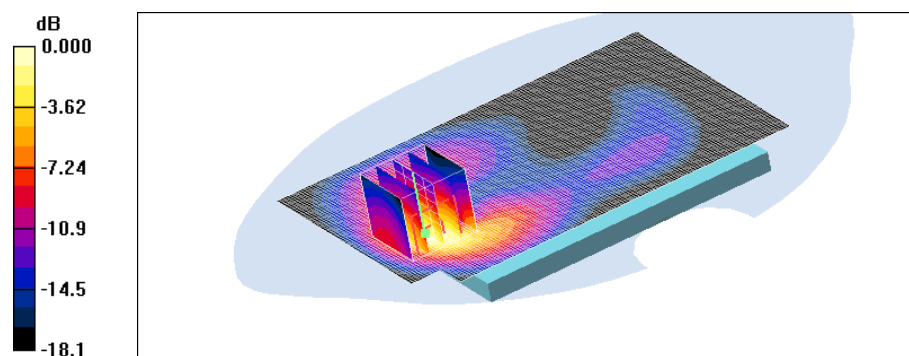
Reference Value = 3.12 V/m; Power Drift = -0.086 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.771 mW/g; SAR(10 g) = 0.382 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.858 mW/g



0 dB = 0.858mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77  
 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.47 \text{ mho/m}$ ;  $\epsilon_r = 53.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Rear 661 3Tx /Area Scan (81x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.990 mW/g

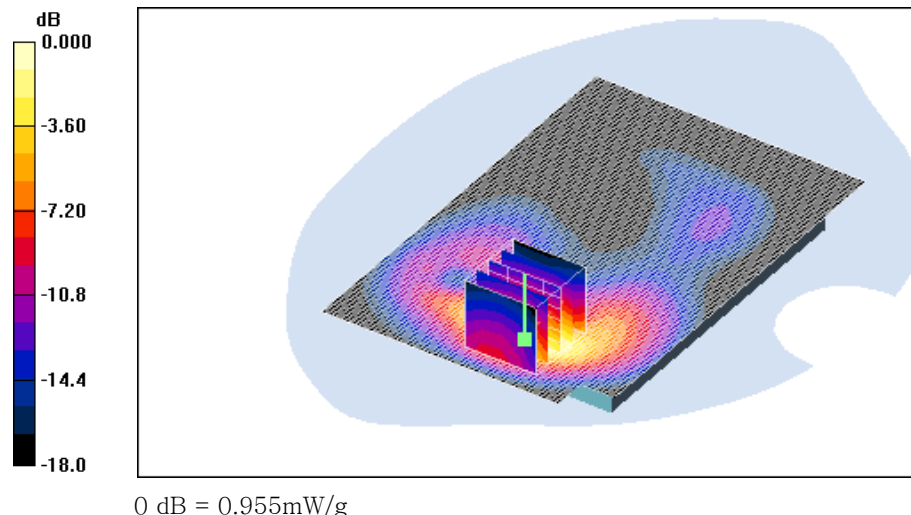
**GSM1900 GPRS Hotspot Rear 661 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.74 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 1.62 W/kg

**SAR(1 g) = 0.864 mW/g; SAR(10 g) = 0.426 mW/g**

Maximum value of SAR (measured) = 0.955 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:2.77  
Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Rear 810 3Tx /Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 1.14 mW/g

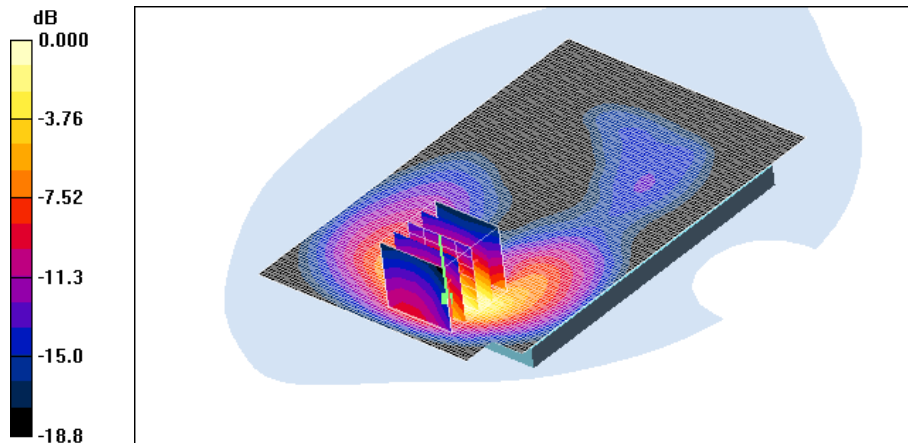
**GSM1900 GPRS Hotspot Rear 810 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.37 V/m; Power Drift = -0.092 dB

Peak SAR (extrapolated) = 1.81 W/kg

**SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.477 mW/g**

Maximum value of SAR (measured) = 1.06 mW/g



0 dB = 1.06mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Front 661 3Tx /Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.212 mW/g

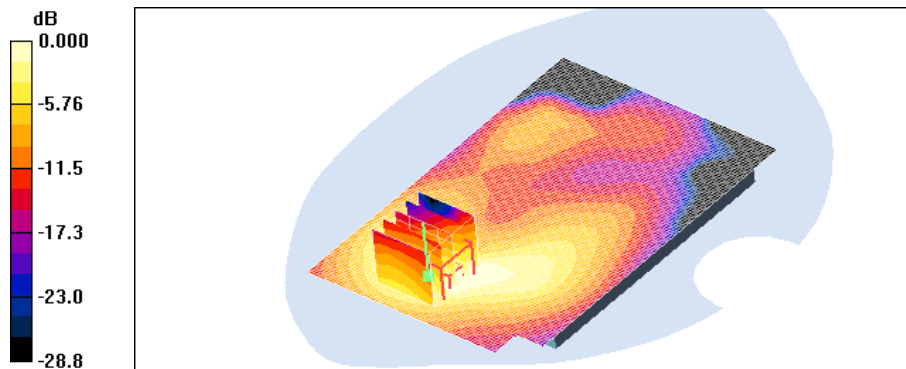
**GSM1900 GPRS Hotspot Front 661 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.31 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 0.342 W/kg

**SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.107 mW/g**

Maximum value of SAR (measured) = 0.208 mW/g



0 dB = 0.208mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895(side); Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77  
 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.47 \text{ mho/m}$ ;  $\epsilon_r = 53.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Left side 661 3Tx /Area Scan (41x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.124 mW/g

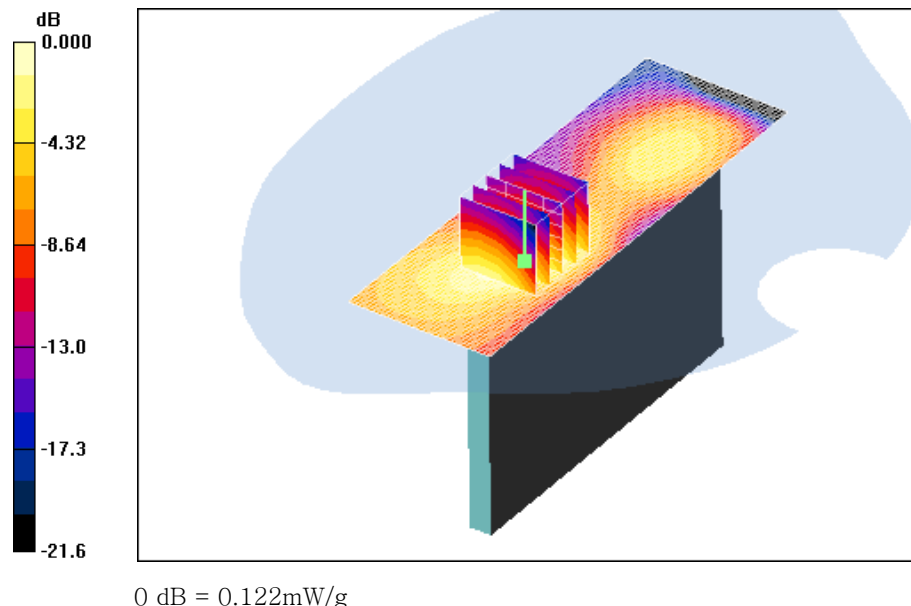
**GSM1900 GPRS Hotspot Left side 661 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.85 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.182 W/kg

**SAR(1 g) = 0.111 mW/g; SAR(10 g) = 0.065 mW/g**

Maximum value of SAR (measured) = 0.122 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(side); Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Right side 661 3Tx /Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.030 mW/g

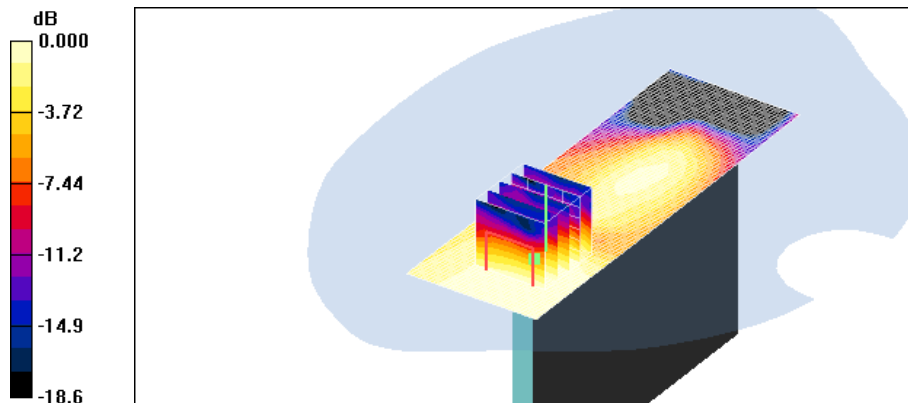
**GSM1900 GPRS Hotspot Right side 661 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.78 V/m; Power Drift = -0.113 dB

Peak SAR (extrapolated) = 0.041 W/kg

**SAR(1 g) = 0.026 mW/g; SAR(10 g) = 0.016 mW/g**

Maximum value of SAR (measured) = 0.028 mW/g



0 dB = 0.028mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:2.77  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Bottom Side 661 3Tx /Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.557 mW/g

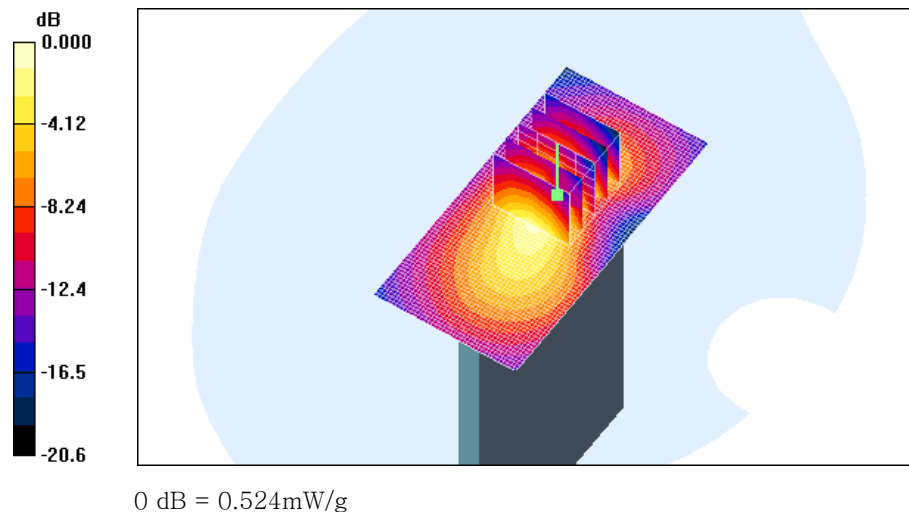
**GSM1900 GPRS Hotspot Bottom Side 661 3Tx /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.4 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.806 W/kg

**SAR(1 g) = 0.464 mW/g; SAR(10 g) = 0.244 mW/g**

Maximum value of SAR (measured) = 0.524 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Rear 4183/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.189 mW/g

**WCDMA850 Hotspot Rear 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

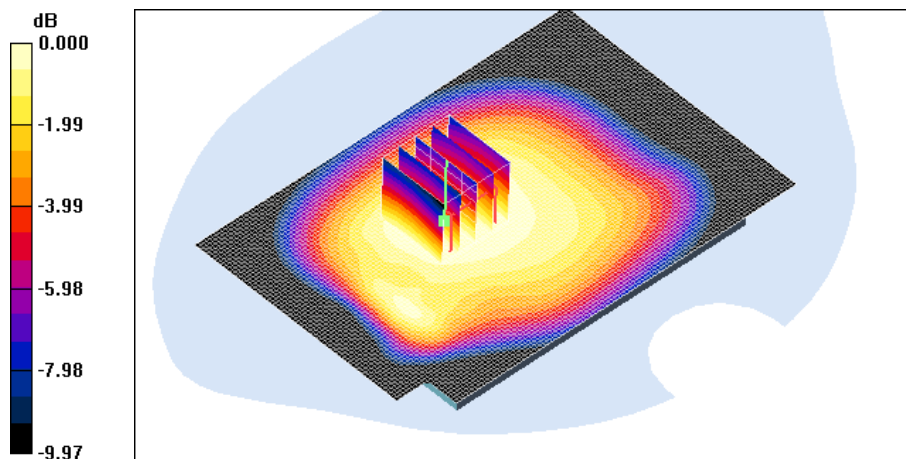
Reference Value = 12.6 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.229 W/kg

**SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.132 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.184 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Front 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.110 mW/g

**WCDMA850 Hotspot Front 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

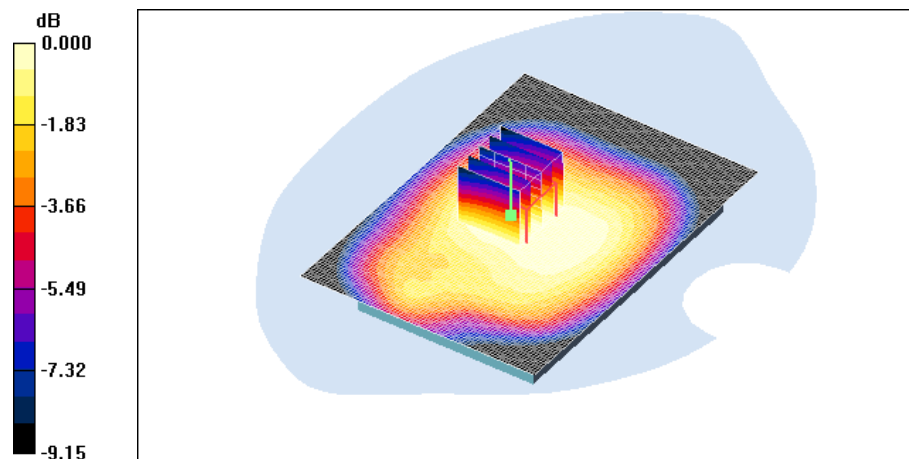
Reference Value = 10.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.136 W/kg

**SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.080 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.110 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Left 4183/Area Scan (41x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.113 mW/g

**WCDMA850 Hotspot Left 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

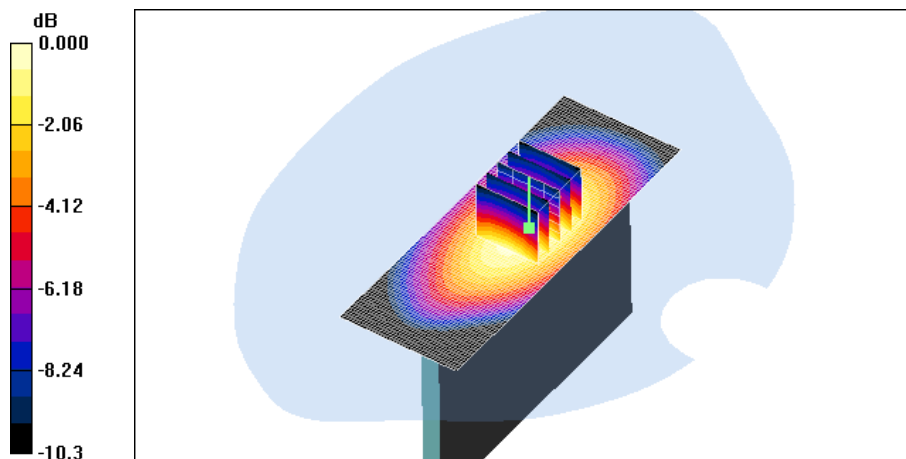
Reference Value = 10.4 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 0.151 W/kg

**SAR(1 g) = 0.106 mW/g; SAR(10 g) = 0.072 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.114 mW/g



0 dB = 0.114mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895: Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Right 4183/Area Scan (41x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.139 mW/g

**WCDMA850 Hotspot Right 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

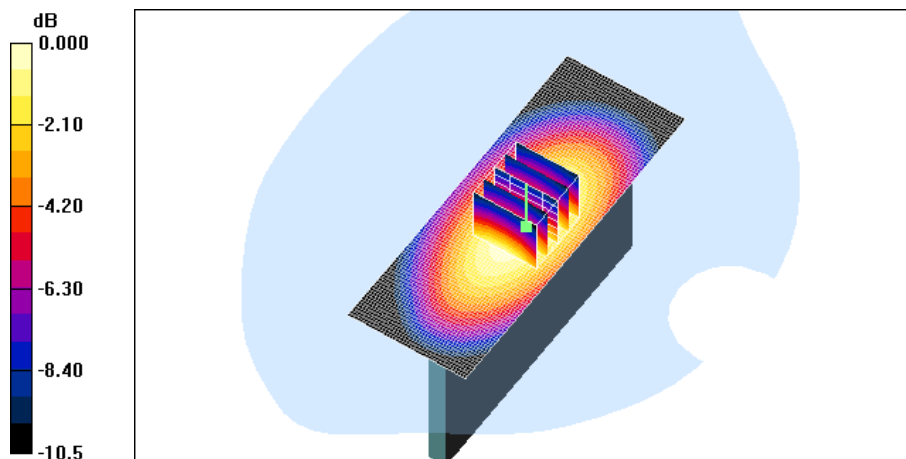
Reference Value = 11.1 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.186 W/kg

**SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.088 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.138 mW/g



0 dB = 0.138mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.17, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:4.15  
Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Bottom 4183/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.075 mW/g

**WCDMA850 Hotspot Bottom 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

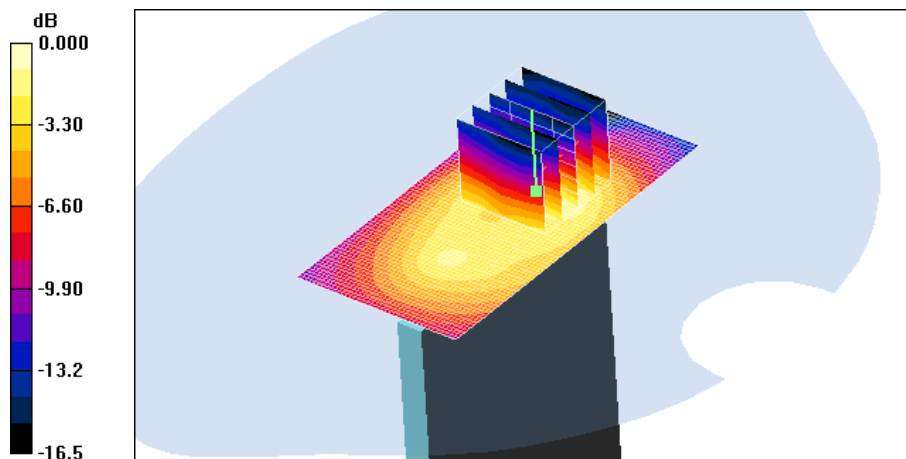
Reference Value = 5.77 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.124 W/kg

**SAR(1 g) = 0.063 mW/g; SAR(10 g) = 0.033 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.071 mW/g



0 dB = 0.071mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1852.4 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 1852.4 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 53.8$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Rear 9262/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.969 mW/g

**Body Rear 9262/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

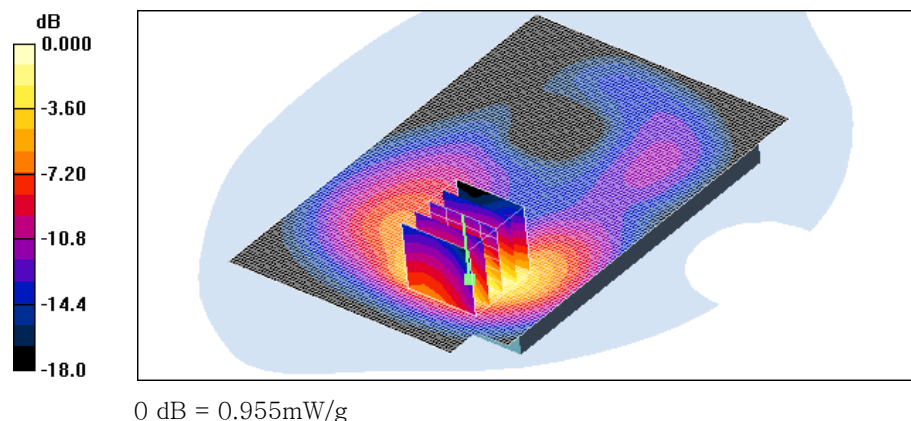
Reference Value = 4.41 V/m; Power Drift = -0.072 dB

Peak SAR (extrapolated) = 1.54 W/kg

**SAR(1 g) = 0.861 mW/g; SAR(10 g) = 0.448 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.955 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

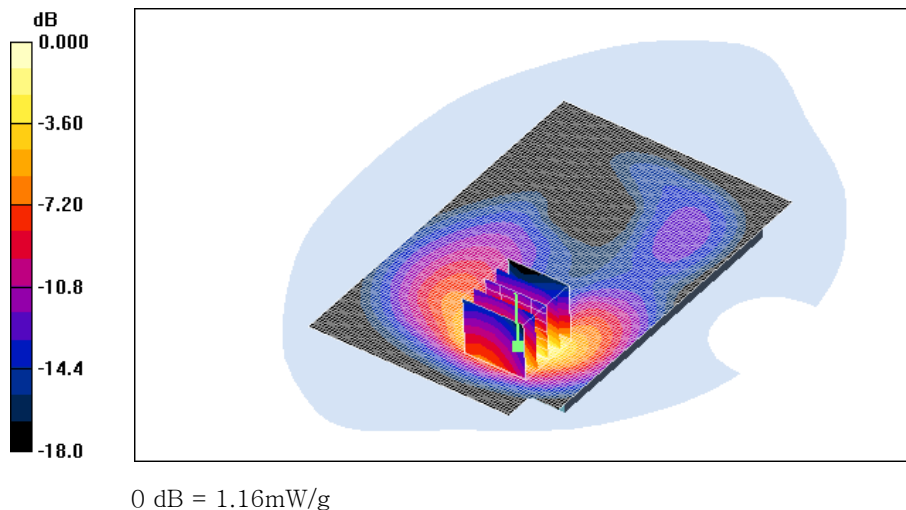
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Rear 9400/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 1.18 mW/g

**Body Rear 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.31 V/m; Power Drift = -0.045 dB  
Peak SAR (extrapolated) = 1.90 W/kg  
**SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.539 mW/g**  
Maximum value of SAR (measured) = 1.16 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1907.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 1907.6 \text{ MHz}$ ;  $\sigma = 1.51 \text{ mho/m}$ ;  $\epsilon_r = 53.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Rear 9538/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.43 mW/g

**Body Rear 9538/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

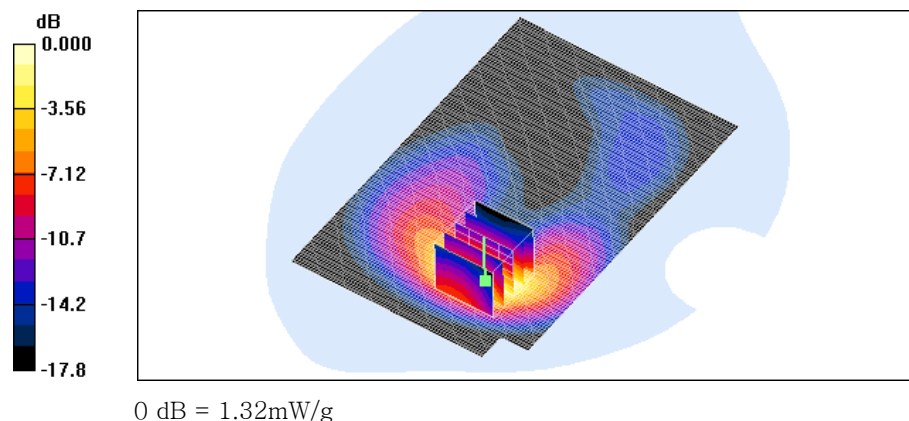
Reference Value = 3.78 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 2.15 W/kg

**SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.609 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.32 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

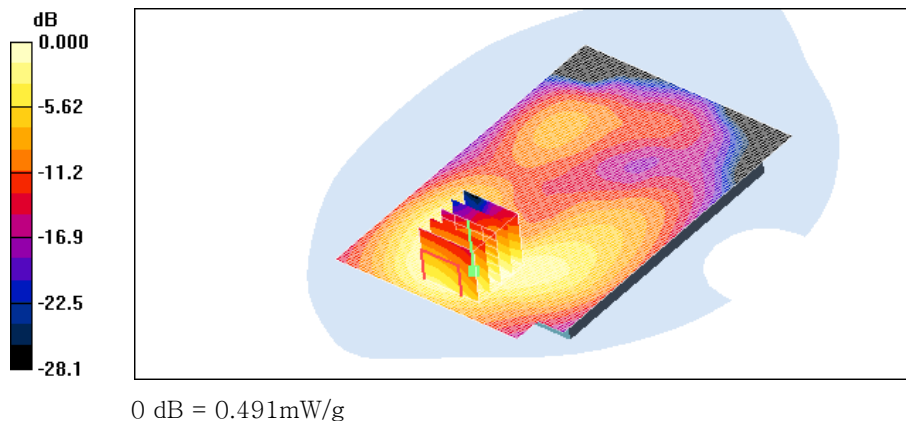
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.47 \text{ mho/m}$ ;  $\epsilon_r = 53.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Front 9400/Area Scan (81x121x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.476 mW/g

**Body Front 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 3.59 V/m; Power Drift = 0.052 dB  
 Peak SAR (extrapolated) = 0.790 W/kg  
**SAR(1 g) = 0.451 mW/g; SAR(10 g) = 0.244 mW/g**  
 maximum value of SAR (measured) = 0.491 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(side); Type: bar; Serial: #1**

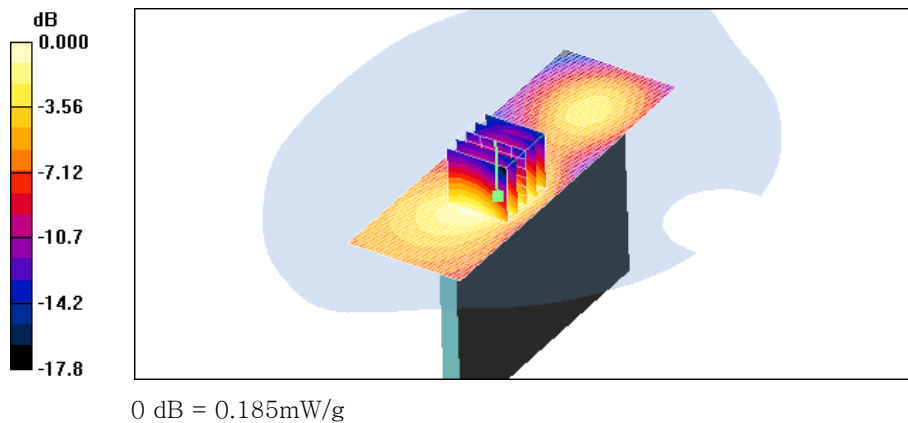
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Left 9400/Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.192 mW/g

**Body Left 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.12 V/m; Power Drift = -0.059 dB  
Peak SAR (extrapolated) = 0.270 W/kg  
**SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.101 mW/g**  
Maximum value of SAR (measured) = 0.185 mW/g





Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

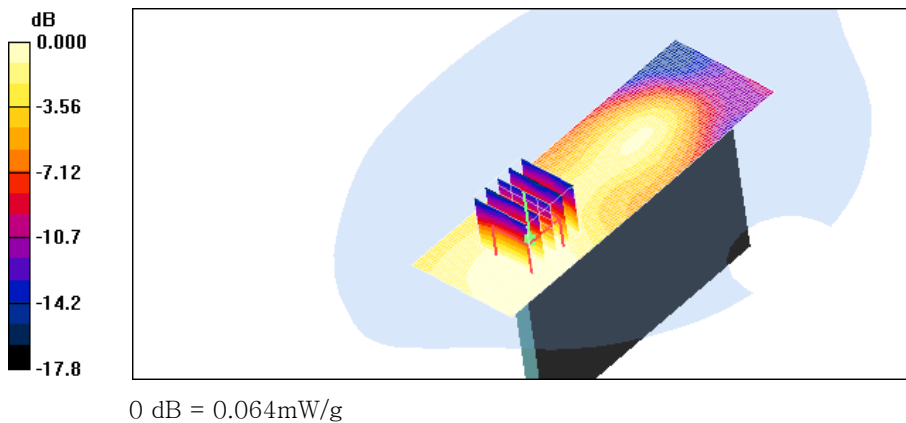
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 53.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Right 9400/Area Scan (41x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.064 mW/g

**Body Right 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.76 V/m; Power Drift = -0.019 dB  
Peak SAR (extrapolated) = 0.094 W/kg  
**SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.038 mW/g**  
Maximum value of SAR (measured) = 0.064 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1852.4 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 1852.4 \text{ MHz}$ ;  $\sigma = 1.44 \text{ mho/m}$ ;  $\epsilon_r = 53.8$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Bottom low 9262/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.12 mW/g

**Body Bottom low 9262/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

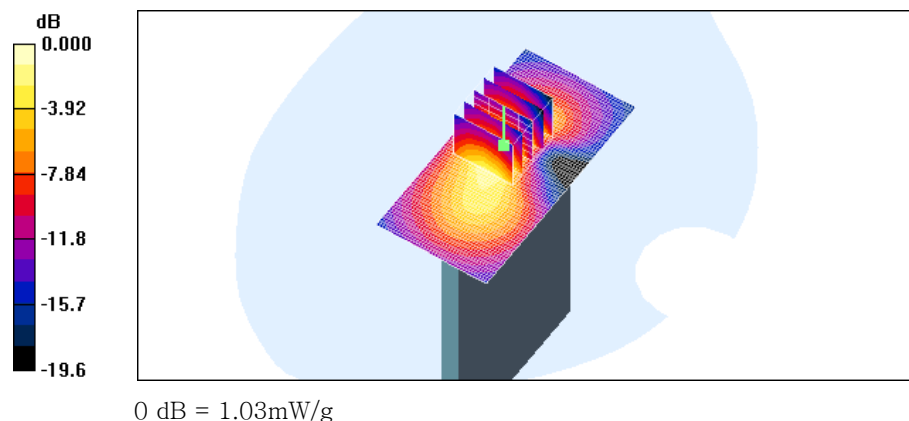
Reference Value = 21.1 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 1.64 W/kg

**SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.474 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.03 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

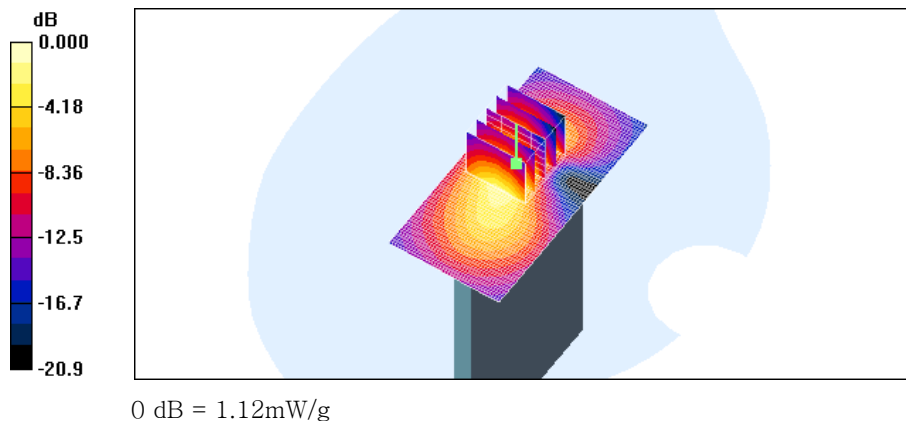
Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.47 \text{ mho/m}$ ;  $\epsilon_r = 53.6$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Bottom 9400/Area Scan (41x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 1.25 mW/g

**Body Bottom 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 22.0 V/m; Power Drift = 0.009 dB  
 Peak SAR (extrapolated) = 1.77 W/kg  
**SAR(1 g) = 0.986 mW/g; SAR(10 g) = 0.512 mW/g**  
 Maximum value of SAR (measured) = 1.12 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1907.6 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 1907.6 \text{ MHz}$ ;  $\sigma = 1.51 \text{ mho/m}$ ;  $\epsilon_r = 53.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Bottom High 9538/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.32 mW/g

**Body Bottom High 9538/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

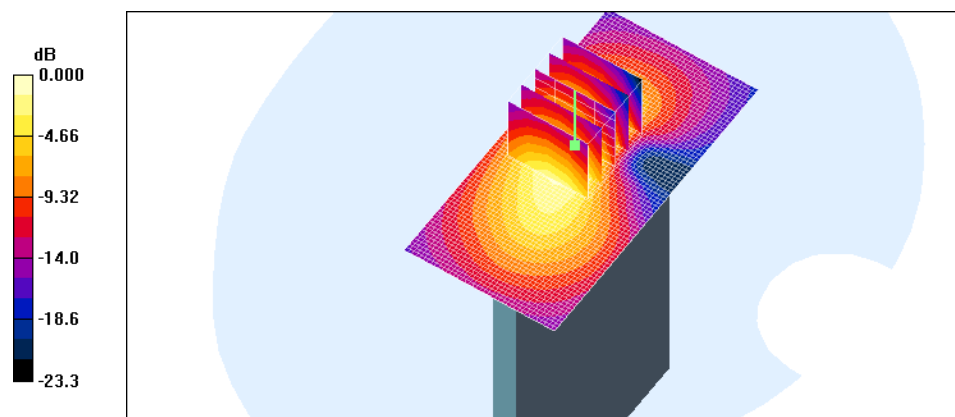
Reference Value = 22.5 V/m; Power Drift = 0.094 dB

Peak SAR (extrapolated) = 1.92 W/kg

**SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.560 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.1 °C  
Ambient Temperature: 21.3 °C  
Test Date: Jul.19, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 51.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.96, 6.96, 6.96); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**802.11b Hotspot Rear 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.171 mW/g

**802.11b Hotspot Rear 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

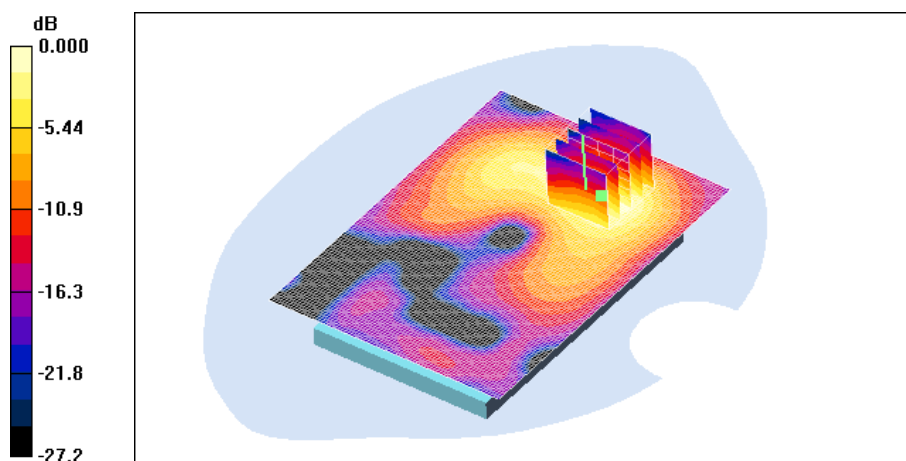
Reference Value = 1.87 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.296 W/kg

**SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.079 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.161 mW/g



0 dB = 0.161mW/g

Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.1 °C  
Ambient Temperature: 21.3 °C  
Test Date: Jul.19, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 51.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.96, 6.96, 6.96); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**802.11b Hotspot Front 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.067 mW/g

**802.11b Hotspot Front 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

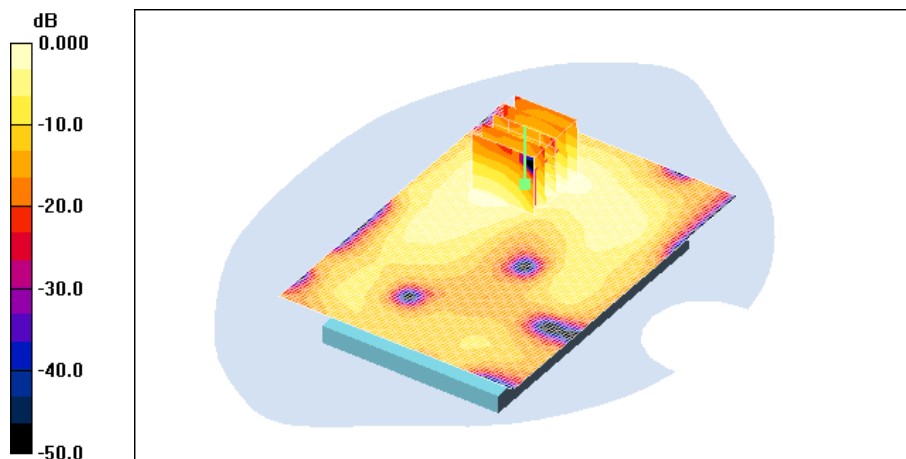
Reference Value = 0.894 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 0.108 W/kg

**SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.031 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.063 mW/g



0 dB = 0.063mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.1 °C  
 Ambient Temperature: 21.3 °C  
 Test Date: Jul.19, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895(Top Bottom); Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.97 \text{ mho/m}$ ;  $\epsilon_r = 51.8$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.96, 6.96, 6.96); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**801.11b Hotspot Top side 11ch 1Mbps/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.063 mW/g

**801.11b Hotspot Top side 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

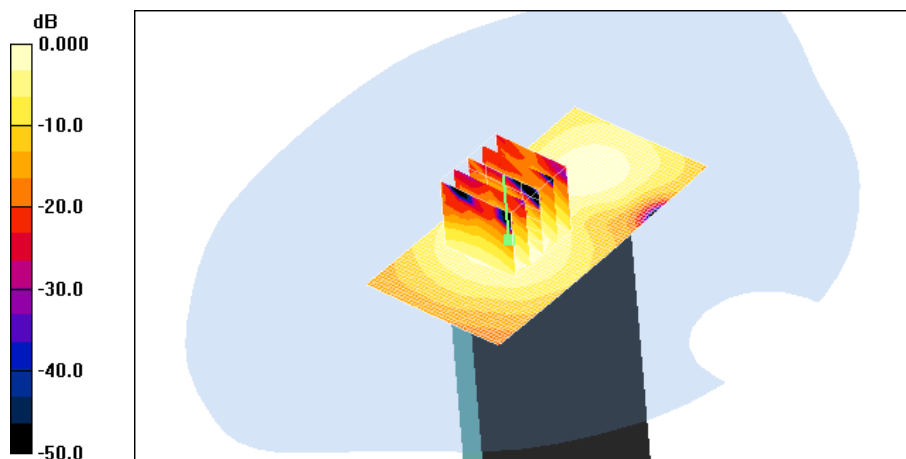
Reference Value = 4.85 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.095 W/kg

**SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.029 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.063 mW/g



0 dB = 0.063mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012  
Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.84 \text{ mho/m}$ ;  $\epsilon_r = 46.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

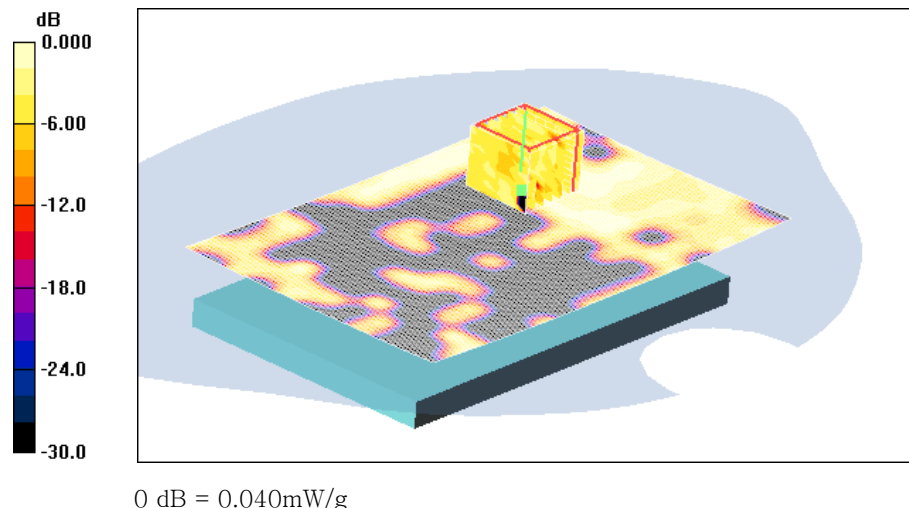
DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.66, 3.66, 3.66); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**WIFI 5GHz Body Rear 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$   
Maximum value of SAR (interpolated) = 0.060 mW/g

**WIFI 5GHz Body Rear 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
Reference Value = 1.21 V/m; Power Drift = 0.04 dB  
Peak SAR (extrapolated) = 0.146 W/kg  
**SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.013 mW/g**

Maximum value of SAR (measured) = 0.040 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5700 MHz; Duty Cycle: 1:1  
 Medium parameters used:  $f = 5700 \text{ MHz}$ ;  $\sigma = 5.84 \text{ mho/m}$ ;  $\epsilon_r = 46.2$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

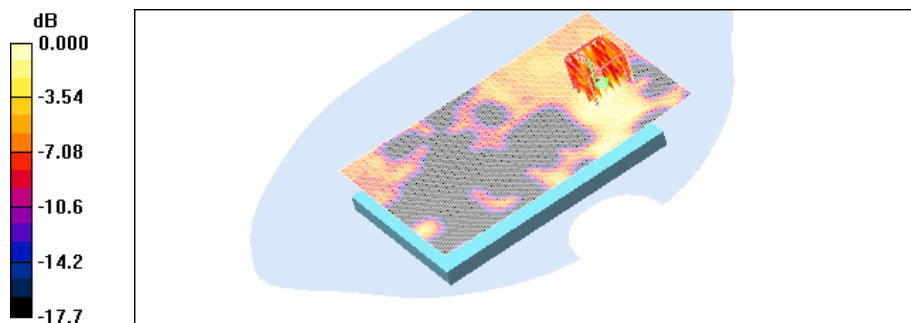
DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.66, 3.66, 3.66); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**WIFI 5GHz Body Front 140ch 6Mbps/Area Scan (101x161x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$   
 Maximum value of SAR (interpolated) = 0.066 mW/g

**WIFI 5GHz Body Front 140ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$   
 Reference Value = 1.04 V/m; Power Drift = 0.10 dB  
 Peak SAR (extrapolated) = 0.260 W/kg  
**SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.017 mW/g**

Maximum value of SAR (measured) = 0.065 mW/g



0 dB = 0.065mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.07 \text{ mho/m}$ ;  $\epsilon_r = 45.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.81, 3.81, 3.81); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**WIFI 5GHz Body Rear 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.104 mW/g

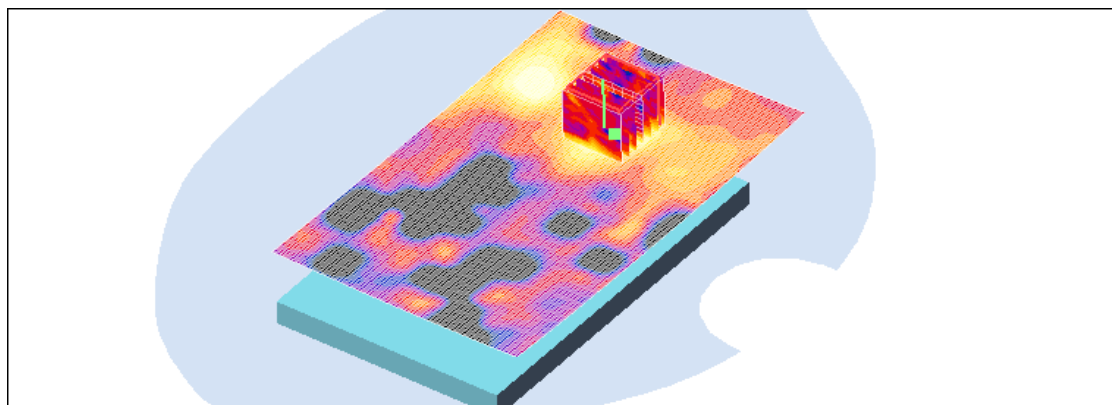
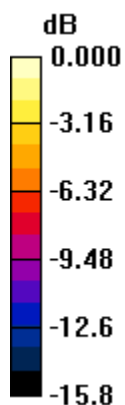
**WIFI 5GHz Body Rear 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.01 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.232 W/kg

**SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.029 mW/g**

Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.30, 2012  
 Separation Distance: 1.0 cm

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.07 \text{ mho/m}$ ;  $\epsilon_r = 45.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.81, 3.81, 3.81); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**WIFI 5GHz Body Front 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.156 mW/g

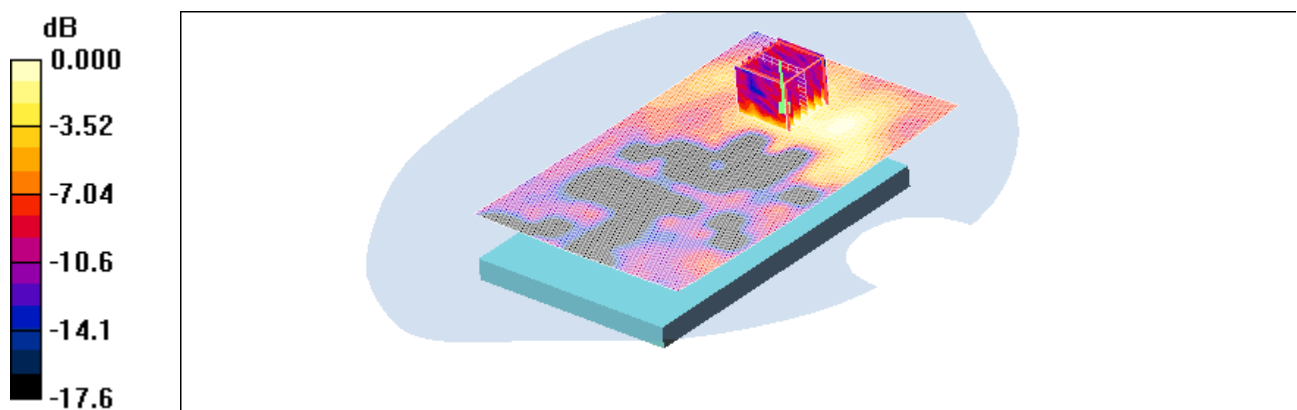
**WIFI 5GHz Body Front 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 1.54 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.459 W/kg

**SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.032 mW/g**

Maximum value of SAR (measured) = 0.143 mW/g



0 dB = 0.143mW/g

Test Laboratory: HCT CO., LTD

EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC

Liquid Temperature: 21.3 °C

Ambient Temperature: 21.5 °C

Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.9$  mho/m;  $\epsilon_r = 42.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Right touch 190/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.105 mW/g

**Right touch 190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

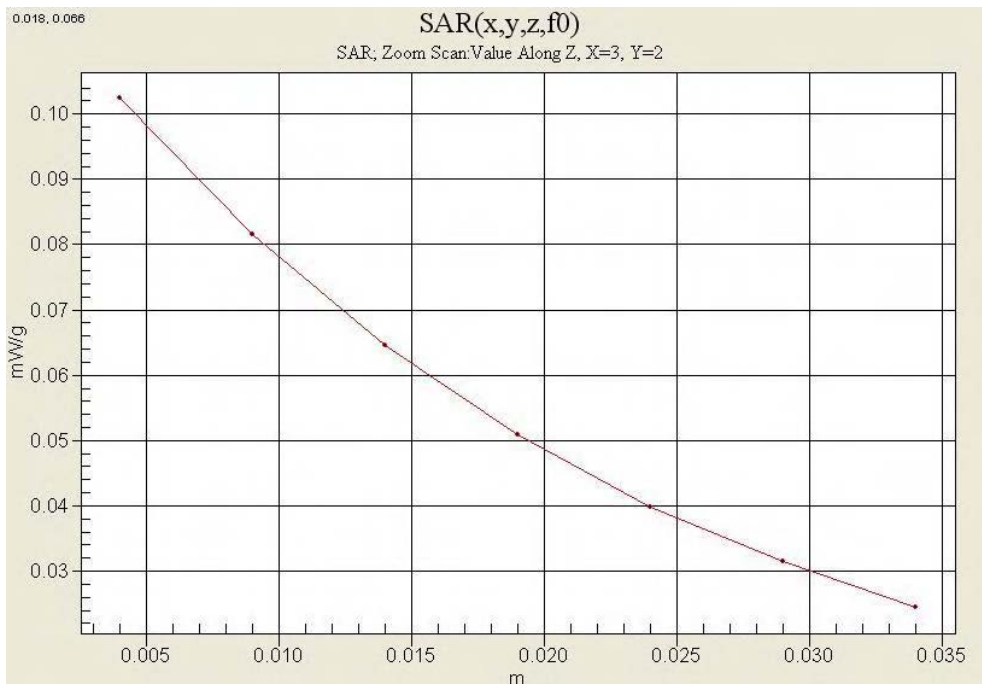
Reference Value = 2.17 V/m; Power Drift = 0.001 dB

Peak SAR (extrapolated) = 0.122 W/kg

**SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.076 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.103 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2.77  
 Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM850 GPRS Hotspot Rear 190 2Tx/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.368 mW/g

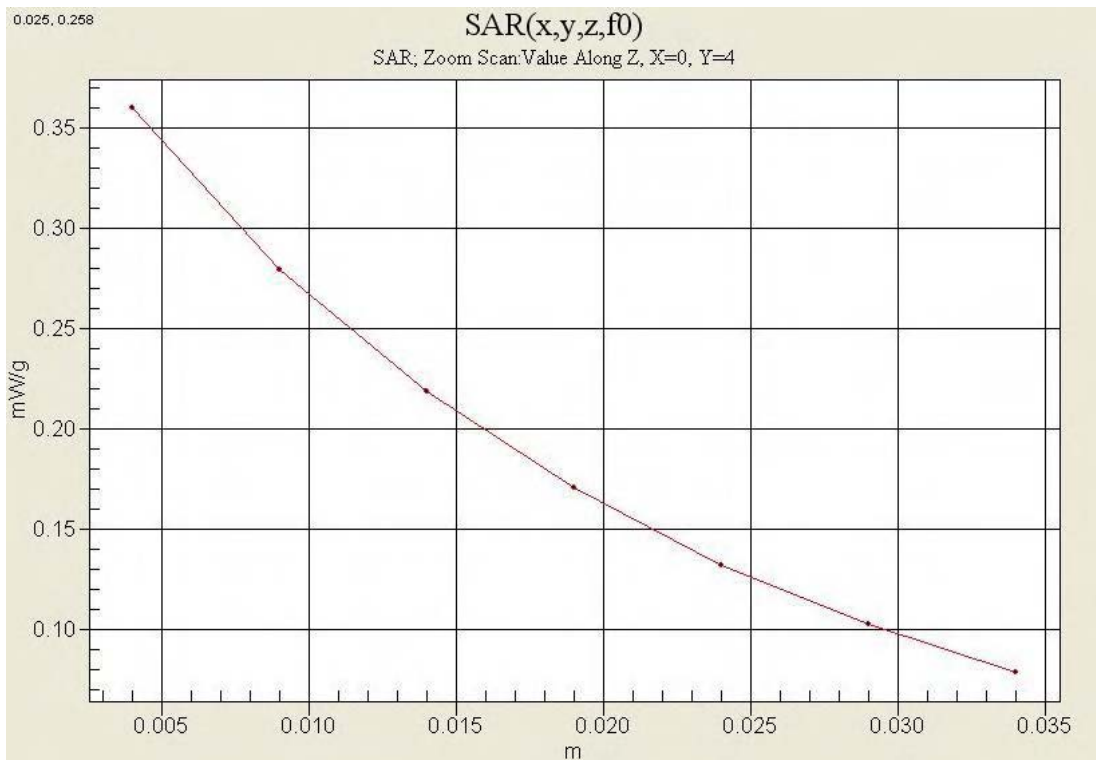
**GSM850 GPRS Hotspot Rear 190 2Tx/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.4 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 0.439 W/kg

**SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.252 mW/g**

Maximum value of SAR (measured) = 0.360 mW/g



Test Laboratory: HCT CO., LTD

EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC

Liquid Temperature: 21.2 °C

Ambient Temperature: 21.4 °C

Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.38$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right touch 661/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.183 mW/g

**Right touch 661/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.83 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 0.276 W/kg

**SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.102 mW/g**

Maximum value of SAR (measured) = 0.177 mW/g





Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.2 °C  
Ambient Temperature: 21.4 °C  
Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:2.77  
Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**GSM1900 GPRS Hotspot Rear 810/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 1.14 mW/g

**GSM1900 GPRS Hotspot Rear 810/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 2.37 V/m; Power Drift = -0.092 dB  
Peak SAR (extrapolated) = 1.81 W/kg  
**SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.477 mW/g**  
Maximum value of SAR (measured) = 1.06 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Left Touch 4183/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.085 mW/g

**Left Touch 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

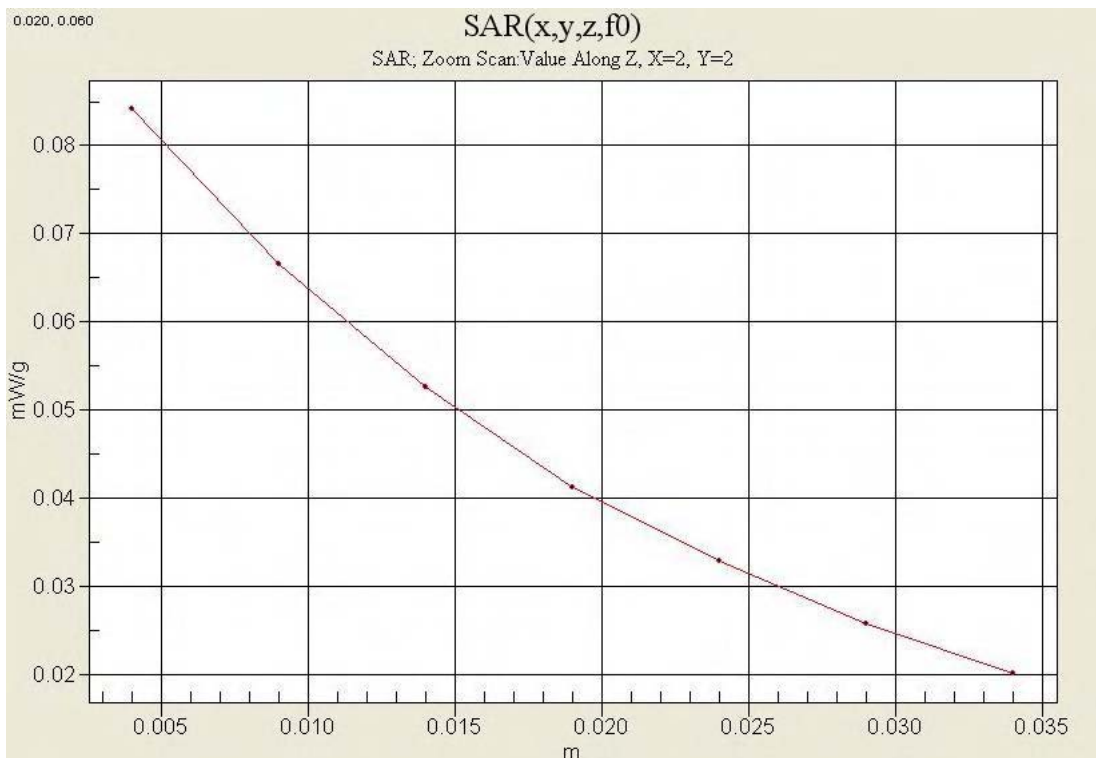
Reference Value = 1.57 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.101 W/kg

**SAR(1 g) = 0.080 mW/g; SAR(10 g) = 0.062 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.084 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.3 °C  
 Ambient Temperature: 21.5 °C  
 Test Date: Jul.17, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA850; Frequency: 836.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 836.6 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**WCDMA850 Hotspot Rear 4183/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.189 mW/g

**WCDMA850 Hotspot Rear 4183/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

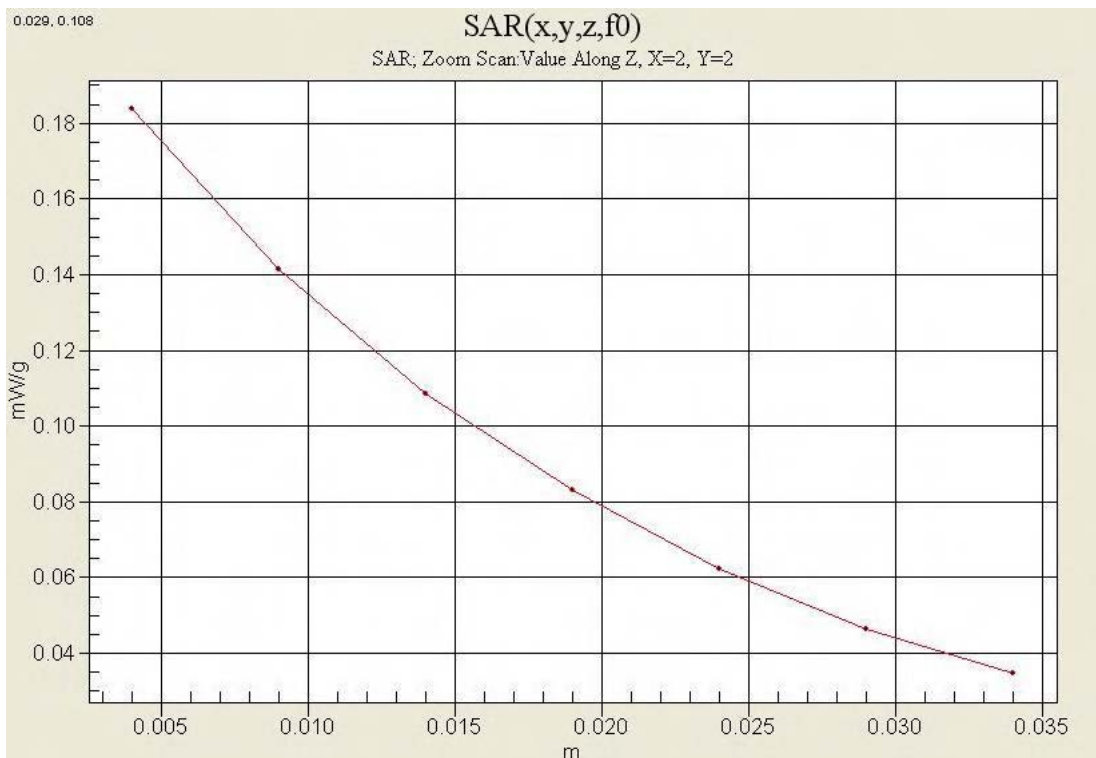
Reference Value = 12.6 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.229 W/kg

**SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.132 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.184 mW/g



Test Laboratory: HCT CO., LTD

EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC

Liquid Temperature: 21.2 °C

Ambient Temperature: 21.4 °C

Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.39$  mho/m;  $\epsilon_r = 39.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Right Touch 9400/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.283 mW/g

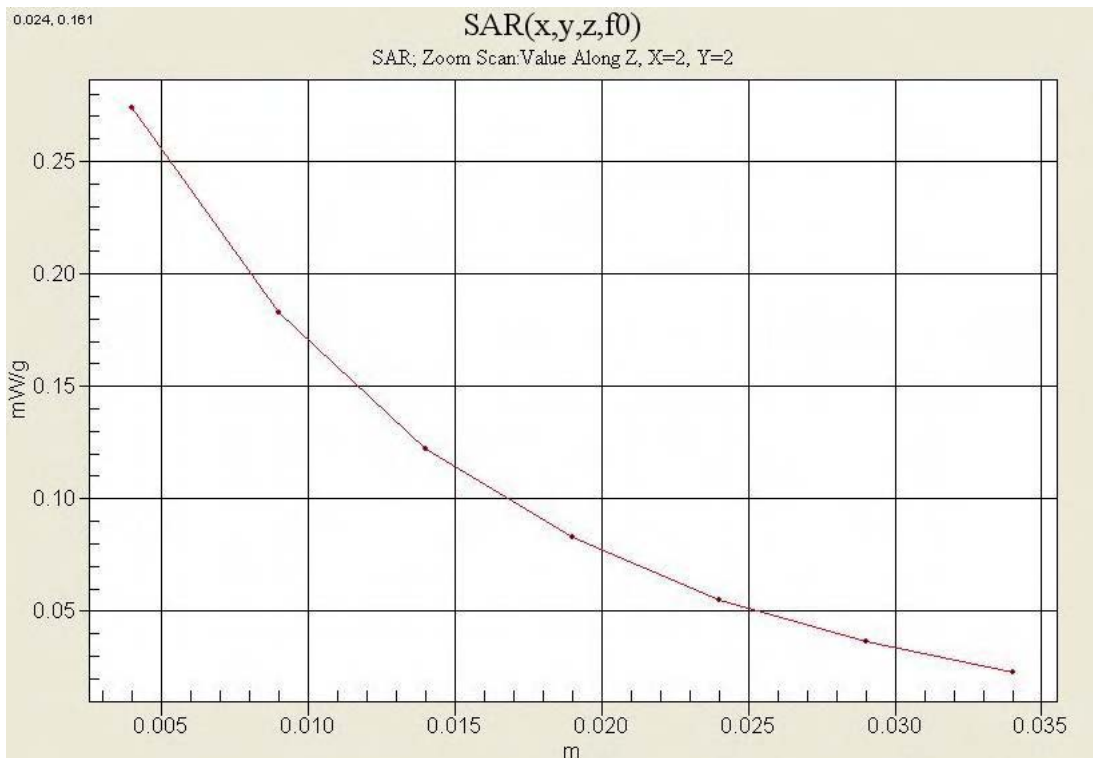
**Right Touch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.92 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 0.383 W/kg

**SAR(1 g) = 0.256 mW/g; SAR(10 g) = 0.158 mW/g**

Maximum value of SAR (measured) = 0.274 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.2 °C  
 Ambient Temperature: 21.4 °C  
 Test Date: Jul.10, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WCDMA1900; Frequency: 1907.6 MHz; Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 1907.6 \text{ MHz}$ ;  $\sigma = 1.51 \text{ mho/m}$ ;  $\epsilon_r = 53.4$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Body Rear 9538/Area Scan (81x121x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 1.43 mW/g

**Body Rear 9538/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

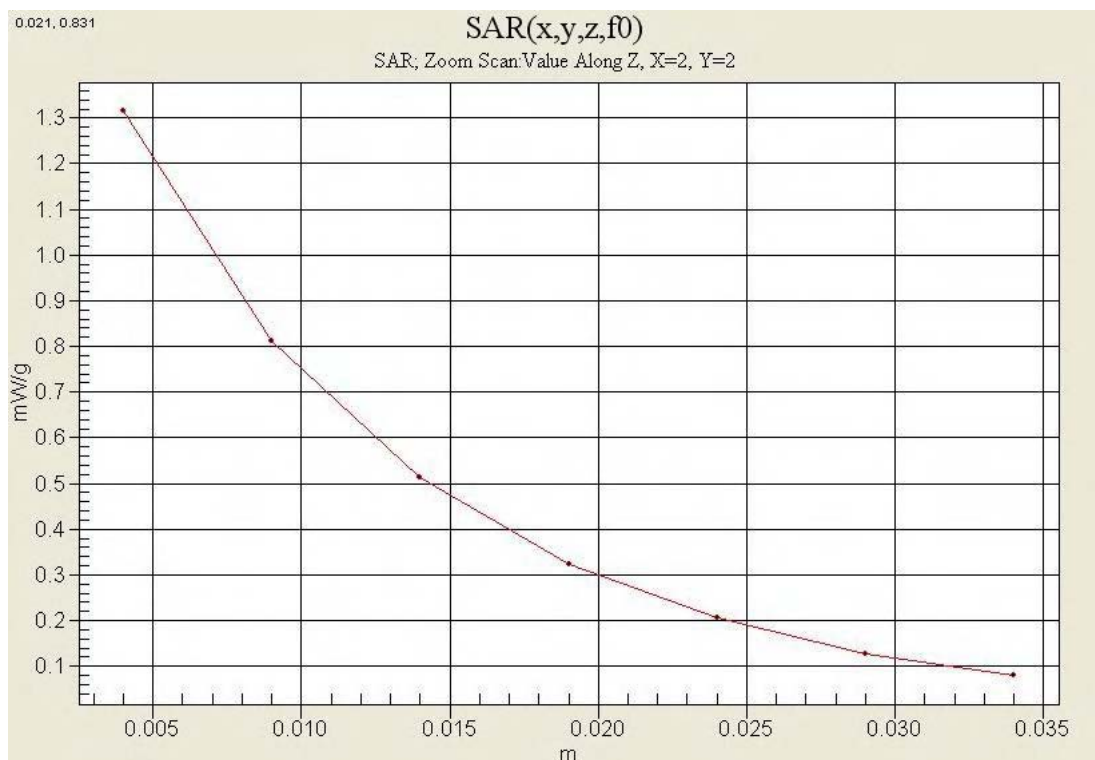
Reference Value = 3.78 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 2.15 W/kg

**SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.609 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.32 mW/g



Test Laboratory: HCT CO., LTD  
 EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
 Liquid Temperature: 21.1 °C  
 Ambient Temperature: 21.3 °C  
 Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1  
 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.88 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
 Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**801.11b Right touch 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.203 mW/g

**801.11b Right touch 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

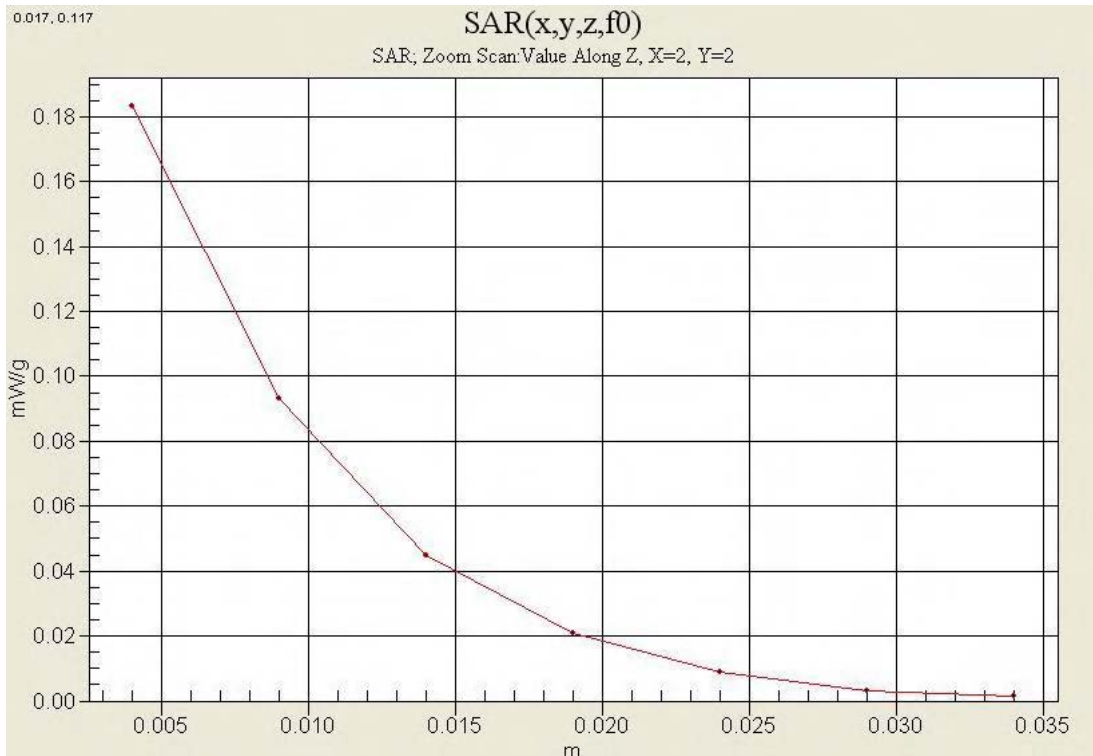
Reference Value = 7.30 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.378 W/kg

**SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.076 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.183 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.1 °C  
Ambient Temperature: 21.3 °C  
Test Date: Jul.19, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: 2450MHz FCC; Frequency: 2462 MHz;Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.94 \text{ mho/m}$ ;  $\epsilon_r = 51.7$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3797; ConvF(6.96, 6.96, 6.96); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**802.11b Hotspot Rear 11ch 1Mbps/Area Scan (81x111x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.171 mW/g

**802.11b Hotspot Rear 11ch 1Mbps/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

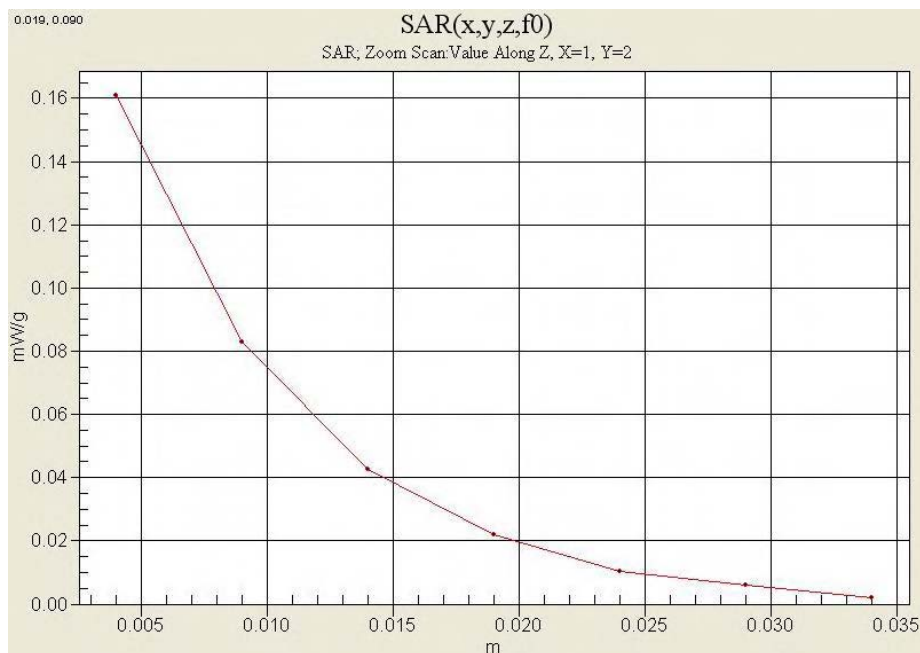
Reference Value = 1.87 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.296 W/kg

**SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.079 mW/g**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.161 mW/g





Test Laboratory: HCT CO., LTD

EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC

Liquid Temperature: 21.3 °C

Ambient Temperature: 21.5 °C

Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 5745$  MHz;  $\sigma = 5.21$  mho/m;  $\epsilon_r = 35.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Right touch 802.11a 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.572 mW/g

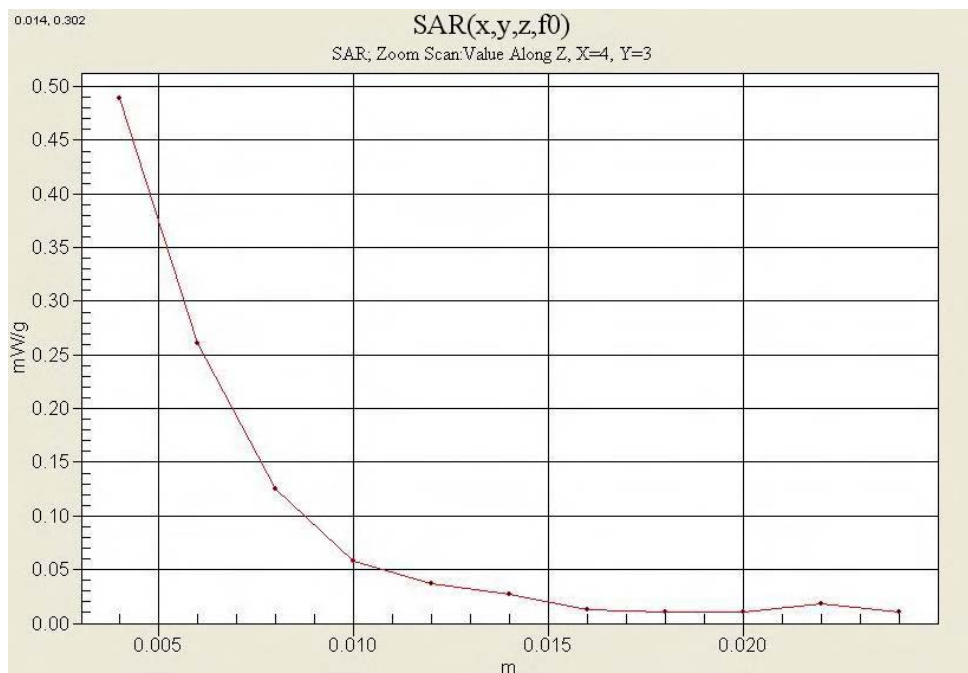
**Right touch 802.11a 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.75 V/m; Power Drift = 0.090 dB

Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.128 mW/g**

Maximum value of SAR (measured) = 0.484 mW/g



Test Laboratory: HCT CO., LTD  
EUT Type: Cellular/PCS GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA Phone with Bluetooth and WLAN/NFC  
Liquid Temperature: 21.3 °C  
Ambient Temperature: 21.5 °C  
Test Date: Jul.30, 2012

**DUT: LG-P895; Type: bar; Serial: #1**

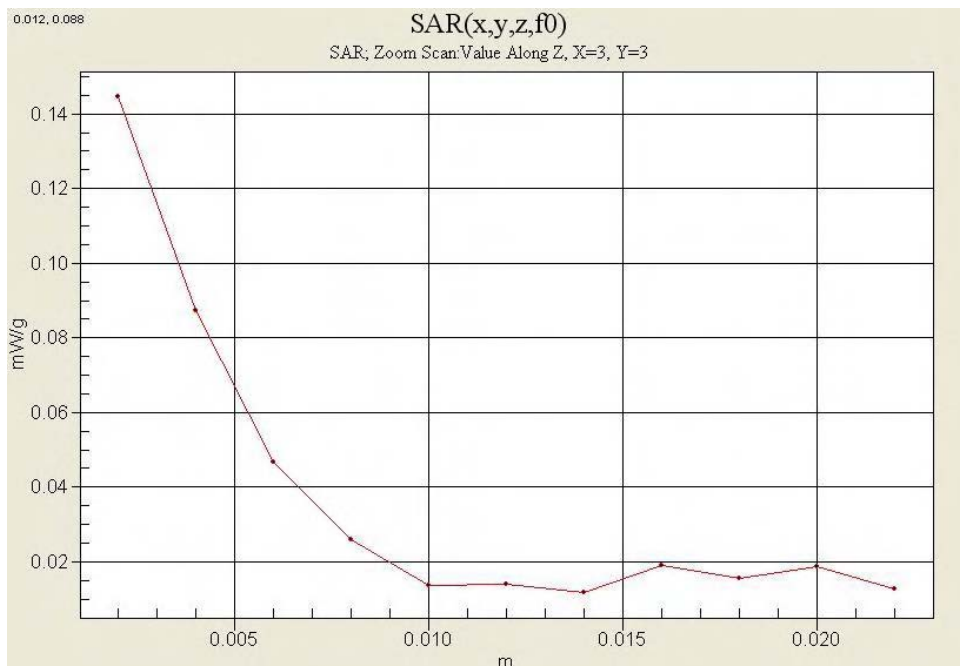
Communication System: WIFI 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1  
Medium parameters used (interpolated):  $f = 5745$  MHz;  $\sigma = 6.07$  mho/m;  $\epsilon_r = 45.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 - SN3863; ConvF(3.81, 3.81, 3.81); Calibrated: 2012-07-13
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**WIFI 5GHz Body Front 149ch 6Mbps/Area Scan (101x161x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 0.156 mW/g

**WIFI 5GHz Body Front 149ch 6Mbps/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 1.54 V/m; Power Drift = -0.045 dB  
Peak SAR (extrapolated) = 0.459 W/kg  
**SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.032 mW/g**  
Maximum value of SAR (measured) = 0.143 mW/g



## Attachment 2. – Dipole Validation Plots

## ■ Validation Data (835 MHz Head)

Test Laboratory: HCT CO., LTD  
Input Power 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.17, 2012

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 – SN:441

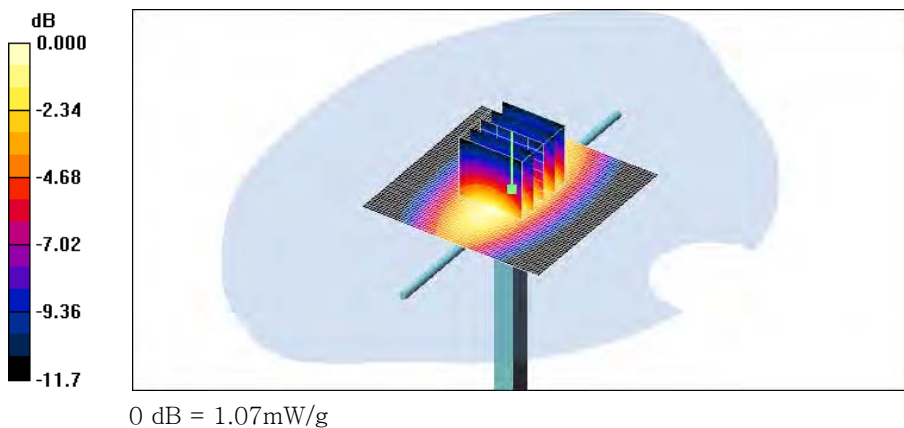
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.899 \text{ mho/m}$ ;  $\epsilon_r = 42.9$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(8.93, 8.93, 8.93); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

**Validation 835MHz/Area Scan (61x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 1.05 mW/g

**Validation 835MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 34.3 V/m; Power Drift = -0.008 dB  
Peak SAR (extrapolated) = 1.60 W/kg  
**SAR(1 g) = 0.967 mW/g; SAR(10 g) = 0.588 mW/g**  
Maximum value of SAR (measured) = 1.07 mW/g



## ■ Validation Data (835 MHz Body)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.17, 2012

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 – SN:441

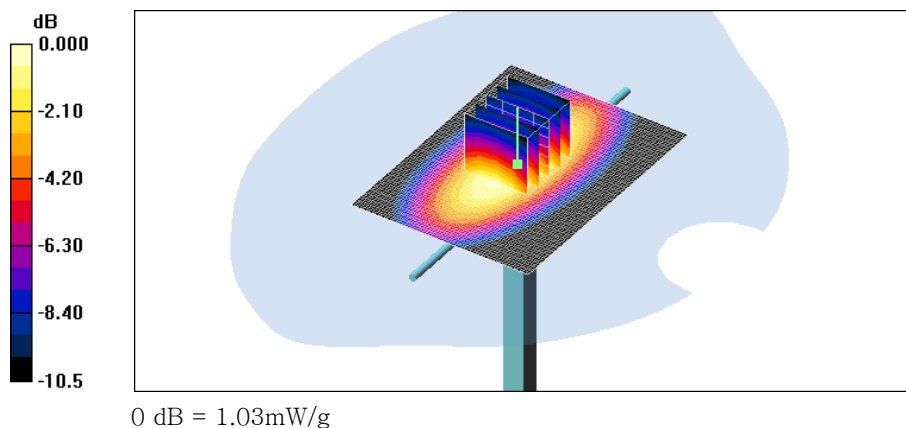
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(9.14, 9.14, 9.14); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Validation 835 MHz/Area Scan (61x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 1.03 mW/g

**Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 31.5 V/m; Power Drift = -0.005 dB  
Peak SAR (extrapolated) = 1.43 W/kg  
**SAR(1 g) = 0.952 mW/g; SAR(10 g) = 0.623 mW/g**  
Maximum value of SAR (measured) = 1.03 mW/g



## ■ Validation Data (1 900 MHz Head)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.2 °C  
Test Date: Jul.10, 2012

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN:5d032

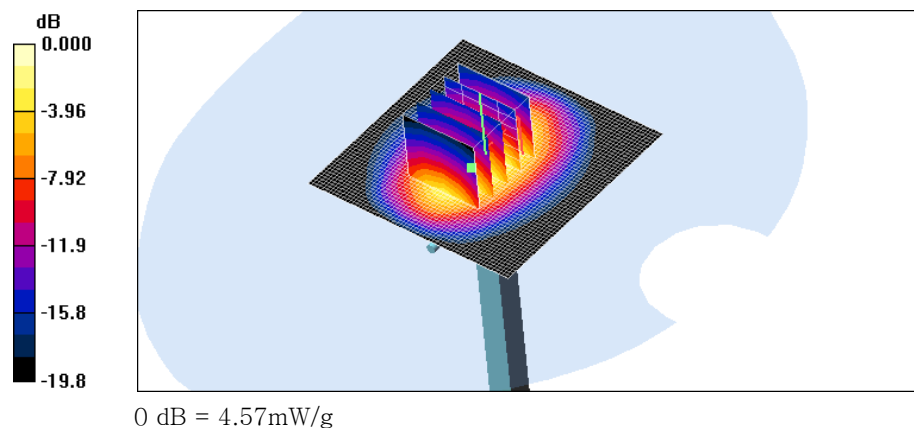
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 39.8$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(7.6, 7.6, 7.6); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 4.89 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 57.0 V/m; Power Drift = -0.019 dB  
Peak SAR (extrapolated) = 8.04 W/kg  
**SAR(1 g) = 4.17 mW/g; SAR(10 g) = 2.12 mW/g**  
Maximum value of SAR (measured) = 4.57 mW/g



## ■ Validation Data (1 900 MHz Body)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.2 °C  
Test Date: Jul.10, 2012

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN: 5d032

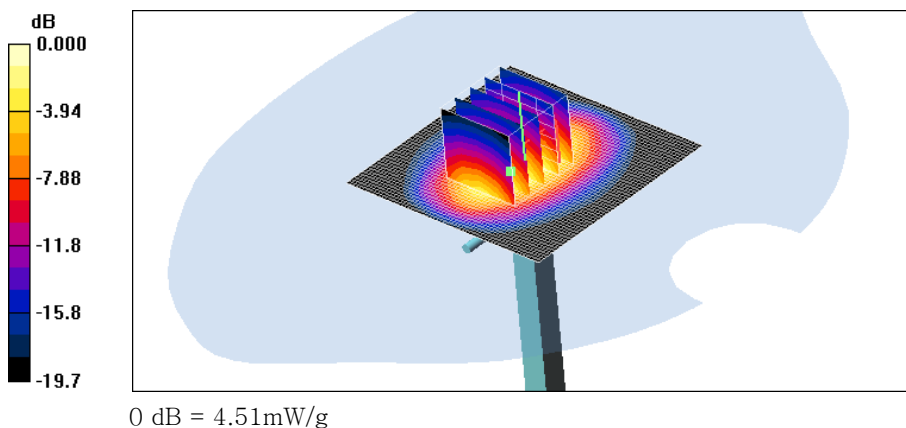
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.5$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(7.26, 7.26, 7.26); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

**Dipole 1900MHz Validation/Area Scan (61x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 4.86 mW/g

**Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 55.0 V/m; Power Drift = 0.027 dB  
Peak SAR (extrapolated) = 7.94 W/kg  
**SAR(1 g) = 4.12 mW/g; SAR(10 g) = 2.1 mW/g**  
Maximum value of SAR (measured) = 4.51 mW/g





## ■ Validation Data (2 450 MHz Head)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.1 °C  
Test Date: Jul.19, 2012

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 – SN:743

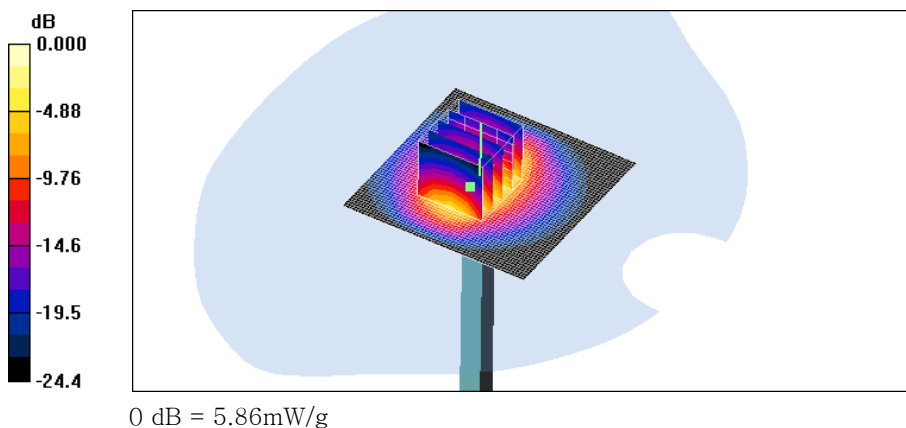
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 2450 \text{ MHz}$ ;  $\sigma = 1.86 \text{ mho/m}$ ;  $\epsilon_r = 38$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Validation 2450MHz/Area Scan (61x61x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
Maximum value of SAR (interpolated) = 6.42 mW/g

**Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$   
Reference Value = 56.1 V/m; Power Drift = 0.073 dB  
Peak SAR (extrapolated) = 11.3 W/kg  
**SAR(1 g) = 5.28 mW/g; SAR(10 g) = 2.47 mW/g**  
Maximum value of SAR (measured) = 5.86 mW/g



## ■ Validation Data (2 450 MHz Body)

Test Laboratory: HCT CO., LTD  
Input Power 100 mW (20 dBm)  
Liquid Temp: 21.1 °C  
Test Date: Jul.19, 2012

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 – SN:743

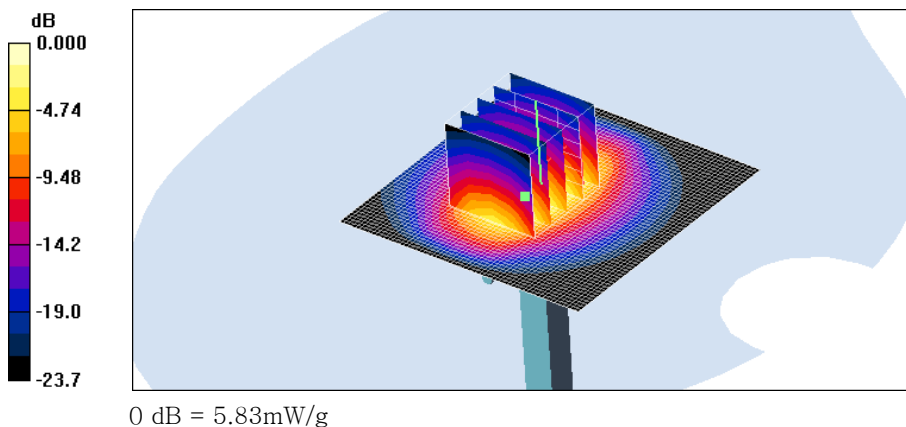
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.92$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3797; ConvF(6.96, 6.96, 6.96); Calibrated: 2011-07-25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

**Validation 2450MHz/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 6.29 mW/g

**Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 54.9 V/m; Power Drift = 0.103 dB  
Peak SAR (extrapolated) = 11.3 W/kg  
**SAR(1 g) = 5.28 mW/g; SAR(10 g) = 2.47 mW/g**  
Maximum value of SAR (measured) = 5.83 mW/g



## ■ Validation Data (5.5 GHz Head)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.30, 2012

**DUT: Dipole 5GHz; Type: D5000V2; Serial: D5000V2 – SN:1107**

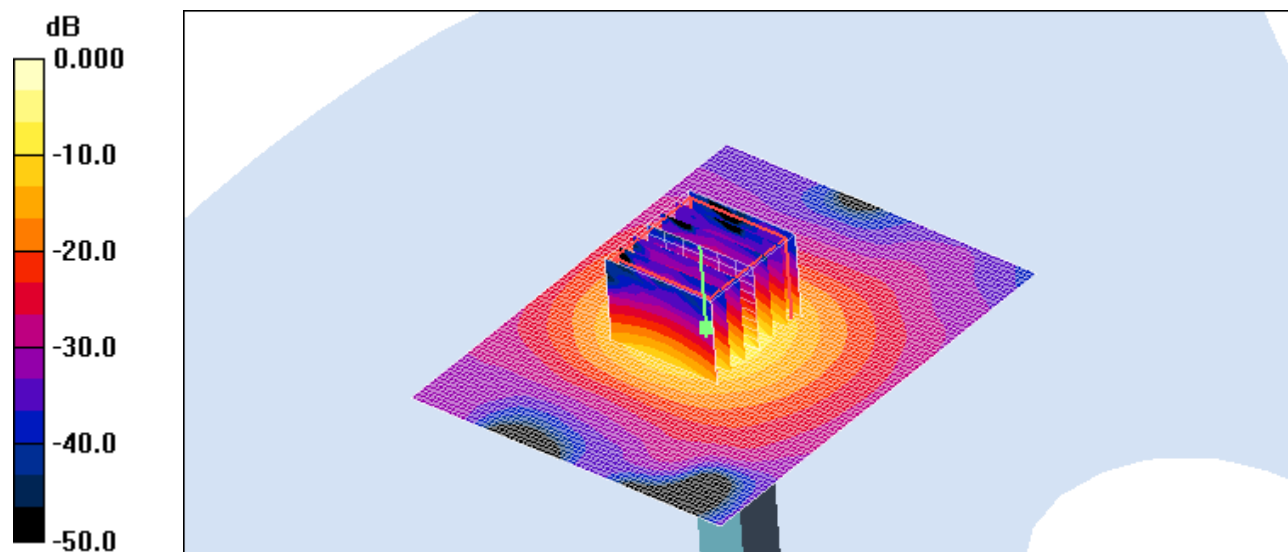
Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 4.88$  mho/m;  $\epsilon_r = 35.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3863; ConvF(4.66, 4.66, 4.66); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: 800/900 Phantom; Type: SAM

**Validation 5500MHz/Area Scan (71x91x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 8.57 mW/g

**Validation 5500MHz/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 39.0 V/m; Power Drift = 0.096 dB  
Peak SAR (extrapolated) = 46.2 W/kg  
**SAR(1 g) = 8.79 mW/g; SAR(10 g) = 2.41 mW/g**  
Maximum value of SAR (measured) = 19.4 mW/g



0 dB = 19.4mW/g

## ■ Validation Data (5.5 GHz Body)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.30, 2012

**DUT: Dipole 5GHz; Type: D5000V2; Serial: D5000V2 – SN:1107**

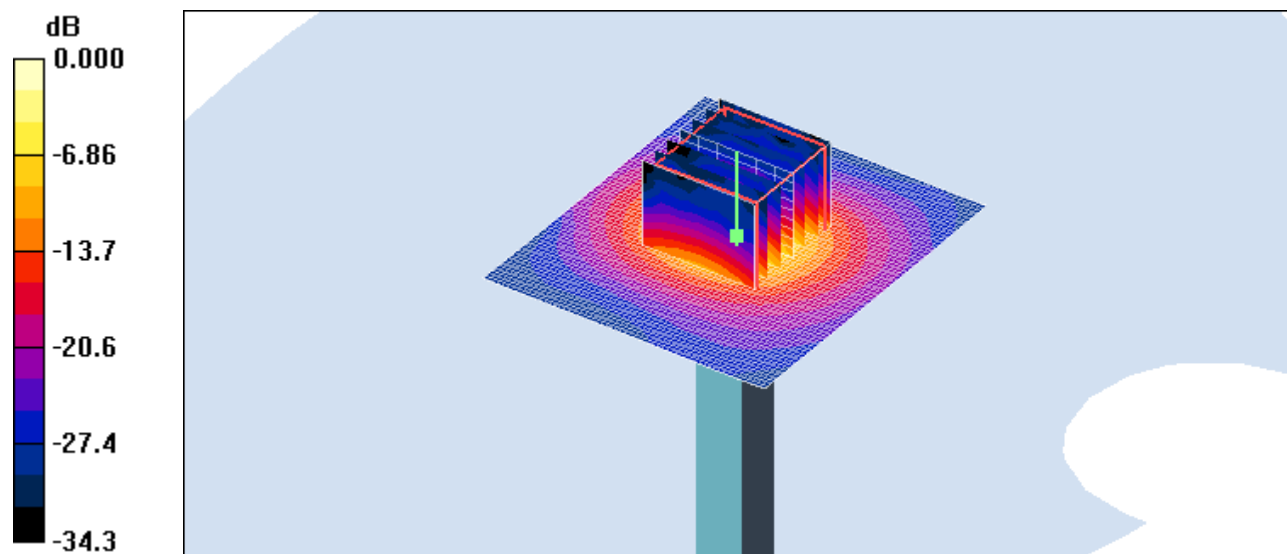
Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.52$  mho/m;  $\epsilon_r = 46.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3863; ConvF(3.91, 3.91, 3.91); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Validation 5500MHz/Area Scan (61x71x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 9.51 mW/g

**Validation 5500MHz/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 40.5 V/m; Power Drift = 0.101 dB  
Peak SAR (extrapolated) = 35.3 W/kg  
**SAR(1 g) = 8.1 mW/g; SAR(10 g) = 2.23 mW/g**  
Maximum value of SAR (measured) = 17.3 mW/g



0 dB = 17.3mW/g

## ■ Validation Data (5.8 GHz Head)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.30, 2012

**DUT: Dipole 5GHz; Type: D5000V2; Serial: D5000V2 – SN:1107**

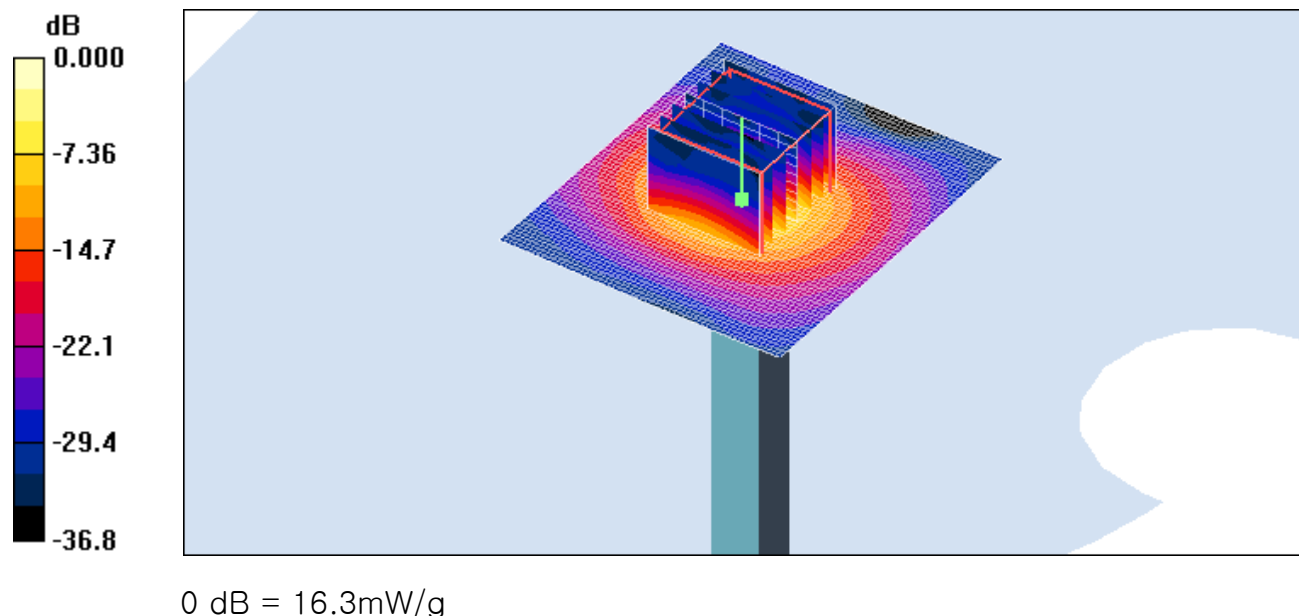
Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5800$  MHz;  $\sigma = 5.27$  mho/m;  $\epsilon_r = 35$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:

- Probe: EX3DV4 – SN3863; ConvF(4.61, 4.61, 4.61); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

**Validation 5800MHz/Area Scan (61x71x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 8.40 mW/g

**Validation 5800MHz/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 39.3 V/m; Power Drift = 0.022 dB  
Peak SAR (extrapolated) = 36.6 W/kg  
**SAR(1 g) = 7.63 mW/g; SAR(10 g) = 2.13 mW/g**  
Maximum value of SAR (measured) = 16.3 mW/g



## ■ Validation Data (5.8 GHz Body)

Test Laboratory: HCT CO., LTD  
Input Power: 100 mW (20 dBm)  
Liquid Temp: 21.3 °C  
Test Date: Jul.30, 2012

**DUT: Dipole 5GHz; Type: D5000V2; Serial: D5000V2 – SN:1107**

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1  
Medium parameters used:  $f = 5800$  MHz;  $\sigma = 6.06$  mho/m;  $\epsilon_r = 46$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

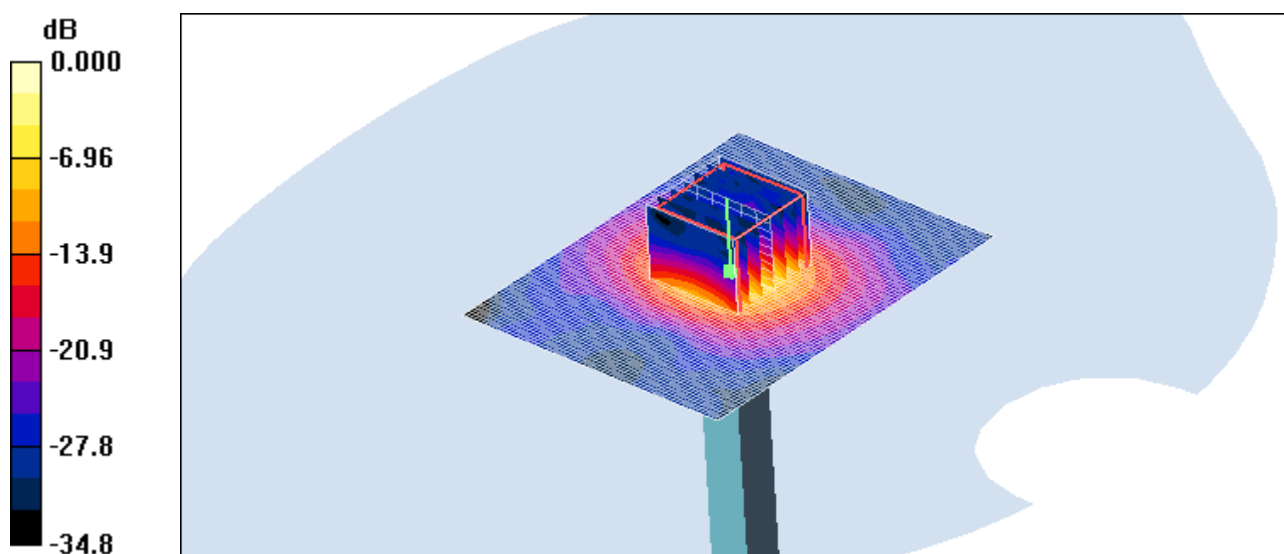
DASY4 Configuration:

- Probe: EX3DV4 – SN3863; ConvF(3.81, 3.81, 3.81); Calibrated: 2012-07-13
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn648; Calibrated: 2012-04-27
- Phantom: SAM 835/900 MHz; Type: SAM

**Validation 5800MHz/Area Scan (71x91x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (interpolated) = 8.19 mW/g

**Validation 5800MHz/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 38.6 V/m; Power Drift = -0.039 dB  
Peak SAR (extrapolated) = 34.8 W/kg  
**SAR(1 g) = 7.95 mW/g; SAR(10 g) = 2.2 mW/g**

Maximum value of SAR (measured) = 16.7 mW/g



0 dB = 16.7mW/g

**■ Dielectric Parameter (835 MHz Head)**

Title LG-P895  
SubTitle 835MHz  
Test Date Jul.17, 2012

| Frequency      | e'      | e''     |
|----------------|---------|---------|
| 800000000.0000 | 43.4017 | 19.4532 |
| 805000000.0000 | 43.3382 | 19.4477 |
| 810000000.0000 | 43.2858 | 19.4392 |
| 815000000.0000 | 43.1874 | 19.4547 |
| 820000000.0000 | 43.1697 | 19.4099 |
| 825000000.0000 | 43.0611 | 19.3809 |
| 830000000.0000 | 43.0099 | 19.3626 |
| 835000000.0000 | 42.9402 | 19.3499 |
| 840000000.0000 | 42.8978 | 19.3191 |
| 845000000.0000 | 42.7991 | 19.3260 |
| 850000000.0000 | 42.7464 | 19.3249 |
| 855000000.0000 | 42.6748 | 19.3088 |
| 860000000.0000 | 42.6259 | 19.2966 |
| 865000000.0000 | 42.5346 | 19.2768 |
| 870000000.0000 | 42.4694 | 19.2548 |
| 875000000.0000 | 42.4536 | 19.2590 |
| 880000000.0000 | 42.3780 | 19.2305 |
| 885000000.0000 | 42.3211 | 19.2271 |
| 890000000.0000 | 42.3018 | 19.2125 |
| 895000000.0000 | 42.2459 | 19.1742 |
| 900000000.0000 | 42.1946 | 19.1648 |



## ■ Dielectric Parameter (835 MHz Body)

Title LG-P895  
SubTitle 835MHz  
Test Date Jul.17, 2012

| Frequency      | e'      | e''     |
|----------------|---------|---------|
| 800000000.0000 | 54.6189 | 21.6765 |
| 805000000.0000 | 54.6130 | 21.6496 |
| 810000000.0000 | 54.5931 | 21.6447 |
| 815000000.0000 | 54.5915 | 21.6725 |
| 820000000.0000 | 54.6164 | 21.6621 |
| 825000000.0000 | 54.5622 | 21.6635 |
| 830000000.0000 | 54.5554 | 21.7144 |
| 835000000.0000 | 54.5339 | 21.6924 |
| 840000000.0000 | 54.4675 | 21.7257 |
| 845000000.0000 | 54.4170 | 21.7531 |
| 850000000.0000 | 54.3593 | 21.7283 |
| 855000000.0000 | 54.2531 | 21.7166 |
| 860000000.0000 | 54.1442 | 21.6793 |
| 865000000.0000 | 54.0835 | 21.6084 |
| 870000000.0000 | 53.9980 | 21.5692 |
| 875000000.0000 | 53.9115 | 21.5525 |
| 880000000.0000 | 53.8643 | 21.4679 |
| 885000000.0000 | 53.8562 | 21.4008 |
| 890000000.0000 | 53.8046 | 21.3298 |
| 895000000.0000 | 53.7810 | 21.2749 |
| 900000000.0000 | 53.7344 | 21.2137 |

## ■ Dielectric Parameter (1 900 MHz Head)

Title LG-P895  
SubTitle 1 900MHz  
Test Date Jul.10, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 1800000000.0000 | 40.1900 | 13.0250 |
| 1810000000.0000 | 40.1604 | 13.0635 |
| 1820000000.0000 | 40.1317 | 13.1042 |
| 1830000000.0000 | 40.0814 | 13.1290 |
| 1840000000.0000 | 40.0645 | 13.1484 |
| 1850000000.0000 | 40.0051 | 13.1660 |
| 1860000000.0000 | 39.9727 | 13.1926 |
| 1870000000.0000 | 39.9325 | 13.2329 |
| 1880000000.0000 | 39.8907 | 13.2639 |
| 1890000000.0000 | 39.8501 | 13.2973 |
| 1900000000.0000 | 39.8079 | 13.3216 |
| 1910000000.0000 | 39.7668 | 13.3539 |
| 1920000000.0000 | 39.7298 | 13.3659 |
| 1930000000.0000 | 39.6909 | 13.3860 |
| 1940000000.0000 | 39.6588 | 13.4000 |
| 1950000000.0000 | 39.6051 | 13.4249 |
| 1960000000.0000 | 39.5694 | 13.4437 |
| 1970000000.0000 | 39.5263 | 13.4762 |
| 1980000000.0000 | 39.4802 | 13.5181 |
| 1990000000.0000 | 39.4463 | 13.5510 |
| 2000000000.0000 | 39.4090 | 13.5459 |

**■ Dielectric Parameter (1 900 MHz Body)**

Title LG-P895  
SubTitle 1 900MHz  
Test Date Jul.10, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 1800000000.0000 | 54.4262 | 13.6452 |
| 1810000000.0000 | 54.3472 | 13.7188 |
| 1820000000.0000 | 54.2373 | 13.8208 |
| 1830000000.0000 | 54.0447 | 13.8732 |
| 1840000000.0000 | 53.9626 | 13.9224 |
| 1850000000.0000 | 53.8579 | 13.9565 |
| 1860000000.0000 | 53.7593 | 13.9787 |
| 1870000000.0000 | 53.6928 | 14.0494 |
| 1880000000.0000 | 53.6293 | 14.0812 |
| 1890000000.0000 | 53.5306 | 14.1318 |
| 1900000000.0000 | 53.4744 | 14.2059 |
| 1910000000.0000 | 53.3972 | 14.2747 |
| 1920000000.0000 | 53.3478 | 14.3509 |
| 1930000000.0000 | 53.2947 | 14.4091 |
| 1940000000.0000 | 53.2956 | 14.4678 |
| 1950000000.0000 | 53.2804 | 14.5531 |
| 1960000000.0000 | 53.1945 | 14.5893 |
| 1970000000.0000 | 53.1474 | 14.6292 |
| 1980000000.0000 | 53.1074 | 14.6517 |
| 1990000000.0000 | 53.0631 | 14.6717 |
| 2000000000.0000 | 53.0123 | 14.7132 |

**■ Dielectric Parameter (2 450 MHz Head)**

Title LG-P895  
SubTitle 2 450MHz  
Test Date Jul.19, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 2400000000.0000 | 38.2438 | 13.5443 |
| 2405000000.0000 | 38.2133 | 13.5598 |
| 2410000000.0000 | 38.2014 | 13.5741 |
| 2415000000.0000 | 38.1599 | 13.5822 |
| 2420000000.0000 | 38.1471 | 13.6083 |
| 2425000000.0000 | 38.1172 | 13.6099 |
| 2430000000.0000 | 38.1060 | 13.6239 |
| 2435000000.0000 | 38.0877 | 13.6190 |
| 2440000000.0000 | 38.0550 | 13.6397 |
| 2445000000.0000 | 38.0455 | 13.6552 |
| 2450000000.0000 | 38.0289 | 13.6683 |
| 2455000000.0000 | 38.0113 | 13.6933 |
| 2460000000.0000 | 37.9989 | 13.6976 |
| 2465000000.0000 | 37.9725 | 13.7245 |
| 2470000000.0000 | 37.9652 | 13.7412 |
| 2475000000.0000 | 37.9338 | 13.7285 |
| 2480000000.0000 | 37.9193 | 13.7622 |
| 2485000000.0000 | 37.8958 | 13.7651 |
| 2490000000.0000 | 37.8557 | 13.7873 |
| 2495000000.0000 | 37.8317 | 13.7990 |
| 2500000000.0000 | 37.8087 | 13.8181 |

## ■ Dielectric Parameter (2 450 MHz Body)

Title LG-P895  
SubTitle 2 450MHz  
Test Date Jul.19, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 2400000000.0000 | 52.0363 | 13.8860 |
| 2405000000.0000 | 52.0525 | 13.8725 |
| 2410000000.0000 | 51.9929 | 13.9206 |
| 2415000000.0000 | 51.9420 | 13.9128 |
| 2420000000.0000 | 51.9382 | 13.9360 |
| 2425000000.0000 | 51.8923 | 13.9376 |
| 2430000000.0000 | 51.8300 | 13.9790 |
| 2435000000.0000 | 51.8137 | 14.0034 |
| 2440000000.0000 | 51.7931 | 14.0299 |
| 2445000000.0000 | 51.7448 | 14.0844 |
| 2450000000.0000 | 51.7568 | 14.1034 |
| 2455000000.0000 | 51.7465 | 14.1400 |
| 2460000000.0000 | 51.7498 | 14.1780 |
| 2465000000.0000 | 51.7496 | 14.1981 |
| 2470000000.0000 | 51.6971 | 14.2330 |
| 2475000000.0000 | 51.7080 | 14.2465 |
| 2480000000.0000 | 51.7169 | 14.2931 |
| 2485000000.0000 | 51.6719 | 14.2775 |
| 2490000000.0000 | 51.7018 | 14.3045 |
| 2495000000.0000 | 51.6866 | 14.2997 |
| 2500000000.0000 | 51.6828 | 14.3293 |

## ■ Dielectric Parameter (5 GHz Head)

Title LG-P895  
SubTitle 2 450MHz  
Test Date Jul.30, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 5000000000.0000 | 36.7370 | 15.2164 |
| 5050000000.0000 | 36.7343 | 15.4893 |
| 5100000000.0000 | 36.6598 | 15.3180 |
| 5150000000.0000 | 36.4057 | 15.6683 |
| 5200000000.0000 | 36.5158 | 15.6151 |
| 5250000000.0000 | 36.2342 | 15.6329 |
| 5300000000.0000 | 36.2236 | 15.8402 |
| 5350000000.0000 | 36.2024 | 15.6850 |
| 5400000000.0000 | 35.9688 | 15.8775 |
| 5450000000.0000 | 36.0211 | 15.8688 |
| 5500000000.0000 | 35.8059 | 15.9441 |
| 5550000000.0000 | 35.7043 | 15.9991 |
| 5600000000.0000 | 35.6306 | 16.0309 |
| 5650000000.0000 | 35.4401 | 16.1281 |
| 5700000000.0000 | 35.3218 | 16.1554 |
| 5750000000.0000 | 35.1548 | 16.3120 |
| 5800000000.0000 | 34.9823 | 16.3215 |
| 5850000000.0000 | 34.8580 | 16.4855 |
| 5900000000.0000 | 34.6899 | 16.5658 |
| 5950000000.0000 | 34.5808 | 16.6305 |
| 6000000000.0000 | 34.4259 | 16.7833 |

## ■ Dielectric Parameter (5 GHz Body)

Title LG-P895  
SubTitle 2 450MHz  
Test Date Jul.30, 2012

| Frequency       | e'      | e''     |
|-----------------|---------|---------|
| 5000000000.0000 | 47.7542 | 17.7295 |
| 5050000000.0000 | 47.9217 | 17.6249 |
| 5100000000.0000 | 47.5509 | 17.7677 |
| 5150000000.0000 | 47.6687 | 17.9533 |
| 5200000000.0000 | 47.3270 | 17.9854 |
| 5250000000.0000 | 47.4724 | 18.0068 |
| 5300000000.0000 | 46.9558 | 18.0845 |
| 5350000000.0000 | 47.4583 | 18.1298 |
| 5400000000.0000 | 46.6791 | 18.0309 |
| 5450000000.0000 | 47.2360 | 18.4377 |
| 5500000000.0000 | 46.5194 | 18.0551 |
| 5550000000.0000 | 46.8117 | 18.6883 |
| 5600000000.0000 | 46.4772 | 18.1931 |
| 5650000000.0000 | 46.3588 | 18.8337 |
| 5700000000.0000 | 46.2291 | 18.4297 |
| 5750000000.0000 | 45.8857 | 19.0548 |
| 5800000000.0000 | 46.0385 | 18.7669 |
| 5850000000.0000 | 45.5020 | 19.1831 |
| 5900000000.0000 | 45.8798 | 19.2161 |
| 5950000000.0000 | 45.2012 | 19.3370 |
| 6000000000.0000 | 45.6968 | 19.6385 |



## Attachment 3. – Probe Calibration Data

Schmid &amp; Partner Engineering AG

**s p e a g**

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## USAGE OF ORGANIC SOLVENTS WITH SPEAG PRODUCTS

### INTRODUCTION

SPEAG offers a wide range of simulating liquids. These liquids are based on various ingredients depending on their frequency range. The below compatibility table shows compatibility of SPEAG products used in conjunction with tissue simulating liquids. Proper treatment and maintenance of all SPEAG products is essential regardless of its compliance status.

### COMPATIBILITY TABLE

**Y=** fully compatible with the tissue simulating liquid. Long time exposure is not critical.  
**P=** partially compatible. It is essential to keep the exposure time to a minimum and to rinse and clean the item after exposure to the respective tissue simulating liquid. Continuous exposure will reduce the item life-time drastically and will therefore void any warranty. 100 hours per 7 days maximum exposure.  
**R=** restricted compatibility with the respective tissue simulating liquid. Short time exposure of less than 4 hours is possible given that the item is thoroughly rinsed and dried after each exposure.  
**N=** not compatible with the respective tissue simulating liquid. Short time exposure will cause irreparable damage to the item exposed.

| SPEAG MSDS<br><br>Probes & Phantoms | Liquid Type | 772-SLAAx0yy |                    |                    | 772-SLAAx1yy         |                      |                           | 772-SLAAx2yy              |                           |                           | 772-SLAAx4yy       |                    |                          | 772-SLAAx5yy             |                      |       | 772-SLAAx6yy |   |   | 3rd Party Liquids |  |  |
|-------------------------------------|-------------|--------------|--------------------|--------------------|----------------------|----------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------------------|--------------------|--------------------------|--------------------------|----------------------|-------|--------------|---|---|-------------------|--|--|
|                                     |             | B 900        | HSL 175 to HSL 900 | MSL 450 to MSL 900 | HSL 1450 to HSL 2450 | MSL 1450 to MSL 2450 | HSL 3500 - 5800 Broadband | MSL 3500 - 5800 Broadband | HSL 3500 - 5800 Broadband | MSL 3500 - 5800 Broadband | HSL 5000 Broadband | MSL 5000 Broadband | HSL BB 1.5 to HSL BB 1.9 | MSL BB 1.5 to MSL BB 1.9 | Triton Based Liquids | Acids | Solvents     |   |   |                   |  |  |
|                                     |             |              |                    |                    |                      |                      |                           |                           |                           |                           |                    |                    |                          |                          |                      |       |              |   |   |                   |  |  |
| Twin SAM Phantom V4.0               |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| ELI Oval Phantom V4.0               |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Flat Phantom V4.x / V5.x            |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Whole Body Mannequin                |             | Y            | Y                  | Y                  | R                    | R                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| SAM HEAD V4.5                       |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| SAM HEAD V4.5 CTIA                  |             | Y            | Y                  | Y                  | N                    | N                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| SAM HEAD V4.5 BS                    |             |              |                    |                    |                      |                      |                           |                           |                           |                           |                    |                    |                          |                          |                      |       |              |   |   |                   |  |  |
| SAM HEAD V6.0 / 6.1                 |             | Y            | Y                  | Y                  | R                    | R                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe ER3DV6 / ET3DV6R              |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe ES3DVx / EX3DVx               |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe H3DV6 and higher              |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe EU2DVx / HU2DVx               |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe ET1DVx                        |             | Y            | Y                  | Y                  | R                    | R                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probe TIV3 / TIV3 Lab               |             | Y            | Y                  | Y                  | R                    | R                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| PEX 150 / 300 Probe Extension       |             | Y            | Y                  | Y                  | P                    | P                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| Probes in PMMA enclosures           |             | Y            | Y                  | Y                  | N                    | N                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| ASTM Phantom                        |             | Y            | Y                  | Y                  | N                    | N                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |
| ELIT 1.5 / 3.0T Phantom             |             | Y            | Y                  | Y                  | N                    | N                    | Y                         | Y                         | Y                         | Y                         | Y                  | Y                  | Y                        | Y                        | Y                    | Y     | N            | N | N | N                 |  |  |

**IMPORTANT NOTE FOR PROBES:** The probe shall not be exposed to solvents longer than necessary for the measurements and shall be cleaned daily after use with warm water and stored dry.

**IMPORTANT NOTE FOR PHANTOMS:** Phantoms shall not be exposed to solvents longer than necessary for the measurement. After use, they shall be washed in the inside with clean water and stored dry. Any damaging of the inner surface must be avoided. Once a week, also the outside of the phantom shell shall be washed with clean water and dried.

Schmid &amp; Partner Engineering AG

771-TN-BR-100621-7A

BR

June 2010

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



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

Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Client **HCT (Dymstec)**

Certificate No: **EX3-3797\_Jul11**

## CALIBRATION CERTIFICATE

|                                                                                                                                                                                                                                                                               |                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Object                                                                                                                                                                                                                                                                        | EX3DV4 - SN:3797                                                                                              |
| Calibration procedure(s)                                                                                                                                                                                                                                                      | QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4<br>Calibration procedure for dosimetric E-field probes |
| Calibration date:                                                                                                                                                                                                                                                             | July 25, 2011                                                                                                 |
| This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).<br>The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. |                                                                                                               |
| All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.                                                                                                                                          |                                                                                                               |
| Calibration Equipment used (M&TE critical for calibration)                                                                                                                                                                                                                    |                                                                                                               |

| Primary Standards          | ID              | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|-----------------|-----------------------------------|------------------------|
| Power meter E4419B         | GB41293874      | 31-Mar-11 (No. 217-01372)         | Apr-12                 |
| Power sensor E4412A        | MY41498087      | 31-Mar-11 (No. 217-01372)         | Apr-12                 |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 29-Mar-11 (No. 217-01369)         | Apr-12                 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 29-Mar-11 (No. 217-01367)         | Apr-12                 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 29-Mar-11 (No. 217-01370)         | Apr-12                 |
| Reference Probe ES3DV2     | SN: 3013        | 29-Dec-10 (No. ES3-3013_Dec10)    | Dec-11                 |
| DAE4                       | SN: 654         | 3-May-11 (No. DAE4-654_May11)     | May-12                 |
| Secondary Standards        | ID              | Check Date (in house)             | Scheduled Check        |
| RF generator HP 8648C      | US3642U01700    | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E  | US37390585      | 18-Oct-01 (in house check Oct-10) | In house check: Oct-11 |

|                                                                                                                 |                       |                               |               |
|-----------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------|---------------|
| Calibrated by:                                                                                                  | Name<br>Katja Pokovic | Function<br>Technical Manager | Signature<br> |
| Approved by:                                                                                                    | Name<br>Niels Kuster  | Function<br>Quality Manager   | Signature<br> |
| Issued: July 25, 2011                                                                                           |                       |                               |               |
| This calibration certificate shall not be reproduced except in full without written approval of the laboratory. |                       |                               |               |

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



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

Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: SCS 108

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

**Glossary:**

|                          |                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                      | tissue simulating liquid                                                                                                                                |
| NORM <sub>x,y,z</sub>    | sensitivity in free space                                                                                                                               |
| ConvF                    | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                              |
| DCP                      | diode compression point                                                                                                                                 |
| CF                       | crest factor (1/duty_cycle) of the RF signal                                                                                                            |
| A, B, C                  | modulation dependent linearization parameters                                                                                                           |
| Polarization $\varphi$   | $\varphi$ rotation around probe axis                                                                                                                    |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center),<br>i.e., $\vartheta = 0$ is normal to probe axis |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

**Methods Applied and Interpretation of Parameters:**

- NORM<sub>x,y,z</sub>: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the  $E^2$ -field uncertainty inside TSL (see below ConvF).
- NORM( $f$ )<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy): in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.



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# Probe EX3DV4

## SN:3797

Manufactured: April 5, 2011  
Calibrated: July 25, 2011

Calibrated for DASY/EASY Systems  
(Note: non-compatible with DASY2 system!)

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## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3797

### Basic Calibration Parameters

|                                       | Sensor X | Sensor Y | Sensor Z | Unc (k=2) |
|---------------------------------------|----------|----------|----------|-----------|
| Norm ( $\mu V/(V/m)^2$ ) <sup>A</sup> | 0.63     | 0.59     | 0.57     | ± 10.1 %  |
| DCP (mV) <sup>B</sup>                 | 94.6     | 95.3     | 96.6     |           |

### Modulation Calibration Parameters

| UID   | Communication System Name | PAR  |   | A<br>dB | B<br>dB | C<br>dB | VR<br>mV | Unc <sup>E</sup><br>(k=2) |
|-------|---------------------------|------|---|---------|---------|---------|----------|---------------------------|
| 10000 | CW                        | 0.00 | X | 0.00    | 0.00    | 1.00    | 96.0     | ±2.5 %                    |
|       |                           |      | Y | 0.00    | 0.00    | 1.00    | 126.8    |                           |
|       |                           |      | Z | 0.00    | 0.00    | 1.00    | 126.7    |                           |

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3797

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha | Depth (mm) | Unct. (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|-------|------------|-------------|
| 750                  | 41.9                               | 0.89                            | 9.29    | 9.29    | 9.29    | 0.80  | 0.68       | ± 12.0 %    |
| 835                  | 41.5                               | 0.90                            | 8.93    | 8.93    | 8.93    | 0.80  | 0.67       | ± 12.0 %    |
| 900                  | 41.5                               | 0.97                            | 8.83    | 8.83    | 8.83    | 0.80  | 0.66       | ± 12.0 %    |
| 1450                 | 40.5                               | 1.20                            | 8.30    | 8.30    | 8.30    | 0.59  | 0.78       | ± 12.0 %    |
| 1750                 | 40.1                               | 1.37                            | 7.88    | 7.88    | 7.88    | 0.77  | 0.62       | ± 12.0 %    |
| 1900                 | 40.0                               | 1.40                            | 7.60    | 7.60    | 7.60    | 0.80  | 0.60       | ± 12.0 %    |
| 1950                 | 40.0                               | 1.40                            | 7.44    | 7.44    | 7.44    | 0.78  | 0.61       | ± 12.0 %    |
| 2300                 | 39.5                               | 1.67                            | 7.30    | 7.30    | 7.30    | 0.75  | 0.62       | ± 12.0 %    |
| 2450                 | 39.2                               | 1.80                            | 6.94    | 6.94    | 6.94    | 0.74  | 0.62       | ± 12.0 %    |
| 2600                 | 39.0                               | 1.96                            | 7.16    | 7.16    | 7.16    | 0.59  | 0.72       | ± 12.0 %    |
| 5200                 | 36.0                               | 4.66                            | 4.73    | 4.73    | 4.73    | 0.40  | 1.80       | ± 13.1 %    |
| 5300                 | 35.9                               | 4.76                            | 4.44    | 4.44    | 4.44    | 0.42  | 1.80       | ± 13.1 %    |
| 5500                 | 35.6                               | 4.96                            | 4.48    | 4.48    | 4.48    | 0.42  | 1.80       | ± 13.1 %    |
| 5600                 | 35.5                               | 5.07                            | 4.16    | 4.16    | 4.16    | 0.42  | 1.80       | ± 13.1 %    |
| 5800                 | 35.3                               | 5.27                            | 4.26    | 4.26    | 4.26    | 0.45  | 1.80       | ± 13.1 %    |

<sup>C</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

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## DASY/EASY - Parameters of Probe: EX3DV4- SN:3797

### Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha | Depth (mm) | Unct. (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|-------|------------|-------------|
| 750                  | 55.5                               | 0.96                            | 9.22    | 9.22    | 9.22    | 0.80  | 0.70       | ± 12.0 %    |
| 835                  | 55.2                               | 0.97                            | 9.14    | 9.14    | 9.14    | 0.80  | 0.69       | ± 12.0 %    |
| 1750                 | 53.4                               | 1.49                            | 7.69    | 7.69    | 7.69    | 0.80  | 0.66       | ± 12.0 %    |
| 1900                 | 53.3                               | 1.52                            | 7.26    | 7.26    | 7.26    | 0.80  | 0.64       | ± 12.0 %    |
| 2300                 | 52.9                               | 1.81                            | 7.18    | 7.18    | 7.18    | 0.80  | 0.62       | ± 12.0 %    |
| 2450                 | 52.7                               | 1.95                            | 6.96    | 6.96    | 6.96    | 0.80  | 0.50       | ± 12.0 %    |
| 2600                 | 52.5                               | 2.16                            | 6.90    | 6.90    | 6.90    | 0.80  | 0.50       | ± 12.0 %    |
| 5200                 | 49.0                               | 5.30                            | 4.10    | 4.10    | 4.10    | 0.50  | 1.90       | ± 13.1 %    |
| 5300                 | 48.9                               | 5.42                            | 3.83    | 3.83    | 3.83    | 0.55  | 1.90       | ± 13.1 %    |
| 5500                 | 48.6                               | 5.65                            | 3.72    | 3.72    | 3.72    | 0.55  | 1.90       | ± 13.1 %    |
| 5600                 | 48.5                               | 5.77                            | 3.60    | 3.60    | 3.60    | 0.60  | 1.90       | ± 13.1 %    |
| 5800                 | 48.2                               | 6.00                            | 3.75    | 3.75    | 3.75    | 0.60  | 1.90       | ± 13.1 %    |

<sup>C</sup> Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

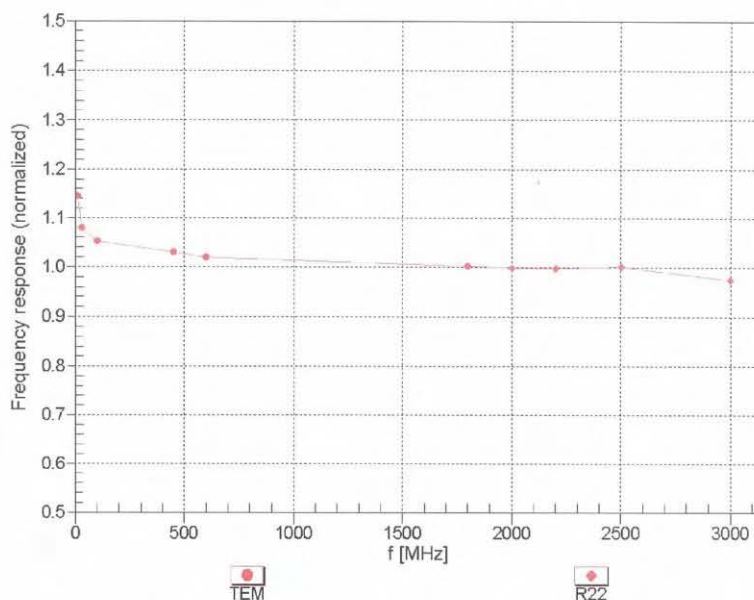


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## Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



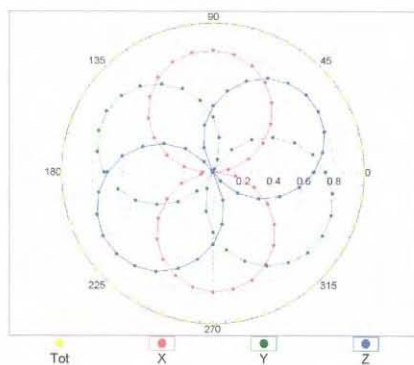
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

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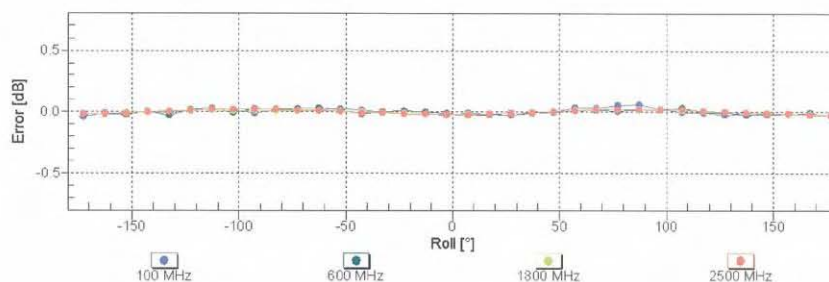
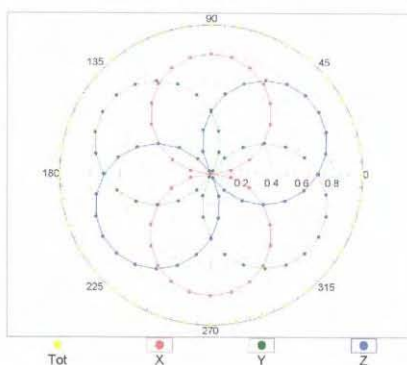
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## Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

f=600 MHz,TEM



f=1800 MHz,R22

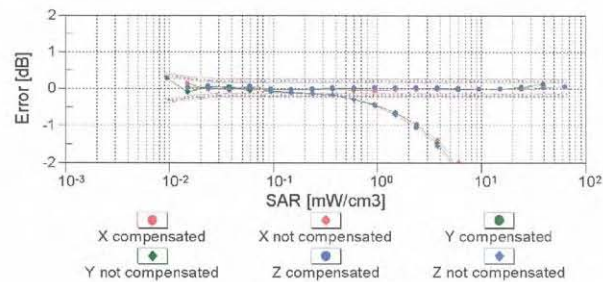
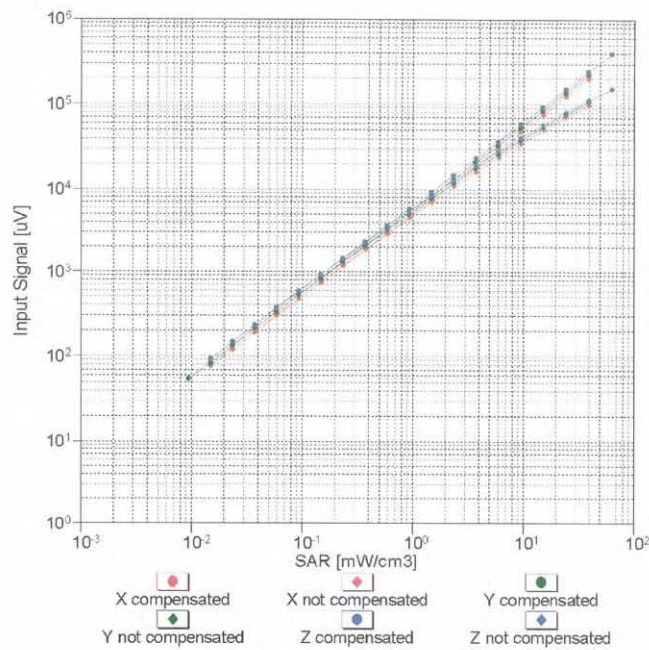


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

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### Dynamic Range f(SAR<sub>head</sub>) (TEM cell, f = 900 MHz)

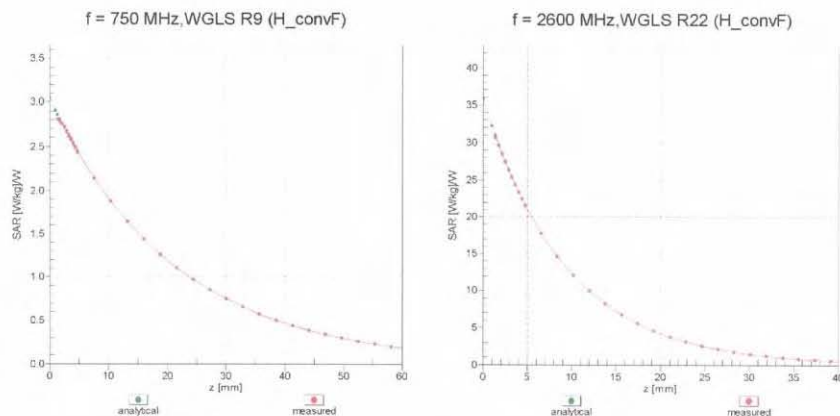


Uncertainty of Linearity Assessment:  $\pm 0.6\%$  (k=2)

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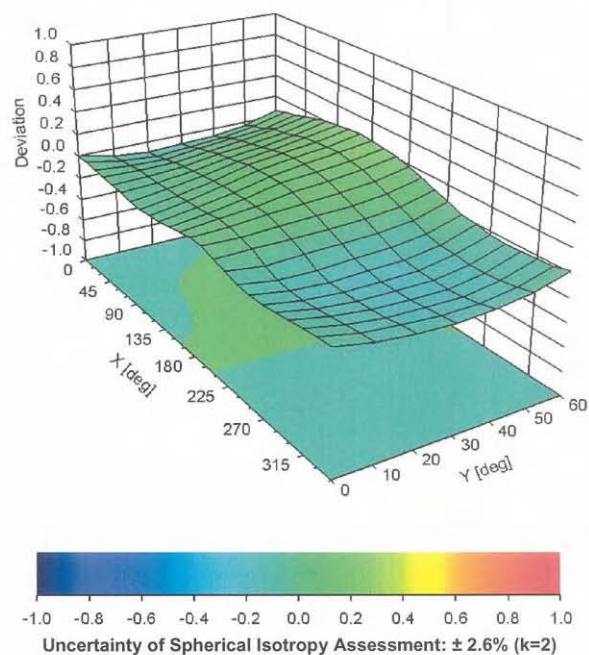
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## Conversion Factor Assessment



## Deviation from Isotropy in Liquid

Error ( $\phi$ ,  $\theta$ ), f = 900 MHz



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**DASY/EASY - Parameters of Probe: EX3DV4 - SN:3797****Other Probe Parameters**

|                                               |                |
|-----------------------------------------------|----------------|
| Sensor Arrangement                            | Triangular     |
| Connector Angle (°)                           | Not applicable |
| Mechanical Surface Detection Mode             | enabled        |
| Optical Surface Detection Mode                | disabled       |
| Probe Overall Length                          | 337 mm         |
| Probe Body Diameter                           | 10 mm          |
| Tip Length                                    | 9 mm           |
| Tip Diameter                                  | 2.5 mm         |
| Probe Tip to Sensor X Calibration Point       | 1 mm           |
| Probe Tip to Sensor Y Calibration Point       | 1 mm           |
| Probe Tip to Sensor Z Calibration Point       | 1 mm           |
| Recommended Measurement Distance from Surface | 2 mm           |