SAR TEST REPORT

HCT CO., LTD

EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
FCC ID:	JYCSTARQ
Model:	ADR910L
Date of Issue:	Mar. 12, 2012
Test report No.:	HCTA1202FS06
Test Laboratory:	**HCT CO., LTD.** 105-1, Jangam-ri, Majang-myeon, Icheon-si,Gyeonggi-do,Korea 467-811 TEL: +82 31 645 6485 FAX: +82 31 645 6401
Applicant :	**Pantech Co., Ltd.** Pantech Building, I-2, DMC, Sangam-dong, Mapo-gu,Seoul, Korea(ZIP :121-792) Tel: 82-2-2030-1319 Fax: 82-2-2030-2500
Testing has been carried out in accordance with:	RSS-102 Issue 4; Health Canada Safety Code 6 47CFR §2.1093 FCC OET Bulletin 65(Edition 97-01), Supplement C (Edition 01-01) ANSI/ IEEE C95.1 – 1992 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	Report prepared by : Young-Soo Jang Test Engineer of SAR Part Approved by : Jae-Sang So Manager of SAR Part

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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 (d*W*) absorbed by (dissipated in) an incremental mass (d*m*) contained in a volume element (d*V*) of a given density (*r*). 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).

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

where:

σ	=	conductivity of the tissue-simulant material (S/m)
ρ	=	mass density of the tissue-simulant material (kg/m^3)
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).

2.1 General Information

<table>
<tr><td>EUT Type</td><td colspan="4">CDAM/LTE Phone with Bluetooth & WLAN</td></tr>
<tr><td>FCC ID:</td><td colspan="4">JYCSTARQ</td></tr>
<tr><td>Model:</td><td colspan="4">ADR910L</td></tr>
<tr><td>Trade Name</td><td>Pantech</td><td colspan="2">Serial Number(s)</td><td>#1</td></tr>
<tr><td>Mode(s)of Operation</td><td colspan="4">CDMA835/PCS1900/802.11bgn/LTE Band13</td></tr>
<tr><td>Application Type</td><td colspan="4">Certification</td></tr>
<tr><td>Tx Frequency</td><td colspan="4">824.70 - 848.31 MHz (CDMA835) / 1 851.25 – 1 908.75 MHz (PCS CDMA)
2 412- 2 462 MHz (WLAN)/ 777-787 MHz (LTE Band13)</td></tr>
<tr><td>Rx Frequency</td><td colspan="4">869.70 - 893.31 MHz (CDMA835) / 1 931.25 – 1 988.75 MHz (PCS CDMA)
2 412- 2 462 MHz (WLAN)/ 746 – 756 MHz (LTE Band13)</td></tr>
<tr><td>FCC Classification</td><td colspan="4">Licensed Portable Transmitter Held to Ear (PCE)/ DSS/ DTS</td></tr>
<tr><td>Production Unit</td><td colspan="4">Prototype</td></tr>
<tr><td rowspan="5">Max SAR</td><td rowspan="2">Band</td><td colspan="3">1g SAR (W/kg)</td></tr>
<tr><td>Head</td><td>Body-worn</td><td>Hotspot</td></tr>
<tr><td>CDMA835</td><td>0.414</td><td>0.719</td><td>0.719</td></tr>
<tr><td>PCS1900</td><td>0.626</td><td>0.886</td><td>0.886</td></tr>
<tr><td>LTE 13</td><td>0.268</td><td>0.517</td><td>0.517</td></tr>
<tr><td>802.11b</td><td>0.132</td><td>0.193</td><td>0.193</td></tr>
<tr><td>Date(s) of Tests</td><td colspan="4">Feb. 11, 2012 ~ Feb. 19, 2012, Mar. 9, 2012</td></tr>
<tr><td>Antenna Type</td><td colspan="4">Integral Antenna</td></tr>
<tr><td>EVDO</td><td colspan="4">Rev.0, A</td></tr>
<tr><td>Key Features;</td><td colspan="4">Mobile Hotspot support, SVDO & SVLTE support, Power reduction implement
Bluetooth 4.0 capability support</td></tr>
</table>

2.2 KDB 941225 LTE information

<table>
<tr><th>No.</th><th>Description</th><th>Parameter</th></tr>
<tr><td>1</td><td>Frequency Range:</td><td>Band 13: 777 - 787 MHz</td></tr>
<tr><td>2</td><td>Channel Bandwidth:</td><td>10 MHz</td></tr>
<tr><td>3</td><td>Channel Number & Frequency:</td><td>LTE Band13, Ch No.: 23230, Frequency: 782 MHz</td></tr>
<tr><td>4</td><td>UE Category & Uplink Modulation</td><td>UE Category 3, QPSK, 16QAM</td></tr>
<tr><td>5</td><td>Power Class</td><td>UE Power Class 3</td></tr>
<tr><td>6</td><td>Description of the LTE Transmitter & antenna</td><td>This model have three Tx antennas.
- One for LTE & CDMA850/1900 EVDO. It can not transmit simultaneously.
- Another is for CDMA850/1900 1xRTT.
- The other is for BT & WLAN. It can not transmit simultaneously.
Please find the section 10.</td></tr>
<tr><td>7</td><td>LTE voice/data requirements</td><td>Data Only. Please find the section 10.
LTE voice is available via VoIP. Considering the users may install 3rd party software to enable VoIP, LTE Head SAR is also evaluated.</td></tr>
<tr><td>8</td><td>Identify if MPR is optional or mandatory</td><td>The EUT incorporates MPR as per 36.101.
The MPR is permanently built-in by design as a mandatory.
A-MPR is not implemented.
During SAR testing, A-MPR was disabled by setting NS=01 on the R&S CMW500.</td></tr>
<tr><td>9</td><td>Maximum average conducted output power</td><td>LTE Band 13: 22.85 dBm
See section 9 RF outpower measurements in the SAR report.</td></tr>
<tr><td>10</td><td>Identify all other U.S. wireless operating modes, device exposure configurations and frequency bands</td><td>- CDMA835/1900 and LTE Band 13
: Head & Body SAR are required.
- Bluetooth 2.4 GHz: BT SAR is not required as maximum output power < 12 mW
- WiFi 2.4 GHz: Body SAR is required.</td></tr>
<tr><td>11</td><td>Maximum average conducted output power for other wireless mode and frequency</td><td>See section 9 RF outpower measurements in the SAR report.</td></tr>
<tr><td>12</td><td>Simultaneous Transmission</td><td>See section 11 Simultaneous transmission conditions in the SAR report.</td></tr>
<tr><td>13</td><td>Power reduction explanation</td><td>
<table>
<tr><th>Mode</th><th>Voice Average Power 1x(dBm)</th><th>Maximum EVDO Average Power</th></tr>
<tr><td rowspan="2">SVDO</td><td>P<15.5</td><td>24</td></tr>
<tr><td>P≥15.5</td><td>19</td></tr>
<tr><th>Mode</th><th>Voice Averag Power 1x (dBm)</th><th>Maximum LTE Average Power (dBm)</th></tr>
<tr><td rowspan="2">SVLTE</td><td>P<18.5</td><td>23</td></tr>
<tr><td>P≥18.5</td><td>19</td></tr>
</table>
</td></tr>
<tr><td>14</td><td>Description of the test equipment, software, etc.</td><td>SAR Testing was performed using a CMW500.
UE transmits with maximum output power during SAR testing.</td></tr>
</table>

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 mMaximum 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.

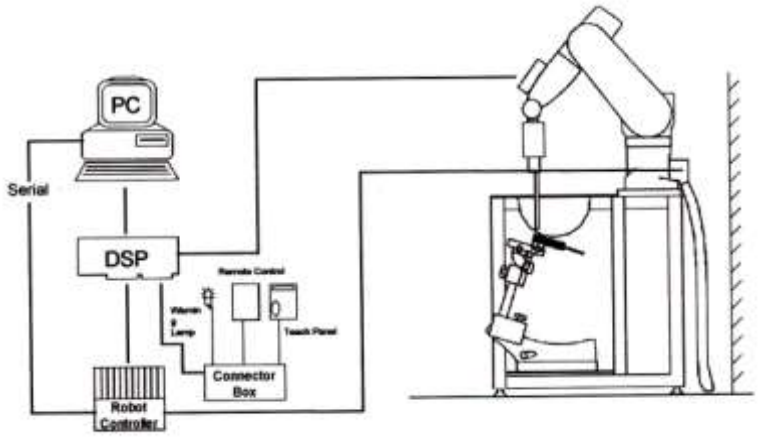


Figure 3.1 HCT SAR Lab. Test Measurement Set-up

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

3.1 ES3DV3 Probe Specification

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

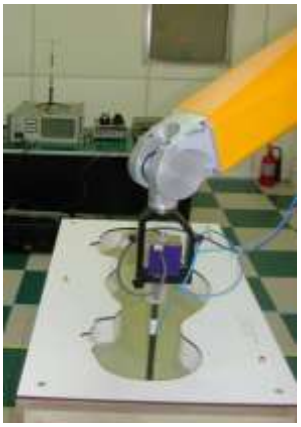


Figure 3.1 Photograph of the probe and the Phantom

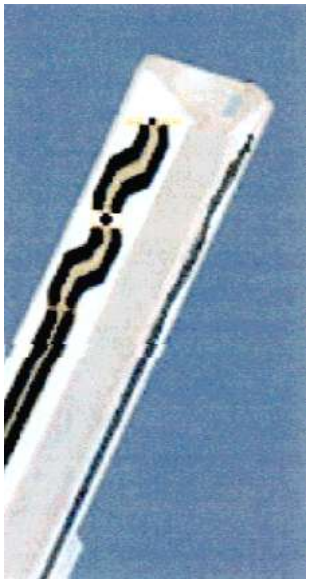


Figure 3.2 ET3DV6 E-field Probe

The SAR measurements were conducted with the dosimetric probe ET3DV6, designed in the classical triangular configuration [5] 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 mortifier 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 nd 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 ± 10 %. The spherical isotropy was evaluated with the proper procedure and found to be better than ± 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 bellow 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:

Δt = exposure time (30 seconds),

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

ΔT = 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:

σ = simulated tissue conductivity,

ρ = Tissue density (1.25 g/cm^3 for brain tissue)

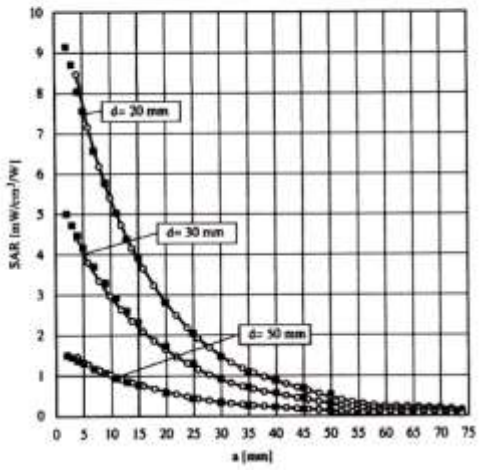


Figure 3.4 E-Field and Temperature measurements at 900 MHz

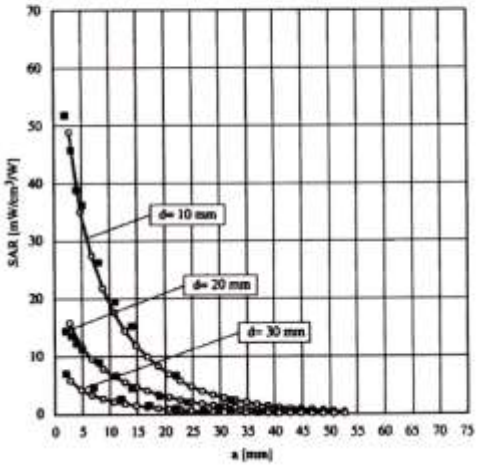


Figure 3.5 E-Field and temperature measurements at 1.8 GHz

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
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

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^2
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 ± 0.2 mm (6 ± 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 repeatable 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 bacteriacide 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.

Ingredients (% by weight)	Frequency (MHz)											
	450		750		835		915		1 900		2 450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.2	51.7	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.4	1.0	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	57	47.2	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	0.2	0.0	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.2	0.1	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.00	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7

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	E-Field Probe ET3DV6	1798	Apr. 14, 2011	Annual	Apr. 14, 2012
SPEAG	Validation Dipole D750V3	1014	July 15, 2011	Annual	July 15, 2012
SPEAG	Validation Dipole D835V2	441	May 16, 2011	Annual	May 16, 2012
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	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	Mar. 30, 2011	Annual	Mar. 30, 2012
R&S	Base Station CMW500	101901	Aug. 5, 2011	Annual	Aug. 5, 2012

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

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 mMaximum 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 mMaximum interpolated value was searched with a straight-forward algorithm. Around this mMaximum 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.

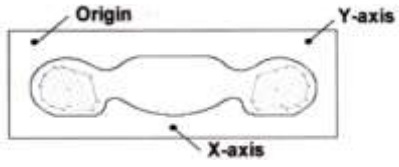


Figure 4.1 SAR Measurement Point in Area Scan

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 15º or until the device antenna touch the phantom. Please refer to IEEE 1528-2003 illustration below.

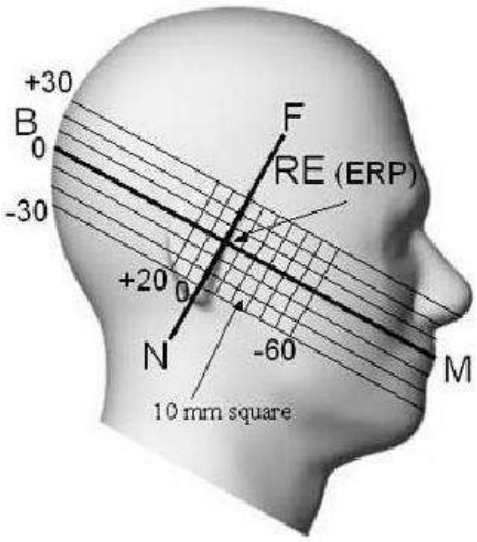


Figure 5.1 Side view of the phantom

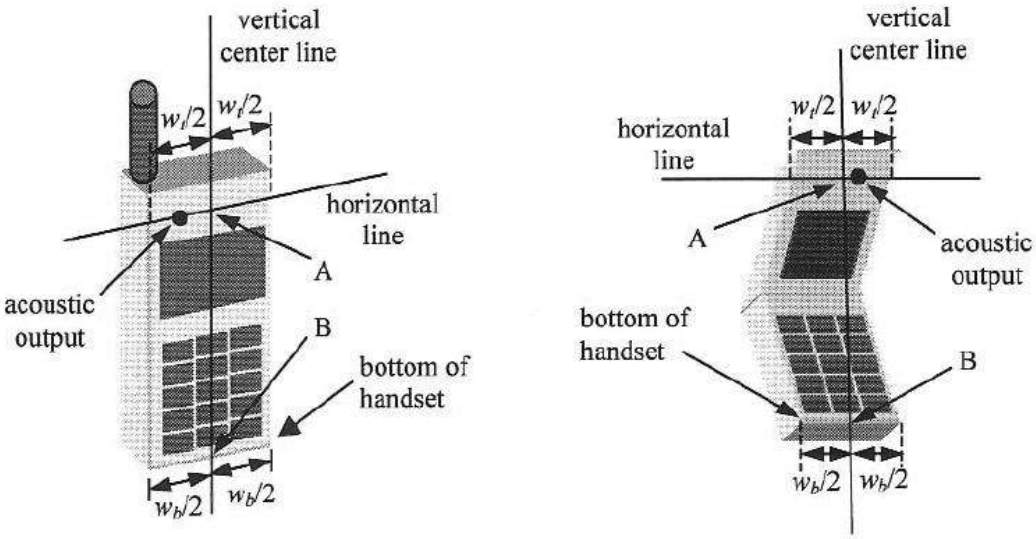


Figure 5.2 Handset vertical and horizontal reference lines

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 (± %)	Prob. dist.	Div.	c_i	Standard Uncertainty (± %)	v_{eff}
1. Measurement System						
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	∞
2.Test Sample Related						
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	∞
3.Phantom and Setup						
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 Permitivity(target)	5.00	R	1.73	0.6	1.73	∞
Liquid Permitivity(meas.)	5.02	N	1	0.6	3.01	9
Combind Standard Uncertainty					11.13	
Coverage Factor for 95 %					k=2	
Expanded STD Uncertainty					22.25	

Table 6.1 Uncertainty (800 MHz- 2600 MHz)

Error Description	Tol (± %)	Prob. dist.	Div.	c_i	Standard Uncertainty (± %)	v_{eff}
1. Measurement System						
Probe Calibration	7.00	N	1	1	7.00	∞
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	∞
2.Test Sample Related						
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	∞
3.Phantom and Setup						
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 Permitivity(target)	5.00	R	1.73	0.6	1.73	∞
Liquid Permitivity(meas.)	5.02	N	1	0.6	3.01	9
Combind Standard Uncertainty					11.70	
Coverage Factor for 95 %					$k=2$	
Expanded STD Uncertainty					23.39	

Table 6.2 Uncertainty (750 MHz)

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

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT Occupational (W/kg) or (mW/g)
SPATIAL PEAK SAR * (Brain)	1.60	8.00
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.40
SPATIAL PEAK SAR *** (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

Band	Freq. [MHz]	Date	Liquid	Liquid Temp.[°C]	Parameters	Target Value	Measured Value	Deviation [%]	Limit [%]
Cellular	835	Feb. 11, 2012	Head	21.2	ε r	41.5	43.1	+ 3.86	± 5
					σ	0.90	0.911	+ 1.22	± 5
	835	Feb. 15, 2012	Body	21.1	ε r	55.2	54.4	- 1.45	± 5
					σ	0.97	0.99	+ 2.06	± 5
PCS	1 900	Feb. 12, 2012	Head	21.2	ε r	40.0	39.1	- 2.25	± 5
					σ	1.40	1.39	- 0.71	± 5
	1 900	Feb. 16, 2012	Body	21.2	ε r	53.3	55.4	+ 3.94	± 5
					σ	1.52	1.48	- 2.63	± 5
LTE B13	750	Feb. 13, 2012	Head	21.2	ε ρ	41.9	42.1	+ 0.48	± 5
					σ	0.89	0.866	- 2.70	± 5
	750	Feb. 17, 2012	Body	21.3	ε r	55.5	54.7	- 1.44	± 5
					σ	0.96	0.971	+ 1.15	± 5
WLAN	2 450	Feb. 14, 2012	Head	21.1	ε r	39.2	38.7	- 1.28	± 5
					σ	1.80	1.85	+ 2.78	± 5
	2 450	Feb. 18, 2012	Body	21.1	ε r	52.7	50.6	- 3.98	± 5
					σ	1.95	1.98	+ 1.54	± 5
Volume	835	Feb. 19, 2012	Body	21.3	ε r	55.2	54.4	- 1.45	± 5
					σ	0.97	0.989	+ 1.96	± 5
	1 900	Feb. 19, 2012	Body	21.3	ε ρ	53.3	55.4	+ 3.94	± 5
					σ	1.52	1.48	- 2.63	± 5
	2 450	Feb. 19, 2012	Body	21.3	ε r	52.7	50.6	- 3.98	± 5
					σ	1.95	1.98	+ 1.54	± 5
Cellular	835	Mar. 9, 2012	Head	21.3	ε r	41.5	41.4	- 0.24	± 5
					σ	0.90	0.885	- 1.67	± 5
	835	Mar. 9, 2012	Body	21.3	ε r	55.2	55	-0.36	± 5
					σ	0.97	1.01	4.12	± 5
PCS	1 900	Mar. 9, 2012	Head	21.3	ε r	40.0	39.1	-2.25	± 5
					σ	1.40	1.39	-0.71	± 5
	1 900	Mar. 9, 2012	Body	21.3	ε r	53.3	51.5	-3.38	± 5
					σ	1.52	1.51	-0.66	± 5
LTE B13	750	Mar. 9, 2012	Head	21.3	ε ρ	41.9	42.1	0.48	± 5
					σ	0.89	0.865	-2.81	± 5
	750	Mar. 9, 2012	Body	21.3	ε r	55.5	54.7	-1.44	± 5
					σ	0.96	0.971	1.15	± 5
WLAN	2 450	Mar. 9, 2012	Head	21.3	ε r	39.2	38.4	-2.04	± 5
					σ	1.80	1.84	2.22	± 5
	2 450	Mar. 9, 2012	Body	21.3	ε r	52.7	51.9	-1.52	± 5
					σ	1.95	1.95	0.00	± 5

The dielectronic parameters of the liquids were verified 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 ± 10 % of the specifications at 835 MHz / 750 MHz/ 1 900 MHz/ 2 450 MHz by using the system validation kit. (Graphic Plots Attached)

Band	Freq. [MHz]	Probe (SN)	Dipole (SN)	Date	Liquid	Liquid Temp. [°C]	1 W Target SAR_{1g} (mW/g)	Measured SAR_{1g} (mW/g)	1 W Normalized SAR_{1g} (mW/g)	Deviation [%]	Limit [%]
Cellular	835	1798	441	Feb. 11, 2012	Head	21.2	9.34	0.959	9.59	+ 2.68	± 10
	835		441	Feb. 15, 2012	Body	21.1	9.45	0.967	9.67	+ 2.33	± 10
PCS	1 900		5d032	Feb. 12, 2012	Head	21.2	39.9	4.00	40.0	+ 0.25	± 10
	1 900		5d032	Feb. 16, 2012	Body	21.2	41.5	4.13	41.3	- 0.48	± 10
LTE B13	750		1014	Feb. 13, 2012	Head	21.2	8.29	0.828	8.28	- 0.12	± 10
	750		1014	Feb. 17, 2012	Body	21.3	8.8	0.890	8.90	+ 1.14	± 10
WLAN	2 450		743	Feb. 14, 2012	Head	21.1	53.8	5.47	54.7	+ 1.67	± 10
	2 450		743	Feb. 18, 2012	Body	21.1	51.7	5.25	52.5	+ 1.55	± 10
Volume	835		441	Feb. 19, 2012	Body	21.3	9.45	0.960	9.60	+ 1.59	± 10
	1 900		5d032	Feb. 19, 2012	Body	21.3	41.5	4.21	42.1	+ 1.45	± 10
	2 450		743	Feb. 19, 2012	Body	21.3	51.7	5.29	52.9	+ 2.32	± 10
Cellular	835	1798	441	Mar. 9, 2012	Head	21.3	9.34	0.932	9.32	- 0.21	± 10
	835		441	Mar. 9, 2012	Body	21.3	9.45	0.962	9.62	1.80	± 10
PCS	1 900		5d032	Mar. 9, 2012	Head	21.3	39.9	4.02	40.2	0.75	± 10
	1 900		5d032	Mar. 9, 2012	Body	21.3	41.5	4.29	42.9	3.37	± 10
LTE B13	750		1014	Mar. 9, 2012	Head	21.3	8.29	0.854	8.54	3.02	± 10
	750		1014	Mar. 9, 2012	Body	21.3	8.8	0.879	8.79	-0.11	± 10
WLAN	2 450		743	Mar. 9, 2012	Head	21.3	53.8	5.56	55.6	3.35	± 10
	2 450		743	Mar. 9, 2012	Body	21.3	51.7	5.29	52.9	2.32	± 10

8.3 System Validation Procedure

SAR measurement was Prior to assessment, the system is verified to the ± 10 % of the specifications at target frequency by using the system validation kit. (Graphic Plots Attached)

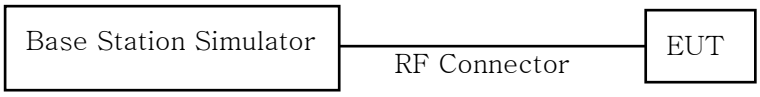
- Cabling the system, using the validation kit equipments.
- Generate about 100 mW Input Level from the Signal generator to the Dipole Antenna.
- Dipole Antenna was placed below the Flat phantom.
- The measured one-gram SAR at the surface of the phantom above the dipole feed-point should be within 10 % 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 then 5 % occurred, the tests were repeated.

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



SAR Test for WWAN & LTE were performed with a base station simulator Agilent E5515C & CMW500. 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.

9.1 CDMA & EVDO

9.1.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices", May 2006. MMaximum output power is verified on the High, Middle and Low channels according to procedures defined in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in “All Up” condition.

1. If the mobile station supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9 600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1 (Table 9.1) parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH0 and demodulation of RC 3, 4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9 600 bps Fundamental Channel and 9 600 bps SCH0 data rate Channel and 9 600 bps SCH0 data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2(Table 9.2) was applied.
5. FCHs were configured at full rate for mMaximum SAR with “All Up” power control bits.

Parameters for Max. Power for RC1

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-104
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table. 9.1

Parameters for Max. Power for RC3

Parameter	Units	Value
I_{or}	dBm/1.23 MHz	-86
$\frac{\text{Pilot } E_c}{I_{or}}$	dB	-7
$\frac{\text{Traffic } E_c}{I_{or}}$	dB	-7.4

Table. 9.2

9.1.2 Head SAR Measurement

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required when the mMaximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the mMaximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

9.1.3 Body SAR Measurement

SAR for body exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. SAR for multiple code channels (FCH + SCHn) is not required when the mMaximum average output of each RF channel is less than ¼ dB higher than that measured with FCH only. Otherwise, SAR is measured on the mMaximum output channel (FCH + SCHn) with FCH at full rate and SCH0 enabled at 9 600 bps using the exposure configuration that results in the highest SAR for that channel with FCH only. When multiple code channels are enabled, the DUT output may shift by more than 0.5 dB and lead to higher SAR drifts and SCH dropouts.

Body SAR in RC1 is not required when the mMaximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the mMaximum output channel in RC1; with Loopback Service Option SO55, at full rate, using the body exposure configuration that results in the highest SAR for that channel in RC3.

9.1.4 Handsets with EV-DO

For handsets with Ev-Do capabilities, when the mMaximum average output of each channel in Rev. 0 is less than ¼ dB higher than that measured in RC3 (1x RTT), body SAR for Ev-Do is not required. Otherwise, SAR for Rev. 0 is measured on the mMaximum output channel at 153.6 kbps using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the mMaximum average output of each channel is less than that measured in Rev. 0 or less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the mMaximum output channel for Rev. A using a Reverse Data Channel payload size of 4 096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots should be configured in the downlink for both Rev. 0 and Rev. A.

9.1.4.1 EVDO Release 0 (RTAP)

Application Config > Enhanced Test Application Protocol > RTAP

RTAP Rate > 153.6 kbps

Protocol Rev > 0 (1x EVDO)

Power: All Up bits

9.1.4.2 EVDO Release 0 (FTAP)

Application Config > Enhanced Test Application Protocol > FTAP

RTAP Rate > 307.2 kbps

Protocol Rev > 0 (1x EVDO)

Power: All Up bits

9.1.4.3 EVDO Release A (RETAP)

Protocol Rev > A (1x EVDO A)

Application Config > Enhanced Test Application Protocol > RETAP

R-Data Pkt Size > 4096

Power: All Up bits

9.1.4.4 EVDO Release A (FETAP)

Protocol Rev > A (1x EVDO A)

Application Config > Enhanced Test Application Protocol > FETAP

F-Traffic Format > 4 (1024, 2, 128) Canonical (307.2k, QPSK)

Power: All Up bits

Maximum Average Output Power Measurement for FCC ID: JYCSTARQ

Band	Ch.	SO2	SO2	SO55	SO55	TDSO SO32	1xEvDO Rev.0	1xEvDO Rev.0	1xEvDO Rev.A	1xEvDO Rev.A
		RC1/1	RC3/3	RC1/1	RC3/3	RC3/3	(FTAP)	(RTAP)	(FETAP)	(RETAP)
CDMA	1013	24.07	24.01	24.00	24.03	23.99	23.72	23.63	24.20	23.75
	384	24.15	24.19	23.99	24.08	24.03	24.19	23.80	24.19	24.00
	777	23.57	23.54	23.52	23.51	23.55	23.75	23.81	23.59	23.53
PCS	25	24.43	24.37	24.40	24.42	24.45	24.26	24.02	24.07	23.95
	600	24.49	24.48	24.49	24.46	24.47	24.00	23.83	24.48	23.82
	1175	24.40	24.35	24.32	24.25	24.29	23.94	23.91	23.82	23.86

CDMA Avergae Conducted output powers (dBm)

9.2 WiFi

9.2.1 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	6	√	∇		
		2.462	11		√	∇		
802.11a	UNII	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	Unknown				*
		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					*
	UNII or §15.247	5.745	149		√		√	
		5.765	153	152 (5.76 GHz)		*		*
		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	16.58	16.58	16.69	16.61
	6	16.20	16.22	16.32	16.26
	11	16.44	16.45	16.56	16.49

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	14.79	14.77	14.76	14.71	14.70	14.67	14.52	14.58
	6	14.89	14.88	14.87	14.82	14.81	14.76	14.62	14.69
	11	14.57	14.56	14.56	14.51	14.50	14.45	14.32	14.39

Average IEEE 802.11g Conducted output power

Band	Channel	Conducted Power (dBm)							
		Data Rate (Mbps)							
		6.5	13	20	26	39	52	58	65
IEEE 802.11n (HT-20)	1	13.75	13.73	13.65	13.67	13.57	13.59	13.50	13.51
	6	13.87	13.84	13.81	13.78	13.70	13.70	13.61	13.63
	11	13.56	13.53	13.51	13.49	13.39	13.38	13.30.	13.32

Average IEEE 802.11n Conducted output power

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

9.3 LTE

SAR testing was performed according to the FCC KDB 941225 D05 publication.

The JYCP9070 developed base on MPR. The MPR is mandatory.

The device will not operate with any other MPR setting than that stated in the table as indicated.

SAR Testing was performed using a CMW500. UE transmits with Maximum output power during SAR testing.

A-MPR has been disabled for all SAR tests by setting NS=01 on the R&S CMW500.

9.3.1 LTE Band13 10 MHz

Bandwidth	UL Channel	UL Freq.(MHz)	Modulation	RB Size	RB Offset	Max.Average Power (dBm)	Target MPR (dB)	Measured Power reduction (dB)
10 MHz	23230	782	QPSK	1	0	22.82	0	0.03
				1	49	22.85	0	0.00
				25	13	21.91	1	0.94
				50	0	21.82	1	1.03
			16QAM	1	0	21.65	1	1.20
				1	49	21.7	1	1.15
				25	13	20.85	2	2.00
				50	0	20.7	2	2.15

LTE Conducted output powers

Note;

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

9.4. SVLTE/SVDO RF Conducted Power

The EUT uses a power reduction technique where the data mode transmit power is reduced a predetermined amount based on the voice transmit power. As voice 1x power approaches maximum transmit power, the data mode transmit power is reduced a configured magnitude. For low voice 1x power levels, there is no restriction on the data mode transmit power. Although this device supports SVDO/SVLTE power reduction, initial SAR evaluation will use the max. output power without power reduction. If the SVDO and SVLTE mode of operation can achieve SAR compliance without power reduction, SVDO and SVLTE with reduced power will not be performed. However, if during SAR evaluation, it is determined that power reduction is required to achieve SAR compliance; test report will include the output power used during final SAR evaluation.

Mode	Voice Average Power 1x(dBm)	Maximum EVDO Average Power (dBm)
SVDO	P<15.5	24 (Limited)
	P≥15.5	19 (Limited)
Mode	**Voice Average Power 1x (dBm)**	**Maximum LTE Average Power (dBm)**
SVLTE	P<18.5	23 (Limited)
	P≥18.5	19 (Limited)

Power reduction Settings

9.4.1 SVDO

SV-DO: CDMA 1xRTT(BC0) to 1xEVDO(BC0 & BC1)

CDAM BC0 850 1xRTT		BC0 850 1xEVDO Output Power[dBm]			BC1 1900 1xEVDO Output Power[dBm]		
ch #	Output Power [dBm]	low 1013	Middle 384	high 777	low 25	Middle 600	high 1175
low-1013	11	24.0	24.1	24.0	24.1	24.0	24.0
	15	24.0	24.1	24.0	24.1	24.0	24.0
	16	19.1	19.0	19.0	19.1	18.9	19.0
	24	19.1	19.0	19.0	19.1	18.9	19.0
Middle_384	11	24.0	24.0	24.0	24.1	24.1	24.0
	15	24.0	24.0	24.0	24.1	24.1	24.0
	16	19.1	19.0	19.1	19.1	19.0	19.0
	24	19.1	19.0	19.1	19.1	19.0	19.0
High_777	11	24.1	24.0	24.0	24.1	24.1	23.9
	15	24.1	24.0	24.0	24.1	24.1	23.9
	16	19.1	19.1	19.1	19.1	19.0	18.9
	24	19.1	19.1	19.1	19.1	19.0	18.9

SV-DO: CDMA 1xRTT(BC1) to 1xEVDO(BC0 & BC1)

CDAM BC1 1900 1xRTT		BC0 850 1xEVDO Output Power[dBm]			BC1 1900 1xEVDO Output Power[dBm]		
ch #	Output Power [dBm]	low 1013	Middle 384	high 777	low 25	Middle 600	high 1175
low-25	11	23.9	24.0	24.0	24.1	24.0	24.0
	15	23.9	24.0	24.0	24.1	24.0	24.0
	16	19.0	19.0	19.1	19.1	19.0	19.0
	24	19.0	19.0	19.1	19.1	19.0	19.0
Middle_600	11	23.9	24.0	24.1	24.1	24.0	24.1
	15	23.9	24.0	24.1	24.1	24.0	24.1
	16	19.0	19.1	19.1	19.0	19.0	19.0
	24	19.0	19.1	19.1	19.0	19.0	19.0
High_1175	11	24.0	24.0	24.1	24.0	24.0	24.1
	15	24.0	24.0	24.1	24.0	24.0	24.1
	16	19.1	19.1	19.1	19.1	19.1	19.0
	24	19.1	19.1	19.1	19.1	19.1	19.0

9.4.2 SVLTE

SV-LTE: CDMA 1xRTT(BC0) to SV-LTE Band13 (QPSK, 16QAM)

CDMA BC0 850 1xRTT		QPSK				16QAM			
		Output Power[dBm]				Output Power[dBm]			
ch #	Output Power	1RB 0offset	1RB 49offset	25RB 13offset	50RB	1RB 0offset	1RB 49offset	25RB 13offset	50RB
low-1013	11	23.1	23.0	22.1	21.9	21.8	21.7	21.0	20.9
	18	23.1	23.0	22.1	21.9	21.8	21.7	21.0	20.9
	19	19.0	19.0	19.1	19.0	19.1	18.9	19.0	19.1
	24	19.0	19.0	19.1	19.0	19.1	18.9	19.0	19.1
Middle_384	11	23.0	23.0	22.1	22.0	21.8	21.8	21.0	20.8
	18	23.0	23.0	22.1	22.0	21.8	21.8	21.0	20.8
	19	19.1	19.0	19.0	19.0	19.0	18.9	19.1	19.1
	24	19.1	19.0	19.0	19.0	19.0	18.9	19.1	19.1
High_777	11	23.0	23.0	22.0	21.9	21.9	21.8	20.9	20.9
	18	23.0	23.0	22.0	21.9	21.9	21.8	20.9	20.9
	19	19.1	19.0	18.9	19.0	19.0	19.0	19.0	19.1
	24	19.1	19.0	18.9	19.0	19.0	19.0	19.0	19.1

SV-LTE: CDMA 1xRTT(BC1) to SV-LTE Band13 (QPSK, 16QAM)

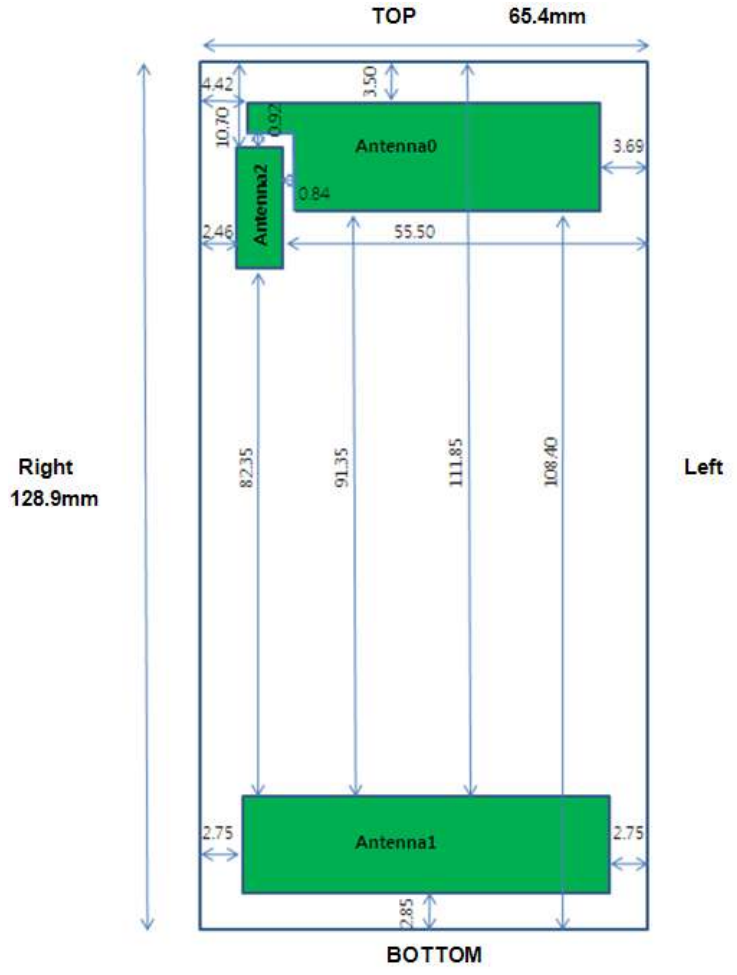
CDMA BC1 1900 1xRTT		QPSK				16QAM			
		Output Power[dBm]				Output Power[dBm]			
ch #	Output Power	1RB,0 offset	1RB, 49 offset	25RB, 13 offset	50RB	1RB,0 offset	1RB, 49 offset	25RB, 13 offset	50RB
low-25	11	23.0	22.9	22.1	22.0	22.0	21.9	20.9	21.0
	18	23.0	22.9	22.1	22.0	22.0	21.9	20.9	21.0
	19	19.0	18.9	19.0	19.0	19.1	19.0	19.0	19.0
	24	19.0	18.9	19.0	19.0	19.1	19.0	19.0	19.0
Middle_600	11	23.1	22.9	22.0	22.0	22.0	21.9	20.8	21.0
	18	23.1	22.9	22.0	22.0	22.0	21.9	20.8	21.0
	19	19.0	19.0	19.1	19.0	19.0	19.0	19.1	19.0
	24	19.0	19.0	19.1	19.0	19.0	19.0	19.1	19.0
High_1175	11	23.1	23.0	22.0	22.1	22.1	21.8	20.8	20.9
	18	23.1	23.0	22.0	22.1	22.1	21.8	20.8	20.9
	19	19.0	19.0	19.0	18.9	18.9	19.0	19.1	18.9
	24	19.0	19.0	19.0	18.9	18.9	19.0	19.1	18.9

10. SAR Test configuration & Antenna Information

10.1 SAR Test configurations for Mobile Hotspot

Mode	Back	Front	Left	Right	Bottom	Top
835 CDMA	Yes	Yes	Yes	Yes	Yes	No
1900 PCS	Yes	Yes	Yes	Yes	Yes	No
835 EVDO	Yes	Yes	Yes	Yes	No	Yes
1900 EVDO	Yes	Yes	Yes	Yes	No	Yes
LTE B13	Yes	Yes	Yes	Yes	No	Yes
WLAN	Yes	Yes	No	Yes	No	Yes

10.2 Antenna and Device Information



[Rear side View, Unit: mm]

Note;

Per KDB 941225 D06 hotspot procedures, we performed the SAR testing at 1 cm from the top & bottom surfaces and also from side edges with a transmitting antenna ≤ 2.5 cm from an edge.

Table 10.1 EUT Technology Support

Mode	Band	Frequency	Channel Bandwidth(MHz)
Voice	CDMA2000 1x	Band Class 0 : 824-849 MHz Band Class 1 : 1850-1910 MHz	1.23MHz 1.25MHz
Data	CDMA2000 1x EvDO Rev A	Band Class 0 : 824-849 MHz Band Class 1 : 1850-1910 MHz	1.23MHz 1.25MHz
Data	LTE	Band 13(Upper 700MHz) 777-787 MHz	Max of 10MHz
Data	802.11b/g/n	2.45 GHz	20MHz

Table 10.2 Definition of Antennas

Antenna	Antenna Use	Technologies	TX Bands
①	Antenna0: - LTE band 13 (TX/Primary RX) - CDMA 850/1900 : EVDO Rev. A (TX/Primary RX)	EVDO TX & LTE TX	850/1900/700MHz
②	Antenna1: - LTE band 13 (MIMO RX) - CDMA 850/1900 : 1x (TX/RX) - CDMA 850/1900 : EVDO Rev. A (Diversity RX)	1xVoice TX	850/1900MHz
③	Antenna2: WLAN/BT	802.11 + Bluetooth	2400MHz

10.3 Simultaneous Transmission Paths

Possible Transmission paths for the DUT are shown in below and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

LTE EVDO (Cellular/PCS) | 1x (Cellular/PCS) | WLAN BT

10.4 SAR Exposure Conditions

Head Operation				
Mode	Band	ANT ①	ANT ②	ANT③
CDMA Voice(1xRTT)	BC0	No	Yes	No
CDMA Voice(1xRTT)	BC1	No	Yes	No
EVDO(VOIP)	BC0	Yes	No	No
EVDO(VOIP)	BC1	Yes	No	No
LTE Data	13	Yes	No	No
SVDO(Voice & Data)	BC0	Yes	Yes	No
SVDO(Voice & Data)	BC1	Yes	Yes	No
SVLTE(Voice & Data)	BC0/ LTE13	Yes	Yes	No
SVLTE(Voice & Data)	BC1/ LTE13	Yes	Yes	No
Wi-Fi(VOIP)	2400	No	No	Yes
BT	2400	No	No	Yes
Body-worn Operation				
Mode	Band	ANT ①	ANT ②	ANT③
CDMA Voice(1xRTT)	BC0	No	Yes	No
CDMA Voice(1xRTT)	BC1	No	Yes	No
EVDO (VOIP)	BC0	Yes	No	No
EVDO (VOIP)	BC1	Yes	No	No
LTE Data	13	Yes	No	No
SVDO(Voice & Data)	BC0	Yes	Yes	No
SVDO(Voice & Data)	BC1	Yes	Yes	No
SVLTE(Voice & Data)	BC0/ LTE13	Yes	Yes	No
SVLTE(Voice & Data)	BC1/ LTE13	Yes	Yes	No
Wi-Fi(VOIP)	2400	No	No	Yes
BT	2400	No	No	Yes
Wireless Router/ Hotspot Operation				
Separation Distance = 1 cm				
Mode	Band	ANT ①	ANT ②	ANT③
EVDO Data+Wi-Fi	BC0	Yes	No	Yes
EVDO Data+Wi-Fi	BC1	Yes	No	Yes
LTE Data+Wi-Fi	LTE13	Yes	No	Yes
SVDO(Voice & Data)+Wi-Fi	BC0/BC0	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	BC0/BC1	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	BC1/BC0	Yes	Yes	Yes
SVDO(Voice & Data)+Wi-Fi	BC1/BC1	Yes	Yes	Yes
SVLTE(Voice & Data)+Wi-Fi	BC0 & B13	Yes	Yes	Yes
SVLTE(Voice & Data)+Wi-Fi	BC1 & B13	Yes	Yes	Yes

11. SAR Evaluation Considerations for Handsets with 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
Licensed Transmitters	Routine evaluation required	SAR not required: Unlicensed only ○ when stand-alone 1-g SAR is not required and antenna is ≥ 5 cm from other antennas Licensed & Unlicensed ○ when the sum of the 1-g SAR is < 1.6 W/kg for all simultaneous transmitting antennas ○ when SAR to peak location separation ratio of simultaneous transmitting antenna pair is < 0.3 SAR required: Licensed & Unlicensed antenna pairs with SAR to peak location separation ratio ≥ 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 Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply
Unlicensed Transmitters	When there is no simultaneous transmission – ○ output ≤ 60/f: SAR not required ○ output > 60/f: stand-alone SAR required When there is simultaneous transmission – Stand-alone SAR not required when ○ output ≤ 2·P_{Ref} and antenna is ≥ 5.0 cm from other antennas ○ output ≤ P_{Ref} and antenna is ≥ 2.5 cm from other antennas ○ output ≤ P_{Ref} and antenna is < 2.5 cm from other antennas, each with either output power ≤ P_{Ref} or 1-g SAR < 1.2 W/kg Otherwise stand-alone SAR is required When stand-alone SAR is required ○ test SAR on highest output channel for each wireless mode and exposure condition ○ if SAR for highest output channel is > 50% of SAR limit, evaluate all channels according to normal procedures	
Jaw, Mouth and Nose	Flat phantom SAR required ○ 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 ○ position rectangular and clam-shell phones according to flat phantom procedures and conduct SAR measurements for these specific locations	When simultaneous transmission SAR testing is required, contact the FCC Laboratory for interim guidance.

Table. 11.2 SAR Evaluation Requirements for Cellphones with Multiple Transmitters

FCC ID: JYCSTARQ

BT Max. RF output power: 10.86 mW

WLAN Max. RF output power: 16.69 dBm

11.2 Simultaneous Transmission Conditions

No.	Capable TX Configuration	Head	Body-worn	Hotspot	Note
		SAR	SAR	SAR	
1	CDMA BC0 Voice	✓	✓	-	Stand-alone CDMA BC0 Voice
2	CDMA BC1 Voice	✓	✓	-	Standalone CDMA BC1 Voice
3	CDMA BC0 EVDO	✓	✓	-	Stand-alone CDMA EVDO BC0
4	CDMA BC1 EVDO	✓	✓	-	Stand-alone CDMA EVDO BC1
5	LTE B13	✓	✓	-	Stand-alone LTE B13 data
6	Wi-Fi	✓	✓	-	Stand-alone Wi-Fi
7	BT	-	-	-	N/A
8	CDMA BC0 Voice + Wi-Fi data	✓	✓	-	
9	CDMA BC1 Voice + Wi-Fi data	✓	✓	-	
10	CDMA BC0 EVDO+ Wi-Fi data	-	✓	✓	WI-FI Hotspot
11	CDMA BC1 EVDO+ Wi-Fi data	-	✓	✓	WI-FI Hotspot
12	LTE B13 + Wi-Fi data	-	✓	✓	WI-FI Hotspot
13	CDMA BC0 Voice + CDMA BC0 EVDO	✓	✓	-	SVDO
14	CDMA BC0 Voice + CDMA BC1 EVDO	✓	✓	-	SVDO
15	CDMA BC0 Voice + LTE B13	✓	✓	-	SVLTE
16	CDMA BC1 Voice + CDMA BC0 EVDO	✓	✓	-	SVDO
17	CDMA BC1 Voice + CDMA BC1 EVDO	✓	✓	-	SVDO
18	CDMA BC1 Voice + LTE B13	✓	✓	-	SVLTE
19	CDMA BC0 Voice + CDMA BC0 EVDO + WLAN	✓	✓	✓	WI-FI Hotspot + SVDO
20	CDMA BC0 Voice + CDMA BC1 EVDO + WLAN	✓	✓	✓	WI-FI Hotspot + SVDO
21	CDMA BC0 Voice + LTE B13 + WLAN	✓	✓	✓	WI-FI Hotspot + SVLTE
22	CDMA BC1 Voice + CDMA BC0 EVDO+ WLAN	✓	✓	✓	WI-FI Hotspot + SVDO
23	CDMA BC1 Voice + CDMA BC1 EVDO+ WLAN	✓	✓	✓	WI-FI Hotspot + SVDO
24	CDMA BC1 Voice + LTE B13+ WLAN	✓	✓	✓	WI-FI Hotspot + SVLTE

* BT and WLAN are not simultaneous transmission.

* CDMA EVDO and LTE are not simultaneous transmission.

* VOIP support (LTE, EVDO).

*Hotspot support (LTE, EVDO).

* SVLTE, SVDO is supported.

11.3 SAR Summation Scenario

Simultaneous Transmission Summation for Held to Ear

CDMA Voice + EVDO Data + WLAN VoIP Simultaneous Transmission for Held to Ear

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO835 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO835 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.403	0.308	0.132	0.843	Head SAR	Left Cheek	0.626	0.308	0.132	1.066
	Left Tilt	0.309	0.213	0.121	0.643		Left Tilt	0.221	0.213	0.121	0.555
	Right Cheek	0.414	0.335	0.072	0.821		Right Cheek	0.269	0.335	0.072	0.676
	Right Tilt	0.304	0.279	0.069	0.652		Right Tilt	0.228	0.279	0.069	0.576
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.403	0.214	0.132	0.749	Head SAR	Left Cheek	0.626	0.214	0.132	0.972
	Left Tilt	0.309	0.302	0.121	0.732		Left Tilt	0.221	0.302	0.121	0.644
	Right Cheek	0.414	0.219	0.072	0.705		Right Cheek	0.269	0.219	0.072	0.56
	Right Tilt	0.304	0.295	0.069	0.668		Right Tilt	0.228	0.295	0.069	0.592

CDMA Voice + LTE Data + WLAN VoIP Simultaneous Transmission for Held to Ear

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Head SAR	Left Cheek	0.403	0.268	0.132	0.803	Head SAR	Left Cheek	0.626	0.268	0.132	1.026
	Left Tilt	0.309	0.214	0.121	0.644		Left Tilt	0.221	0.214	0.121	0.556
	Right Cheek	0.414	0.207	0.072	0.693		Right Cheek	0.269	0.207	0.072	0.548
	Right Tilt	0.304	0.235	0.069	0.608		Right Tilt	0.228	0.235	0.069	0.532

Simultaneous Transmission Summation for Body-Worn and Hotspot (1cm)

CDMA + EVDO Data + WLAN Simultaneous Transmission for Body with Hotspot (1.0 cm)

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO835 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO835 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.59	0.719	0.193	1.502	Body SAR	Rear	0.886	0.719	0.193	1.798
	Front	0.469	0.252	0.034	0.755		Front	0.256	0.252	0.034	0.542
Simultaneous TX	configuration	CDMA835 SAR(W/kg)	EVDO1900 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	EVDO1900 SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.59	0.796	0.193	1.579	Body SAR	Rear	0.886	0.796	0.193	1.875
	Front	0.469	0.112	0.034	0.615		Front	0.256	0.112	0.034	0.402

CDMA +LTE Data + WLAN Simultaneous Transmission for Body with Hotspot (1.0 cm)

Simultaneous TX	configuration	CDMA835 SAR(W/kg)	LTE SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)	Simultaneous TX	configuration	PCS1900 SAR(W/kg)	LTE SAR (W/kg)	WIFI SAR (W/kg)	∑SAR (W/kg)
Body SAR	Rear	0.59	0.517	0.193	1.3	Body SAR	Rear	0.886	0.517	0.193	1.596
	Front	0.469	0.226	0.034	0.729		Front	0.256	0.226	0.034	0.516

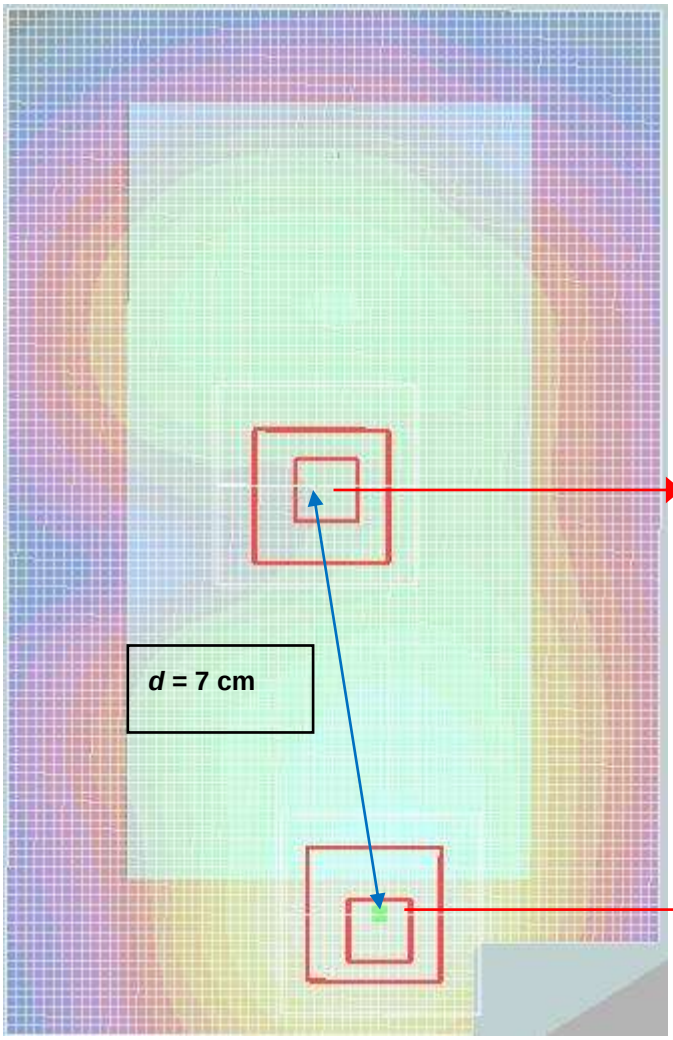
11.3 SAR to Peak Location Separation Ratio (SPLSR)

Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR
	PCS1900 1xRTT	CDMA835 EVDO	WiFi			
Rear	0.886	0.719	0.193	1.798		
	0.886	0.719		1.605	7.0	0.23
	0.886		0.193	1.079	n/a	n/a
		0.719	0.193	0.912	n/a	n/a

Test Position	worst-case combination			Σ1g SAR	3D distance (cm)	SPLSR
	PCS1900 1xRTT	PCS1900 EVDO	WiFi			
Rear	0.886	0.796	0.193	1.875		
	0.886	0.796		1.682	11.8	0.14
	0.886		0.193	1.079	n/a	n/a
		0.796	0.193	0.989	n/a	n/a

SAR to Peak Location Separation Ratio (SPLSR)

"PCS1900 1xRTT" to "CDMA835 1xEVDO"



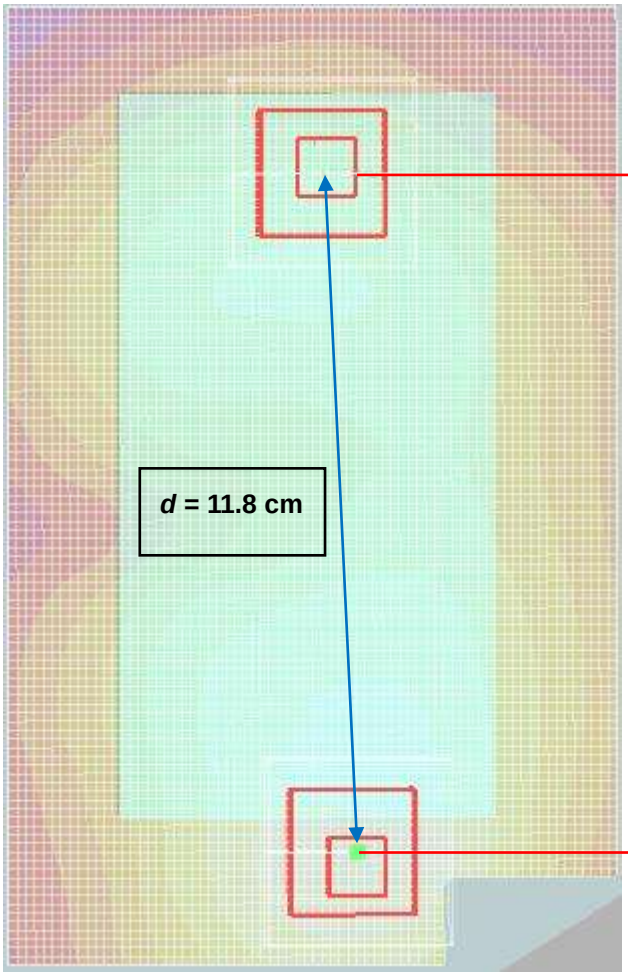
	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.952	-0.00895	-0.101	-0.202
CDMA835 1xEVDO	0.765	-0.0195	-0.0315	-0.203

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 7 cm

SAR to Peak Location Separation Ratio (SPLSR)

"PCS1900 1xRTT" to "PCS1900 1xEVDO"



	Value of SAR	X	Y	Z
	mW/g	m	m	m
PCS1900 1xRTT	0.952	-0.00895	-0.101	-0.202
CDMA835 1xEVDO	0.907	-0.0149	0.0165	-0.202

Separation Distance $d = \sqrt[2]{(X1 - X2)^2 + (Y1 - Y2)^2 + (Z1 - Z2)^2}$

= 11.8 cm

11.4 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 transmitter is less than P_{ref}, the BT antenna is less than 2.5 cm from the other antenna, and licensed Transmitter SAR is less than 1.2 W/kg, therefore, a stand-alone BT SAR evaluation is not required.

Note;
Simultaneous transmission SAR is required because the sum of the 1g-SAR is > 1.6 W/kg.

12. SAR TEST DATA SUMMARY

12.1 Measurement Results (CDMA835/EVDO835 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
836.52	384 (Mid)	CDMA835	24.08	-0.131	Standard	Left Ear	0.403
836.52	384 (Mid)	CDMA835	24.08	-0.057	Standard	Left Tilt 15°	0.309
836.52	384 (Mid)	CDMA835	24.08	0.044	Standard	Right Ear	0.414
836.52	384 (Mid)	CDMA835	24.08	-0.010	Standard	Right Tilt 15°	0.304
836.52	384 (Mid)	EVDO	23.80	-0.125	Standard	Left Ear	0.308
836.52	384 (Mid)	EVDO	23.80	0.004	Standard	Left Tilt 15°	0.213
836.52	384 (Mid)	EVDO	23.80	0.038	Standard	Right Ear	0.335
836.52	384 (Mid)	EVDO	23.80	0.073	Standard	Right Tilt 15°	0.279
836.52	384 (Mid)	CDMA835	24.08	0.036	Standard	Right Ear	*0.363
836.52	384 (Mid)	EVDO	23.80	0.001	Standard	Right Ear	*0.324
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population					**Head 1.6 W/kg (mW/g) Averaged over 1 gram**		

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 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).
8 CDMA Head SAR was tested under RC3/SO55.
9 EVDO SAR was tested under EVDO Rev.0 RTAP.
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.2 Measurement Results (PCS1900/EVDO1900 Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
1 880.00	600 (Mid)	PCS1900	24.46	0.075.	Standard	Left Ear	0.626
1 880.00	600 (Mid)	PCS1900	24.46	0.027	Standard	Left Tilt 15°	0.221
1 880.00	600 (Mid)	PCS1900	24.46	0.047	Standard	Right Ear	0.269
1 880.00	600 (Mid)	PCS1900	24.46	0.09	Standard	Right Tilt 15°	0.228
1 880.00	600 (Mid)	EVDO	23.83	0.083	Standard	Left Ear	0.214
1 880.00	600 (Mid)	EVDO	23.83	0.05	Standard	Left Tilt 15°	0.302
1 880.00	600 (Mid)	EVDO	23.83	-0.094	Standard	Right Ear	0.219
1 880.00	600 (Mid)	EVDO	23.83	0.095	Standard	Right Tilt 15°	0.295
1 880.00	600 (Mid)	PCS1900	24.46	-0.108	Standard	Left Ear	*0.397
1 880.00	600 (Mid)	EVDO	23.83	0.151	Standard	Left Ear	*0.272

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg (mW/g) Averaged over 1 gram

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 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).
8 CDMA Head SAR was tested under RC3/SO55.
9 EVDO SAR was tested under EVDO Rev.0 RTAP.
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.3 Measurement Results (LTE Band13 QPSK Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	RB Size	RB Offset	Phantom Position	SAR(mW/g)	MPR
MHz	Channel								
782	23230	QPSK	21.91	0.081	25	13	Left Ear	0.268	1
782	23230	QPSK	22.82	-0.196	1	0	Left Ear	0.188	0
782	23230	QPSK	22.85	-0.064	1	49	Left Ear	0.225	0
782	23230	QPSK	21.91	-0.062	25	13	Left Tilt 15°	0.136	1
782	23230	QPSK	22.82	-0.027	1	0	Left Tilt 15°	0.206	0
782	23230	QPSK	22.85	-0.154	1	49	Left Tilt 15°	0.214	0
782	23230	QPSK	21.91	-0.026	25	13	Right Ear	0.120	1
782	23230	QPSK	22.82	-0.162	1	0	Right Ear	0.09	0
782	23230	QPSK	22.85	-0.031	1	49	Right Ear	0.119	0
782	23230	QPSK	21.91	-0.008	25	13	Right Tilt 15°	0.189	1
782	23230	QPSK	22.82	-0.106	1	0	Right Tilt 15°	0.149	0
782	23230	QPSK	22.85	-0.076	1	49	Right Tilt 15°	0.235	0
782	23230	QPSK	22.85	-0.074	25	13	Left Ear	*0.092	0
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population							**Head 1.6 W/kg (mW/g) Averaged over 1 gram**		

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required for Band 5/4 since the power variation across all channels is 1/2 dB and SAR is ≤ 0.8 W/kg.

10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.4 Measurement Results (LTE Band13 16QAM Head SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	RB Size	RB Offset	Phantom Position	SAR(mW/g)	MPR
MHz	Channe								
782	23230	16QAM	20.85	0.137	25	13	Left Ear	0.261	2
782	23230	16QAM	21.65	-0.012	1	0	Left Ear	0.207	1
782	23230	16QAM	21.70	-0.161	1	49	Left Ear	0.215	1
782	23230	16QAM	20.85	0.054	25	13	Left Tilt 15°	0.113	2
782	23230	16QAM	21.65	-0.165	1	0	Left Tilt 15°	0.168	1
782	23230	16QAM	21.70	-0.040	1	49	Left Tilt 15°	0.164	1
782	23230	16QAM	20.85	-0.046	25	13	Right Ear	0.093	2
782	23230	16QAM	21.65	-0.045	1	0	Right Ear	0.165	1
782	23230	16QAM	21.70	-0.098	1	49	Right Ear	0.207	1
782	23230	16QAM	20.85	0.041	25	13	Right Tilt 15°	0.160	2
782	23230	16QAM	21.65	-0.167	1	0	Right Tilt 15°	0.132	1
782	23230	16QAM	21.70	-0.062	1	49	Right Tilt 15°	0.167	1

ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Head 1.6 W/kg (mW/g) Averaged over 1 gram

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required for Band 5/4 since the power variation across all channels is 1/2 dB and SAR is ≤ 0.8 W/kg.

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

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Battery	Phantom Position	SAR(mW/g)
MHz	Channel						
2 412	1 (low)	802.11b	16.58	-0.055	Standard	Left Ear	0.132
2 412	1 (low)	802.11b	16.58	-0.013	Standard	Left Tilt 15°	0.121
2 412	1 (low)	802.11b	16.58	0.120	Standard	Right Ear	0.072
2 412	1 (low)	802.11b	16.58	-0.014	Standard	Right Tilt 15	0.069
2 412	1 (low)	802.11b	16.58	0.028	Standard	Left Ear	*0.067
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Head 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☒ Manual Test cord ☐ Base Station Simulator
7 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.
8 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.
9 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.6 Measurement Results (CDMA835 Body-worn SAR)

Frequency		Modulation	ConductedPower (dBm)	Power Drift (dB)	Configuration	Separation Distance	SAR(mW/g)
MHz	Channel						
835	384 (Mid)	CDMA835	24.03	0.023	Rear	1.0 cm	0.590
835	384 (Mid)	CDMA835	24.03	-0.075	Front	1.0 cm	0.469
835	384 (Mid)	CDMA835	24.03	-0.071	Rear	1.0 cm	*0.534
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Body SAR was tested under RC3/SO32 FCH only.
9 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).
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.7 Measurement Results (EVDO835 Hotspot SAR)

Frequency		Modulation	ConductedPower (dBm)	Power Drift (dB)	Configuration	Separation Distance	SAR(mW/g)
MHz	Channel						
835	384 (Mid)	EVDO	23.80	-0.166	Rear	1.0 cm	0.719
835	384 (Mid)	EVDO	23.80	0.066	Front	1.0 cm	0.252
835	384 (Mid)	EVDO	23.80	0.082	Right	1.0 cm	0.355
835	384 (Mid)	EVDO	23.80	-0.030	Left	1.0 cm	0.463
835	384 (Mid)	EVDO	23.80	-0.090	Top	1.0 cm	0.115
835	384 (Mid)	EVDO	23.80	-0.1	Rear	1.0 cm	*0.667
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g)** Averaged over 1 gram	

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 EVDO SAR was tested under EVDO Rev.0 RTAP.
8 Test Configuration ☐ With Holster ☒ Without Holster
9 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).
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.8 Measurement Results(PCS1900 Body-worn SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Separation Distance	SAR(mW/g)
MHz	Channel						
1 880.00	600 (Mid)	PCS1900	24.47	0.013	Rear	1.0 cm	0.729
1 880.00	600 (Mid)	PCS1900	24.47	0.177	Rear	1.0 cm	0.886
1 880.00	600 (Mid)	PCS1900	24.47	-0.048	Rear	1.0 cm	0.782
1 880.00	600 (Mid)	PCS1900	24.47	-0.023	Front	1.0 cm	0.256
1 880.00	600 (Mid)	PCS1900	24.47	-0.085	Rear	1.0 cm	*0.726
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g) **Averaged over 1 gram	

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 Test Configuration ☐ With Holster ☒ Without Holster
8 Body SAR was tested under RC3/SO32 FCH only.
9 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).
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.9 Measurement Results(EVDO1900 Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	Separation Distance	SAR(mW/g)
MHz	Channel						
1 880.00	600 (Mid)	EVDO	23.83	-0.017	Rear	1.0 cm	0.796
1 880.00	600 (Mid)	EVDO	23.83	-0.151	Front	1.0 cm	0.112
1 880.00	600 (Mid)	EVDO	23.83	-0.021	Right	1.0 cm	0.056
1 880.00	600 (Mid)	EVDO	23.83	-0.134	Left	1.0 cm	0.064
1 880.00	600 (Mid)	EVDO	23.83	-0.057	Top	1.0 cm	0.644
1 880.00	600 (Mid)	EVDO	23.83	-0.093	Rear	1.0 cm	*0.615
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g) **Averaged over 1 gram	

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 EVDO SAR was tested under EVDO Rev.0 RTAP.
8 Test Configuration ☐ With Holster ☒ Without Holster
9 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).
10 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.10 Measurement Results (LTE Band13 QPSK Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	RB Size	RB Offset	Separation Distance	SAR(mW/g)	MPR
MHz	Channel									
782	23230	QPSK	21.91	-0.085	Rear	25	13	1.0 cm	0.516	1
782	23230	QPSK	22.82	-0.075	Rear	1	0	1.0 cm	0.479	0
782	23230	QPSK	22.85	0.020	Rear	1	49	1.0 cm	0.517	0
782	23230	QPSK	21.91	-0.030	Front	25	13	1.0 cm	0.149	1
782	23230	QPSK	22.82	-0.033	Front	1	0	1.0 cm	0.120	0
782	23230	QPSK	22.85	0.030	Front	1	49	1.0 cm	0.226	0
782	23230	QPSK	21.91	-0.056	Left	25	13	1.0 cm	0.266	1
782	23230	QPSK	22.82	-0.071	Left	1	0	1.0 cm	0.224	0
782	23230	QPSK	22.85	-0.016	Left	1	49	1.0 cm	0.257	0
782	23230	QPSK	21.91	-0.144	Right	25	13	1.0 cm	0.265	1
782	23230	QPSK	22.82	-0.128	Right	1	0	1.0 cm	0.225	0
782	23230	QPSK	22.85	0.042	Right	1	49	1.0 cm	0.215	0
782	23230	QPSK	21.91	-0.075	Top	25	13	1.0 cm	0.037	1
782	23230	QPSK	22.82	-0.194	Top	1	0	1.0 cm	0.033	0
782	23230	QPSK	22.85	-0.051	Top	1	49	1.0 cm	0.045	0
782	23230	QPSK	22.85	-0.054	Rear	1	49	1.0 cm	*0.430	0
ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population								**Body 1.6 W/kg (mW/g) **Averaged over 1 gram		

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required for Band 5/4 since the power variation across all channels is 1/2 dB and SAR is ≤ 0.8 W/kg.

8 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.11 Measurement Results (LTE Band13 16QAM Hotspot SAR)

Frequency		Modulation	Conducted Power (dBm)	Power Drift (dB)	Configuration	RB Size	RB Offset	Separation Distance	SAR(mW/g)	MPR
MHz	Channel									
782	23230	16QAM	20.85	0.154	Rear	25	13	1.0 cm	0.397	2
782	23230	16QAM	21.65	-0.131	Rear	1	0	1.0 cm	0.395	1
782	23230	16QAM	21.70	-0.054	Rear	1	49	1.0 cm	0.427	1
782	23230	16QAM	20.85	0.150	Front	25	13	1.0 cm	0.187	2
782	23230	16QAM	21.65	-0.194	Front	1	0	1.0 cm	0.176	1
782	23230	16QAM	21.70	0.101	Front	1	49	1.0 cm	0.173	1
782	23230	16QAM	20.85	-0.04	Left	25	13	1.0 cm	0.190	2
782	23230	16QAM	21.65	-0.128	Left	1	0	1.0 cm	0.158	1
782	23230	16QAM	21.70	-0.013	Left	1	49	1.0 cm	0.183	1
782	23230	16QAM	20.85	0.118	Right	25	13	1.0 cm	0.198	2
782	23230	16QAM	21.65	-0.020	Right	1	0	1.0 cm	0.192	1
782	23230	16QAM	21.70	-0.055	Right	1	49	1.0 cm	0.178	1
782	23230	16QAM	20.85	-0.103	Top	25	13	1.0 cm	0.024	2
782	23230	16QAM	21.65	-0.010	Top	1	0	1.0 cm	0.023	1
782	23230	16QAM	21.70	-0.034	Top	1	49	1.0 cm	0.031	1

\ANSI/ IEEE C95.1 - 1992– Safety Limit Spatial Peak Uncontrolled Exposure/ General Population	Body 1.6 W/kg (mW/g) Averaged over 1 gram

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☐ Manual Test cord ☒ Base Station Simulator
7 KDB 941225 D05 SAR for LTE Devices v01 was followed.
- QPSK with 50% RB is required for the largest channel Bandwidth.
- QPSK with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 16QAM with 50% RB is required for the largest channel Bandwidth.
- 16QAM with 1 RB for both channel edges are required for the largest channel Bandwidth.
- 100% RB allocation is not required since SAR is not > 1.45 W/kg.
- The Low & High channel were not required for Band 5/4 since the power variation across all channels is 1/2 dB and SAR is ≤ 0.8 W/kg.

12.12 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							
2 412	1 (low)	802.11b	16.58	0.004	Rear	1.0 cm	1 Mbps	0.193
2 412	1 (low)	802.11b	16.58	-0.137	Front	1.0 cm	1 Mbps	0.034
2 412	1 (low)	802.11b	16.58	0.011	Right	1.0 cm	1 Mbps	0.096
2 412	1 (low)	802.11b	16.58	0.024	Left	1.0 cm	1 Mbps	0.036
2 412	1 (low)	802.11b	16.58	0.088	Top	1.0 cm	1 Mbps	0.059
2 412	1 (low)	802.11b	16.58	-0.169	Rear	1.0 cm	1 Mbps	*0.146
ANSI/ IEEE C95.1 1992 – Safety Limit Spatial Peak Uncontrolled Exposure/ General Population						**Body 1.6 W/kg (mW/g) Averaged over 1 gram**		

NOTES:

1 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].
2 All modes of operation were investigated and the worst-case are reported.
3 Measured Depth of Simulating Tissue is 15.0 cm ± 0.2 cm.
4 Tissue parameters and temperatures are listed on the SAR plot.
5 Battery Type ☒ Standard ☐ Extended ☐ Slim
Batteries are fully charged for all readings.
6 Test Signal Call Mode ☒ Manual Test code ☐ Base Station Simulator
7 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.
8 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.
9 *QWERTY Slide open position SAR testing were repeated at the worst case configuration for each bands, each modes.

12.13 SV-DO Body Volume Scans & Combined Results

Test position	Multi-band	Ch.#	Freq(MHz)	Zoom scan	Test Results(W/kg)		
					Volume scan	Multi Band (Combined)Results	
Rear	PCS1900 1xRTT	600	1880	0.886	0.88	1.01	1.03
	CDMA835 EVDO	384	836.52	0.719	0.721		
	802.11b	1	2412	0.193	0.193		
Rear	PCS1900 1xRTT	600	1880	0.886	0.88	0.936	0.955
	PCS1900 1xEVDO	600	1880	0.796	0.797		
	802.11b	1	2412	0.193	0.193		

13. CONCLUSION

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:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

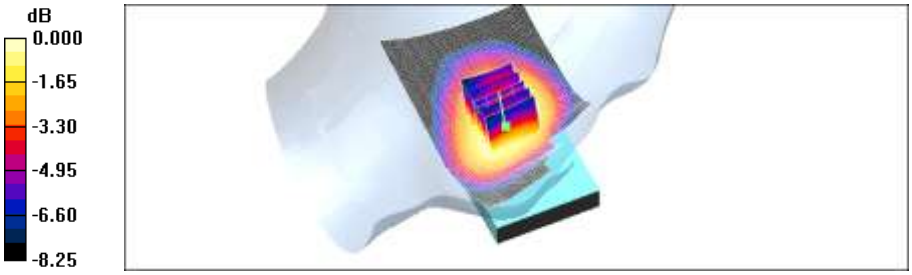
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left touch 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.421 mW/g

Left touch 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.477 W/kg
SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.312 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.424 mW/g



0 dB = 0.424mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

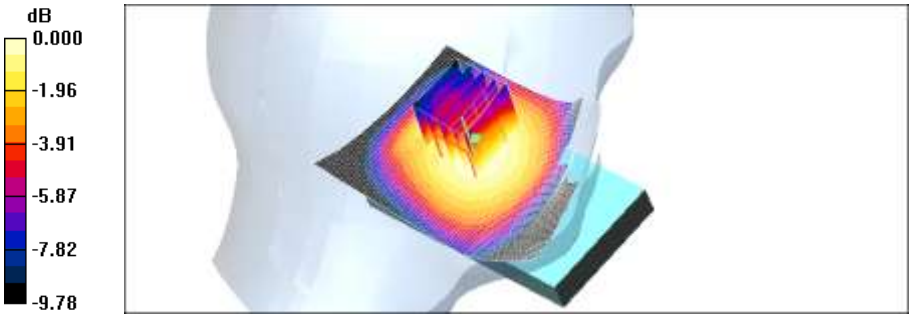
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left tilt 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.351 mW/g

Left tilt 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.3 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 0.370 W/kg
SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.234 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.341 mW/g



0 dB = 0.341mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

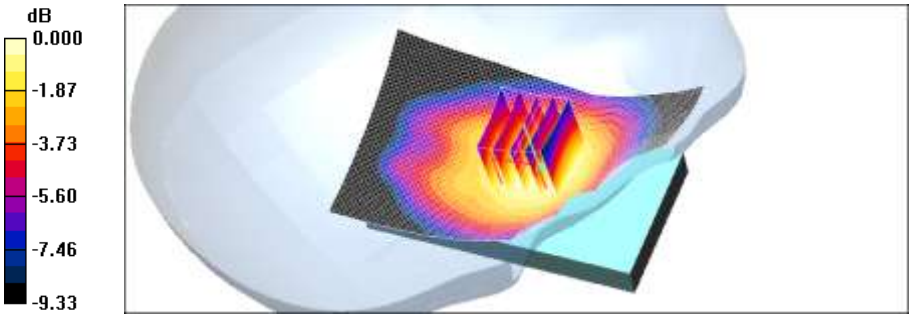
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right touch 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.422 mW/g

Right touch 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.324 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.433 mW/g



0 dB = 0.433mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

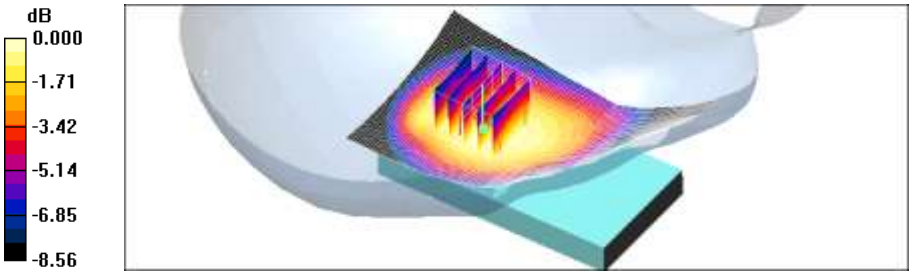
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right tilt 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.315 mW/g

Right tilt 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.357 W/kg
SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.231 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.318 mW/g



0 dB = 0.318mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

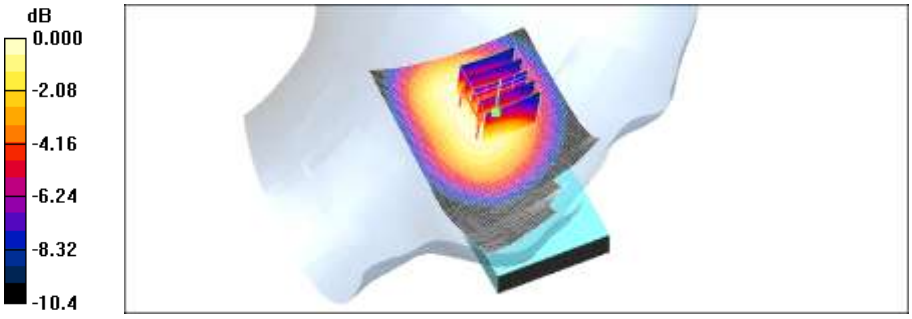
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left touch EVDO 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.319 mW/g

Left touch EVDO 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.9 V/m; Power Drift = -0.125 dB
Peak SAR (extrapolated) = 0.407 W/kg
SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.224 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.319 mW/g



0 dB = 0.319mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

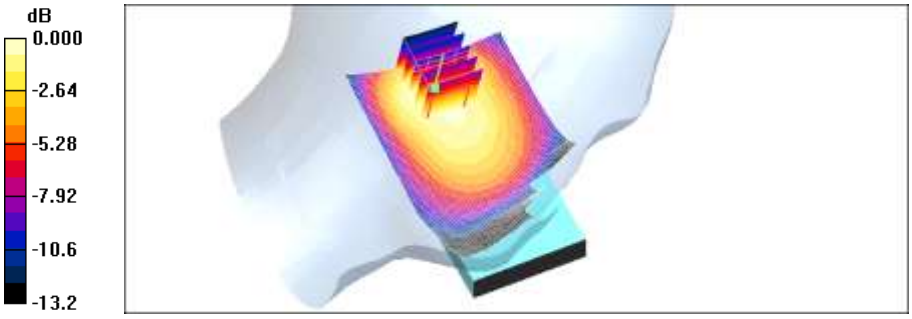
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left tilt EVDO 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.242 mW/g

Left tilt EVDO 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.0 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.339 W/kg
SAR(1 g) = 0.213 mW/g; SAR(10 g) = 0.142 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.229 mW/g



0 dB = 0.229mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

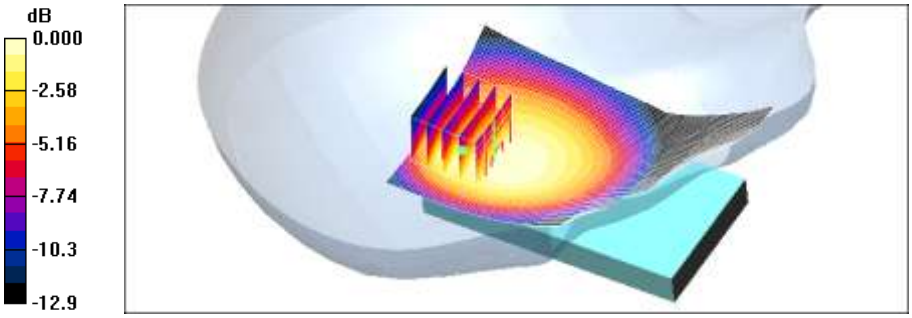
Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right touch 384 EVDO/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.388 mW/g

Right touch 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.486 W/kg
SAR(1 g) = 0.335 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.363 mW/g



0 dB = 0.363mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

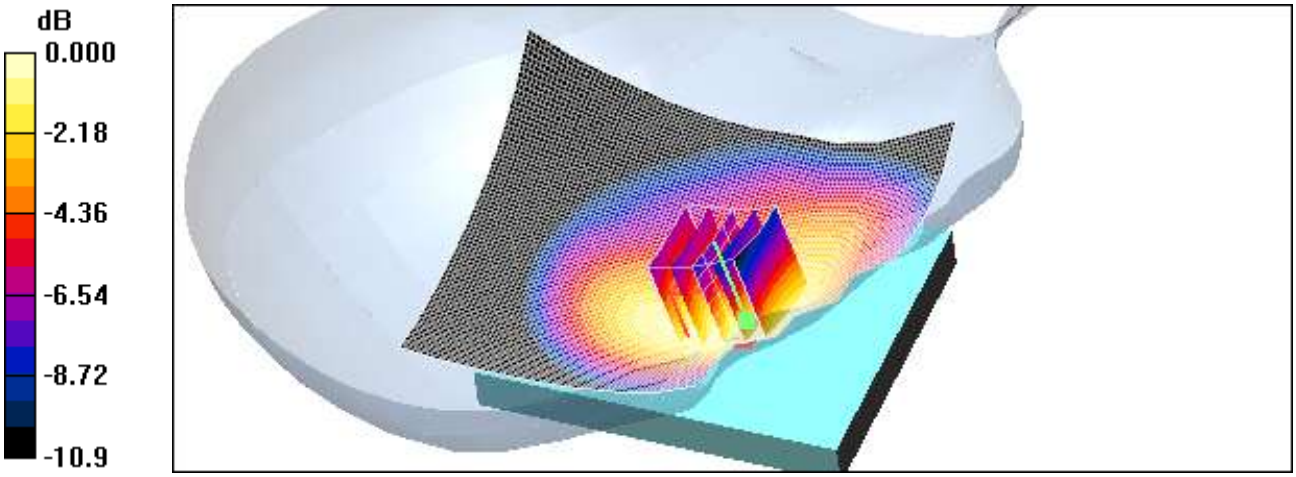
Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.887 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 384 1xRTT/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.393 mW/g

Right touch 384 1xRTT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.93 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.463 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.385 mW/g



0 dB = 0.385mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.887 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

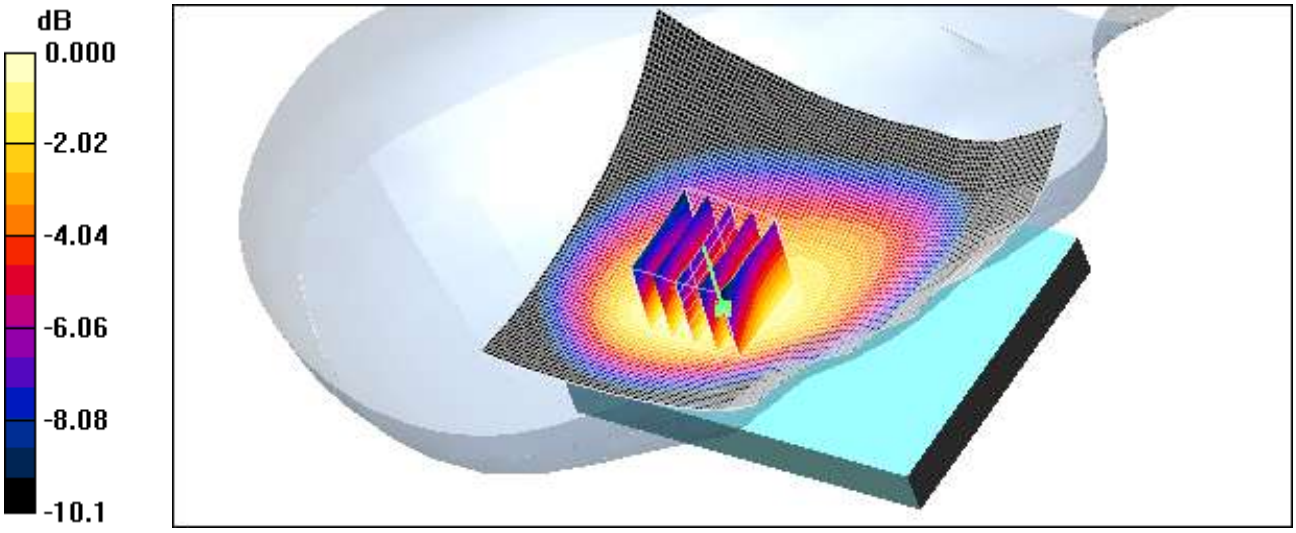
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 384 EVDO/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.344 mW/g

Right touch 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.236 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.345 mW/g



0 dB = 0.345mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

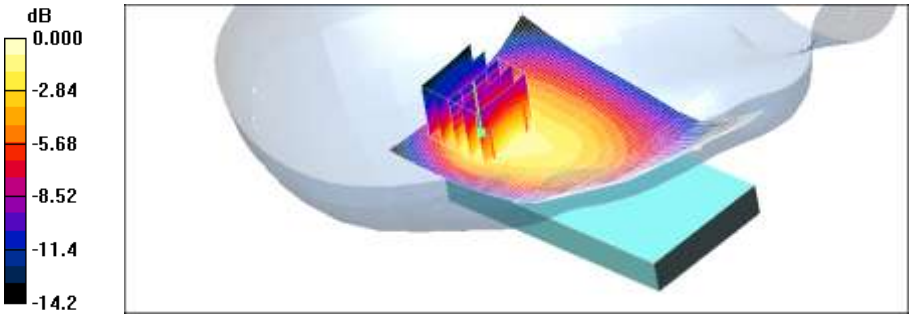
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right tilt 384 EVDO/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.287 mW/g

Right tilt 384 EVDO/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 0.461 W/kg
SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.175 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.315 mW/g



0 dB = 0.315mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

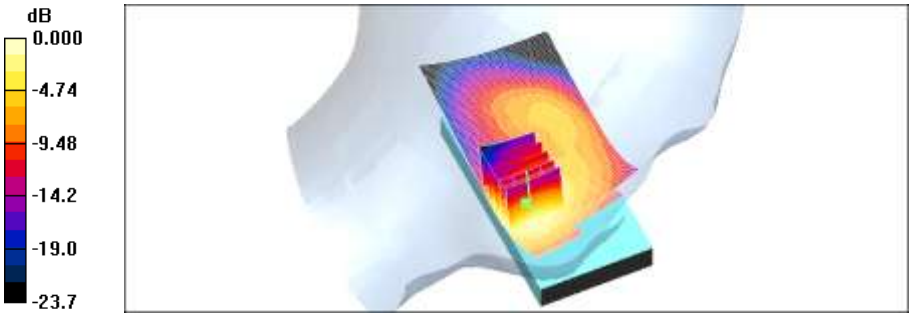
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Left Touch 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.721 mW/g

Left Touch 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.23 V/m; Power Drift = 0.075 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.626 mW/g; SAR(10 g) = 0.361 mW/g
Maximum value of SAR (measured) = 0.675 mW/g



0 dB = 0.675mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

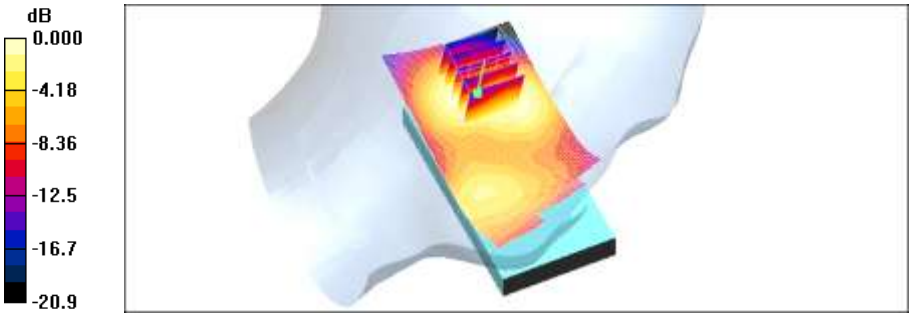
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Left Tilt 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

Left Tilt 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.357 W/kg
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.241 mW/g



0 dB = 0.241mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

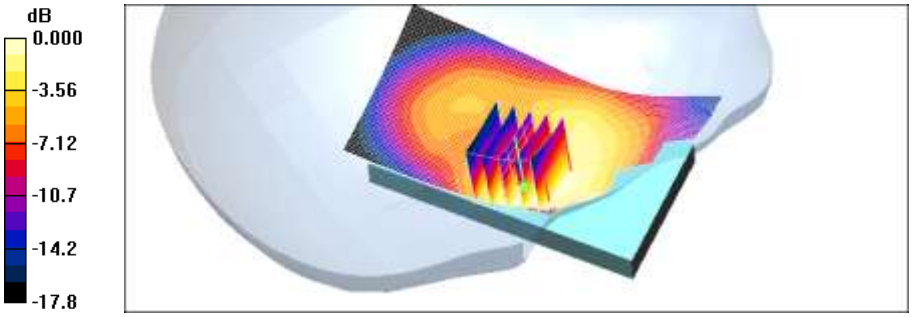
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Right touch 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.290 mW/g

Right touch 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.52 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.418 W/kg
SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.167 mW/g
aximum value of SAR (measured) = 0.295 mW/g



0 dB = 0.295mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

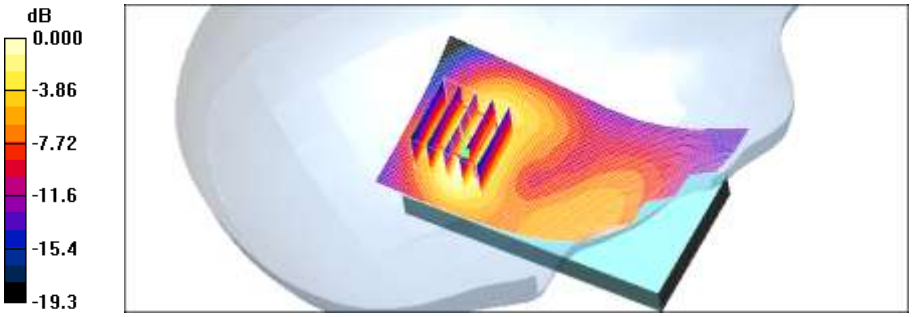
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Right tilt 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.243 mW/g

Right tilt 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.375 W/kg
SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.127 mW/g
Maximum value of SAR (measured) = 0.249 mW/g



0 dB = 0.249mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

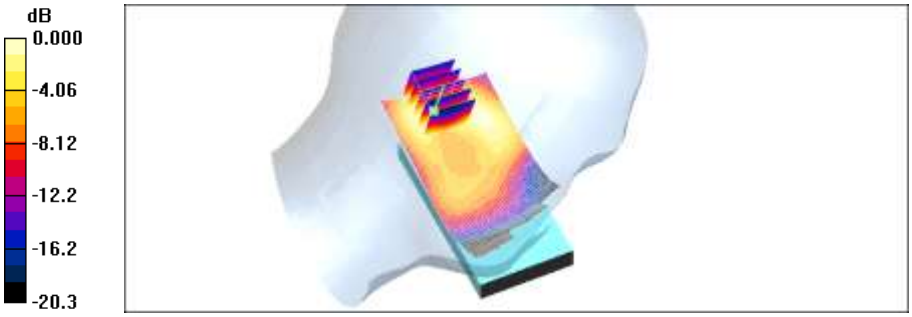
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Left Touch EVDO 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.243 mW/g

Left Touch EVDO 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.64 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 0.380 W/kg
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.115 mW/g
aximum value of SAR (measured) = 0.237 mW/g



0 dB = 0.237mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

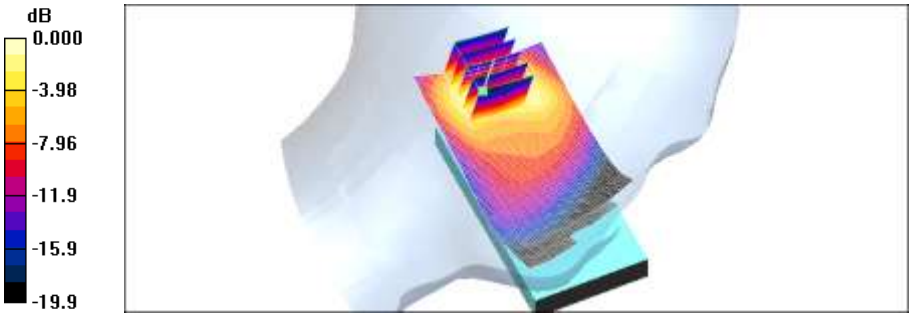
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Left Tilt EVDO 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g

Left Tilt EVDO 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.543 W/kg
SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.159 mW/g
Maximum value of SAR (measured) = 0.340 mW/g



0 dB = 0.340mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

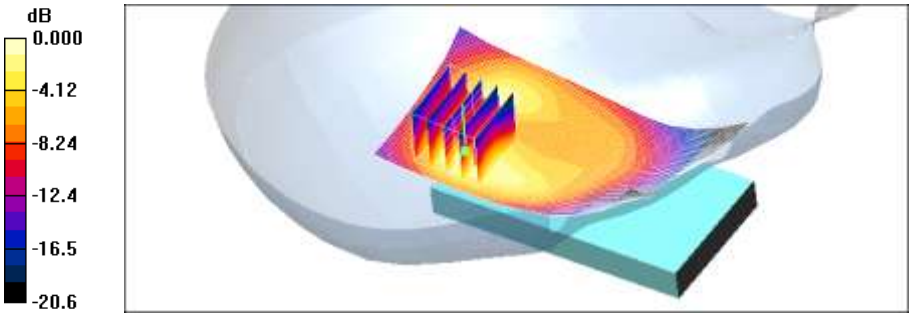
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Right touch EVDO 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.245 mW/g

Right touch EVDO 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) = 0.401 W/kg
SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.117 mW/g
aximum value of SAR (measured) = 0.249 mW/g



0 dB = 0.249mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.12, 2012

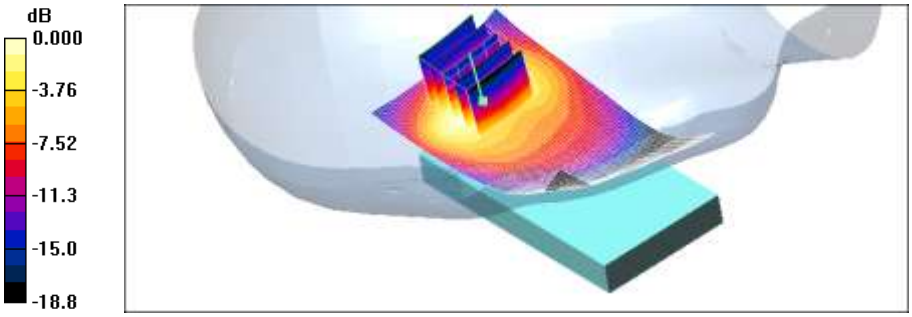
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Right tilt EVDO 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.337 mW/g

Right tilt EVDO 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = 0.095 dB
Peak SAR (extrapolated) = 0.538 W/kg
SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.330 mW/g



0 dB = 0.330mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

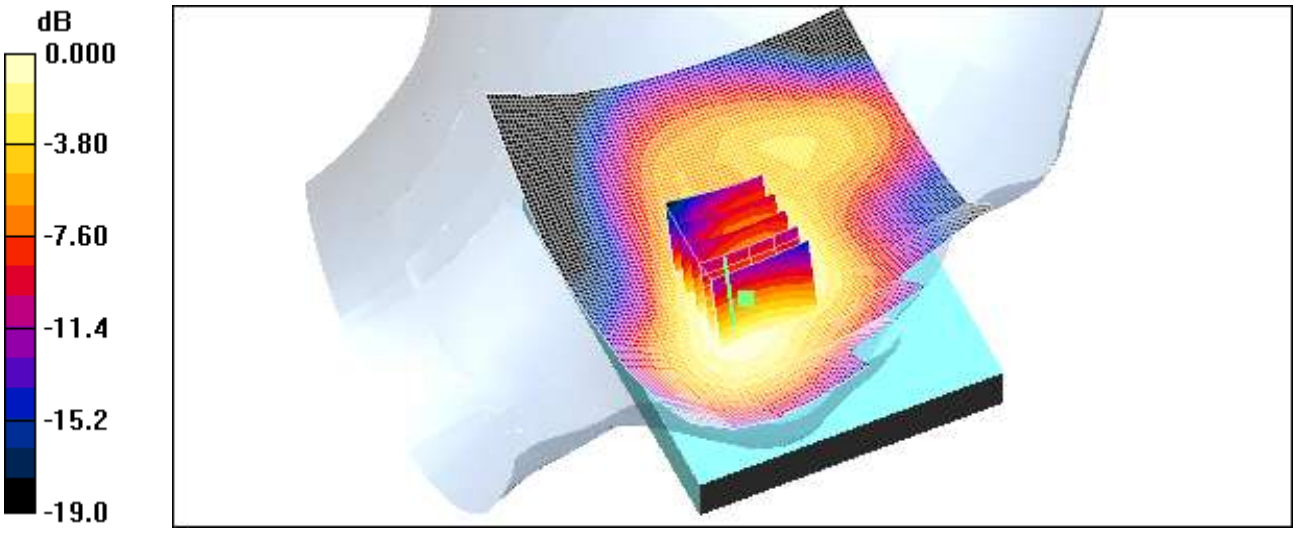
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Touch 1xRTT 600/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.451 mW/g

Left Touch 1xRTT 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.87 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 0.574 W/kg
SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.270 mW/g
Maximum value of SAR (measured) = 0.418 mW/g



0 dB = 0.418mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

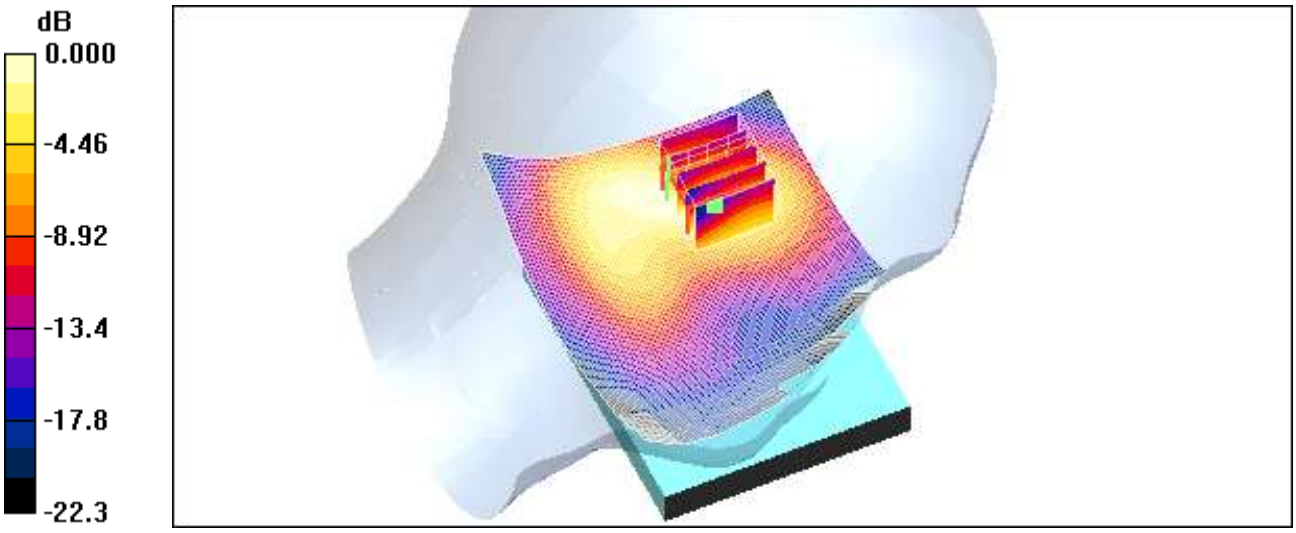
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Tilt EVDO 600/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.298 mW/g

Left Tilt EVDO 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = 0.151 dB
Peak SAR (extrapolated) = 0.465 W/kg
SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.302 mW/g



0 dB = 0.302mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.13, 2012

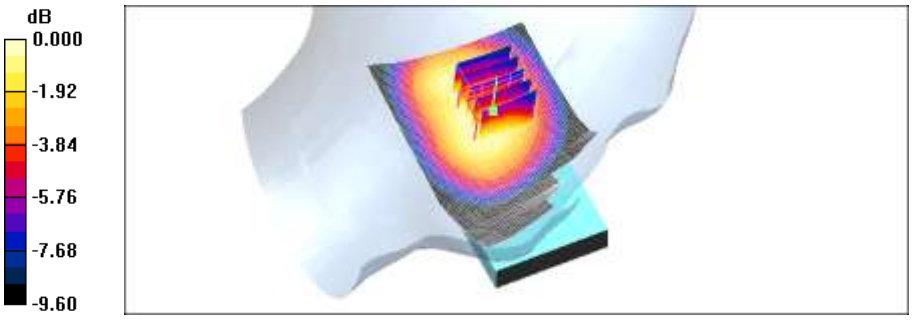
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 QPSK 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.278 mW/g

Left Touch 23230 QPSK 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.343 W/kg
SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.198 mW/g
aximum value of SAR (measured) = 0.280 mW/g



0 dB = 0.280mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

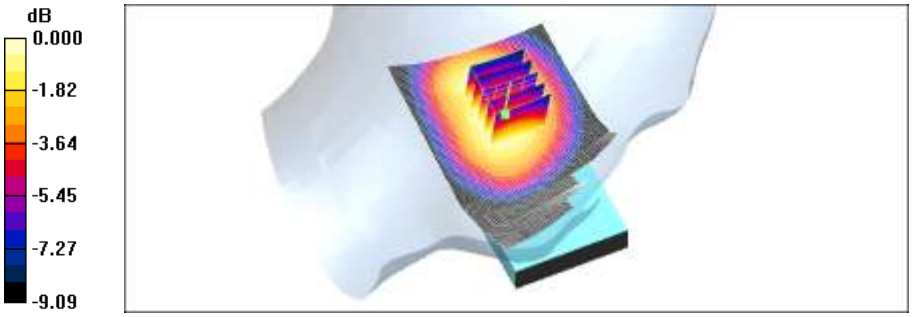
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 QPSK 1RB 0offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.198 mW/g

Left Touch 23230 QPSK 1RB 0offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.9 V/m; Power Drift = -0.196 dB
Peak SAR (extrapolated) = 0.241 W/kg
SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.198 mW/g



0 dB = 0.198mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

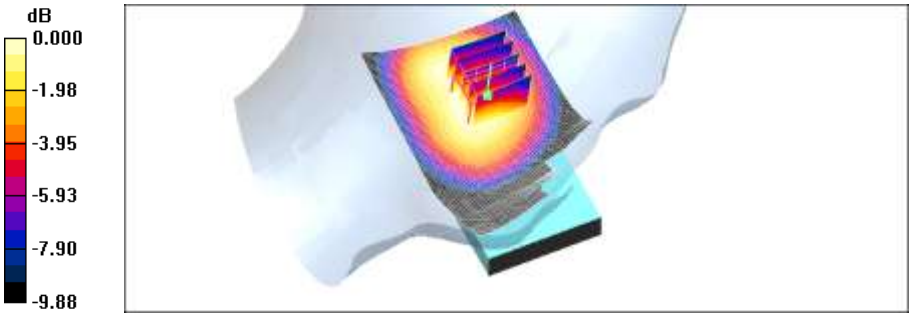
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 QPSK 1RB 49offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.249 mW/g

Left Touch 23230 QPSK 1RB 49offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.3 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 0.292 W/kg
SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.166 mW/g
aximum value of SAR (measured) = 0.236 mW/g



0 dB = 0.236mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

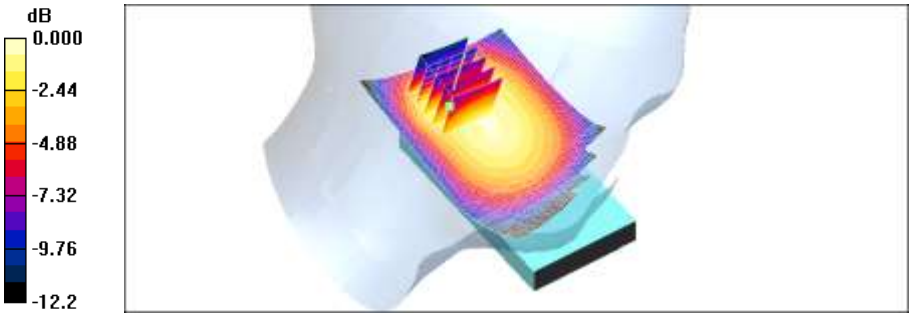
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 QPSK 25RB139offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.136 mW/g

Left Tilt 23230 QPSK 25RB139offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.090 mW/g
aximum value of SAR (measured) = 0.149 mW/g



0 dB = 0.149mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

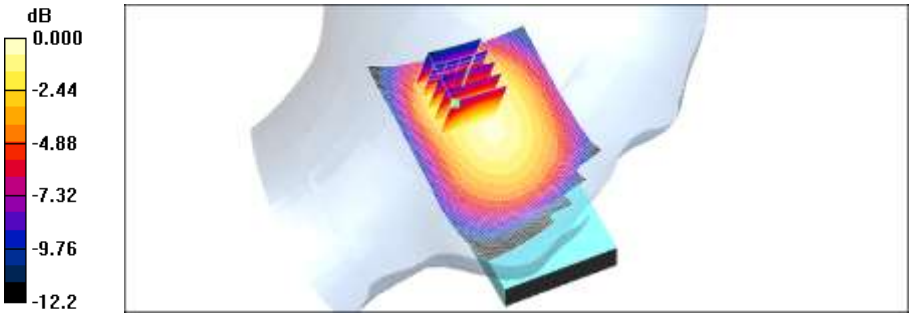
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 QPSK 1RB 0offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.206 mW/g

Left Tilt 23230 QPSK 1RB 0offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.7 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.137 mW/g
aximum value of SAR (measured) = 0.227 mW/g



0 dB = 0.227mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

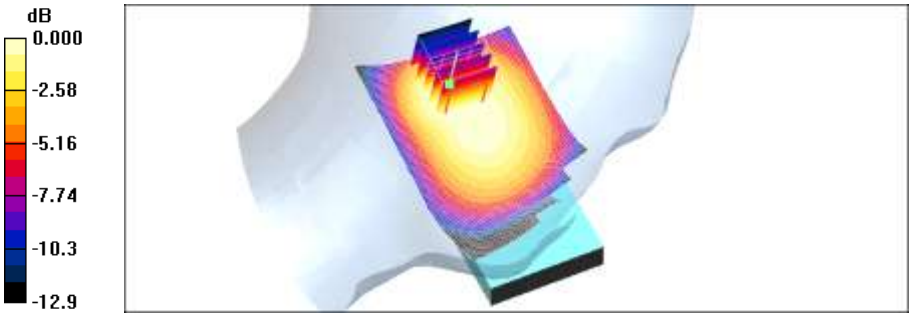
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 QPSK 1RB 49offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.228 mW/g

Left Tilt 23230 QPSK 1RB 49offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.154 dB
Peak SAR (extrapolated) = 0.341 W/kg
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.142 mW/g
aximum value of SAR (measured) = 0.224 mW/g



0 dB = 0.224mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

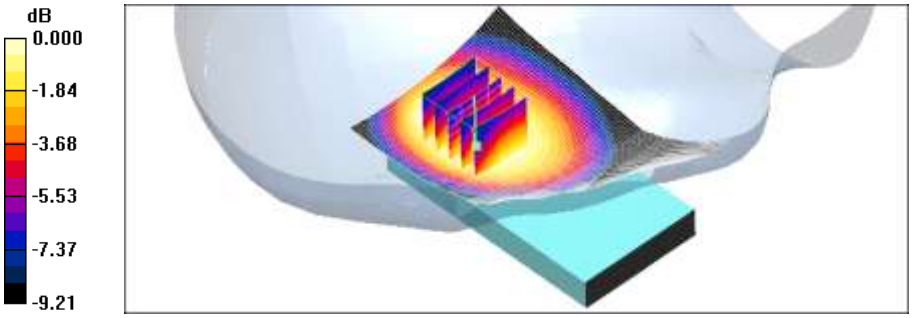
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 QPSK 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.144 mW/g

Right Touch 23230 QPSK 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.090 mW/g
Maximum value of SAR (measured) = 0.126 mW/g



0 dB = 0.126mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

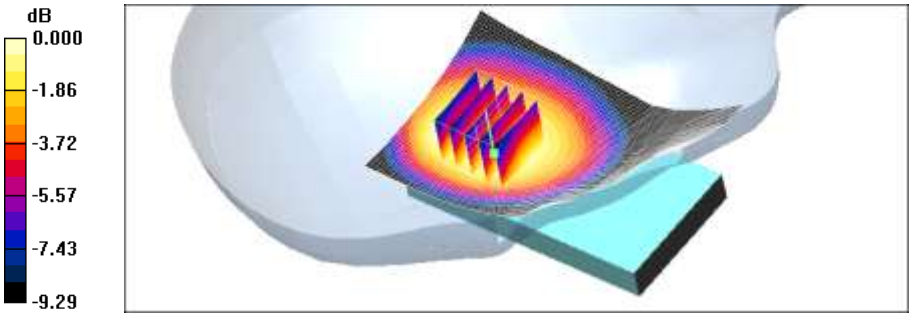
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 QPSK 1RB 0offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.096 mW/g

Right Touch 23230 QPSK 1RB 0offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.71 V/m; Power Drift = -0.162 dB
Peak SAR (extrapolated) = 0.111 W/kg
SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.067 mW/g
Maximum value of SAR (measured) = 0.094 mW/g



0 dB = 0.094mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

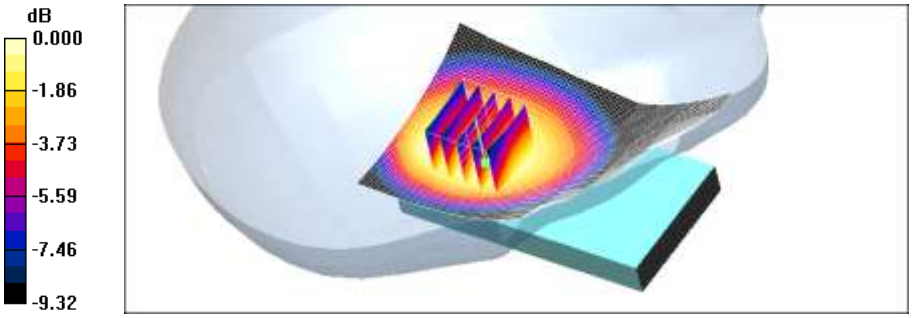
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 QPSK 1RB 49offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

Right Touch 23230 QPSK 1RB 49offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.0 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.147 W/kg
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.124 mW/g



0 dB = 0.124mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

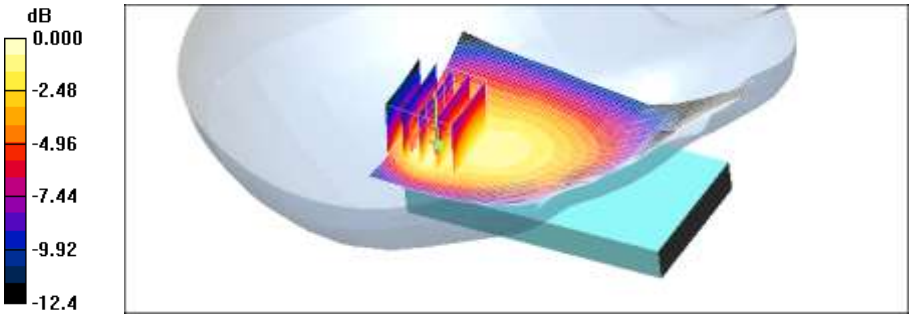
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 QPSK 25RB 13 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.219 mW/g

Right Tilt 23230 QPSK 25RB 13 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.307 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.122 mW/g
Maximum value of SAR (measured) = 0.202 mW/g



0 dB = 0.202mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

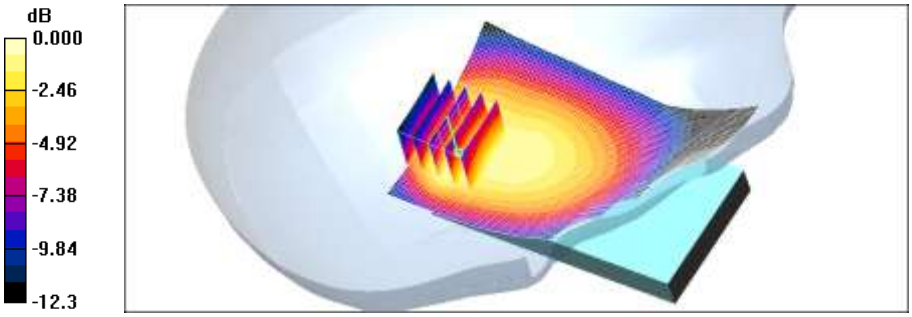
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 QPSK 1RB 0offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.176 mW/g

Right Tilt 23230 QPSK 1RB 0offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.238 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.159 mW/g



0 dB = 0.159mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

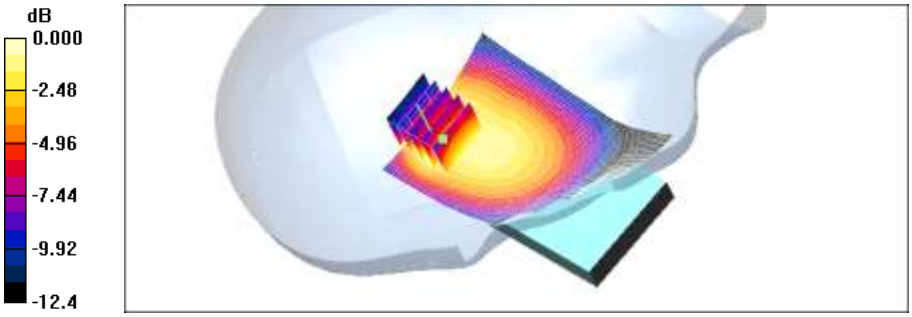
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 QPSK 1RB 49 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g

Right Tilt 23230 QPSK 1RB 49 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.385 W/kg
SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.148 mW/g
Maximum value of SAR (measured) = 0.248 mW/g



0 dB = 0.248mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

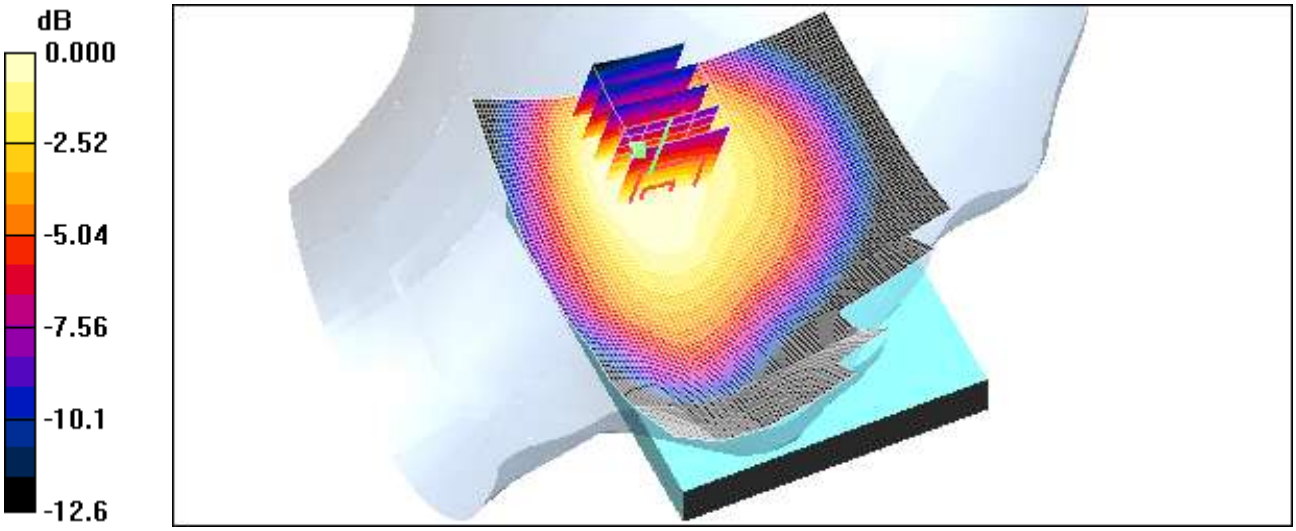
Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.893 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Left Touch 23230 QPSK 25RB 13 offset/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.111 mW/g

Left Touch 23230 QPSK 25RB 13 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.063 mW/g

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



0 dB = 0.098mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

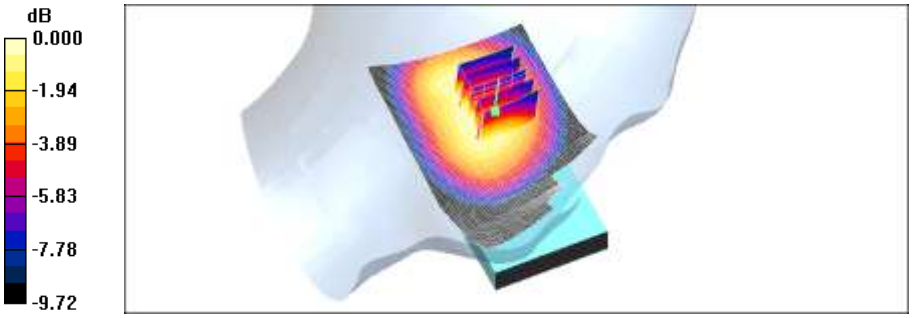
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 16QAM 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.273 mW/g

Left Touch 23230 16QAM 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.0 V/m; Power Drift = 0.137 dB
Peak SAR (extrapolated) = 0.339 W/kg
SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.193 mW/g
Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

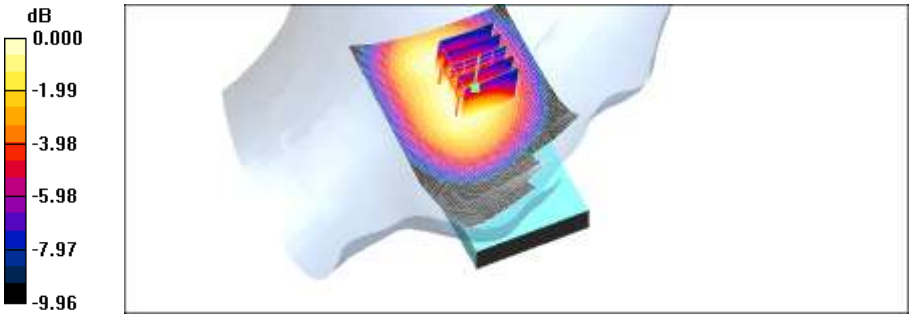
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 16QAM 1RB 0offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.223 mW/g

Left Touch 23230 16QAM 1RB 0offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.267 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.152 mW/g
aximum value of SAR (measured) = 0.216 mW/g



0 dB = 0.216mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.13, 2012

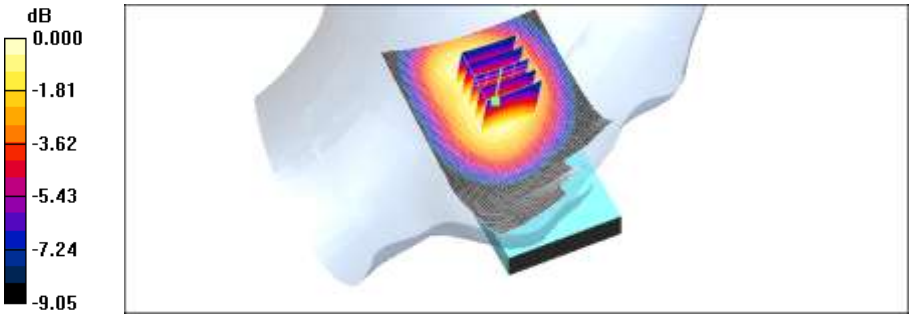
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 16QAM 1RB 49offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.230 mW/g

Left Touch 23230 16QAM 1RB 49offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.2 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.282 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.225 mW/g



0 dB = 0.225mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.13, 2012

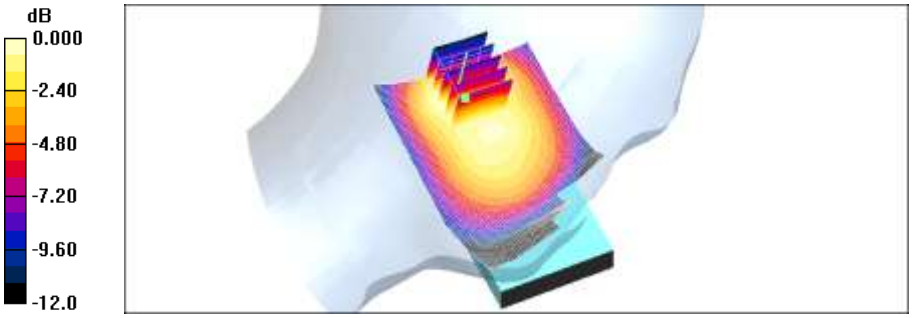
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 16QAM 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.127 mW/g

Left Tilt 23230 16QAM 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = 0.054 dB
Peak SAR (extrapolated) = 0.188 W/kg
SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.120 mW/g



0 dB = 0.120mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

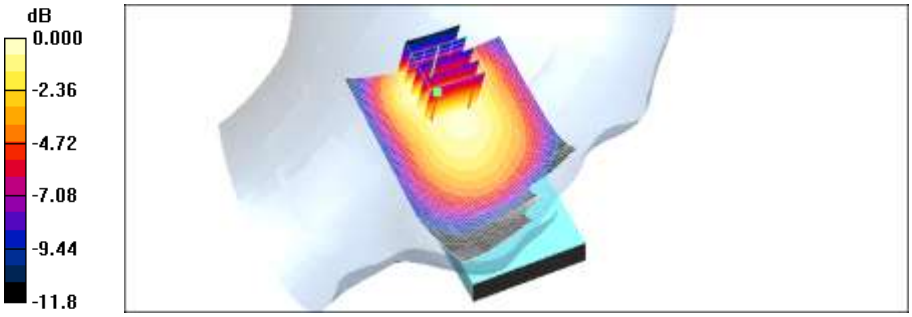
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 16QAM 1RB 0 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.190 mW/g

Left Tilt 23230 16QAM 1RB 0 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 0.273 W/kg
SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.113 mW/g
aximum value of SAR (measured) = 0.180 mW/g



0 dB = 0.180mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

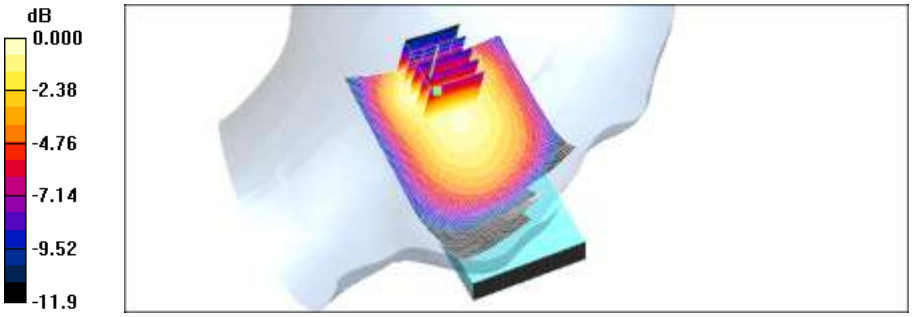
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Tilt 23230 16QAM 1RB 49offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.186 mW/g

Left Tilt 23230 16QAM 1RB 49offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



0 dB = 0.174mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

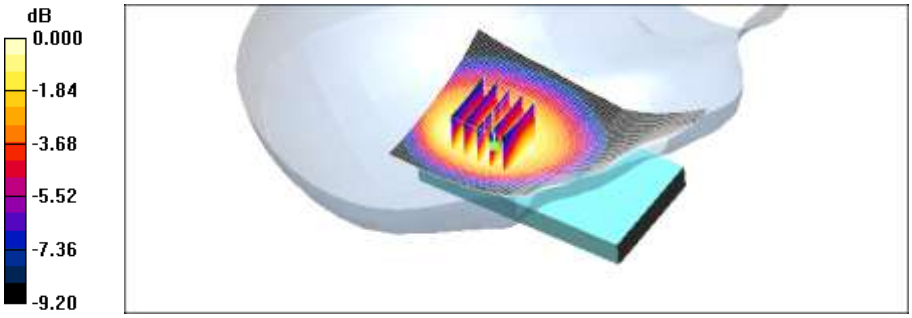
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 16QAM 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.097 mW/g

Right Touch 23230 16QAM 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.52 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

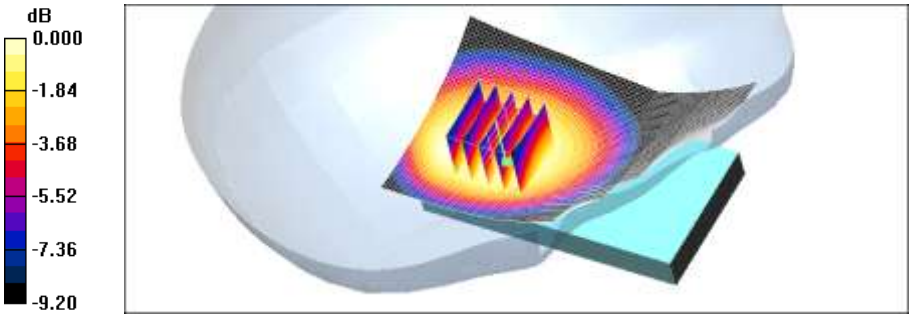
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 16QAM 1RB 0 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.192 mW/g

Right Touch 23230 16QAM 1RB 0 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 0.206 W/kg
SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.124 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



0 dB = 0.174mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

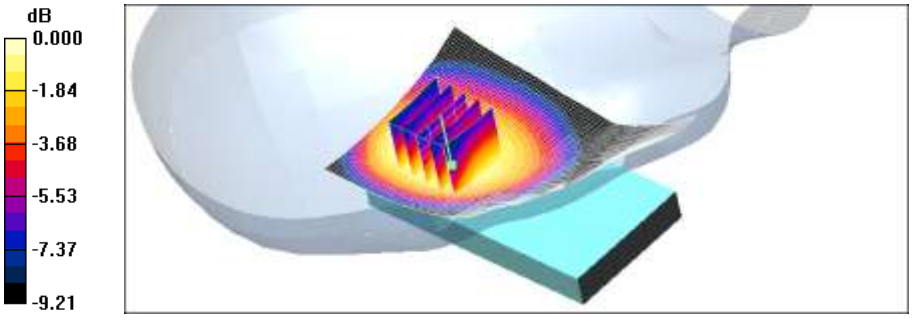
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Touch 23230 16QAM 1RB 49 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.220 mW/g

Right Touch 23230 16QAM 1RB 49 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.098 dB
Peak SAR (extrapolated) = 0.257 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.217 mW/g



0 dB = 0.217mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.13, 2012

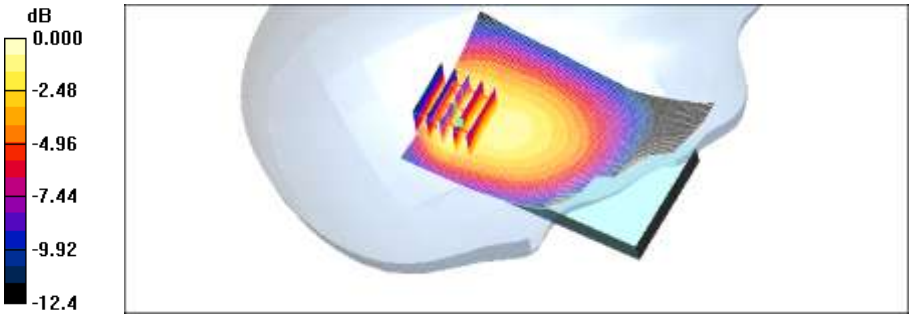
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 16QAM 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.184 mW/g

Right Tilt 23230 16QAM 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 0.259 W/kg
SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.103 mW/g
Maximum value of SAR (measured) = 0.171 mW/g



0 dB = 0.171mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

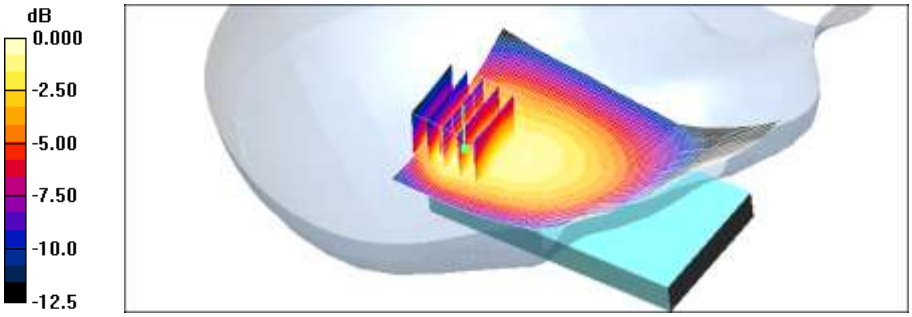
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 16QAM 1RB 0 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.157 mW/g

Right Tilt 23230 16QAM 1RB 0 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 0.211 W/kg
SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.087 mW/g
Maximum value of SAR (measured) = 0.140 mW/g



0 dB = 0.140mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.13, 2012

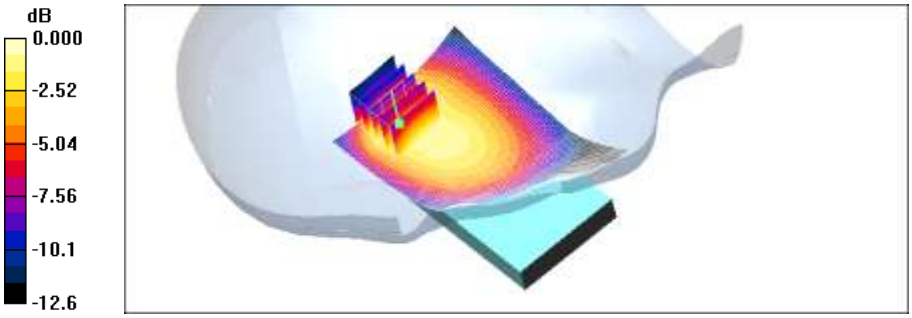
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right Tilt 23230 16QAM 1RB 49 offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.193 mW/g

Right Tilt 23230 16QAM 1RB 49 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.167 mW/g; SAR(10 g) = 0.108 mW/g
Maximum value of SAR (measured) = 0.179 mW/g



0 dB = 0.179mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.14, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

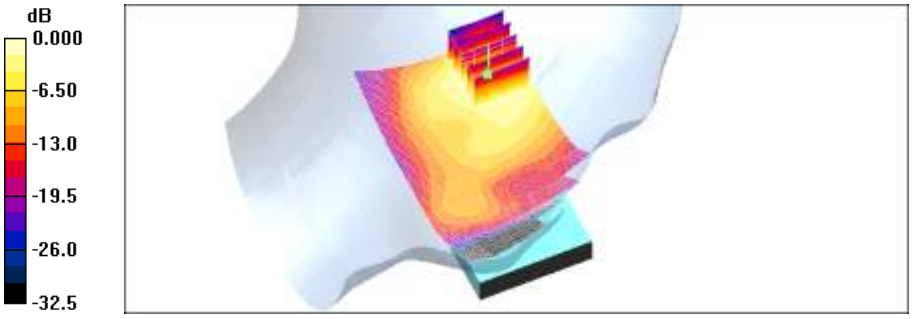
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Touch 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.148 mW/g

Left Touch 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.24 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.306 W/kg
SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.065 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.142 mW/g



0 dB = 0.142mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.14, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

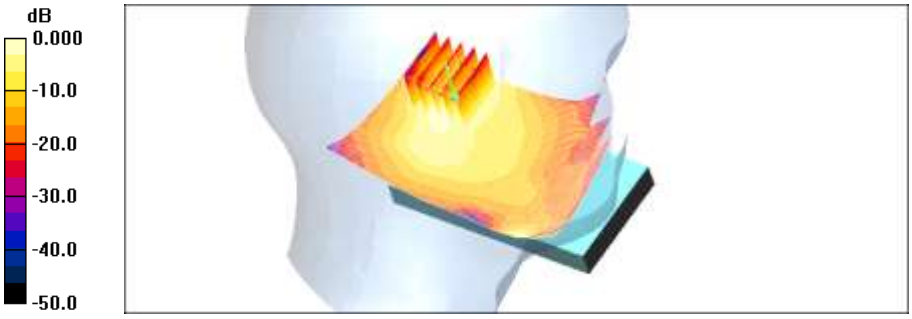
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Tilt 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.133 mW/g

Left Tilt 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.37 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 0.291 W/kg
SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.054 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.136 mW/g



0 dB = 0.136mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.14, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

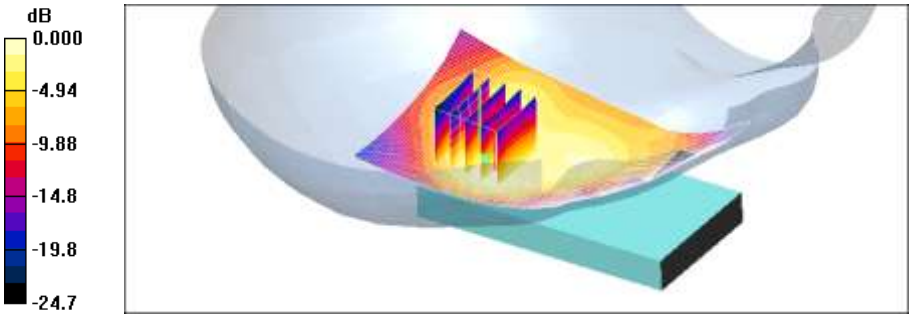
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Right Touch 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.079 mW/g

Right Touch 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.37 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.140 W/kg
SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.038 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.078 mW/g



0 dB = 0.078mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.14, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

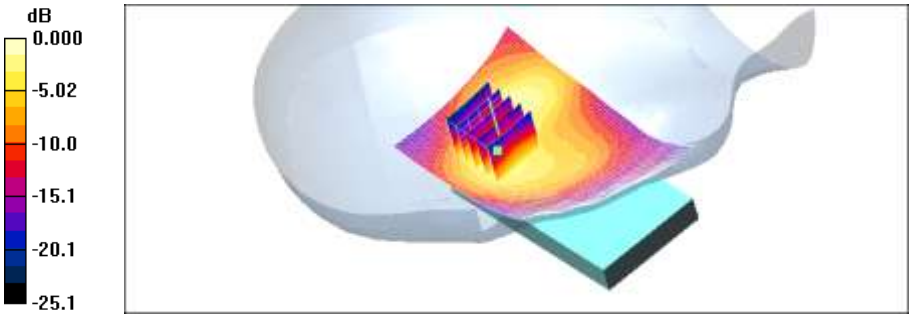
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Right Tilt 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.074 mW/g

Right Tilt 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.42 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.140 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.035 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.072 mW/g



0 dB = 0.072mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

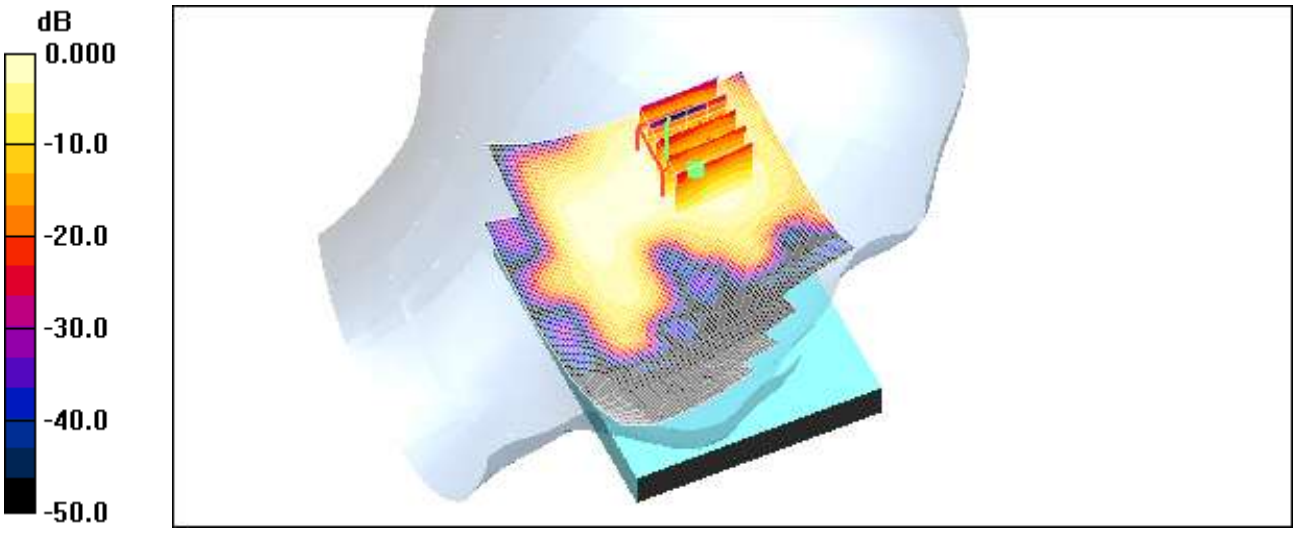
Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Left Touch 1ch 1Mbps/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.070 mW/g

Left Touch 1ch 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.81 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.078 mW/g



0 dB = 0.078mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

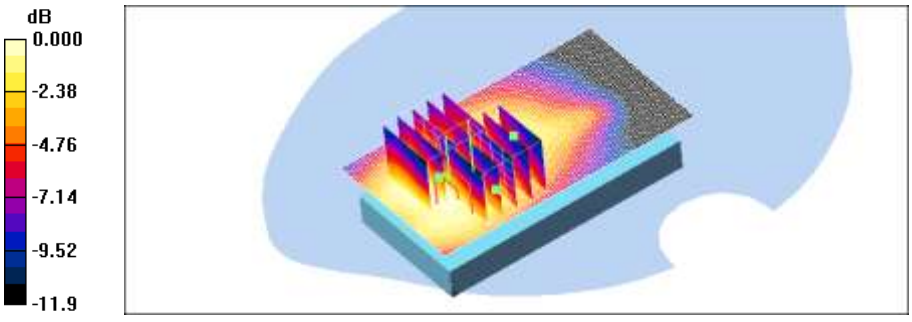
CDMA Body Back 384/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.718 mW/g

CDMA Body Back 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.766 W/kg
SAR(1 g) = 0.590 mW/g; SAR(10 g) = 0.432 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.610 mW/g

CDMA Body Back 384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.770 W/kg
SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.370 mW/g
Maximum value of SAR (measured) = 0.678 mW/g



0 dB = 0.678mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

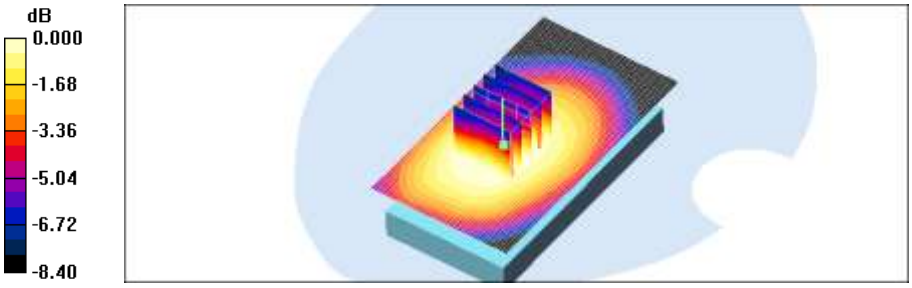
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

CDMA Body front 384/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.500 mW/g

CDMA Body front 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.1 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.556 W/kg
SAR(1 g) = 0.469 mW/g; SAR(10 g) = 0.362 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.494 mW/g



0 dB = 0.494mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 1.01 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

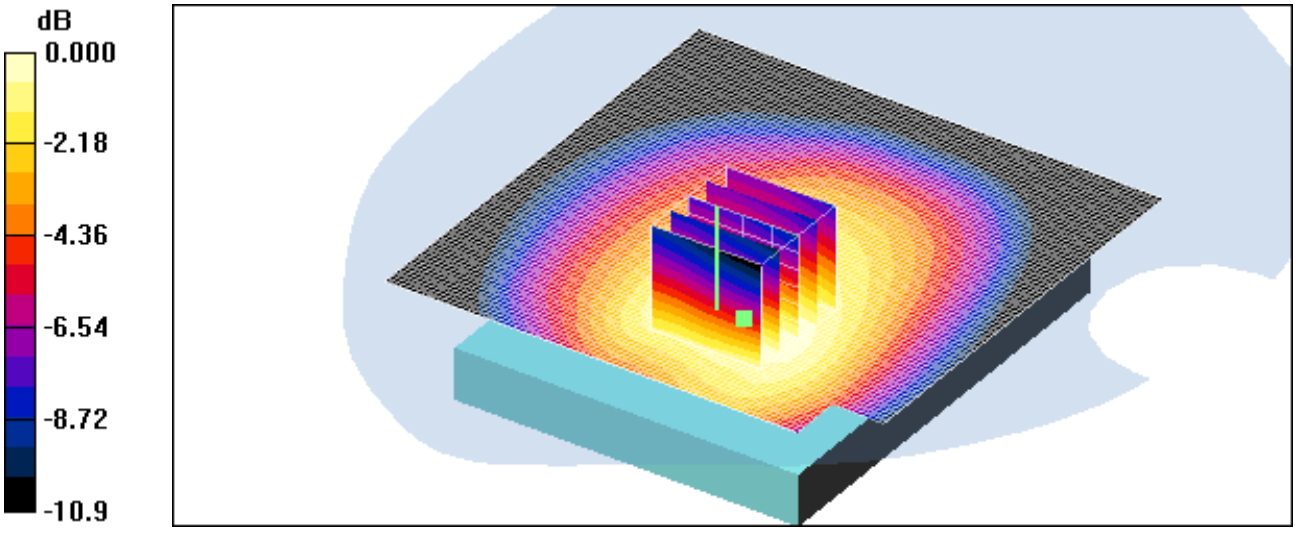
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

CDMA835 1xRTT Body Rear 384/Area Scan (91x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.591 mW/g

CDMA835 1xRTT Body Rear 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = -0.071 dB
Peak SAR (extrapolated) = 0.677 W/kg
SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.391 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.562 mW/g



0 dB = 0.562mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.991 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

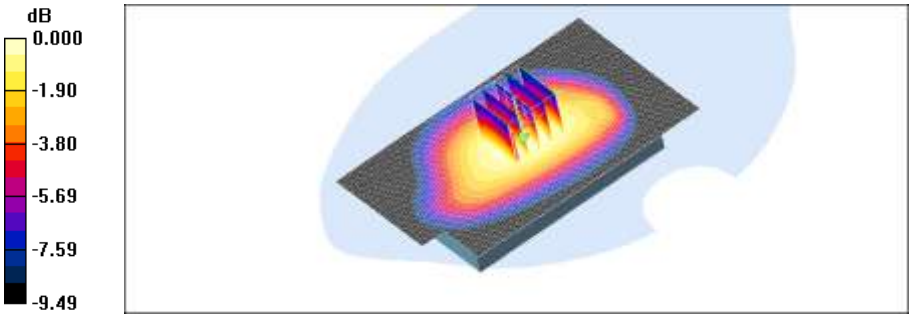
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

CDMA EVDO Body Rear 384/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.753 mW/g

CDMA EVDO Body Rear 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.7 V/m; Power Drift = -0.166 dB
Peak SAR (extrapolated) = 0.886 W/kg
SAR(1 g) = 0.719 mW/g; SAR(10 g) = 0.526 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.765 mW/g



0 dB = 0.765mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

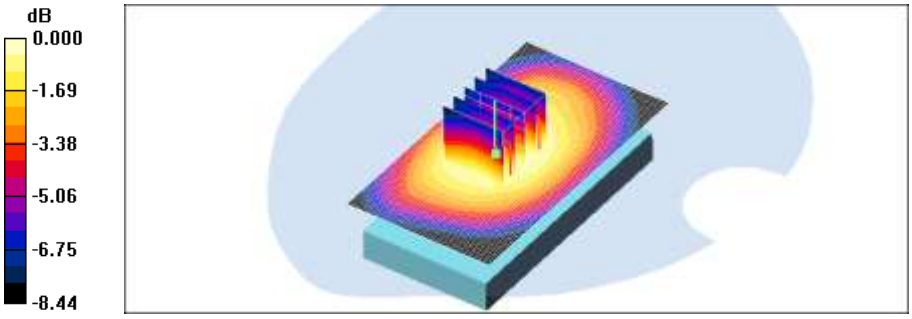
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

CDMA Body front 384/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.264 mW/g

CDMA Body front 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 0.303 W/kg
SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.193 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.264 mW/g



0 dB = 0.264mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

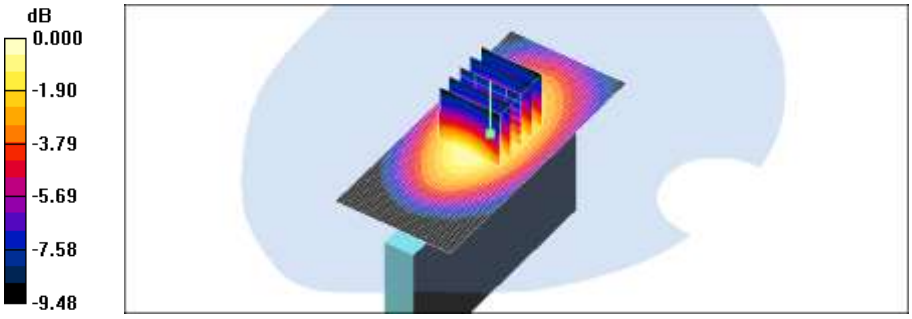
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

EVDO Right side 384/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.366 mW/g

EVDO Right side 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.7 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.475 W/kg
SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.244 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.380 mW/g



0 dB = 0.380mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

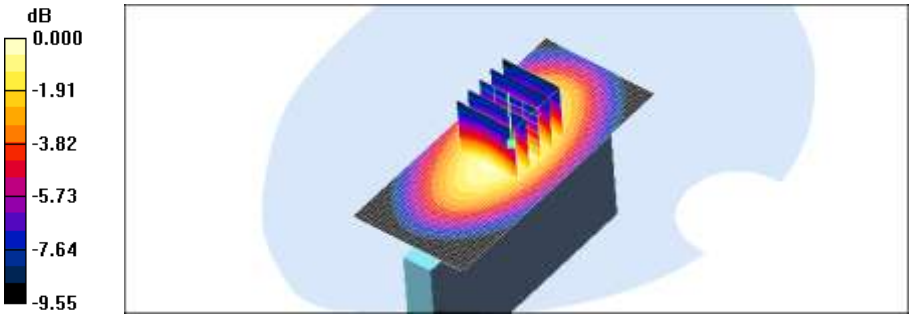
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

EVDO Left side 384/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.494 mW/g

EVDO Left side 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.622 W/kg
SAR(1 g) = 0.463 mW/g; SAR(10 g) = 0.321 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.496 mW/g



0 dB = 0.496mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.15, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.992 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

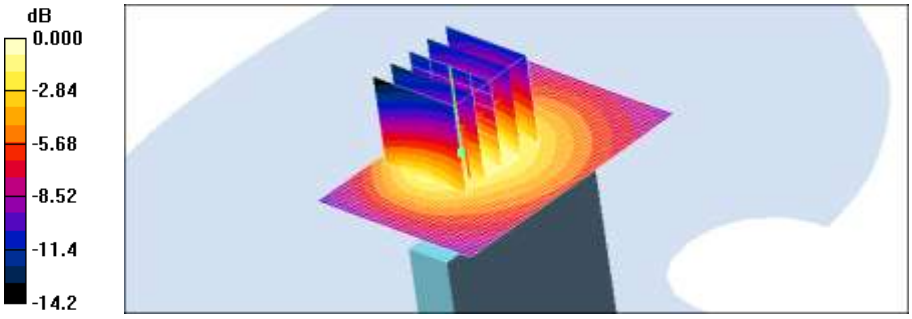
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

EVDO Body Top side 384/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.136 mW/g

EVDO Body Bottom side 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.0 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.070 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.124 mW/g



0 dB = 0.124mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 1.01 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

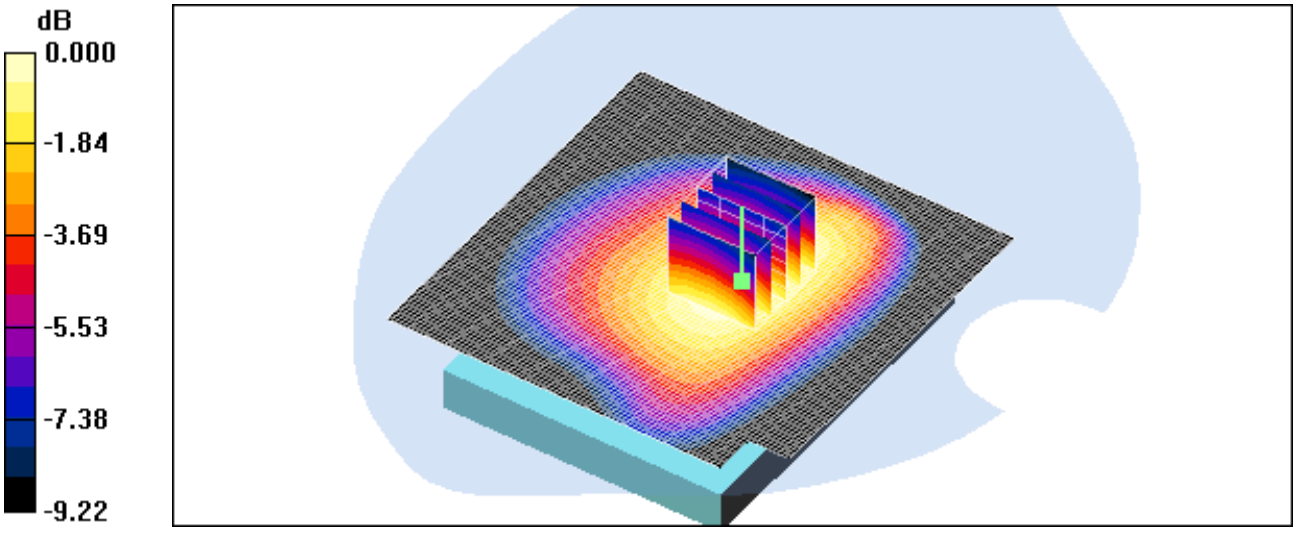
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

EVDO Body Rear 384/Area Scan (91x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.719 mW/g

EVDO Body Rear 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = 0.100 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.490 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.707 mW/g



0 dB = 0.707mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1851.25 MHz; σ = 1.42 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

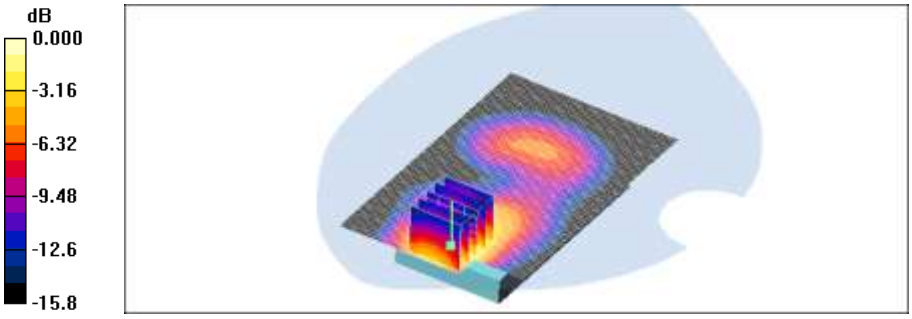
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Rear 25/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.854 mW/g

PCS 1xRTT Body Rear 25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.729 mW/g; SAR(10 g) = 0.410 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.775 mW/g



0 dB = 0.775mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

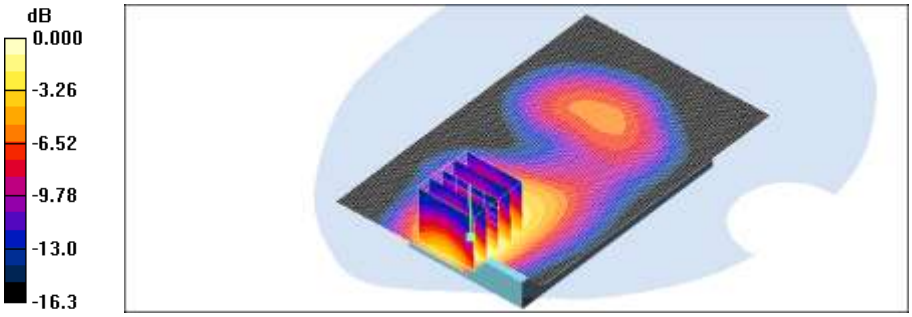
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Rear 600/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.01 mW/g

PCS 1xRTT Body Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.886 mW/g; SAR(10 g) = 0.497 mW/g
Maximum value of SAR (measured) = 0.952 mW/g



0 dB = 0.952mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.49 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

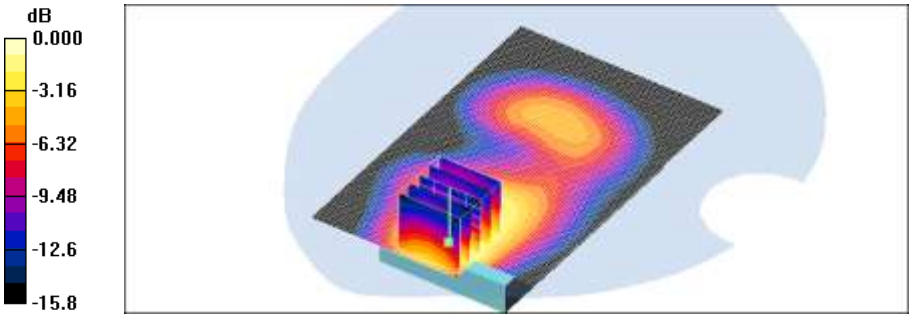
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Rear 1175/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.949 mW/g

PCS 1xRTT Body Rear 1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.782 mW/g; SAR(10 g) = 0.458 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.846 mW/g



0 dB = 0.846mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

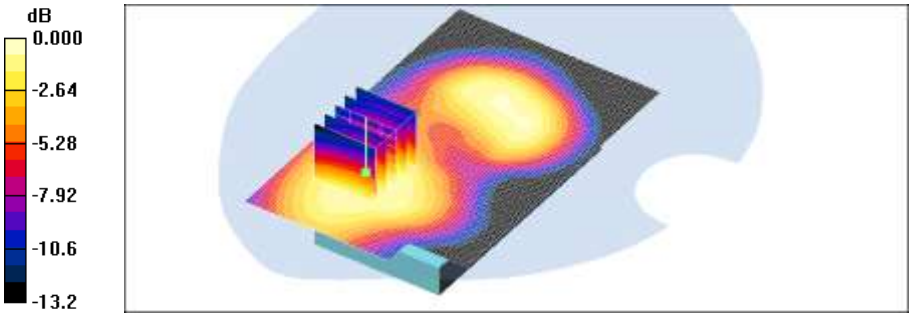
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Front 600/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.276 mW/g

PCS 1xRTT Body Front 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.383 W/kg
SAR(1 g) = 0.256 mW/g; SAR(10 g) = 0.170 mW/g
Maximum value of SAR (measured) = 0.273 mW/g



0 dB = 0.273mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

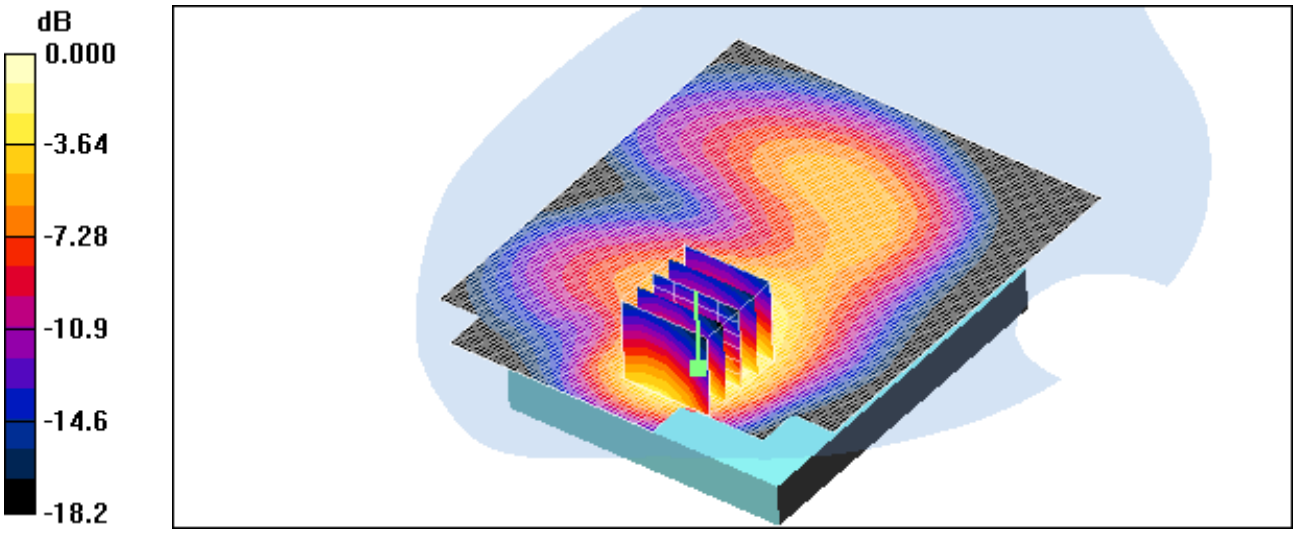
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Rear 600/Area Scan (91x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.769 mW/g

PCS 1xRTT Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.726 mW/g; SAR(10 g) = 0.382 mW/g
Maximum value of SAR (measured) = 0.743 mW/g



0 dB = 0.743mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

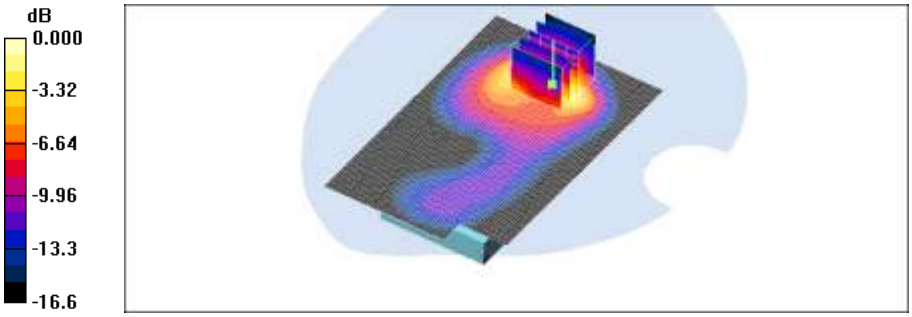
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Body Rear 600/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.968 mW/g

PCS EVDO Body Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.796 mW/g; SAR(10 g) = 0.428 mW/g
Maximum value of SAR (measured) = 0.907 mW/g



0 dB = 0.907mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

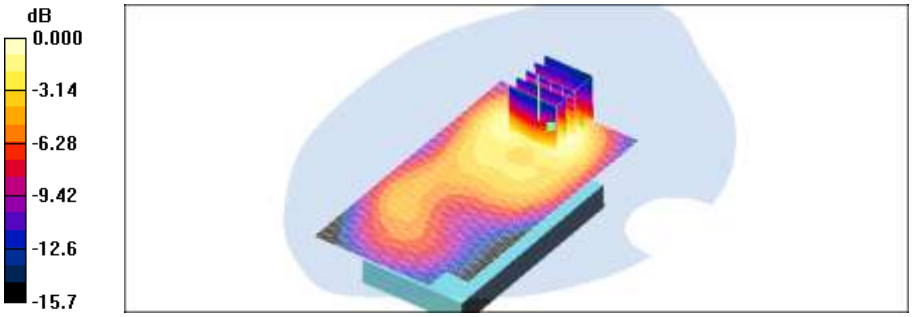
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Front 600/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.124 mW/g

PCS EVDO Front 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.73 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 0.179 W/kg
SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.069 mW/g
aximum value of SAR (measured) = 0.123 mW/g



0 dB = 0.123mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

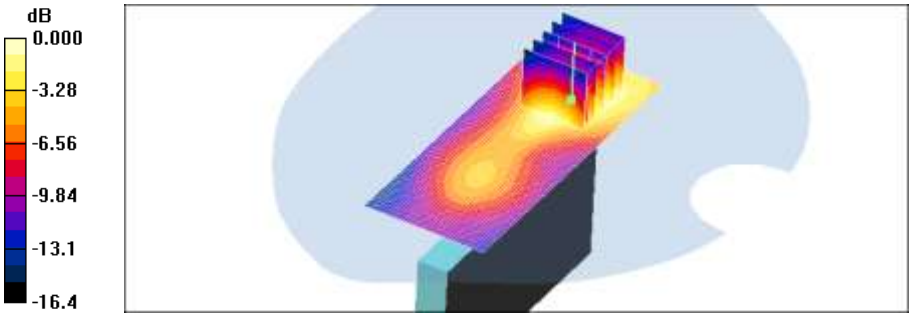
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Right side 600/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.061 mW/g

PCS EVDO Right side 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.41 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.088 W/kg
SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.034 mW/g
Maximum value of SAR (measured) = 0.060 mW/g



0 dB = 0.060mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

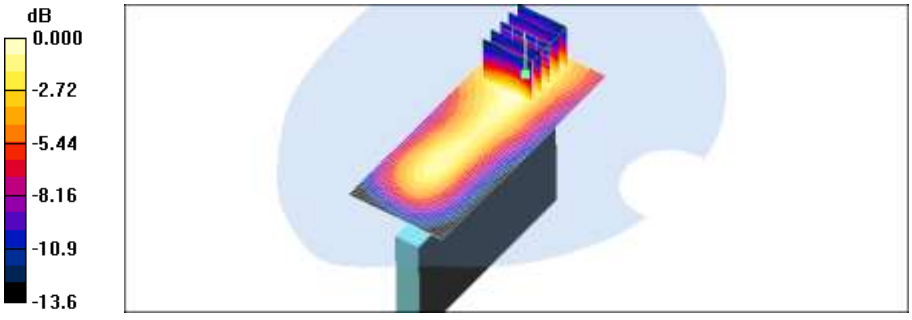
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Left side 600/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.071 mW/g

PCS EVDO Left side 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.64 V/m; Power Drift = -0.134 dB
Peak SAR (extrapolated) = 0.100 W/kg
SAR(1 g) = 0.064 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.069 mW/g



0 dB = 0.069mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.16, 2012

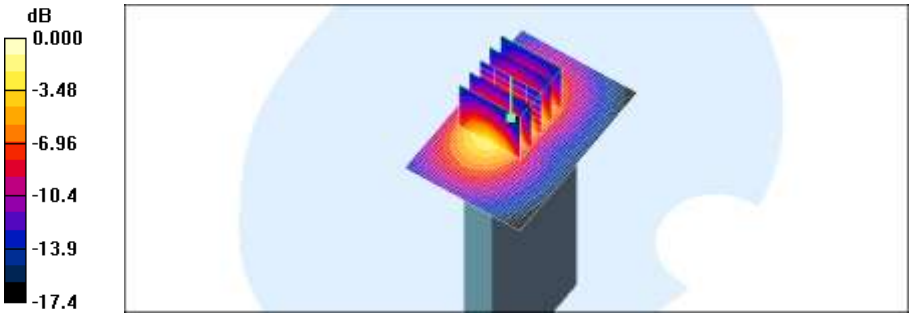
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS Body EVDO Top 600/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.751 mW/g

PCS Body EVDO Top 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.0 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.644 mW/g; SAR(10 g) = 0.334 mW/g
Maximum value of SAR (measured) = 0.732 mW/g



0 dB = 0.732mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

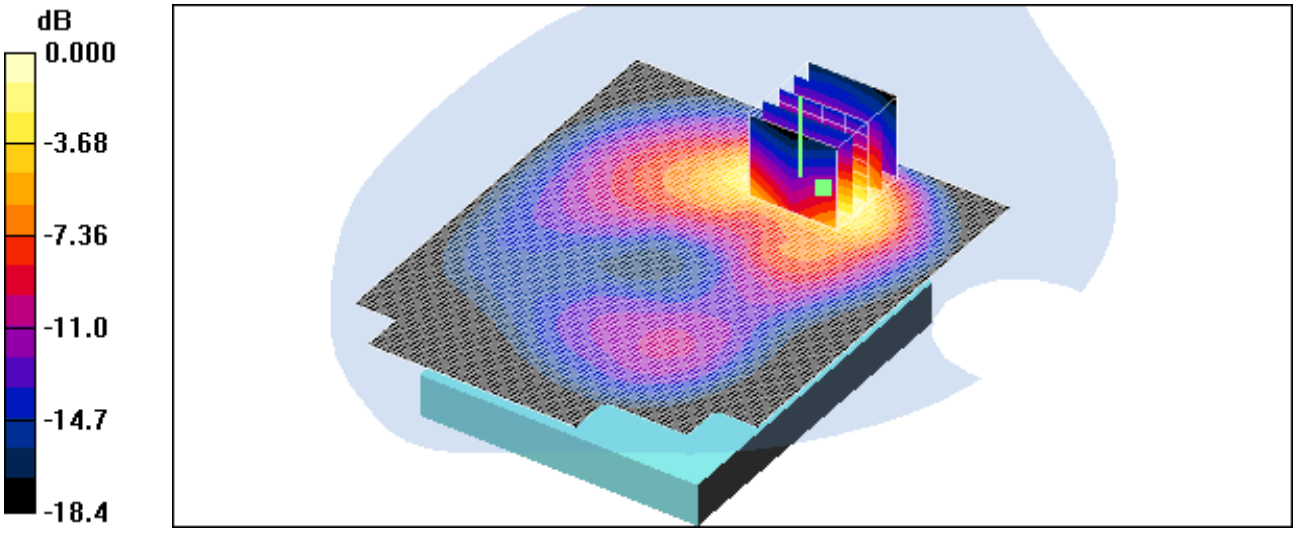
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Rear 600/Area Scan (91x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.650 mW/g

PCS EVDO Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = -0.093 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.615 mW/g; SAR(10 g) = 0.312 mW/g

Maximum value of SAR (measured) = 0.714 mW/g



0 dB = 0.714mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

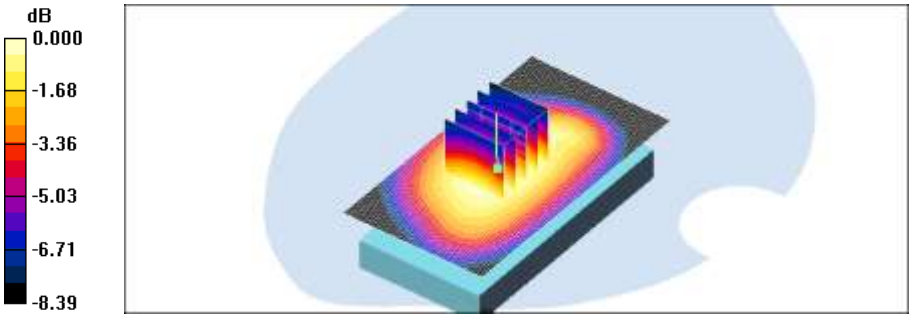
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE BodyRear QPSK 25RB 13offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.567 mW/g

LTE BodyRear QPSK 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.5 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.630 W/kg
SAR(1 g) = 0.516 mW/g; SAR(10 g) = 0.387 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.544 mW/g



0 dB = 0.544mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

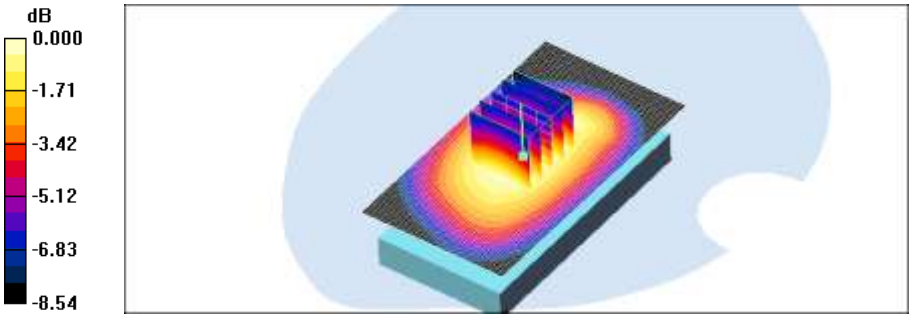
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear QPSK 1RB 0offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.505 mW/g

LTE Body Rear QPSK 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.8 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.359 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.507 mW/g



0 dB = 0.507mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

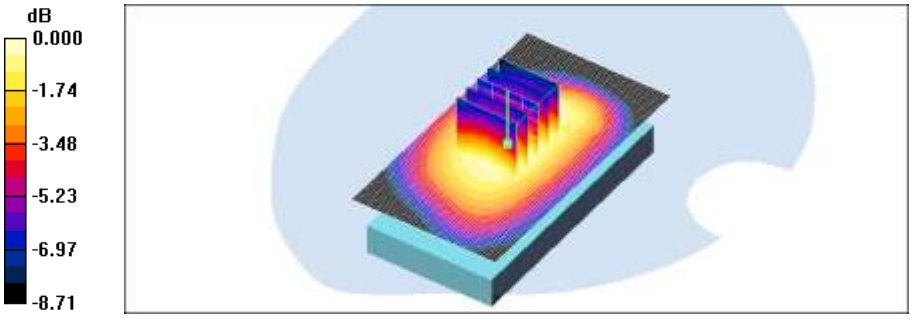
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear QPSK 1RB 49offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.544 mW/g

LTE Body Rear QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.627 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.388 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.544 mW/g



0 dB = 0.544mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

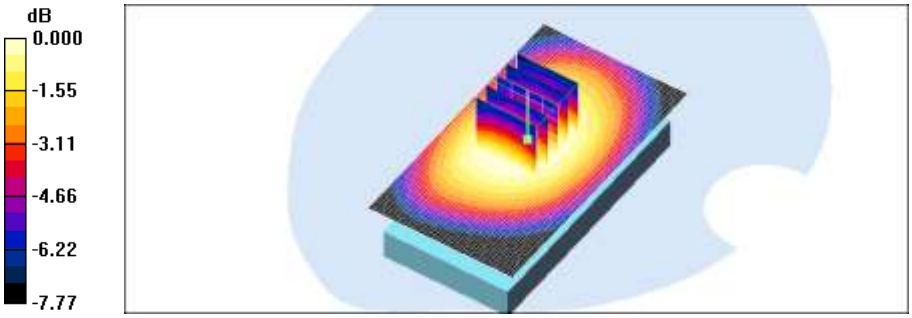
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front QPSK 25RB 13offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.171 mW/g

LTE Body Front QPSK 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.177 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.115 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.156 mW/g



0 dB = 0.156mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

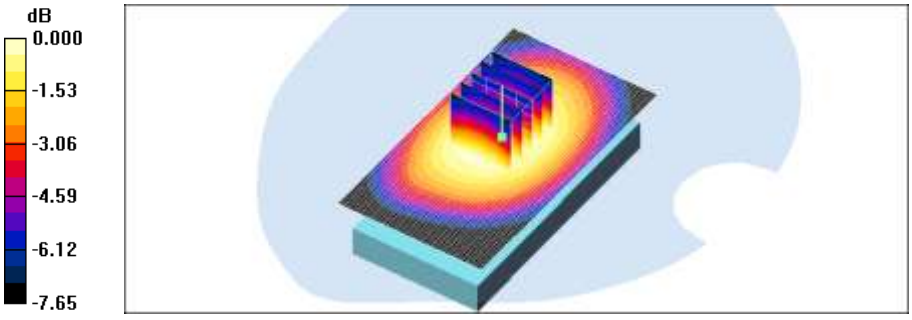
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front QPSK 1RB 0 offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.129 mW/g

LTE Body Front QPSK 1RB 0 offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 0.141 W/kg
SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.093 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.125 mW/g



0 dB = 0.125mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

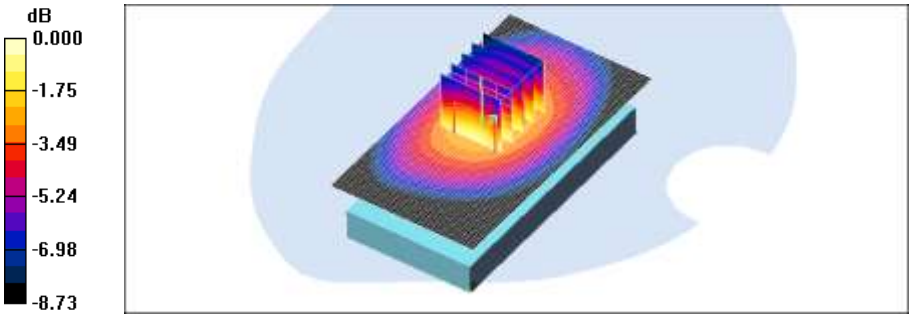
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front QPSK 1RB 49offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.145 mW/g

LTE Body Front QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.267 W/kg
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.173 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.238 mW/g



0 dB = 0.238mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

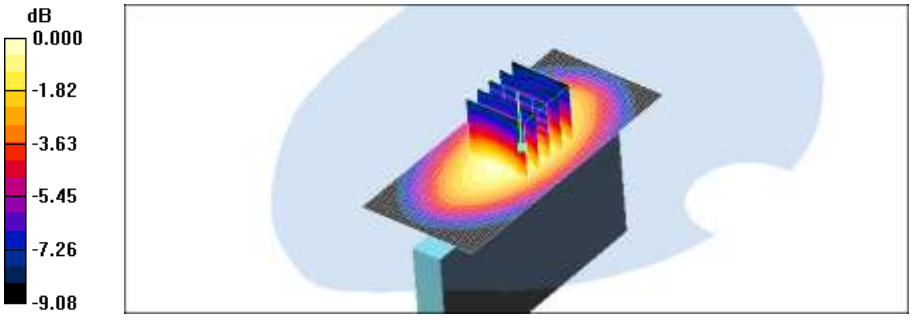
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side QPSK 25RB 13offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.281 mW/g

LTE Body Left side QPSK 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.188 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

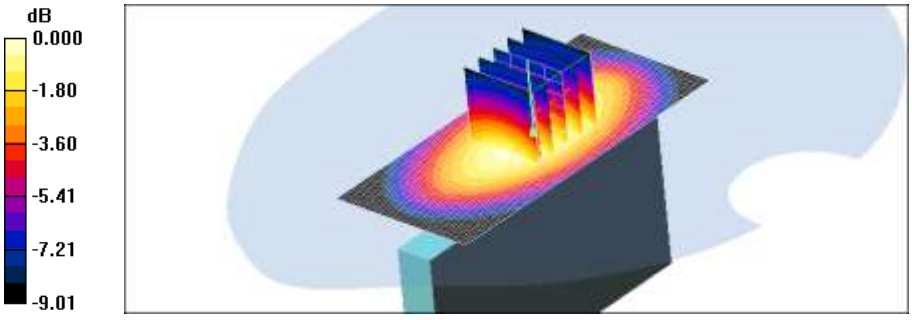
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side QPSK 1RB 0offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.239 mW/g

LTE Body Left side QPSK 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.071 dB
Peak SAR (extrapolated) = 0.298 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.158 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.239 mW/g



0 dB = 0.239mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

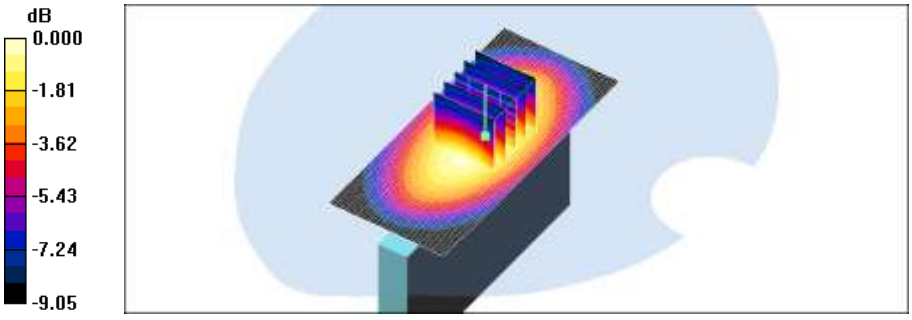
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side QPSK 1RB 49offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.275 mW/g

LTE Body Left side QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.341 W/kg
SAR(1 g) = 0.257 mW/g; SAR(10 g) = 0.181 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

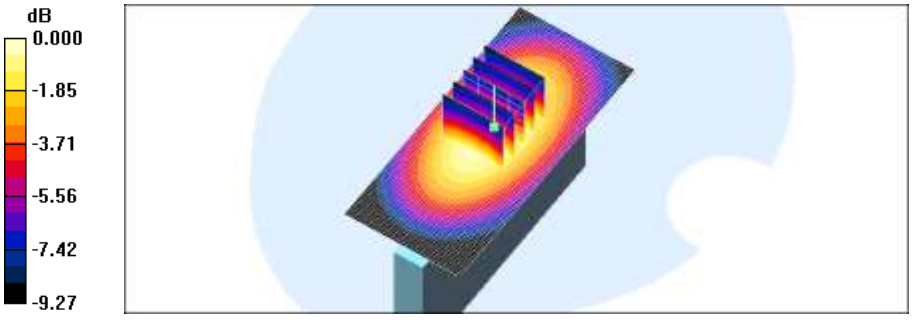
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side QPSK 25RB 13offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.283 mW/g

LTE Body Right side QPSK 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.144 dB
Peak SAR (extrapolated) = 0.351 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.185 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.282 mW/g



0 dB = 0.282mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

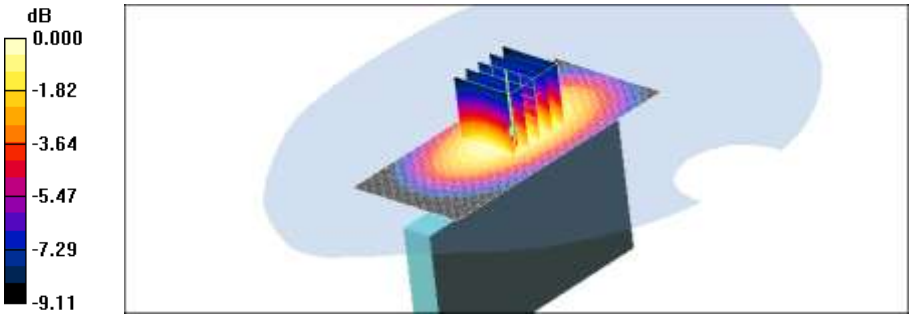
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side QPSK 1RB 0offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.245 mW/g

LTE Body Right side QPSK 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.297 W/kg
SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.158 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.240 mW/g



0 dB = 0.240mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

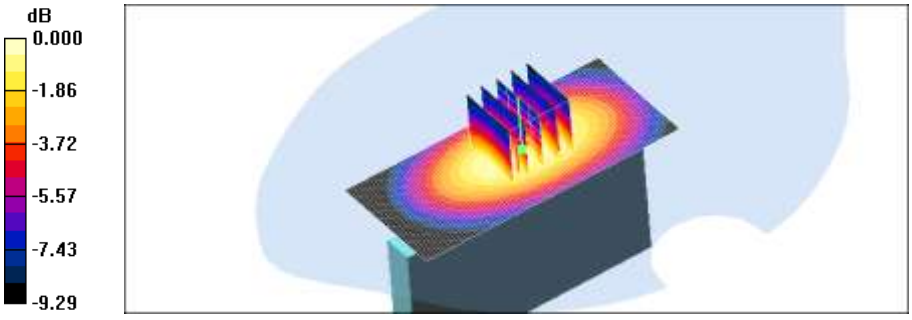
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side QPSK 1RB 49offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.230 mW/g

LTE Body Right side QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.9 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.150 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.231 mW/g



0 dB = 0.231mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

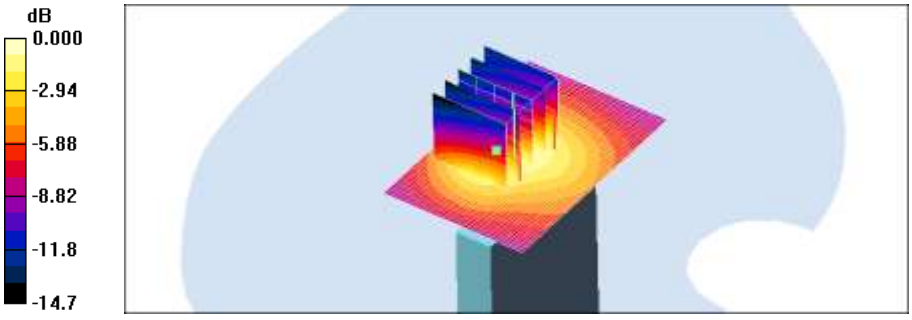
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side QPSK 25RB 13offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.037 mW/g

LTE Body Top side QPSK 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.26 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.066 W/kg
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.021 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
aximum value of SAR (measured) = 0.039 mW/g



0 dB = 0.039mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

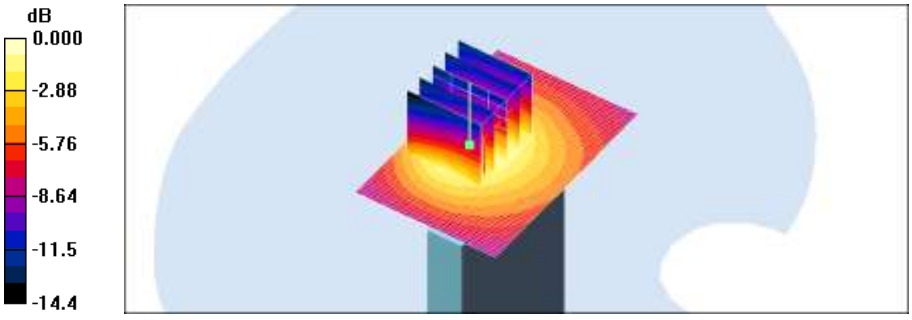
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side QPSK 1RB 0offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.038 mW/g

LTE Body Top side QPSK 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.71 V/m; Power Drift = -0.194 dB
Peak SAR (extrapolated) = 0.059 W/kg
SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.020 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.036 mW/g



0 dB = 0.036mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

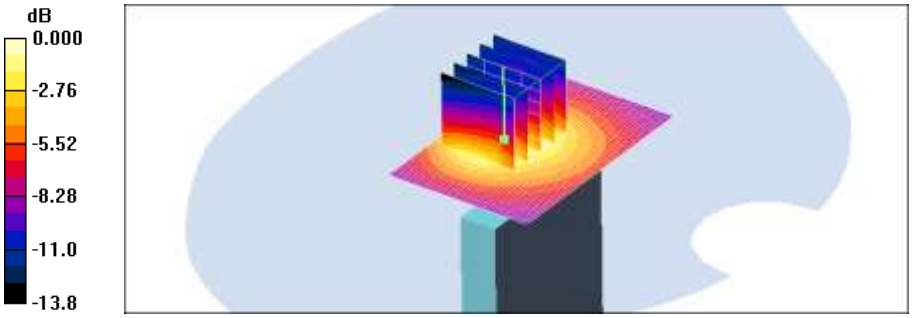
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side QPSK 1RB 49offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.052 mW/g

LTE Body Top side QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.50 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.080 W/kg
SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.026 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:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

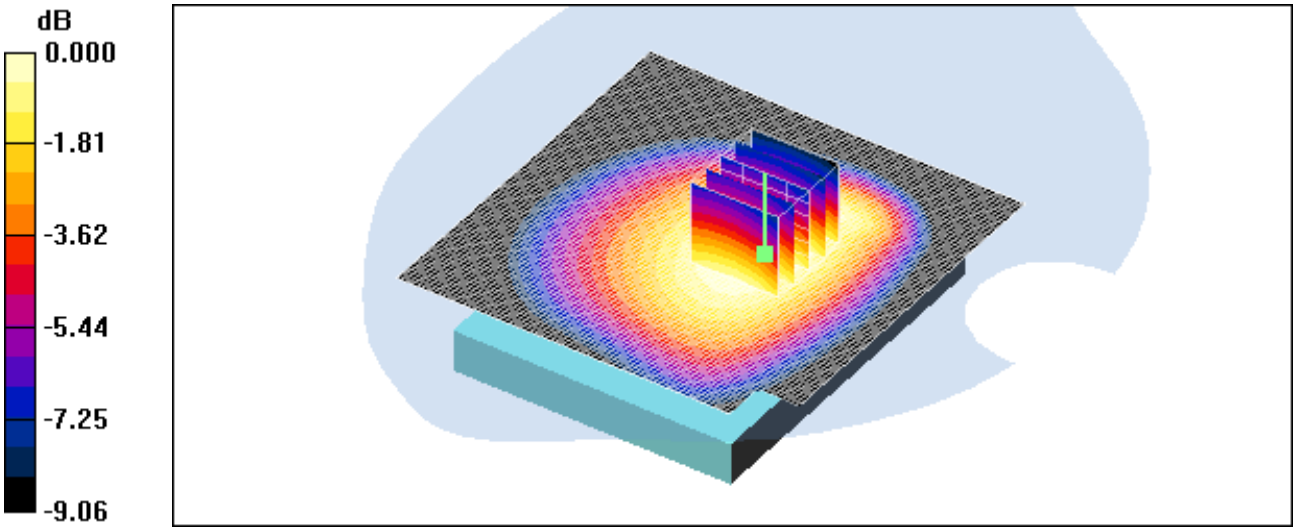
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

LTE Body Rear QPSK 1RB 49offset 23230/Area Scan (91x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.480 mW/g

LTE Body Rear QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.5 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 0.528 W/kg
SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.324 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.455 mW/g



0 dB = 0.455mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

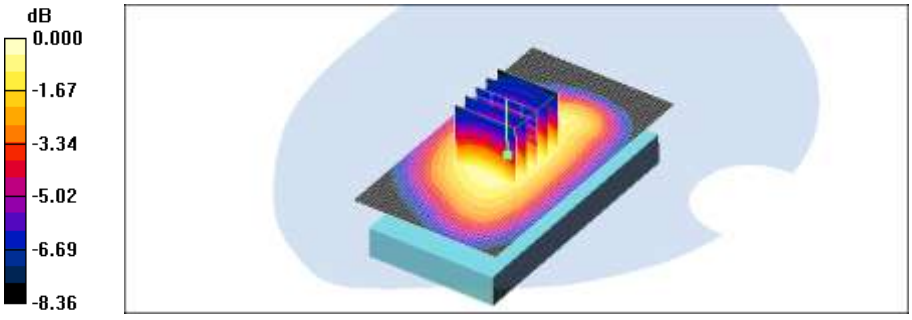
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear 16QAM 25RB 13offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.411 mW/g

LTE Body Rear 16QAM 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = 0.154 dB
Peak SAR (extrapolated) = 0.486 W/kg
SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.297 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.420 mW/g



0 dB = 0.420mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

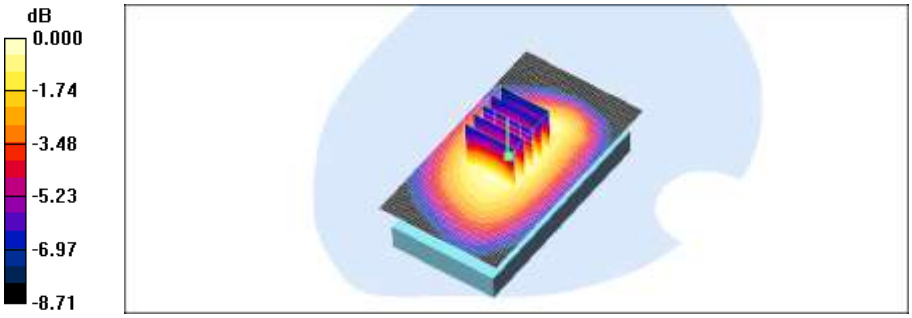
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear 16QAM 1RB 0offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.417 mW/g

LTE Body Rear 16QAM 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.1 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.482 W/kg
SAR(1 g) = 0.395 mW/g; SAR(10 g) = 0.296 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.417 mW/g



0 dB = 0.417mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

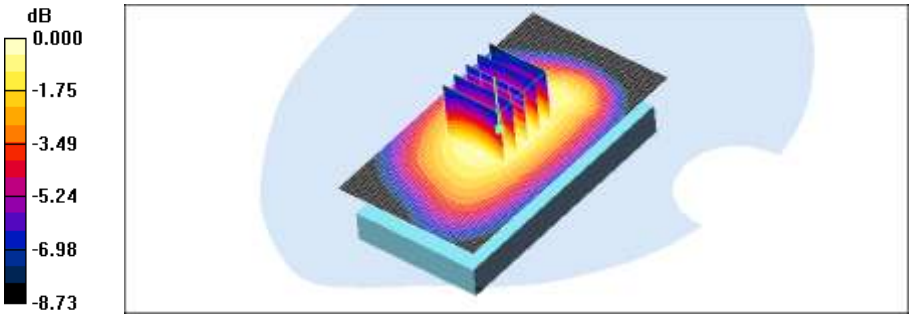
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear 16QAM 1RB 49offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.449 mW/g

LTE Body Rear 16QAM 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.0 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 0.520 W/kg
SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.320 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.452 mW/g



0 dB = 0.452mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

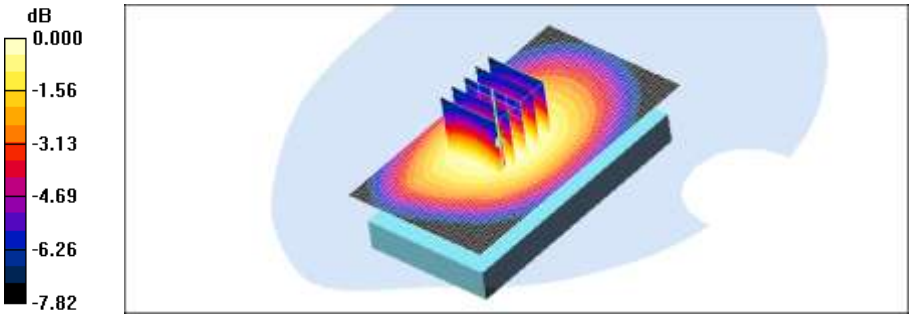
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front 16QAM 25RB 13offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.195 mW/g

LTE Body Front 16QAM 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.144 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

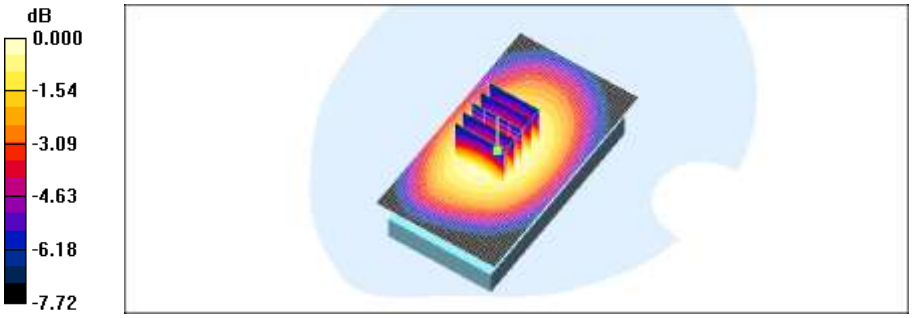
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front 16QAM 1RB 0offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.188 mW/g

LTE Body Front 16QAM 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = -0.194 dB
Peak SAR (extrapolated) = 0.207 W/kg
SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.137 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.184 mW/g



0 dB = 0.184mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

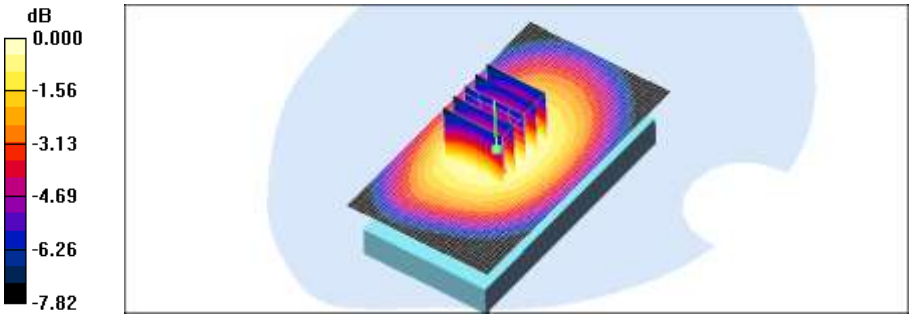
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Front 16QAM 1RB 49offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.180 mW/g

LTE Body Front 16QAM 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.134 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.181 mW/g



0 dB = 0.181mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

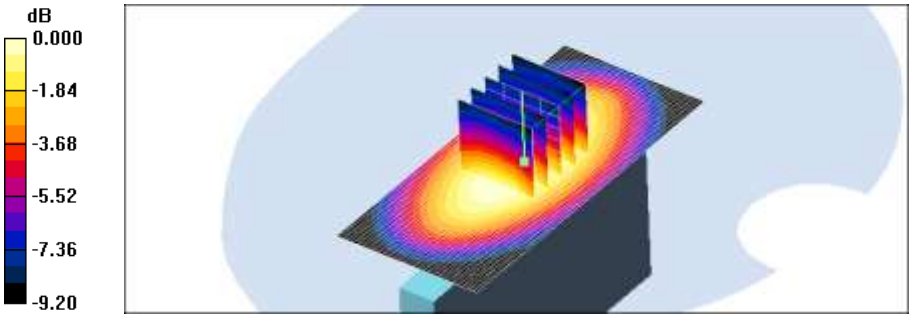
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side 16QAM 25RB 13offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.227 mW/g

LTE Body Left side 16QAM 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.257 W/kg
SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.132 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.204 mW/g



0 dB = 0.204mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

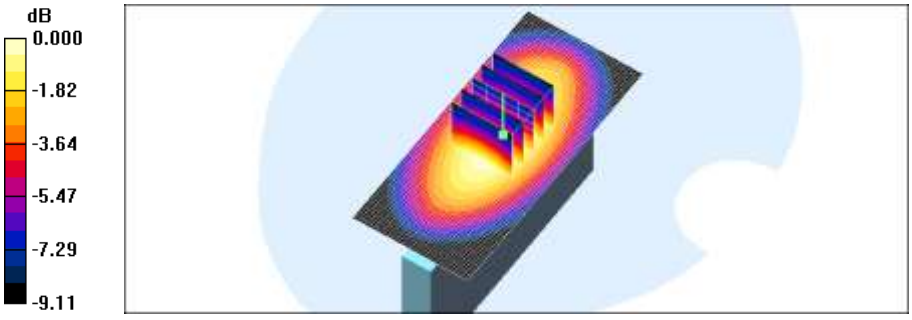
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side 16QAM 1RB 0offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.170 mW/g

LTE Body Left side 16QAM 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.212 W/kg
SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.110 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.168 mW/g



0 dB = 0.168mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

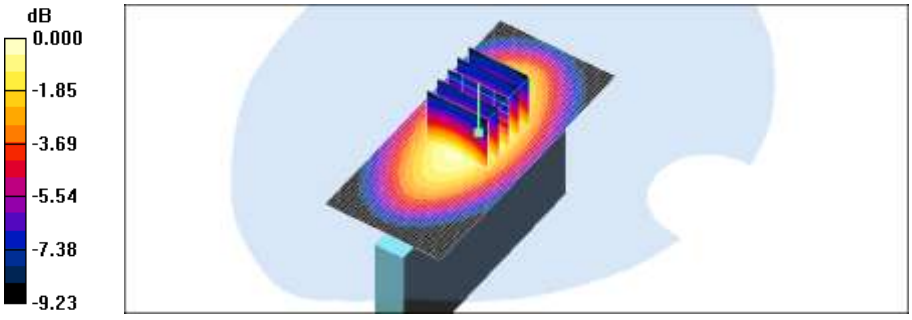
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Left side 16QAM 1RB 49offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.196 mW/g

LTE Body Left side 16QAM 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 0.247 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.127 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.196 mW/g



0 dB = 0.196mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

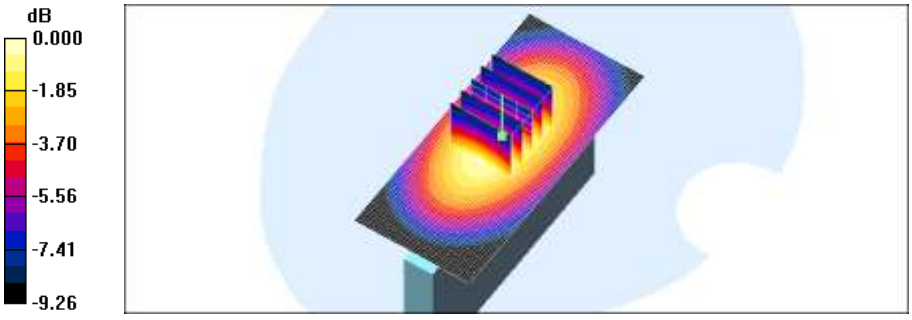
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side 16QAM 25RB 13offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.210 mW/g

LTE Body Right side 16QAM 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.139 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.213 mW/g



0 dB = 0.213mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

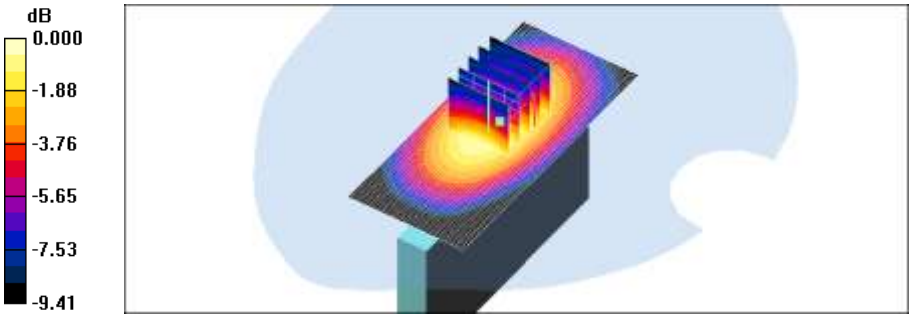
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side 16QAM 1RB 0offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.192 mW/g

LTE Body Right side 16QAM 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.133 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.202 mW/g



0 dB = 0.202mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

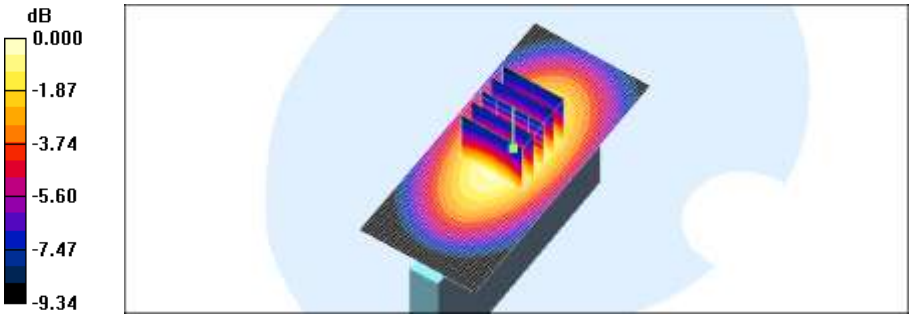
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Right side 16QAM 1RB 49offset 23230/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.191 mW/g

LTE Body Right side 16QAM 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.237 W/kg
SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.124 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.190 mW/g



0 dB = 0.190mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

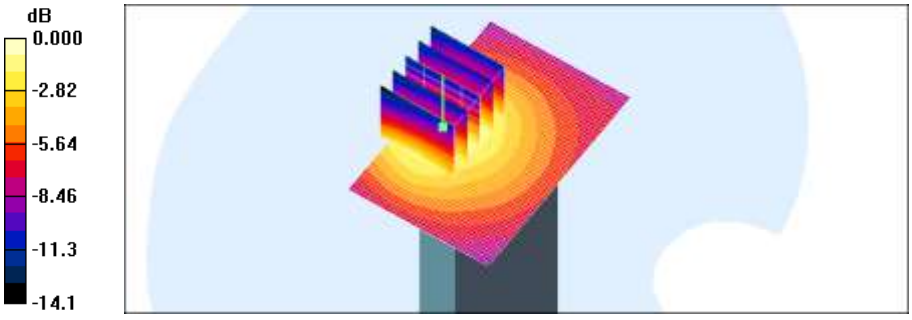
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side 16QAM 25RB 13offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.027 mW/g

LTE Body Top side 16QAM 25RB 13offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.16 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 0.042 W/kg
SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.015 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.026 mW/g



0 dB = 0.026mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

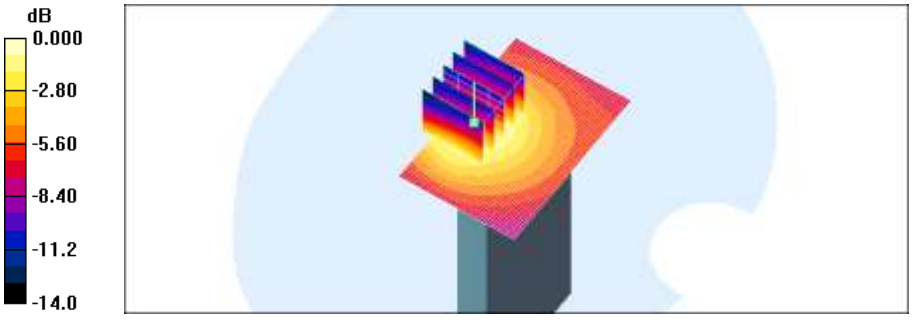
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side 16QAM 1RB 0offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.025 mW/g

LTE Body Top side 16QAM 1RB 0offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.04 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.039 W/kg
SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.014 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.024 mW/g



0 dB = 0.024mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

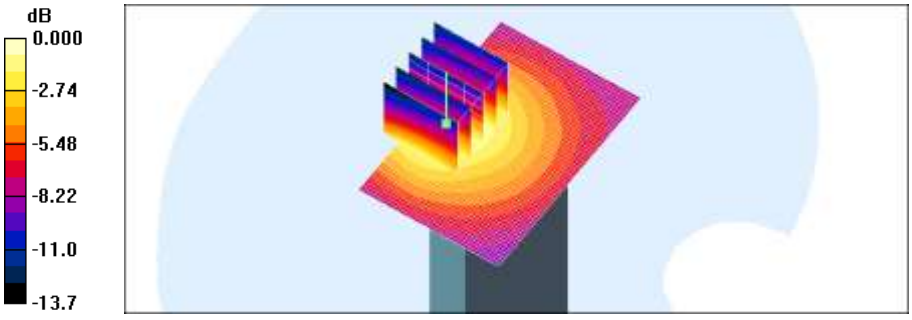
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Top side 16QAM 1RB 49offset 23230/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.034 mW/g

LTE Body Top side 16QAM 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.62 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.054 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.019 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.034 mW/g



0 dB = 0.034mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

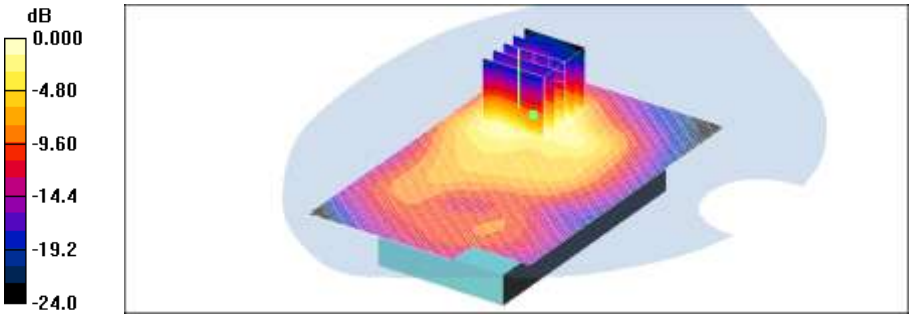
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

802.11b Body Rear 1ch/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.181 mW/g

802.11b Body Rear 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.82 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.506 W/kg
SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.094 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.18, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

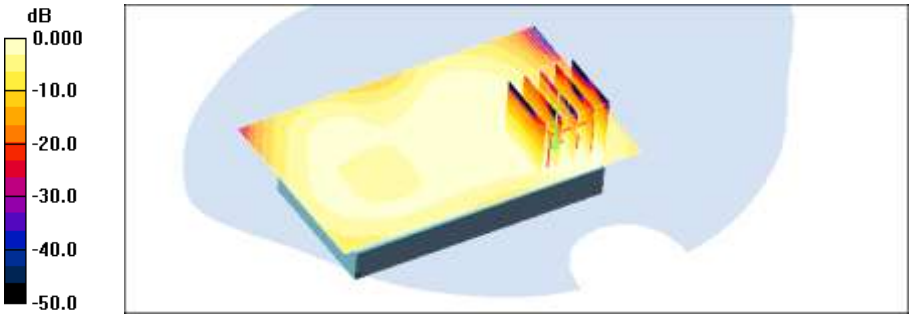
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802.11b Front 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.034 mW/g

802.11b Front 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.87 V/m; Power Drift = -0.137 dB
Peak SAR (extrapolated) = 0.081 W/kg
SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.018 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.035 mW/g



0 dB = 0.035mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.18, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

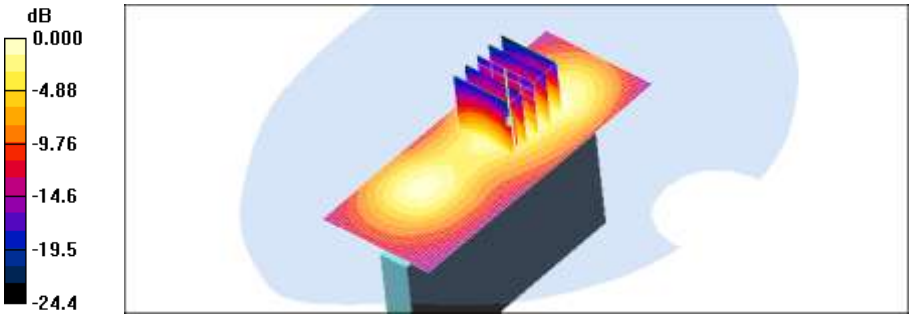
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802,11b Body Right side 1/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.100 mW/g

802,11b Body Right side 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.95 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.224 W/kg
SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.049 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:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.18, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

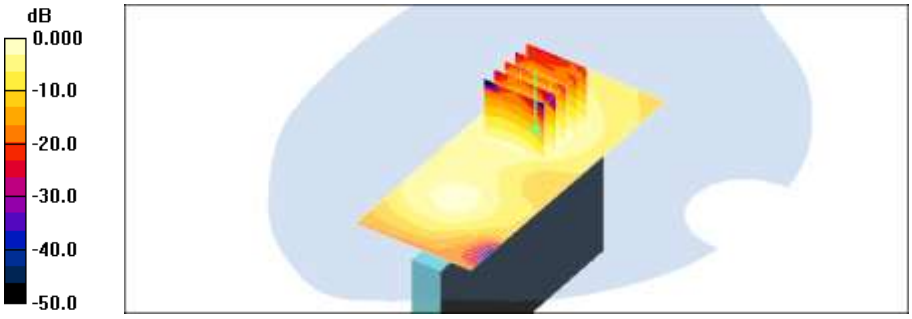
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802.11b Body Left side 1/Area Scan (41x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.040 mW/g

802.11b Body Left side 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.37 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.085 W/kg
SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.019 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.038 mW/g



0 dB = 0.038mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.18, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

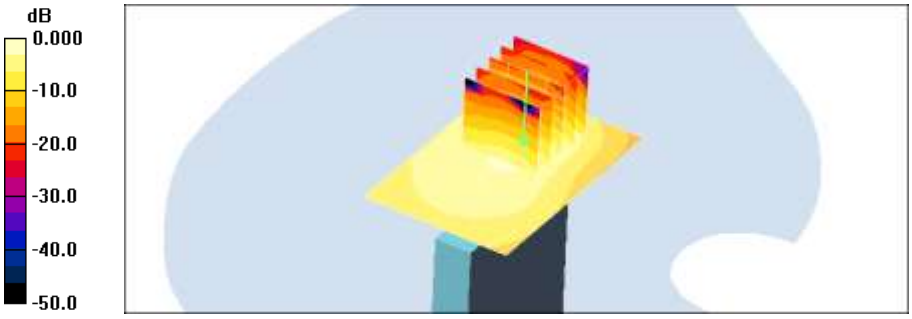
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802.11b Body Top 1/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.062 mW/g

802.11b Body Top 1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.09 V/m; Power Drift = 0.088 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.028 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:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

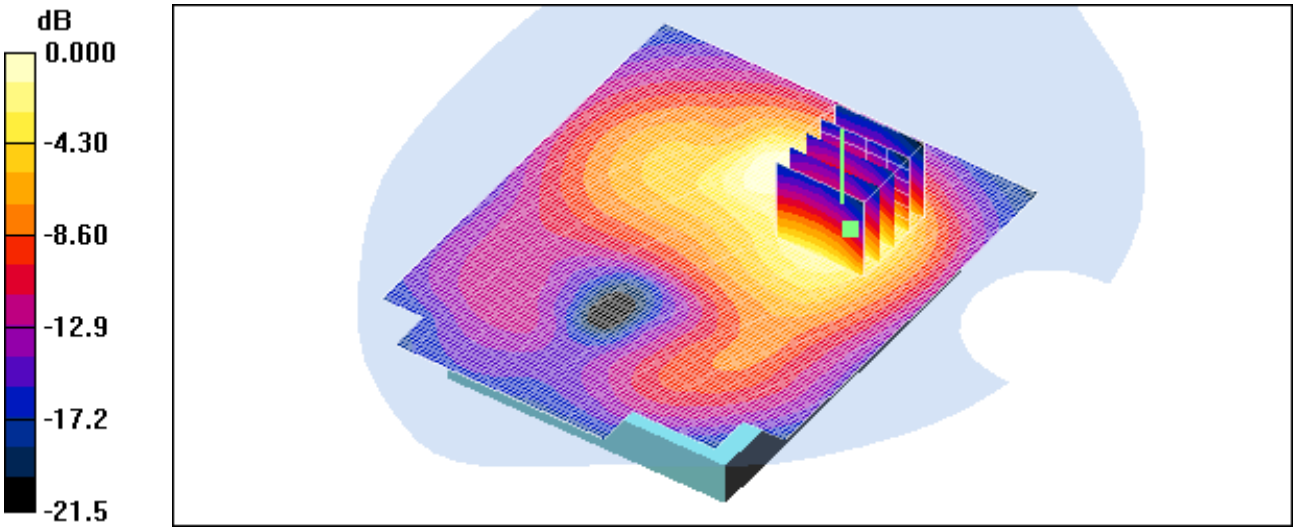
Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.89 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802.11b Body Rear 1ch 1Mbps/Area Scan (91x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.152 mW/g

802.11b Body Rear 1ch 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.63 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 0.330 W/kg
SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.145 mW/g



0 dB = 0.145mW/g

Volume Scan & Multi Band Results

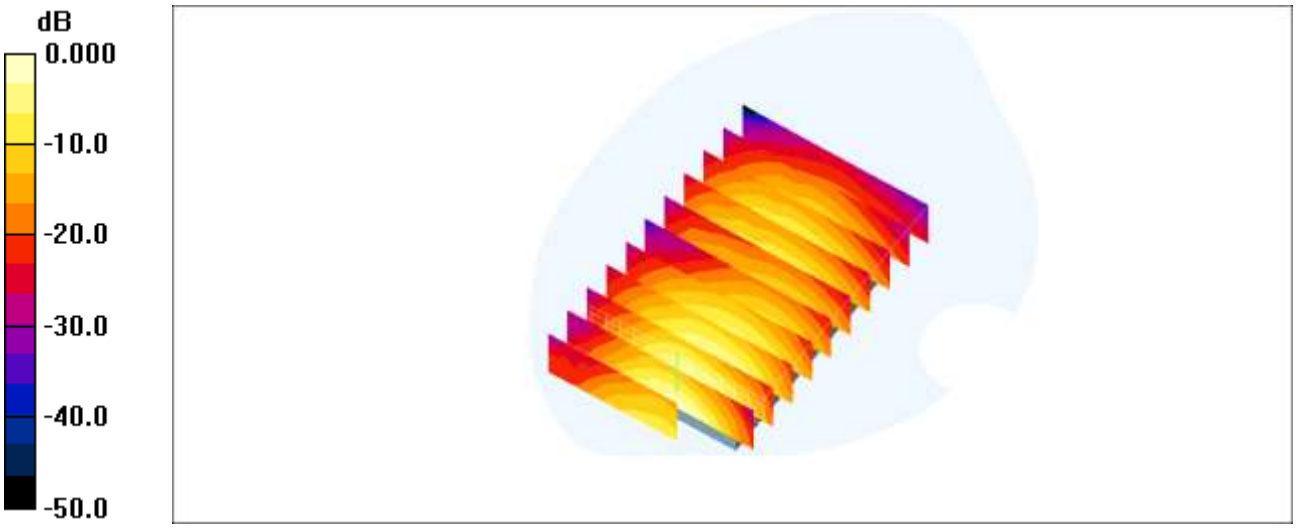
Test Laboratory: HCT CO., LTD
EUT Type: CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Rear 600/Volume Scan (14x21x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.880 mW/g; SAR(10 g) = 0.500 mW/g
Total Absorbed Power = 0.0412006 W
Maximum value of SAR (measured) = 0.902 mW/g



0 dB = 0.902mW/g

Test Laboratory: HCT CO., LTD
EUT Type: CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.19, 2012

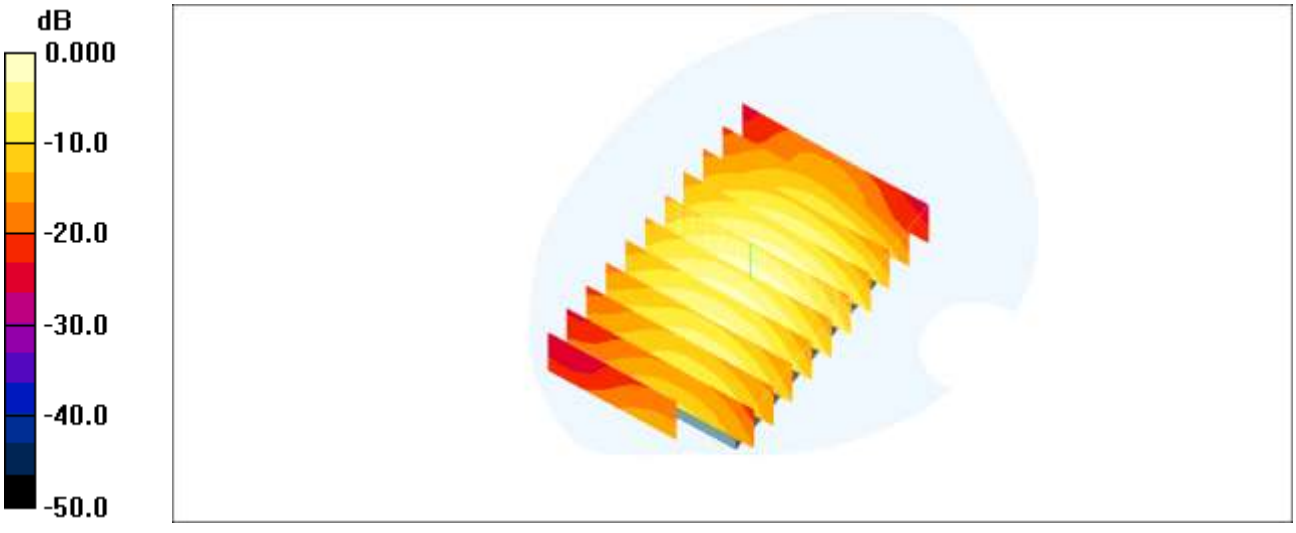
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.991 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

CDMA EVDO Body Rear 384/Volume Scan (14x21x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.7 V/m; Power Drift = -0.166 dB
Peak SAR (extrapolated) = 0.918 W/kg
SAR(1 g) = 0.721 mW/g; SAR(10 g) = 0.525 mW/g
Total Absorbed Power = 0.0724975 W

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.750 mW/g



0 dB = 0.750mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

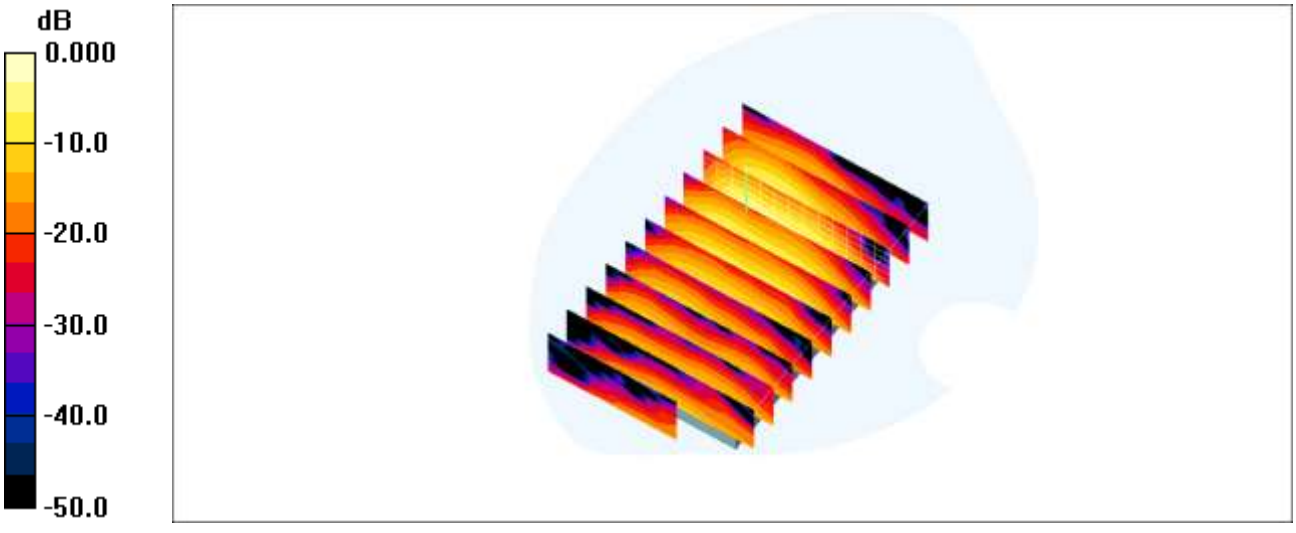
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

802.11b Body Rear 1ch/Volume Scan (14x21x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.82 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.502 W/kg
SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.094 mW/g
Total Absorbed Power = 0.00720773 W

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.205 mW/g



0 dB = 0.205mW/g

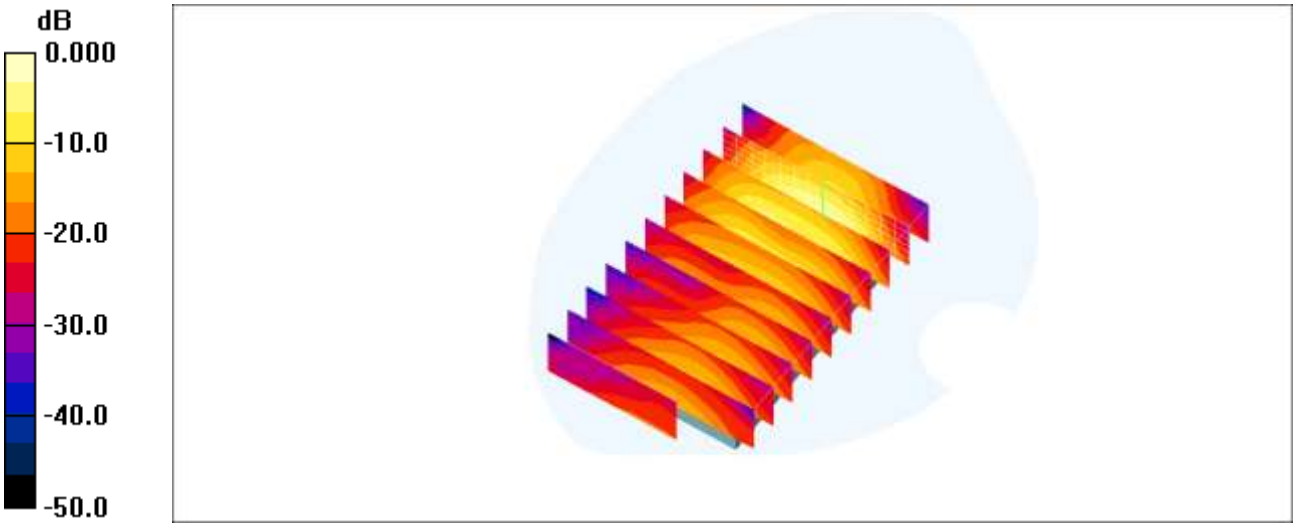
Test Laboratory: HCT CO., LTD
EUT Type: CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS EVDO Body Rear 600/Volume Scan (14x21x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = -0.217 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.427 mW/g
Total Absorbed Power = 0.0237822 W
Maximum value of SAR (measured) = 0.887 mW/g



0 dB = 0.887mW/g

MultiBand SAR: PCS1900 1xRTT & CDMA835 EVDO

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

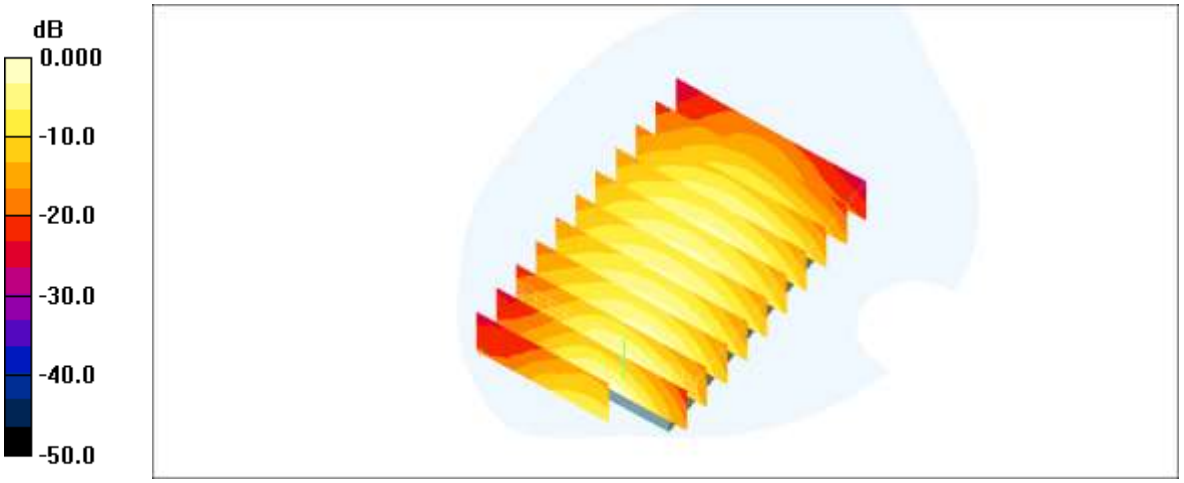
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.991 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Multi Band Result:
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

MultiBand SAR: PCS1900 1xRTT & CDMA835 EVDO & WiFi

Test Laboratory: HCT CO., LTD
EUT Type: CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.991 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

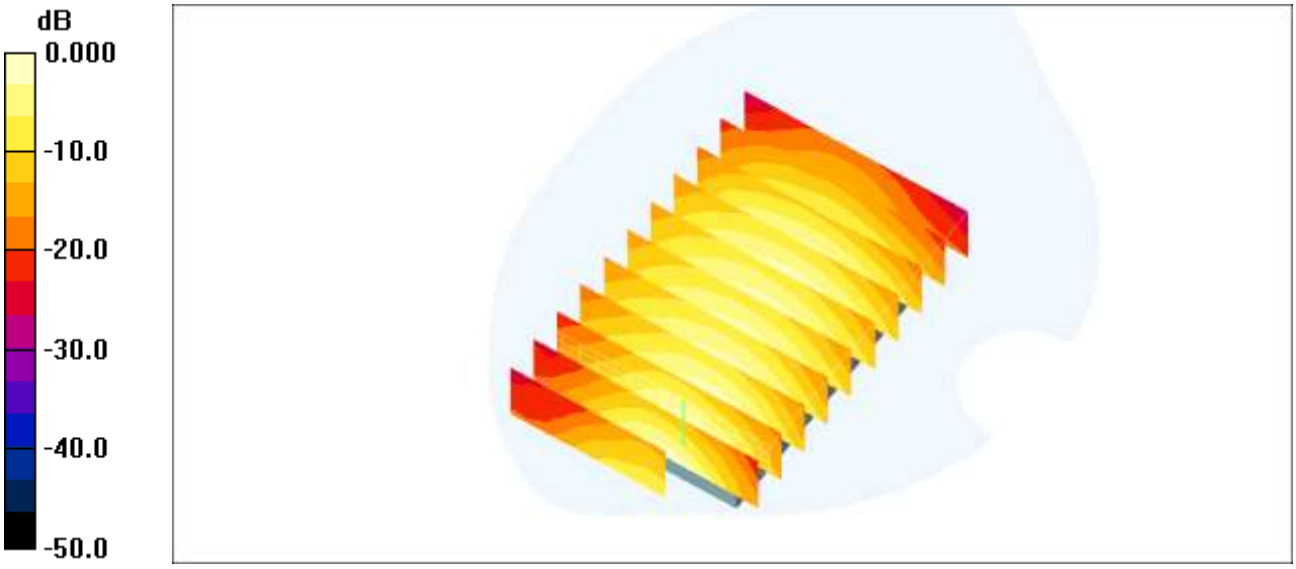
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Multi Band Result:
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.639 mW/g
Maximum value of SAR (measured) = 1.07 mW/g



0 dB = 1.07mW/g

MultiBand SAR: PCS1900 1xRTT & PCS1900 EVDO

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

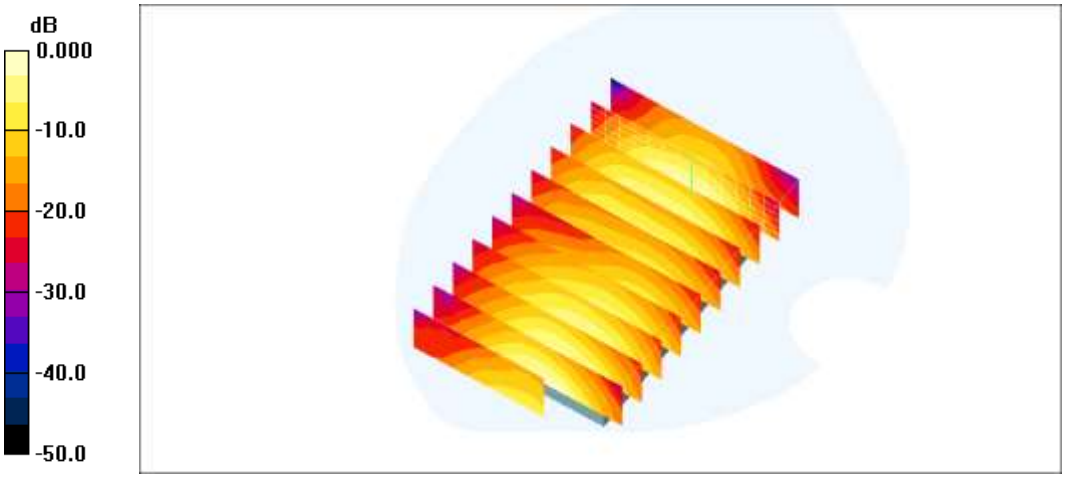
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Multi Band Result:
SAR(1 g) = 0.936 mW/g; SAR(10 g) = 0.539 mW/g
Maximum value of SAR (measured) = 0.972 mW/g



0 dB = 0.972mW/g

MultiBand SAR: PCS1900 1xRTT & PCS1900 EVDO & WiFi

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

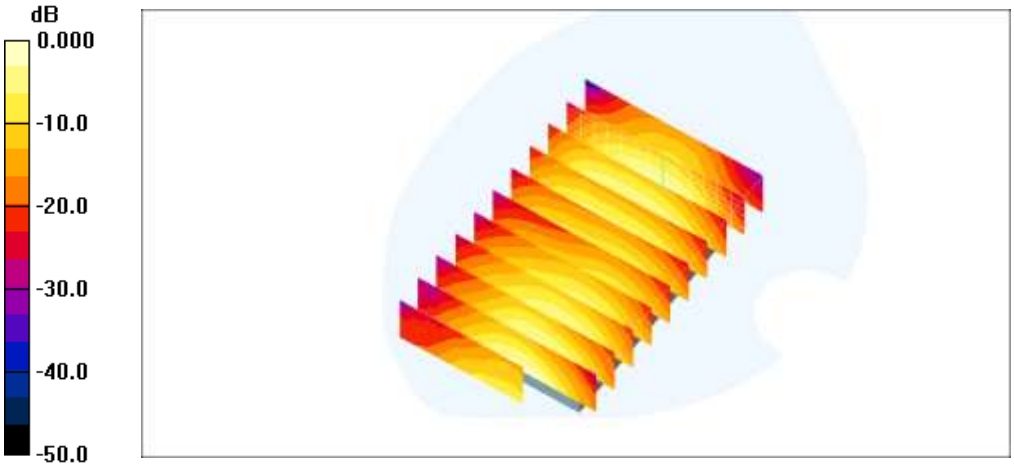
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Multi Band Result:
SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.553 mW/g
Maximum value of SAR (measured) = 1.00 mW/g



0 dB = 1.00mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.2 ℃
Ambient Temperature:	21.4 ℃
Test Date:	Feb.11, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.912 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

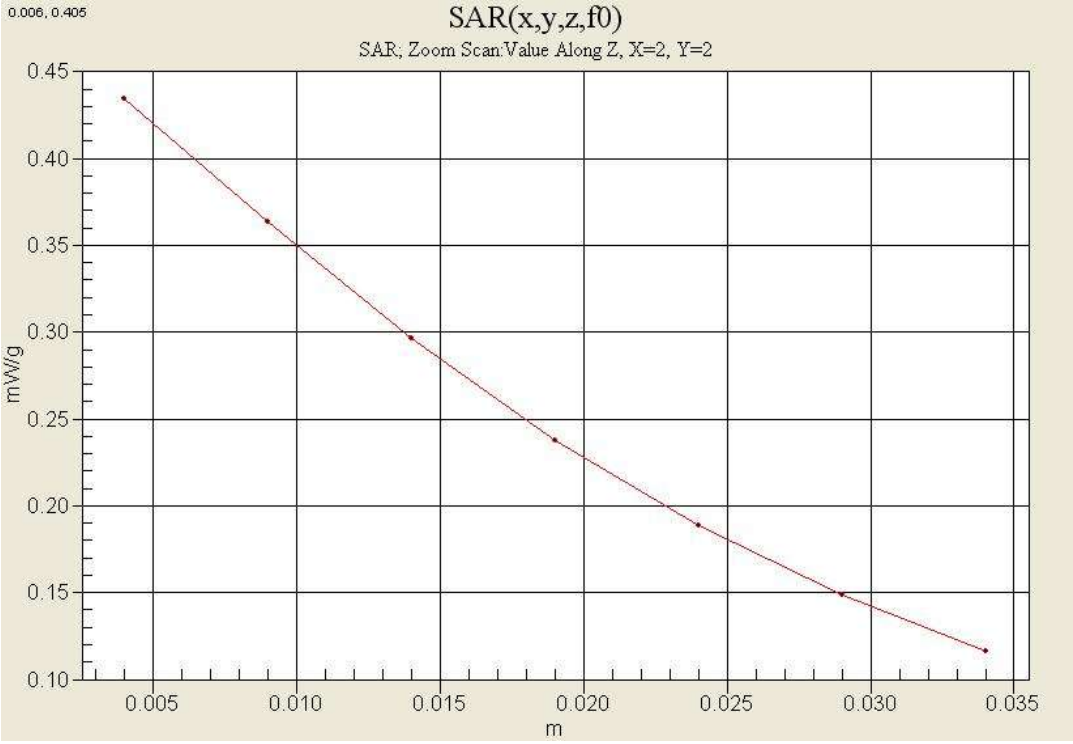
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Right touch 384/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.422 mW/g

Right touch 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.324 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.433 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.991 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

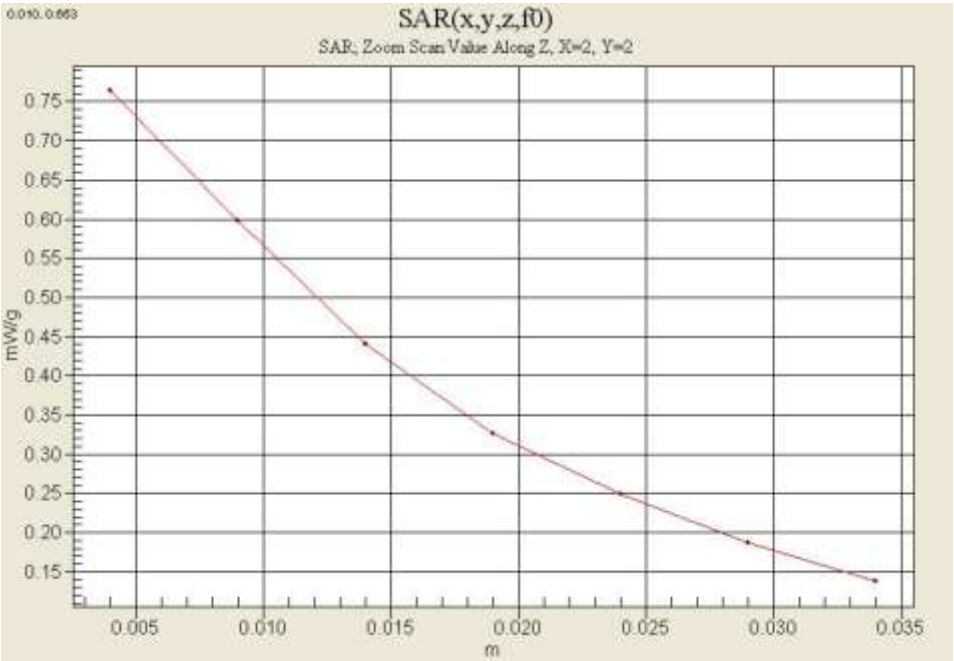
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

CDMA EVDO Body Rear 384/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.753 mW/g

CDMA EVDO Body Rear 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.7 V/m; Power Drift = -0.166 dB
Peak SAR (extrapolated) = 0.886 W/kg
SAR(1 g) = 0.719 mW/g; SAR(10 g) = 0.526 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.765 mW/g



Test Laboratory: HCT CO., LTD
EUT Type: CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.12, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Left Touch 600/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.721 mW/g

Left Touch 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.23 V/m; Power Drift = 0.075 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.626 mW/g; SAR(10 g) = 0.361 mW/g
Maximum value of SAR (measured) = 0.675 mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900MHz FCC; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Body Rear 600/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.01 mW/g

PCS 1xRTT Body Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.886 mW/g; SAR(10 g) = 0.497 mW/g
Maximum value of SAR (measured) = 0.952 mW/g

Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.2 ℃
Ambient Temperature: 21.4 ℃
Test Date: Feb.13, 2012

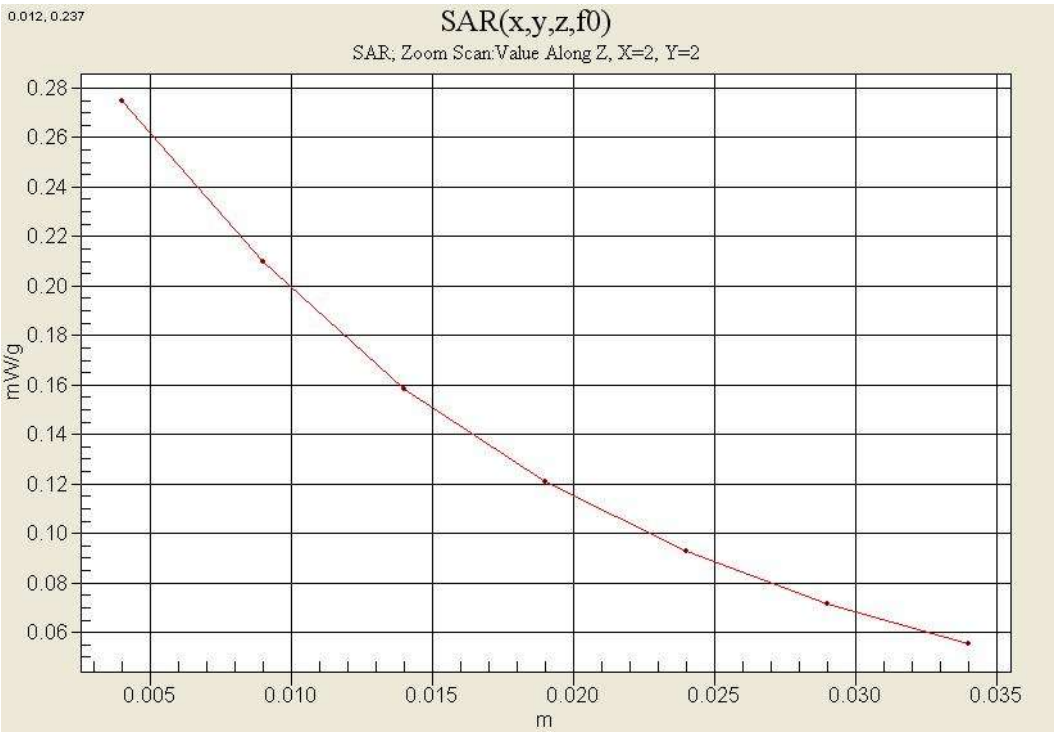
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.894 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

Left Touch 23230 QPSK 25RB 13offset/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.278 mW/g

Left Touch 23230 QPSK 25RB 13offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.343 W/kg
SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.198 mW/g
aximum value of SAR (measured) = 0.280 mW/g



Test Laboratory: HCT CO., LTD
EUT Type: Dual-Band CDMA Phone(CDMA/PCS CDMA)
Liquid Temperature: 21.3 ℃
Ambient Temperature: 21.5 ℃
Test Date: Feb.17, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

LTE Body Rear QPSK 1RB 49offset 23230/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.544 mW/g

LTE Body Rear QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.627 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.388 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.544 mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.1 ℃
Ambient Temperature:	21.3 ℃
Test Date:	Feb.14, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

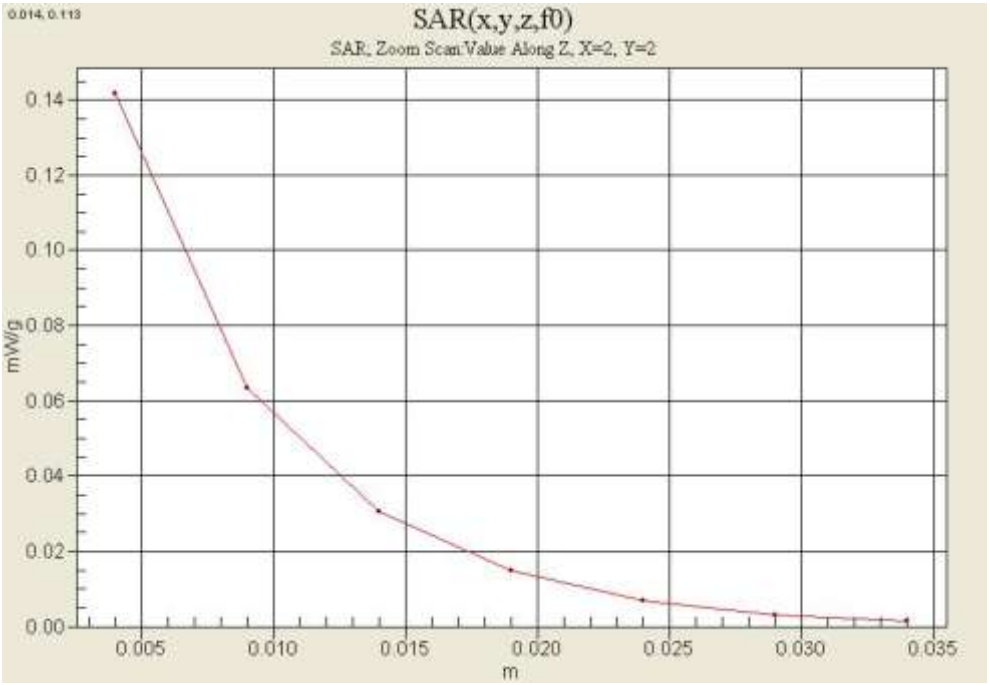
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Touch 1ch/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.148 mW/g

Left Touch 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.24 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.306 W/kg
SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.065 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.142 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Feb.19, 2012

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

802.11b Body Rear 1ch/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.181 mW/g

802.11b Body Rear 1ch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.82 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.506 W/kg
SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.094 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.195 mW/g

Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

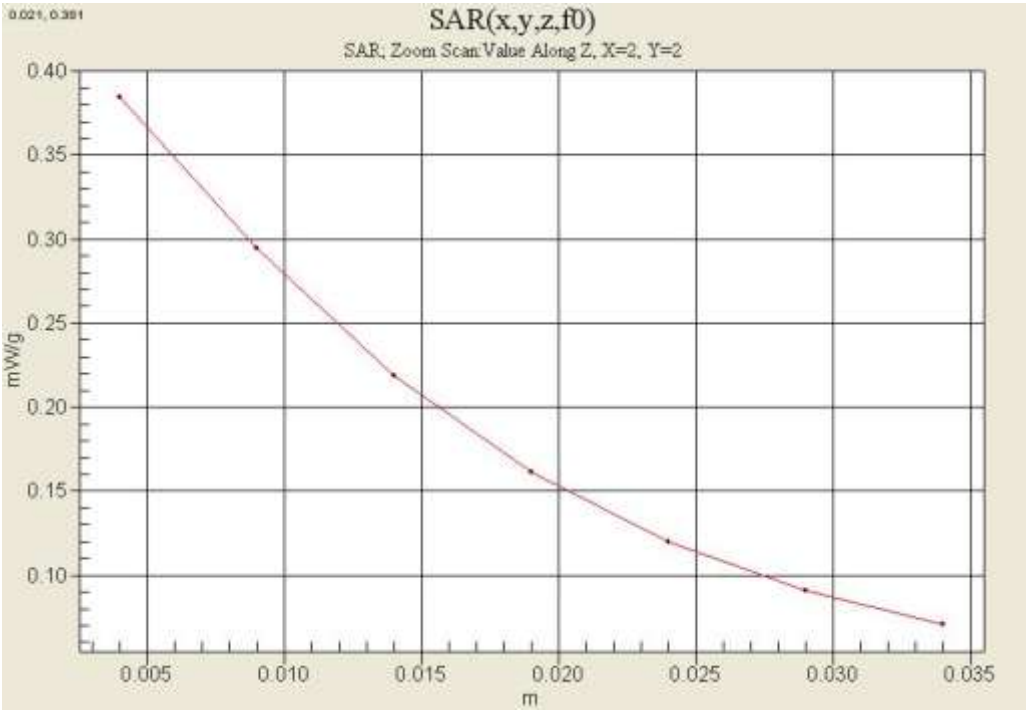
Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 0.887 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Right Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Right touch 384 1xRTT/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.393 mW/g

Right touch 384 1xRTT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.93 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.463 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.385 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

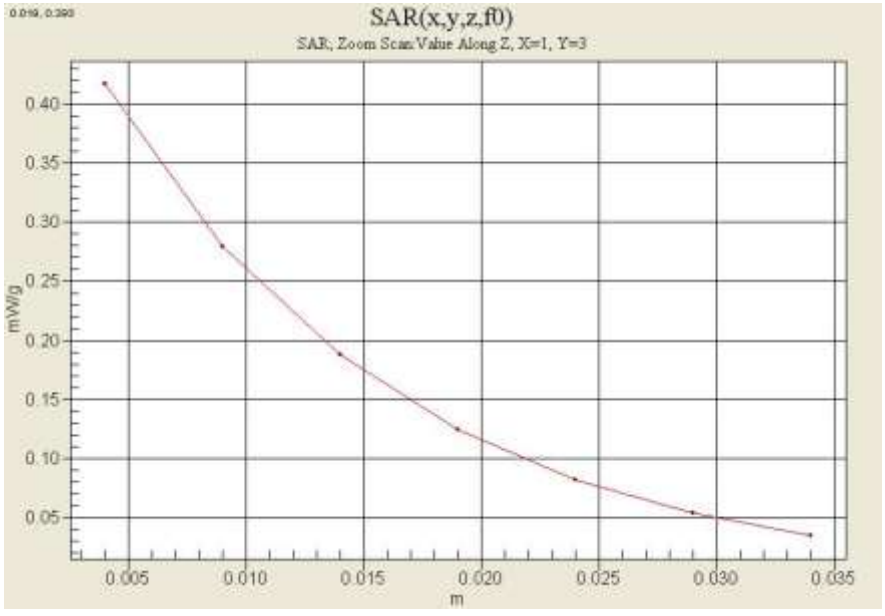
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Left Touch 1xRTT 600/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.451 mW/g

Left Touch 1xRTT 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.87 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 0.574 W/kg
SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.270 mW/g
Maximum value of SAR (measured) = 0.418 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

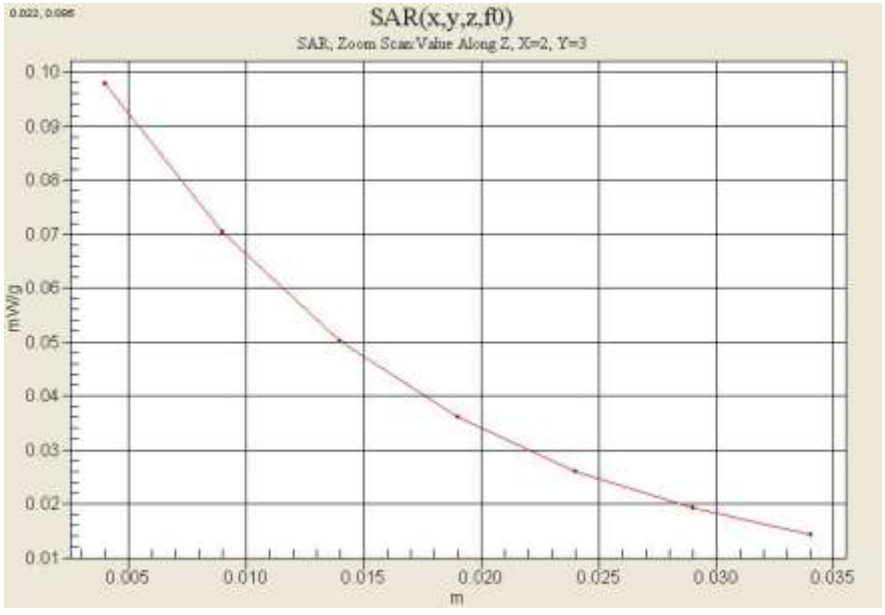
Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used: f = 782.5 MHz; σ = 0.893 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Left Touch 23230 QPSK 25RB 13 offset/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.111 mW/g

Left Touch 23230 QPSK 25RB 13 offset/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.063 mW/g

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



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

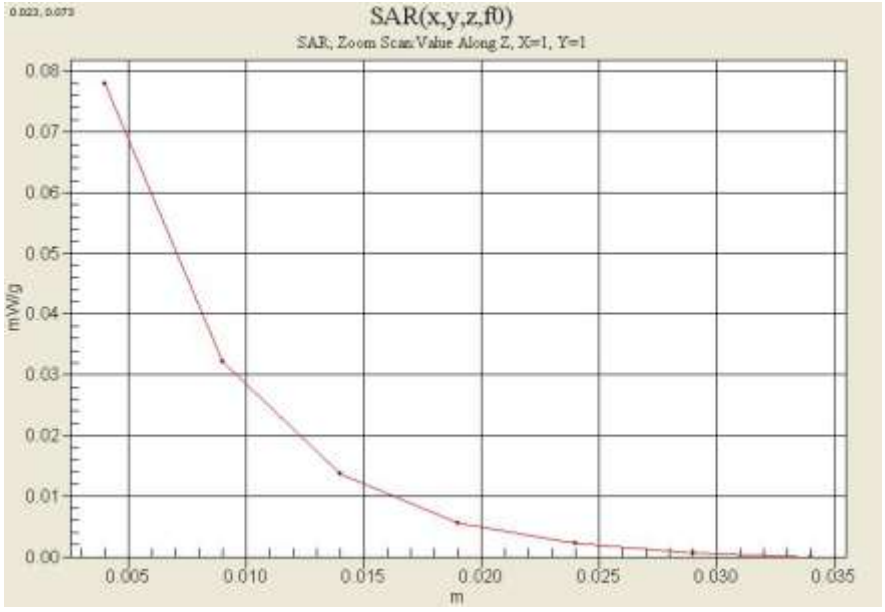
Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.81 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Left Touch 1ch 1Mbps/Area Scan (81x101x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.070 mW/g

Left Touch 1ch 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.81 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.078 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: CDMA 835MHz FCC; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.52 MHz; σ = 1.01 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

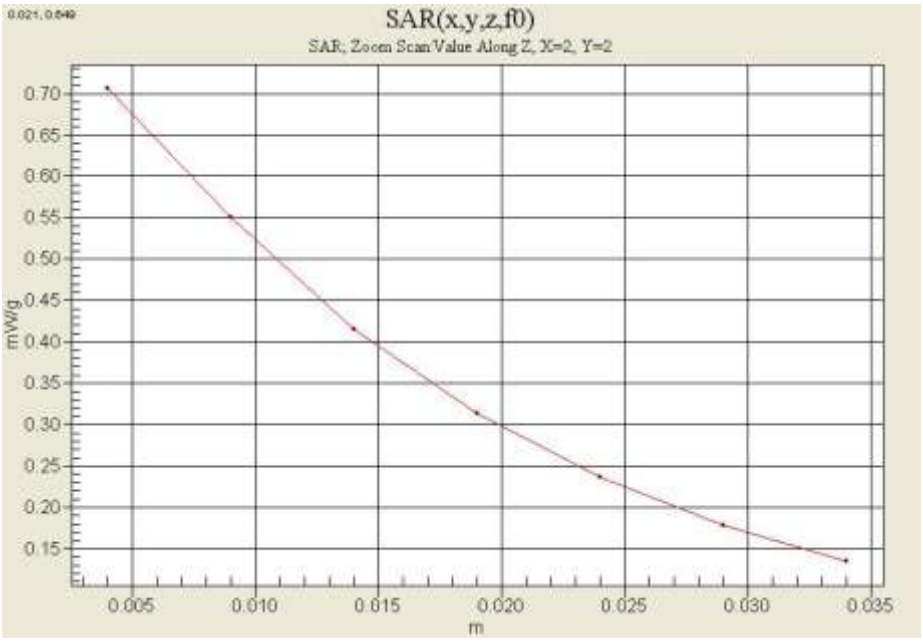
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

EVDO Body Rear 384/Area Scan (91x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.719 mW/g

EVDO Body Rear 384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = 0.100 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.490 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.707 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

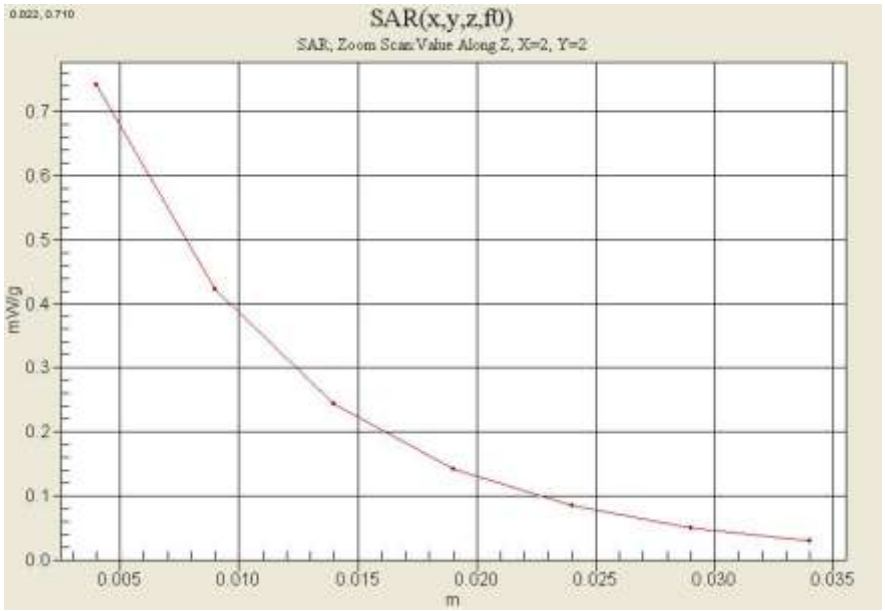
DUT: ADR910L; Type: Bar; Serial: #1

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

PCS 1xRTT Rear 600/Area Scan (91x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.769 mW/g

PCS 1xRTT Rear 600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.726 mW/g; SAR(10 g) = 0.382 mW/g
Maximum value of SAR (measured) = 0.743 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

Communication System: LTE; Frequency: 782 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 782 MHz; σ = 1 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

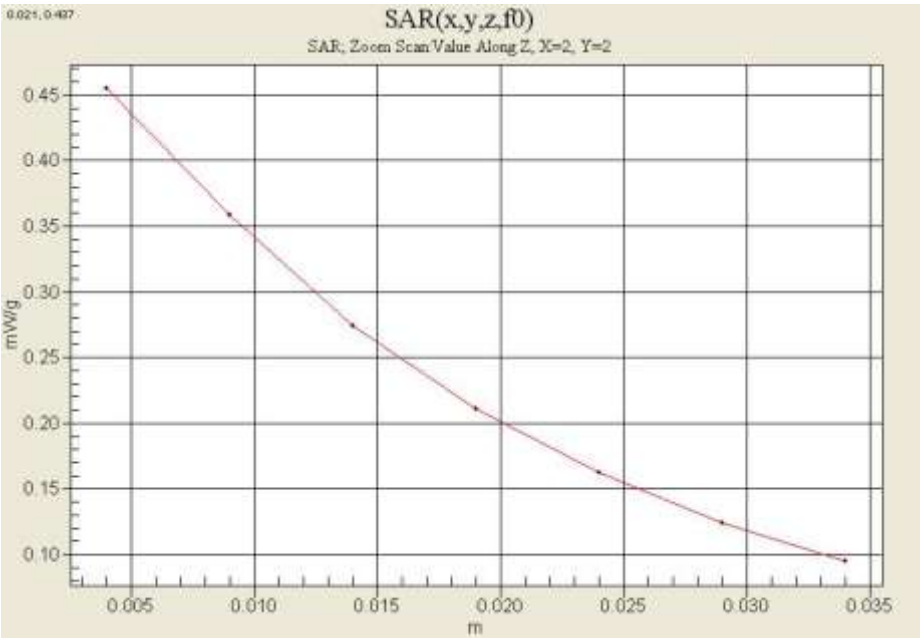
DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 800/900 Phantom; Type: SAM

LTE Body Rear QPSK 1RB 49offset 23230/Area Scan (91x91x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.480 mW/g

LTE Body Rear QPSK 1RB 49offset 23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.5 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 0.528 W/kg
SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.324 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.455 mW/g



Test Laboratory:	HCT CO., LTD
EUT Type:	CDAM/LTE Phone with Bluetooth & WLAN
Liquid Temperature:	21.3 ℃
Ambient Temperature:	21.5 ℃
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

DUT: ADR910L; Type: Bar; Serial: #1

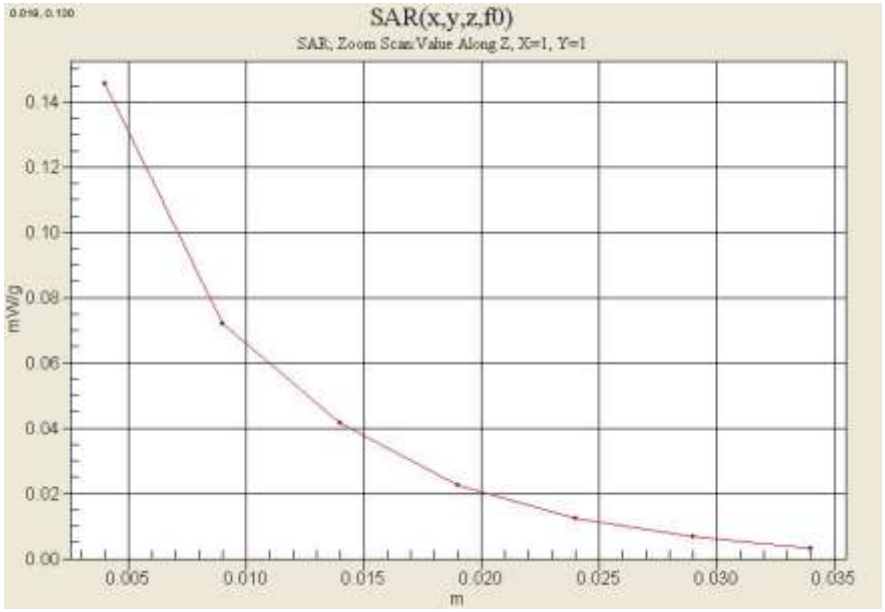
Communication System: 2450MHz FCC; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.89 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

802.11b Body Rear 1ch 1Mbps/Area Scan (91x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.152 mW/g

802.11b Body Rear 1ch 1Mbps/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.63 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 0.330 W/kg
SAR(1 g) = 0.146 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.145 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: 21.2 ℃

Test Date: Feb. 11, 2012

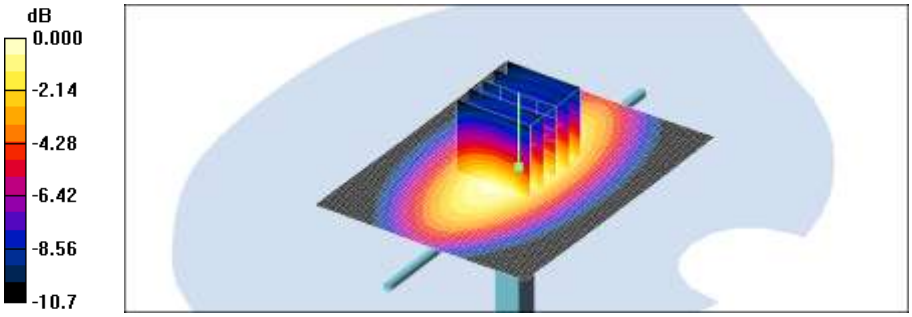
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.911 mho/m; ε_r = 43.1; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Validation 835 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.8 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.959 mW/g; SAR(10 g) = 0.632 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

■ Validation Data (835 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.1 ℃

Test Date: Feb. 15, 2012

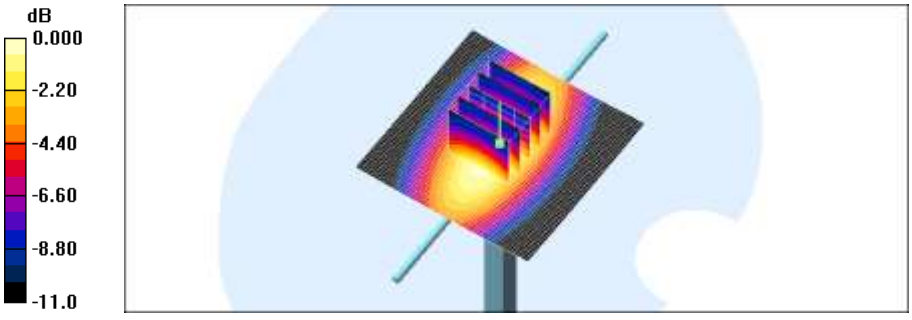
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 835MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Validation 835MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.1 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.967 mW/g; SAR(10 g) = 0.622 mW/g
Maximum value of SAR (measured) = 1.06 mW/g



0 dB = 1.06mW/g

■ Validation Data (1900 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.2 ℃

Test Date: Feb. 12, 2012

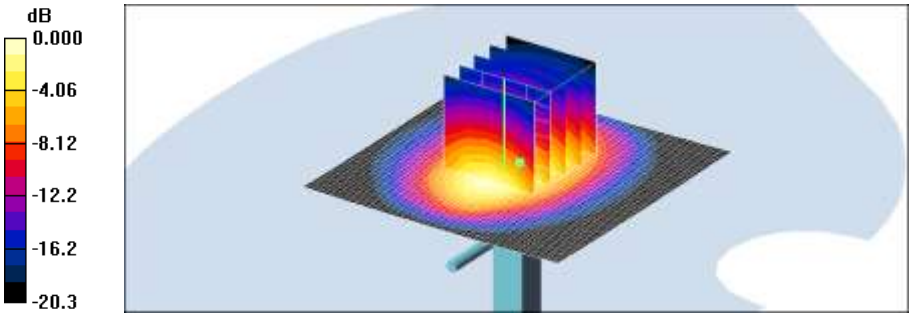
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN:5d032

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 – SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 4.82 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 59.0 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 7.19 W/kg
SAR(1 g) = 4 mW/g; SAR(10 g) = 2.05 mW/g
Maximum value of SAR (measured) = 4.45 mW/g



0 dB = 4.45mW/g

■ Validation Data (1900 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.2 ℃

Test Date: Feb. 16, 2012

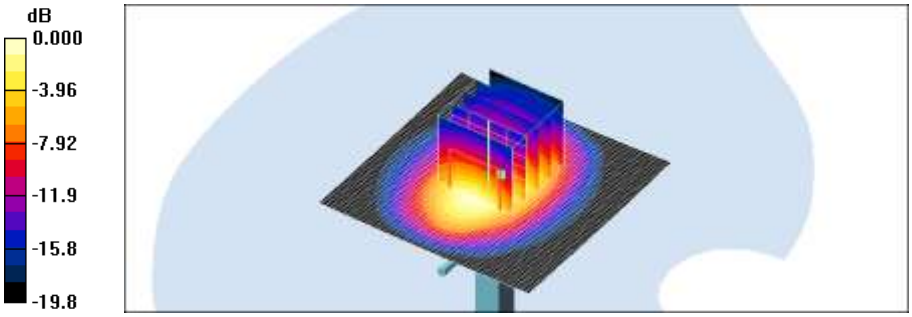
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d032

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.48 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 4.93 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 59.5 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 7.11 W/kg
SAR(1 g) = 4.13 mW/g; SAR(10 g) = 2.16 mW/g
aximum value of SAR (measured) = 4.64 mW/g



0 dB = 4.64mW/g

■ Validation Data (LTE 750 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.2 ℃

Test Date: Feb. 13, 2012

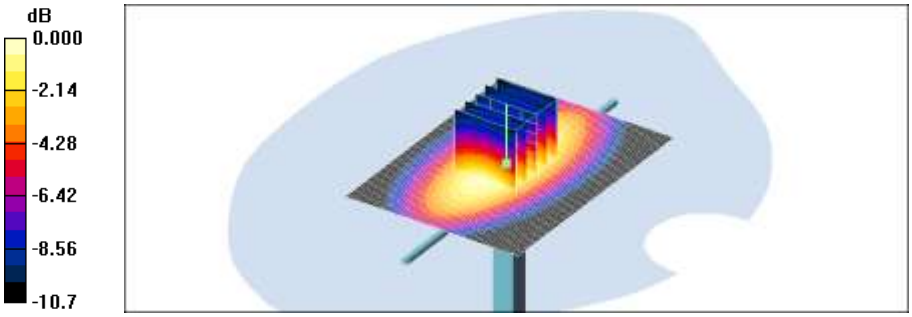
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1014

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.866 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.94, 6.94, 6.94); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Validation 750 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.886 mW/g

Validation 750 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.1 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.828 mW/g; SAR(10 g) = 0.542 mW/g
Maximum value of SAR (measured) = 0.901 mW/g



0 dB = 0.901mW/g

■ Validation Data (LTE 750 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Feb. 17, 2012

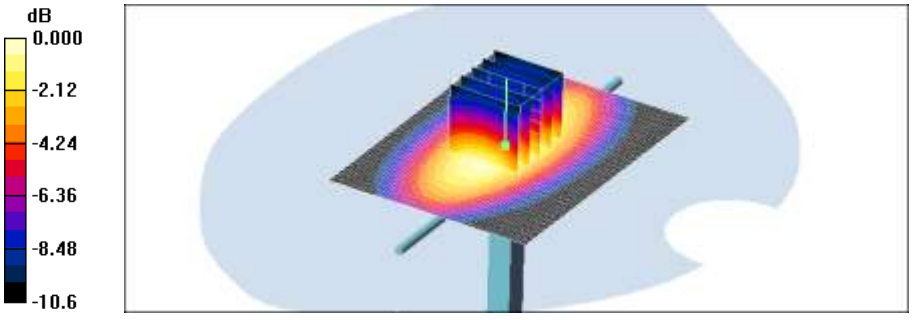
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1014

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.971 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.79, 6.79, 6.79); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: 1800/1900 Phantom; Type: SAM

Validation 750MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.967 mW/g

Validation 750MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.8 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.890 mW/g; SAR(10 g) = 0.587 mW/g
Maximum value of SAR (measured) = 0.965 mW/g



0 dB = 0.965mW/g

■ Validation Data (2450 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.1 ℃

Test Date: Feb. 14, 2012

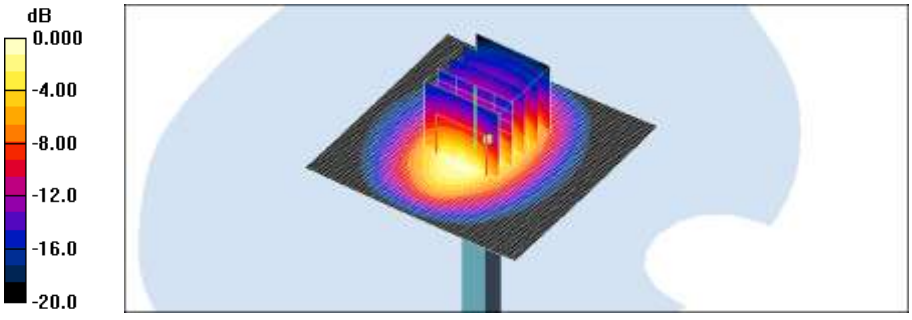
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:743

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.85 mho/m; ε_r = 38.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 2450MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 6.53 mW/g

Dipole 2450MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 60.6 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 9.98 W/kg
SAR(1 g) = 5.47 mW/g; SAR(10 g) = 2.83 mW/g
aximum value of SAR (measured) = 6.08 mW/g



0 dB = 6.08mW/g

■ Validation Data (2450 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.1 ℃

Test Date: Feb. 18, 2012

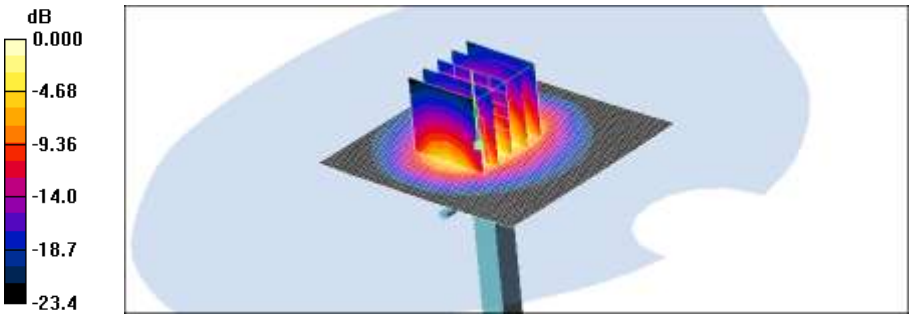
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:743

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.98 mho/m; ε_r = 50.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 2450MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 6.23 mW/g

Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.7 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 13.5 W/kg
SAR(1 g) = 5.25 mW/g; SAR(10 g) = 2.35 mW/g
Maximum value of SAR (measured) = 5.62 mW/g



0 dB = 5.62mW/g

■ Validation Data (835 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Feb. 19, 2012

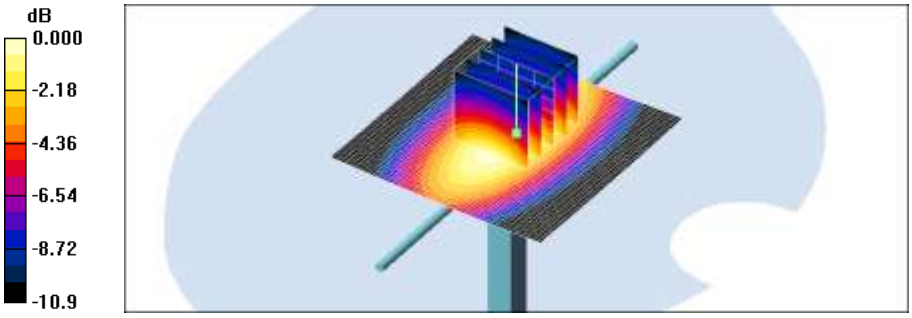
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.989 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 835MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Validation 835MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.0 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.960 mW/g; SAR(10 g) = 0.619 mW/g
Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

■ Validation Data (1900 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Feb. 19, 2012

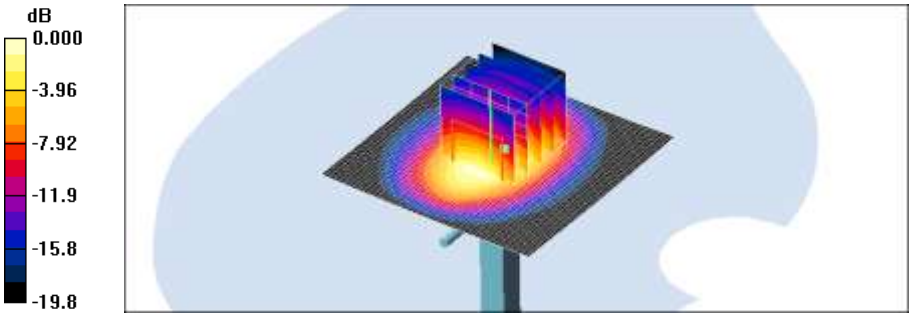
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN:5d032

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.48 mho/m; ε_r = 55.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 – SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.00 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 60.4 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 7.27 W/kg
SAR(1 g) = 4.21 mW/g; SAR(10 g) = 2.2 mW/g
aximum value of SAR (measured) = 4.71 mW/g



0 dB = 4.71mW/g

■ Validation Data (2450 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Feb. 19, 2012

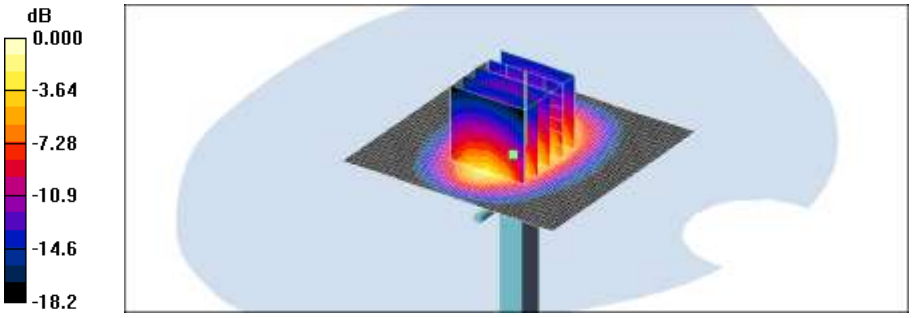
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:743

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.98 mho/m; ε_r = 50.6; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Dipole 2450MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 6.12 mW/g

Dipole 2450MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.4 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 10.5 W/kg
SAR(1 g) = 5.29 mW/g; SAR(10 g) = 2.73 mW/g
Maximum value of SAR (measured) = 5.77 mW/g



0 dB = 5.77mW/g

■ Validation Data (835 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

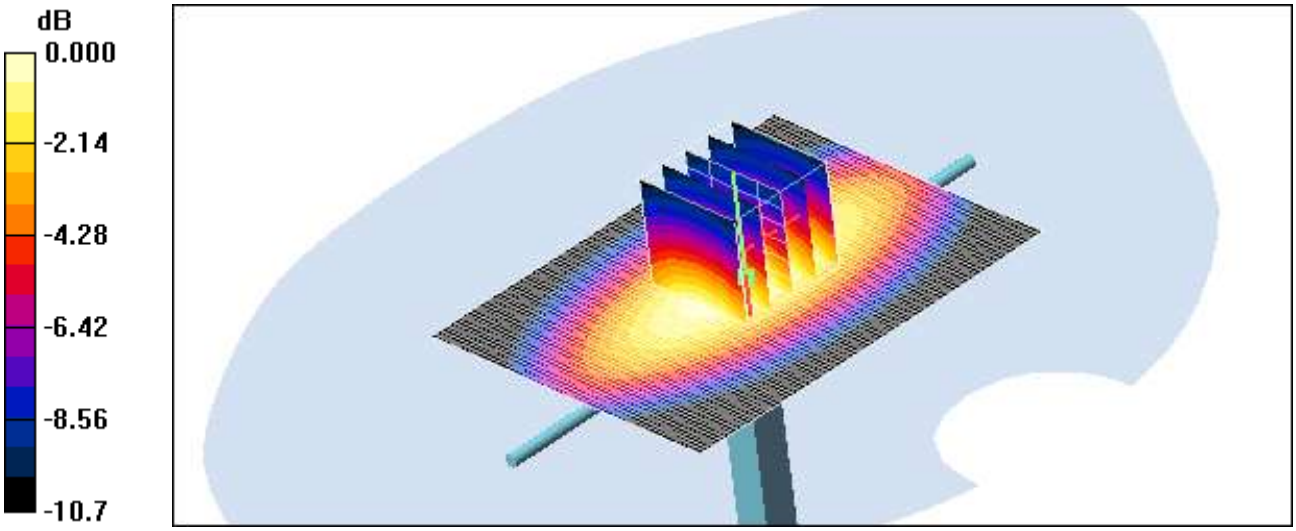
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 – SN:441

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.885 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Validation 835 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Validation 835 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.8 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.614 mW/g
Maximum value of SAR (measured) = 0.998 mW/g



0 dB = 0.998mW/g

■ Validation Data (835 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

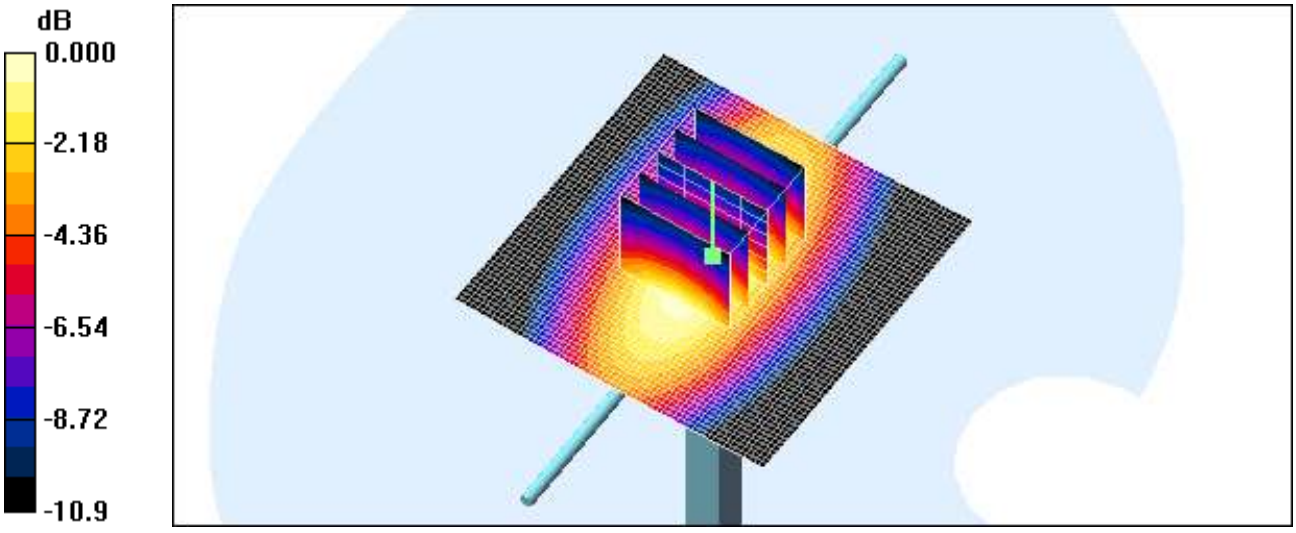
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 – SN:441

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 835MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Validation 835MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.8 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.962 mW/g; SAR(10 g) = 0.622 mW/g
Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

■ Validation Data (1900 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

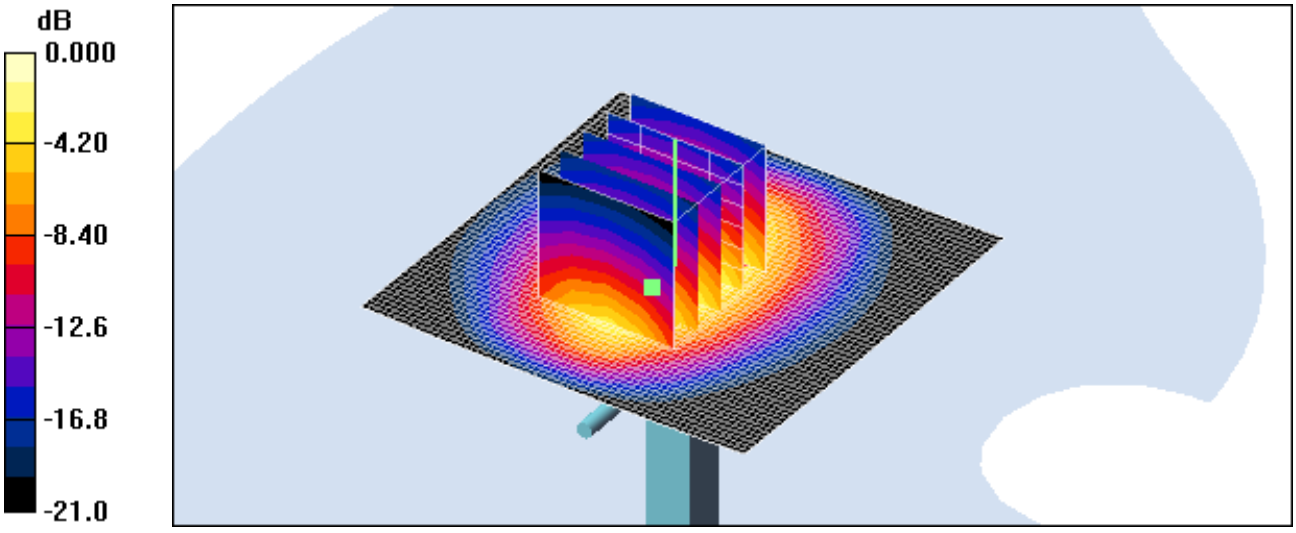
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN:5d032

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(5.24, 5.24, 5.24); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 4.69 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 59.3 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 7.26 W/kg
SAR(1 g) = 4.02 mW/g; SAR(10 g) = 2.05 mW/g
Maximum value of SAR (measured) = 4.54 mW/g



0 dB = 4.54mW/g

■ Validation Data (1900 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

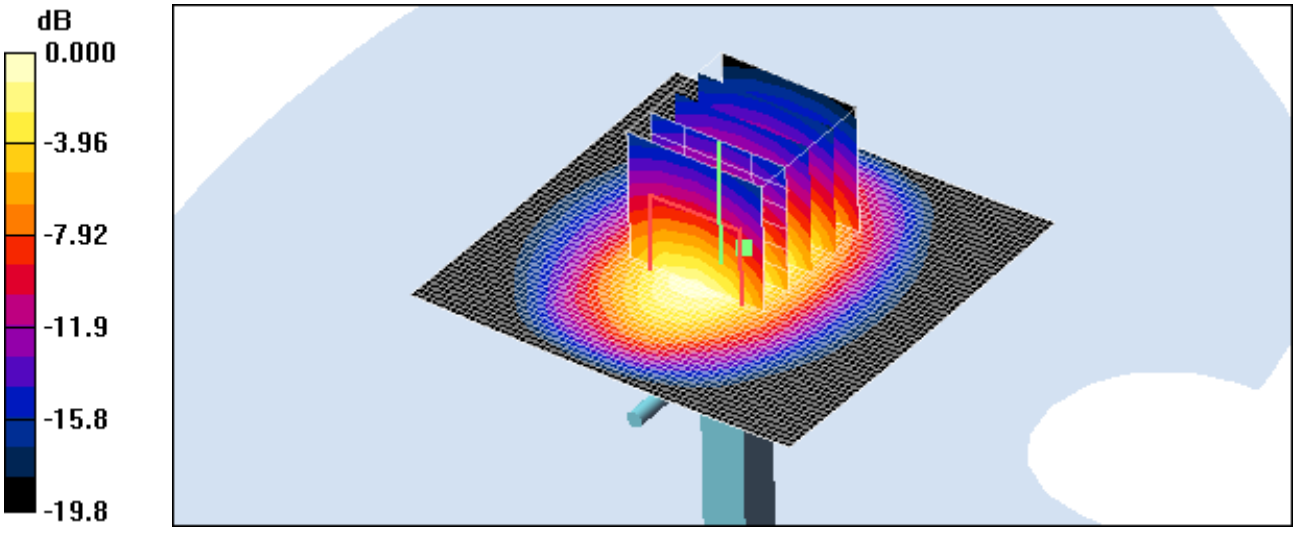
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 – SN:5d032

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.63, 4.63, 4.63); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Dipole 1900MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 5.10 mW/g

Dipole 1900MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 60.4 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 7.42 W/kg
SAR(1 g) = 4.29 mW/g; SAR(10 g) = 2.24 mW/g
Maximum value of SAR (measured) = 4.81 mW/g



0 dB = 4.81mW/g

■ Validation Data (LTE 750 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

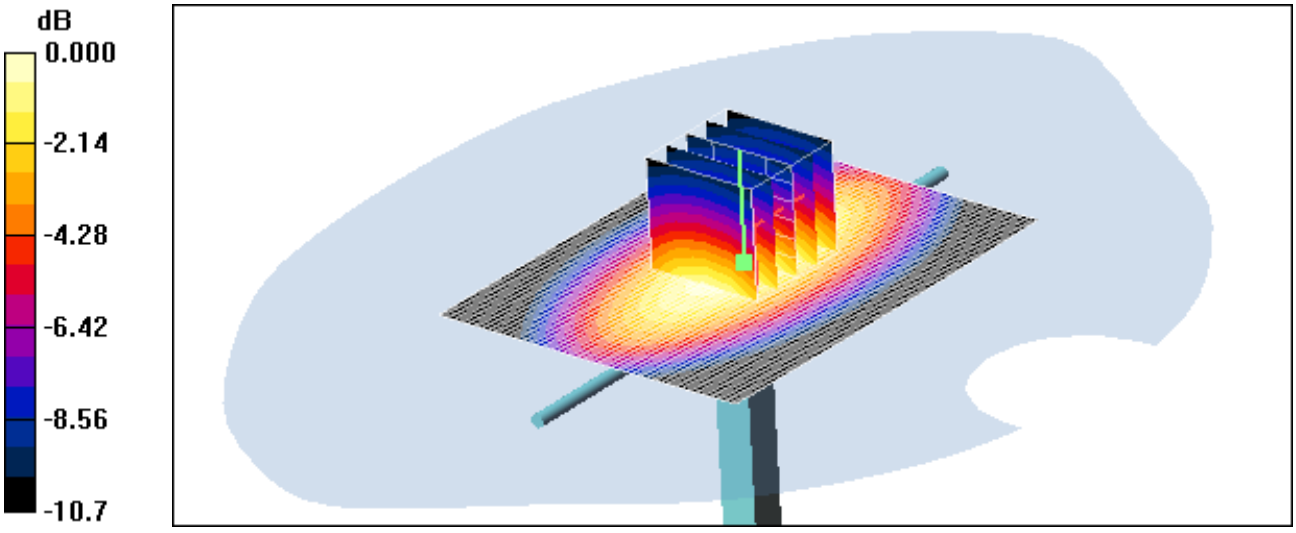
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 – SN:1014

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.865 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.72, 6.72, 6.72); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Validation 750 MHz/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.917 mW/g

Validation 750 MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.6 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.854 mW/g; SAR(10 g) = 0.559 mW/g
Maximum value of SAR (measured) = 0.921 mW/g



0 dB = 0.921mW/g

■ Validation Data (LTE 750 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

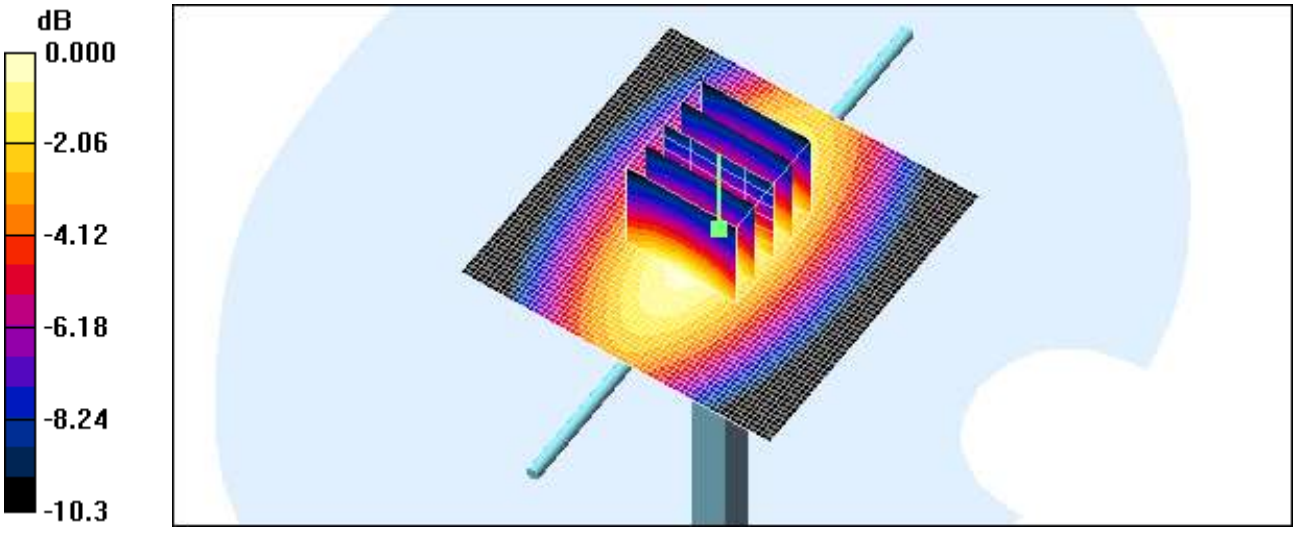
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 – SN:1014

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.971 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(6.5, 6.5, 6.5); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Validation 750MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.952 mW/g

Validation 750MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.7 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.879 mW/g; SAR(10 g) = 0.582 mW/g
Maximum value of SAR (measured) = 0.955 mW/g



0 dB = 0.955mW/g

■ Validation Data (2450 MHz Head)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

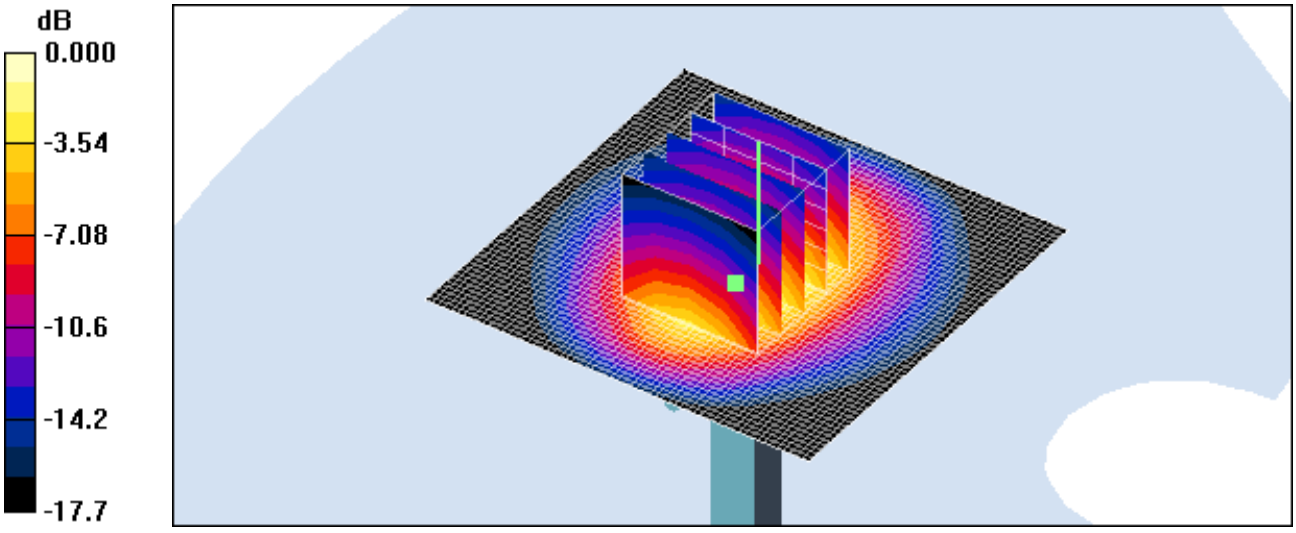
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 – SN:743

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.84 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.56, 4.56, 4.56); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 835/900 MHz; Type: SAM

Dipole 2450MHz Validation/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 6.20 mW/g

Dipole 2450MHz Validation/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 60.2 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 9.63 W/kg
SAR(1 g) = 5.56 mW/g; SAR(10 g) = 3.09 mW/g
Maximum value of SAR (measured) = 6.12 mW/g



0 dB = 6.12mW/g

■ Validation Data (2450 MHz Body)

Test Laboratory: HCT CO., LTD

Input Power 100 mW (20 dBm)

Liquid Temp: 21.3 ℃

Test Date: Mar. 9, 2012

Configuration QWERTY Slide Open

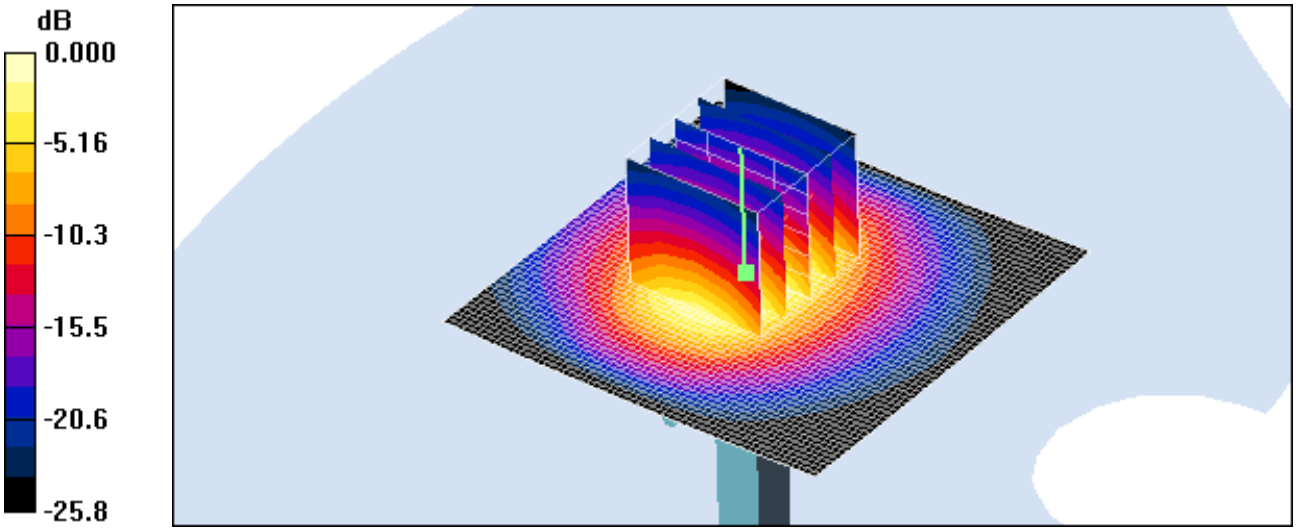
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 – SN:743

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.95 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section ; Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

DASY4 Configuration:
- Probe: ET3DV6 - SN1798; ConvF(4.21, 4.21, 4.21); Calibrated: 2011-04-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn446; Calibrated: 2011-09-27
- Phantom: SAM 1800/1900 MHz; Type: SAM

Validation 2450MHz/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 6.38 mW/g

Validation 2450MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.8 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 13.2 W/kg
SAR(1 g) = 5.29 mW/g; SAR(10 g) = 2.35 mW/g
Maximum value of SAR (measured) = 5.73 mW/g



0 dB = 5.73mW/g

■ Dielectric Parameter (835 MHz Head)

Title ADR910L

SubTitle CDMA835(Head)

Test Date Feb. 11, 2012

Frequency	e'	e''
800000000.0000	43.5887	19.7291
805000000.0000	43.5071	19.7376
810000000.0000	43.4714	19.7117
815000000.0000	43.4158	19.6701
820000000.0000	43.2831	19.6564
825000000.0000	43.2558	19.6132
830000000.0000	43.1913	19.5864
835000000.0000	43.1099	19.6072
840000000.0000	43.0418	19.5611
845000000.0000	43.0026	19.5386
850000000.0000	42.9396	19.5390
855000000.0000	42.8551	19.5511
860000000.0000	42.7919	19.5261
865000000.0000	42.7415	19.5234
870000000.0000	42.7055	19.5319
875000000.0000	42.6526	19.5149
880000000.0000	42.5977	19.4886
885000000.0000	42.5492	19.4809
890000000.0000	42.5221	19.5071
895000000.0000	42.4671	19.4565
900000000.0000	42.3927	19.4374

■ Dielectric Parameter (835 MHz Body)

Title	ADR910L
SubTitle	CDMA 850(Body)
Test Date	Feb. 15, 2012

Frequency	e'	e''
800000000.0000	54.9287	21.3265
805000000.0000	54.8601	21.3225
810000000.0000	54.8172	21.3547
815000000.0000	54.7141	21.3409
820000000.0000	54.6197	21.3468
825000000.0000	54.5502	21.3551
830000000.0000	54.4847	21.3398
835000000.0000	54.3645	21.3229
840000000.0000	54.3052	21.3172
845000000.0000	54.2616	21.2620
850000000.0000	54.2332	21.2016
855000000.0000	54.1764	21.1795
860000000.0000	54.1436	21.1324
865000000.0000	54.1379	21.0700
870000000.0000	54.0996	21.0472
875000000.0000	54.1028	21.0193
880000000.0000	54.1029	20.9819
885000000.0000	54.0814	20.9423
890000000.0000	54.0367	20.9226
895000000.0000	54.0364	20.9067
900000000.0000	53.9842	20.8902

■ Dielectric Parameter (1900 MHz Head)

Title	ADR910L
SubTitle	PCS1900(Head)
Test Date	Feb. 12, 2012

Frequency	e'	e''
1800000000.0000	39.4492	12.8591
1810000000.0000	39.4027	12.8888
1820000000.0000	39.3682	12.9262
1830000000.0000	39.3434	12.9577
1840000000.0000	39.3098	12.9826
1850000000.0000	39.2706	13.0109
1860000000.0000	39.2245	13.0406
1870000000.0000	39.1835	13.0524
1880000000.0000	39.1598	13.0950
1890000000.0000	39.1216	13.1171
1900000000.0000	39.0676	13.1404
1910000000.0000	39.0284	13.1664
1920000000.0000	38.9834	13.2137
1930000000.0000	38.9535	13.2368
1940000000.0000	38.9073	13.2646
1950000000.0000	38.8668	13.2947
1960000000.0000	38.8217	13.3250
1970000000.0000	38.7809	13.3555
1980000000.0000	38.7533	13.3689
1990000000.0000	38.6974	13.4126
2000000000.0000	38.6760	13.4452

■ Dielectric Parameter (1900 MHz Body)

Title	ADR910L
SubTitle	PCS1900(Body)
Test Date	Feb. 16, 2012

Frequency	e'	e''
1850000000.0000	55.4790	13.8137
1855000000.0000	55.4593	13.8413
1860000000.0000	55.4302	13.8408
1865000000.0000	55.4046	13.8528
1870000000.0000	55.3983	13.8601
1875000000.0000	55.3789	13.8805
1880000000.0000	55.3725	13.8976
1885000000.0000	55.3641	13.9184
1890000000.0000	55.3616	13.9477
1895000000.0000	55.3702	13.9590
1900000000.0000	55.3647	13.9853
1905000000.0000	55.3737	14.0012
1910000000.0000	55.3752	14.0120
1915000000.0000	55.3724	14.0171
1920000000.0000	55.3695	14.0136
1925000000.0000	55.3800	14.0150
1930000000.0000	55.3805	14.0153
1935000000.0000	55.3640	14.0000
1940000000.0000	55.3554	14.0257
1945000000.0000	55.3385	13.9936
1950000000.0000	55.3224	13.9879

■ Dielectric Parameter (750 MHz Head)

Title	ADR910L
SubTitle	LTE (Head)
Test Date	Feb. 13, 2012

Frequency	e'	e''
750000000.0000	42.0962	20.7531
752500000.0000	42.0595	20.7729
755000000.0000	42.0198	20.6898
757500000.0000	42.0038	20.6986
760000000.0000	41.9529	20.6593
762500000.0000	41.9159	20.6508
765000000.0000	41.8897	20.6169
767500000.0000	41.8318	20.5914
770000000.0000	41.7971	20.5884
772500000.0000	41.7614	20.5801
775000000.0000	41.7524	20.5875
777500000.0000	41.7065	20.5595
780000000.0000	41.6782	20.5552
782500000.0000	41.6265	20.5459
785000000.0000	41.5933	20.5207
787500000.0000	41.5735	20.5033
790000000.0000	41.5566	20.4963
792500000.0000	41.5214	20.4611
795000000.0000	41.4974	20.4671
797500000.0000	41.4839	20.4704
800000000.0000	41.4187	20.4436

■ Dielectric Parameter (750 MHz Body)

Title	ADR910L
SubTitle	LTE (Body)
Test Date	Feb. 17, 2012

Frequency	e'	e''
700000000.0000	55.4241	23.7603
705000000.0000	55.3847	23.6891
710000000.0000	55.3671	23.6242
715000000.0000	55.2433	23.6377
720000000.0000	55.1769	23.5894
725000000.0000	55.1160	23.5152
730000000.0000	54.9874	23.4577
735000000.0000	54.9550	23.4068
740000000.0000	54.8483	23.3686
745000000.0000	54.7907	23.3454
750000000.0000	54.7200	23.2604
755000000.0000	54.6325	23.2301
760000000.0000	54.5466	23.2179
765000000.0000	54.5369	23.1269
770000000.0000	54.4394	23.0900
775000000.0000	54.3257	23.0358
780000000.0000	54.3209	23.0040
785000000.0000	54.2466	22.9379
790000000.0000	54.1461	22.8932
795000000.0000	54.0817	22.8485
800000000.0000	54.0113	22.7835

■ Dielectric Parameter (2450 MHz Head)

Title	ADR910L
SubTitle	2450MHz (Head)
Test Date	Feb. 14, 2012

Frequency	e'	e''
2400000000.0000	38.8724	13.4733
2405000000.0000	38.8601	13.4811
2410000000.0000	38.8394	13.4987
2415000000.0000	38.8121	13.5080
2420000000.0000	38.7970	13.5183
2425000000.0000	38.7728	13.5307
2430000000.0000	38.7548	13.5436
2435000000.0000	38.7508	13.5532
2440000000.0000	38.7274	13.5625
2445000000.0000	38.7098	13.5752
2450000000.0000	38.6930	13.5984
2455000000.0000	38.6736	13.6017
2460000000.0000	38.6474	13.6164
2465000000.0000	38.6407	13.6147
2470000000.0000	38.6084	13.6347
2475000000.0000	38.5983	13.6415
2480000000.0000	38.5668	13.6555
2485000000.0000	38.5419	13.6640
2490000000.0000	38.5313	13.6825
2495000000.0000	38.5122	13.6972
2500000000.0000	38.4997	13.7064

■ Dielectric Parameter (2450 MHz Body)

Title	ADR910L
SubTitle	2450MHz (Body)
Test Date	Feb. 18, 2012

Frequency	e'	e''
2400000000.0000	50.7195	14.3773
2405000000.0000	50.6979	14.3991
2410000000.0000	50.6933	14.4043
2415000000.0000	50.6686	14.4047
2420000000.0000	50.6602	14.4183
2425000000.0000	50.6390	14.4331
2430000000.0000	50.6171	14.4560
2435000000.0000	50.6182	14.4766
2440000000.0000	50.6128	14.4945
2445000000.0000	50.5942	14.5103
2450000000.0000	50.5925	14.5275
2455000000.0000	50.5695	14.5271
2460000000.0000	50.5458	14.5496
2465000000.0000	50.5498	14.5528
2470000000.0000	50.5424	14.5702
2475000000.0000	50.5375	14.5774
2480000000.0000	50.5162	14.5830
2485000000.0000	50.5080	14.5871
2490000000.0000	50.4957	14.5817
2495000000.0000	50.4944	14.5848
2500000000.0000	50.4738	14.5900

■ Dielectric Parameter (835 MHz Body)-Volume SAR

Title	ADR910L
SubTitle	CDMA 850(Body)
Test Date	Feb. 19, 2012

Frequency	e'	e''
800000000.0000	54.9251	21.3164
805000000.0000	54.8464	21.3161
810000000.0000	54.8036	21.3483
815000000.0000	54.7240	21.3373
820000000.0000	54.6161	21.3369
825000000.0000	54.5332	21.3390
830000000.0000	54.4775	21.3202
835000000.0000	54.3768	21.2963
840000000.0000	54.3102	21.2713
845000000.0000	54.2605	21.2295
850000000.0000	54.2207	21.1681
855000000.0000	54.1561	21.1545
860000000.0000	54.1252	21.1123
865000000.0000	54.1095	21.0377
870000000.0000	54.1075	21.0120
875000000.0000	54.0735	20.9985
880000000.0000	54.0772	20.9705
885000000.0000	54.0686	20.9367
890000000.0000	54.0367	20.9226
895000000.0000	54.0185	20.8612
900000000.0000	53.9554	20.8702

■ Dielectric Parameter (1900 MHz Body)-Volume SAR

Title	ADR910L
SubTitle	PCS1900(Body)
Test Date	Feb. 19, 2012

Frequency	e'	e''
1850000000.0000	55.5045	13.8080
1855000000.0000	55.4730	13.8282
1860000000.0000	55.4542	13.8286
1865000000.0000	55.4231	13.8318
1870000000.0000	55.4057	13.8484
1875000000.0000	55.3798	13.8703
1880000000.0000	55.3837	13.8883
1885000000.0000	55.3816	13.9076
1890000000.0000	55.3727	13.9384
1895000000.0000	55.3813	13.9497
1900000000.0000	55.3730	13.9716
1905000000.0000	55.3831	13.9988
1910000000.0000	55.3882	14.0038
1915000000.0000	55.3936	14.0084
1920000000.0000	55.3868	14.0026
1925000000.0000	55.3838	13.9907
1930000000.0000	55.3977	14.0042
1935000000.0000	55.3854	14.0178
1940000000.0000	55.3832	14.0051
1945000000.0000	55.3618	13.9809
1950000000.0000	55.3410	13.9829

■ Dielectric Parameter (2450 MHz Body)-Volume SAR

Title	ADR910L
SubTitle	2450MHz (Body)
Test Date	Feb. 19, 2012

Frequency	e'	e''
2400000000.0000	50.7049	14.3802
2405000000.0000	50.6777	14.3942
2410000000.0000	50.6742	14.4126
2415000000.0000	50.6591	14.4088
2420000000.0000	50.6379	14.4270
2425000000.0000	50.6214	14.4396
2430000000.0000	50.6061	14.4620
2435000000.0000	50.6022	14.4814
2440000000.0000	50.5998	14.4958
2445000000.0000	50.5864	14.4979
2450000000.0000	50.5753	14.5194
2455000000.0000	50.5471	14.5326
2460000000.0000	50.5429	14.5532
2465000000.0000	50.5397	14.5506
2470000000.0000	50.5331	14.5745
2475000000.0000	50.5332	14.5680
2480000000.0000	50.4954	14.5721
2485000000.0000	50.4786	14.5869
2490000000.0000	50.4763	14.5838
2495000000.0000	50.4757	14.5934
2500000000.0000	50.4538	14.5857

■ Dielectric Parameter (835 MHz Head)

Title	ADR910L
SubTitle	CDMA835(Head)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
800000000.0000	41.7997	19.0980
805000000.0000	41.7563	19.0606
810000000.0000	41.6791	19.0544
815000000.0000	41.6148	19.0128
820000000.0000	41.5593	19.0387
825000000.0000	41.4986	19.0605
830000000.0000	41.4544	19.0619
835000000.0000	41.4466	19.0584
840000000.0000	41.3741	19.0834
845000000.0000	41.3317	19.1000
850000000.0000	41.2997	19.1135
855000000.0000	41.2726	19.1049
860000000.0000	41.2366	19.0989
865000000.0000	41.1852	19.1076
870000000.0000	41.1535	19.1107
875000000.0000	41.1190	19.0843
880000000.0000	41.0838	19.0533
885000000.0000	41.0336	19.0721
890000000.0000	40.9587	19.0033
895000000.0000	40.9060	18.9735
900000000.0000	40.8405	18.9480

■ Dielectric Parameter (835 MHz Body)

Title	ADR910L
SubTitle	CDMA 850(Body)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
800000000.0000	55.0582	21.6575
805000000.0000	55.1150	21.6521
810000000.0000	55.0610	21.6066
815000000.0000	55.0494	21.6591
820000000.0000	55.0743	21.6694
825000000.0000	55.0381	21.6794
830000000.0000	55.0022	21.7169
835000000.0000	55.0125	21.7258
840000000.0000	54.9276	21.7589
845000000.0000	54.8574	21.7535
850000000.0000	54.7766	21.7742
855000000.0000	54.6834	21.7725
860000000.0000	54.5842	21.7081
865000000.0000	54.4918	21.6584
870000000.0000	54.3805	21.5845
875000000.0000	54.3037	21.5413
880000000.0000	54.2415	21.4504
885000000.0000	54.2151	21.3678
890000000.0000	54.1597	21.3183
895000000.0000	54.1346	21.2100
900000000.0000	54.0961	21.1603

■ Dielectric Parameter (1900 MHz Head)

Title	ADR910L
SubTitle	PCS1900(Head)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
1800000000.0000	39.4931	12.8568
1810000000.0000	39.4416	12.8834
1820000000.0000	39.4143	12.9132
1830000000.0000	39.3754	12.9561
1840000000.0000	39.3525	12.9743
1850000000.0000	39.3115	13.0095
1860000000.0000	39.2599	13.0306
1870000000.0000	39.2347	13.0442
1880000000.0000	39.1949	13.0849
1890000000.0000	39.1571	13.1125
1900000000.0000	39.1114	13.1304
1910000000.0000	39.0596	13.1554
1920000000.0000	39.0329	13.2085
1930000000.0000	38.9769	13.2276
1940000000.0000	38.9525	13.2530
1950000000.0000	38.9037	13.2796
1960000000.0000	38.8679	13.3154
1970000000.0000	38.8230	13.3398
1980000000.0000	38.7925	13.3578
1990000000.0000	38.7458	13.4069
2000000000.0000	38.7302	13.4267

■ Dielectric Parameter (1900 MHz Body)

Title	ADR910L
SubTitle	PCS1900(Body)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
1800000000.0000	52.0113	13.7625
1810000000.0000	52.0059	13.8310
1820000000.0000	51.9796	13.9102
1830000000.0000	51.9277	13.9648
1840000000.0000	51.8992	14.0068
1850000000.0000	51.8365	14.0358
1860000000.0000	51.7596	14.0706
1870000000.0000	51.6784	14.1348
1880000000.0000	51.5914	14.1655
1890000000.0000	51.4931	14.2213
1900000000.0000	51.4634	14.2561
1910000000.0000	51.3948	14.3366
1920000000.0000	51.3682	14.4296
1930000000.0000	51.3603	14.4778
1940000000.0000	51.3344	14.5352
1950000000.0000	51.3520	14.6029
1960000000.0000	51.2945	14.6327
1970000000.0000	51.2698	14.6614
1980000000.0000	51.2495	14.6968
1990000000.0000	51.1510	14.7414
2000000000.0000	51.0895	14.7629

■ Dielectric Parameter (750 MHz Head)

Title	ADR910L
SubTitle	LTE (Head)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
750000000.0000	42.1016	20.7287
752500000.0000	42.0593	20.7268
755000000.0000	41.9927	20.6737
757500000.0000	41.9741	20.6719
760000000.0000	41.9434	20.6446
762500000.0000	41.9143	20.6227
765000000.0000	41.8802	20.6023
767500000.0000	41.8291	20.5808
770000000.0000	41.7781	20.5369
772500000.0000	41.7614	20.5801
775000000.0000	41.7271	20.5547
777500000.0000	41.6773	20.5335
780000000.0000	41.6672	20.5133
782500000.0000	41.6524	20.5168
785000000.0000	41.5983	20.4972
787500000.0000	41.5653	20.4722
790000000.0000	41.5615	20.4729
792500000.0000	41.4926	20.4356
795000000.0000	41.4892	20.4363
797500000.0000	41.4757	20.4396
800000000.0000	41.4235	20.4204

■ Dielectric Parameter (750 MHz Body)

Title	ADR910L
SubTitle	LTE (Body)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
700000000.0000	55.4405	23.7105
705000000.0000	55.3300	23.6365
710000000.0000	55.2813	23.6324
715000000.0000	55.1847	23.6312
720000000.0000	55.1742	23.5029
725000000.0000	55.0417	23.4771
730000000.0000	55.0059	23.4764
735000000.0000	54.9217	23.4177
740000000.0000	54.8321	23.3006
745000000.0000	54.7981	23.3126
750000000.0000	54.7163	23.2676
755000000.0000	54.6703	23.1995
760000000.0000	54.5358	23.2215
765000000.0000	54.5012	23.1092
770000000.0000	54.4180	23.0617
775000000.0000	54.3470	23.0639
780000000.0000	54.2651	23.0465
785000000.0000	54.2297	22.9903
790000000.0000	54.1604	22.9347
795000000.0000	54.0306	22.9009
800000000.0000	54.0291	22.8347

■ Dielectric Parameter (2450 MHz Head)

Title	ADR910L
SubTitle	2450MHz (Head)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
2400000000.0000	38.6050	13.4008
2405000000.0000	38.5888	13.4208
2410000000.0000	38.5689	13.4326
2415000000.0000	38.5425	13.4362
2420000000.0000	38.5216	13.4462
2425000000.0000	38.5004	13.4623
2430000000.0000	38.4810	13.4769
2435000000.0000	38.4675	13.4783
2440000000.0000	38.4467	13.4941
2445000000.0000	38.4227	13.4990
2450000000.0000	38.4017	13.5206
2455000000.0000	38.3848	13.5335
2460000000.0000	38.3685	13.5404
2465000000.0000	38.3378	13.5429
2470000000.0000	38.3079	13.5723
2475000000.0000	38.3050	13.5682
2480000000.0000	38.2921	13.5780
2485000000.0000	38.2675	13.5868
2490000000.0000	38.2490	13.5960
2495000000.0000	38.2365	13.6057
2500000000.0000	38.2183	13.6147

■ Dielectric Parameter (2450 MHz Body)

Title	ADR910L
SubTitle	2450MHz (Body)
Test Date:	Mar. 9, 2012
Configuration	QWERTY Slide Open

Frequency	e'	e''
2400000000.0000	52.1135	14.0439
2405000000.0000	52.0856	14.0517
2410000000.0000	52.0424	14.0678
2415000000.0000	52.0113	14.0575
2420000000.0000	51.9982	14.0850
2425000000.0000	51.9323	14.1418
2430000000.0000	51.9081	14.2134
2435000000.0000	51.8750	14.2330
2440000000.0000	51.8561	14.2723
2445000000.0000	51.8256	14.2815
2450000000.0000	51.8548	14.2751
2455000000.0000	51.8348	14.2978
2460000000.0000	51.7973	14.3655
2465000000.0000	51.7824	14.4121
2470000000.0000	51.7502	14.4508
2475000000.0000	51.7367	14.4507
2480000000.0000	51.7678	14.5142
2485000000.0000	51.7055	14.5170
2490000000.0000	51.7245	14.5586
2495000000.0000	51.7067	14.5571
2500000000.0000	51.7026	14.5570

Attachment 3. – Probe Calibration Data

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
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client HCT (Dymstec) Certificate No: ET3-1798_Apr11

CALIBRATION CERTIFICATE

Object ET3DV6 - SN:1798

Calibration procedure(s) QA CAL-01.v7, QA CAL-23.v4, QA CAL-25.v3
Calibration procedure for dosimetric E-field probes

Calibration date: April 14, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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 ± 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	MY41495277	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	23-Apr-10 (No. DAE4-654_Apr10)	Apr-11
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

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 14, 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
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

a) 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

b) 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:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * 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
- *Ax,y,z; Bx,y,z; Cx,y,z* are numerical linearization parameters in dB assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media.
- *VR:* VR is the validity range of the calibration related to the average diode voltage or DAE voltage in mV.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 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 *NORMx,y,z * 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 ± 50 MHz to ± 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.

Probe ET3DV6

SN:1798

Manufactured: August 14, 2003
Calibrated: April 14, 2011

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1798

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m)^2)^A	2.02	1.82	2.06	± 10.1 %
DCP (mV)^B	98.8	96.3	96.2	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	113.1	±3.0 %
			Y	0.00	0.00	1.00	145.9	
			Z	0.00	0.00	1.00	114.8	

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%.

^{A} The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
^{B} Numerical linearization parameter: uncertainty not required.
^{E} Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1798

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	43.5	0.87	7.63	7.63	7.63	0.22	2.25	± 13.4 %
835	41.5	0.90	6.72	6.72	6.72	0.78	1.68	± 12.0 %
900	41.5	0.97	6.61	6.61	6.61	0.74	1.74	± 12.0 %
1750	40.1	1.37	5.46	5.46	5.46	0.52	2.60	± 12.0 %
1900	40.0	1.40	5.24	5.24	5.24	0.54	2.52	± 12.0 %
1950	40.0	1.40	5.08	5.08	5.08	0.53	2.57	± 12.0 %
2450	39.2	1.80	4.56	4.56	4.56	0.70	1.97	± 12.0 %

[C] 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.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) 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 (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: ET3DV6- SN:1798

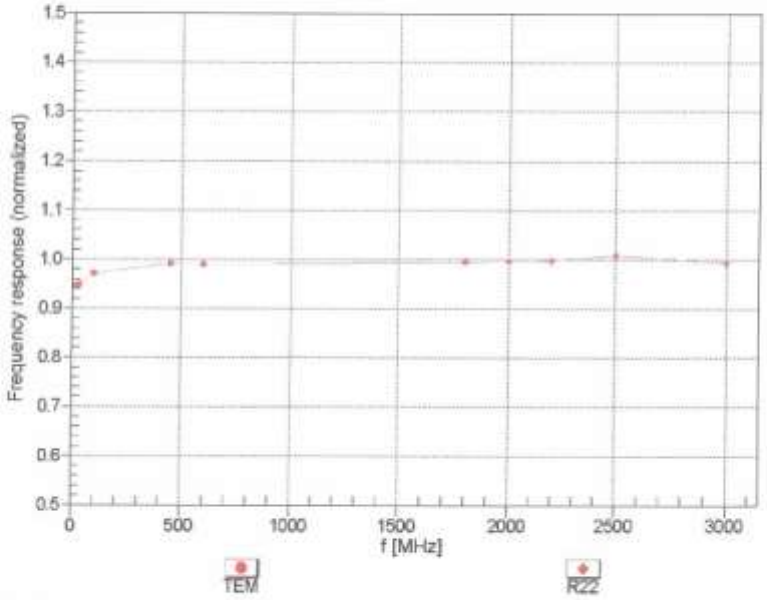
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	56.7	0.94	8.09	8.09	8.09	0.15	2.17	± 13.4 %
835	55.2	0.97	6.50	6.50	6.50	0.73	1.84	± 12.0 %
900	55.0	1.05	6.40	6.40	6.40	0.71	1.90	± 12.0 %
1750	53.4	1.49	4.84	4.84	4.84	0.55	2.94	± 12.0 %
1900	53.3	1.52	4.63	4.63	4.63	0.57	2.70	± 12.0 %
1950	53.3	1.52	4.76	4.76	4.76	0.59	2.49	± 12.0 %
2450	52.7	1.95	4.21	4.21	4.21	0.97	1.24	± 12.0 %

[C] 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.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) 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 (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

ET3DV6– SN:1798 April 14, 2011

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)

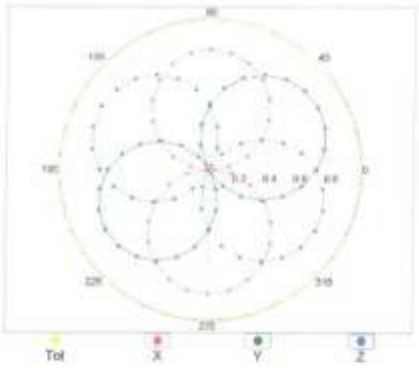


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

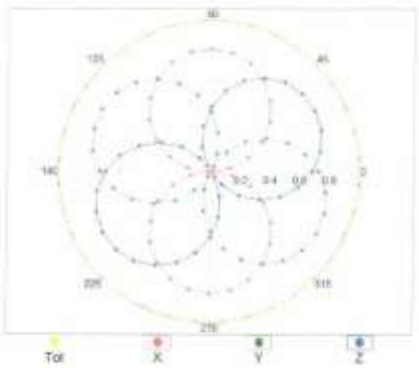
ET3DV6– SN:1798 April 14, 2011

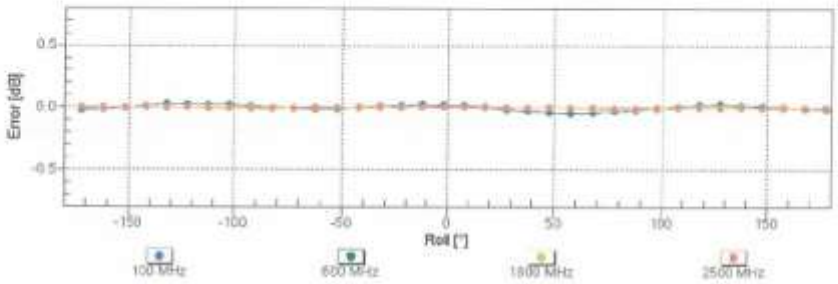
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

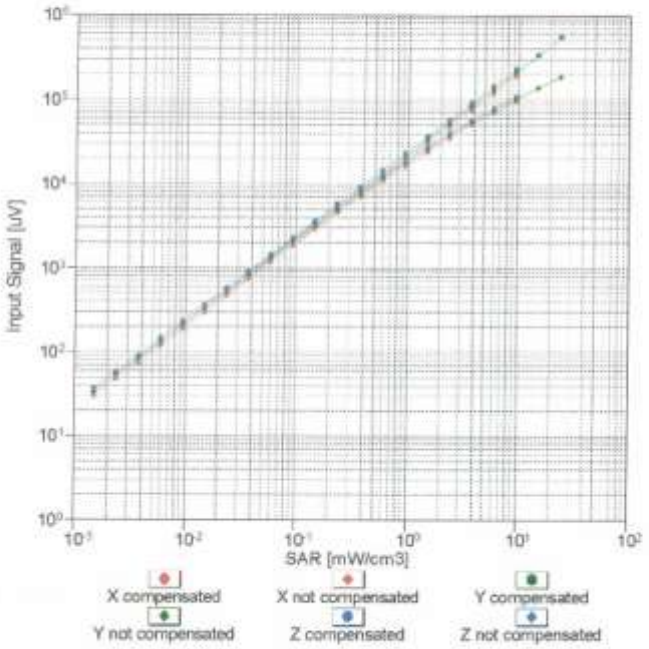


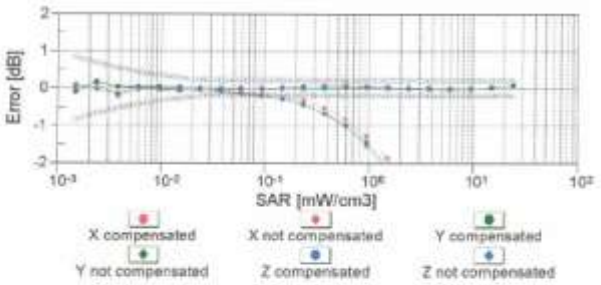


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

ET3DV6– SN:1798 April 14, 2011

Dynamic Range f(SAR_{head})
(TEM cell , f = 900 MHz)



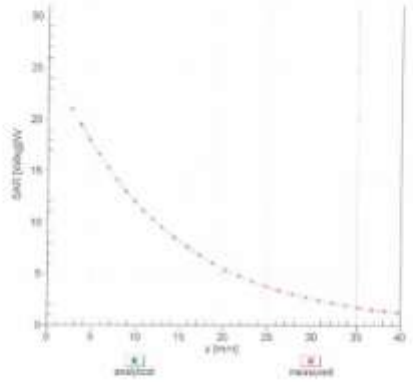


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

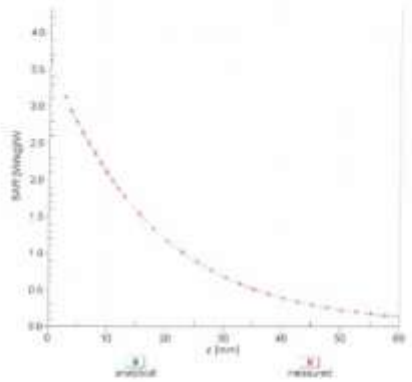
ET3DV6– SN:1798 April 14, 2011

Conversion Factor Assessment

f = 1750 MHz,WGLS R22 (H_convF)

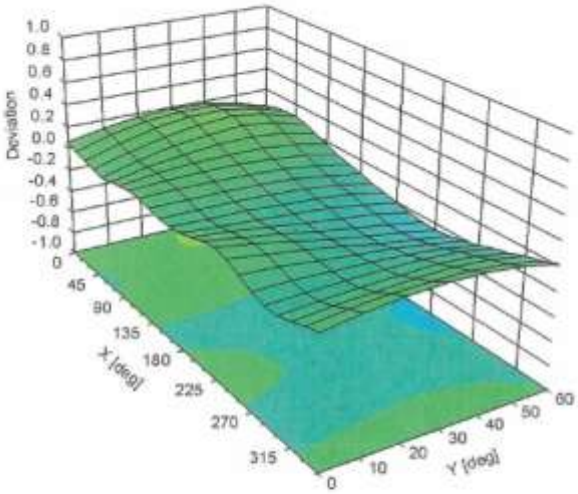


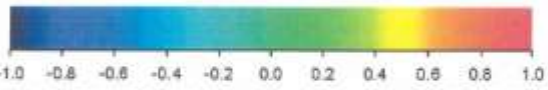
f = 900 MHz,WGLS R9 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1798

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	10 mm
Tip Diameter	6.8 mm
Probe Tip to Sensor X Calibration Point	2.7 mm
Probe Tip to Sensor Y Calibration Point	2.7 mm
Probe Tip to Sensor Z Calibration Point	2.7 mm
Recommended Measurement Distance from Surface	4 mm

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info@speag.com, http://www.speag.com

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Additional Conversion Factors

for Dosimetric E-Field Probe

Type:	**ET3DV6**
Serial Number:	**1798**
Place of Assessment:	**Zurich**
Date of Assessment:	**July 13, 2011**
Probe Calibration Date:	**April 14, 2011**

Schmid & Partner Engineering AG hereby certifies that conversion factor(s) of this probe have been evaluated on the date indicated above. The assessment was performed using the FDTD numerical code SEMCAD of Schmid & Partner Engineering AG. Since the evaluation is coupled with measured conversion factors, it has to be recalculated yearly, i.e., following the re-calibration schedule of the probe. The uncertainty of the numerical assessment is based on the extrapolation from measured value at 900 MHz or at 1750 MHz.

Assessed by:

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Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

s p e a g

Dosimetric E-Field Probe ET3DV6 - SN:1798

Conversion factor (± standard deviation)

750 ± 50 MHz	*ConvF*	6.94 ± 7%	ε_r = 41.9 ± 5% σ = 0.89 ± 5% mho/m (head tissue)
750 ± 50 MHz	*ConvF*	6.79 ± 7%	ε_r = 55.5 ± 5% σ = 0.96 ± 5% mho/m (body tissue)

Important Note:

For numerically assessed probe conversion factors, parameters Alpha and Delta in the DASY software must have the following entries: Alpha = 0 and Delta = 1.

Please see also DASY Manual.

Attachment 4. – Dipole Calibration Data

Calibration Laboratory of
Schmid & Partner
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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client HCT (Dymstec)

Certificate No: D835V2-441_May11

CALIBRATION CERTIFICATE

Object D835V2 - SN: 441

Calibration procedure(s) QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: May 16, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 16, 2011

Calibration Laboratory of
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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.4 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.31 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.34 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.51 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.09 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.9 ± 6 %	1.00 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.43 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**9.45 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.60 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.27 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.2 Ω - 9.8 jΩ
Return Loss	- 20.2 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.3 Ω - 10.3 jΩ
Return Loss	- 18.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.374 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 09, 2001

DASY5 Validation Report for Head TSL

Date: 16.05.2011

Test Laboratory: SPEAG, Zurich, Switzerland

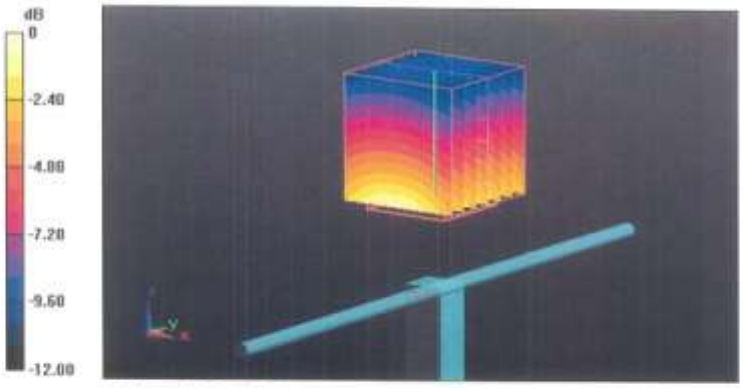
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 441

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

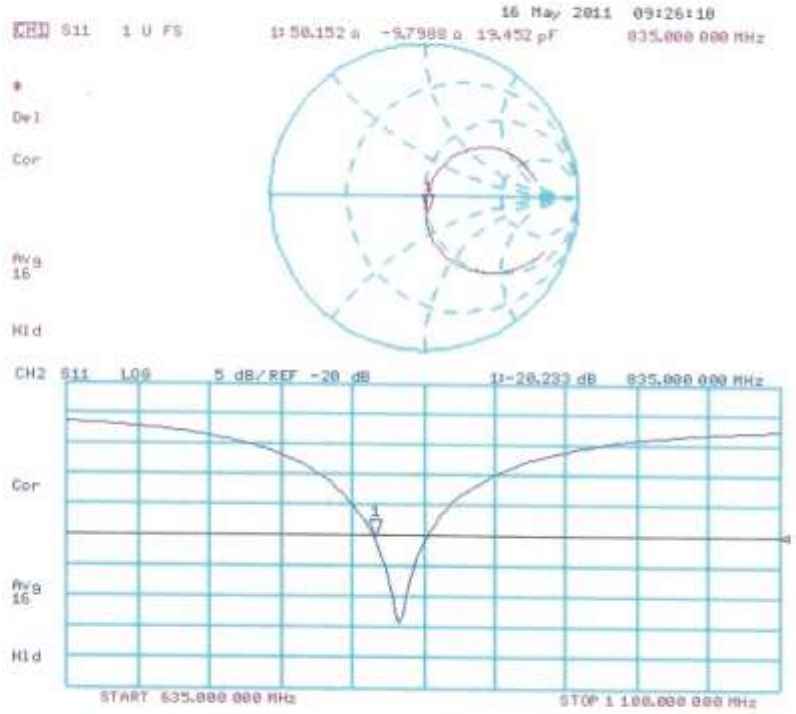
- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.041 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.442 W/kg
SAR(1 g) = 2.31 mW/g; SAR(10 g) = 1.51 mW/g
Maximum value of SAR (measured) = 2.703 mW/g



0 dB = 2.700mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 16.05.2011

Test Laboratory: SPEAG, Zurich, Switzerland

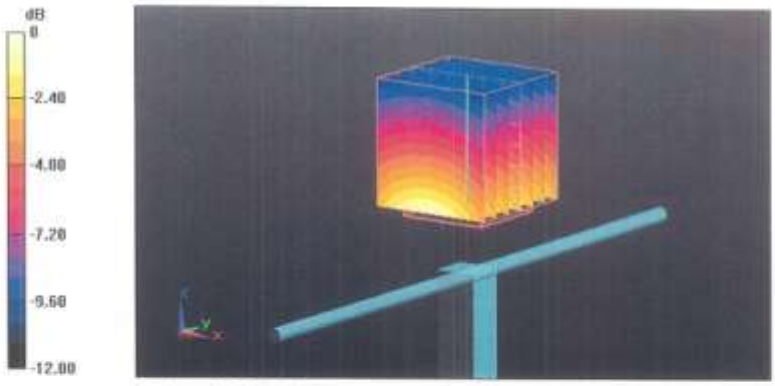
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:441

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 1 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

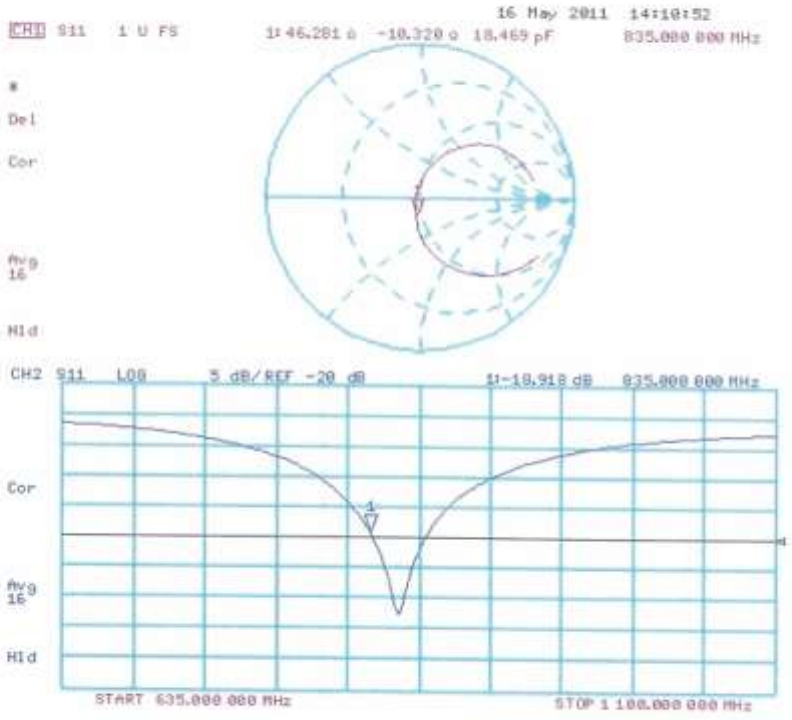
- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.302 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.553 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.833 mW/g



0 dB = 2.830mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client HCT (Dymstec) Certificate No: D1900V2-5d032_Jul11

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d032
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	July 22, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 2, 2011

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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.1 ± 6 %	1.42 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**39.9 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.29 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**21.0 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.3 ± 6 %	1.53 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**40.9 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.39 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.5 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.6 Ω + 6.5 jΩ
Return Loss	- 23.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.6 Ω + 6.0 jΩ
Return Loss	- 22.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.190 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 17, 2003

DASY5 Validation Report for Head TSL

Date: 20.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

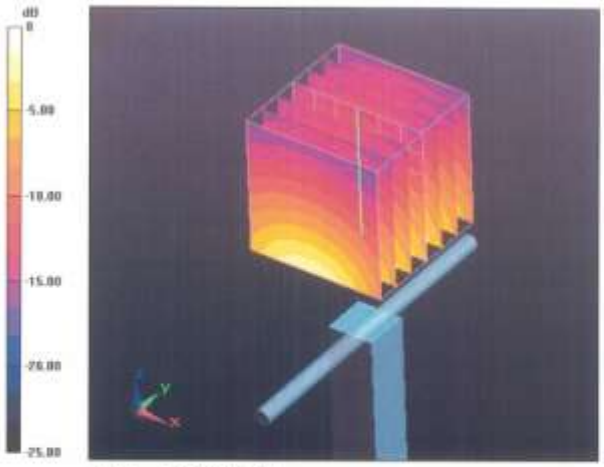
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d032

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

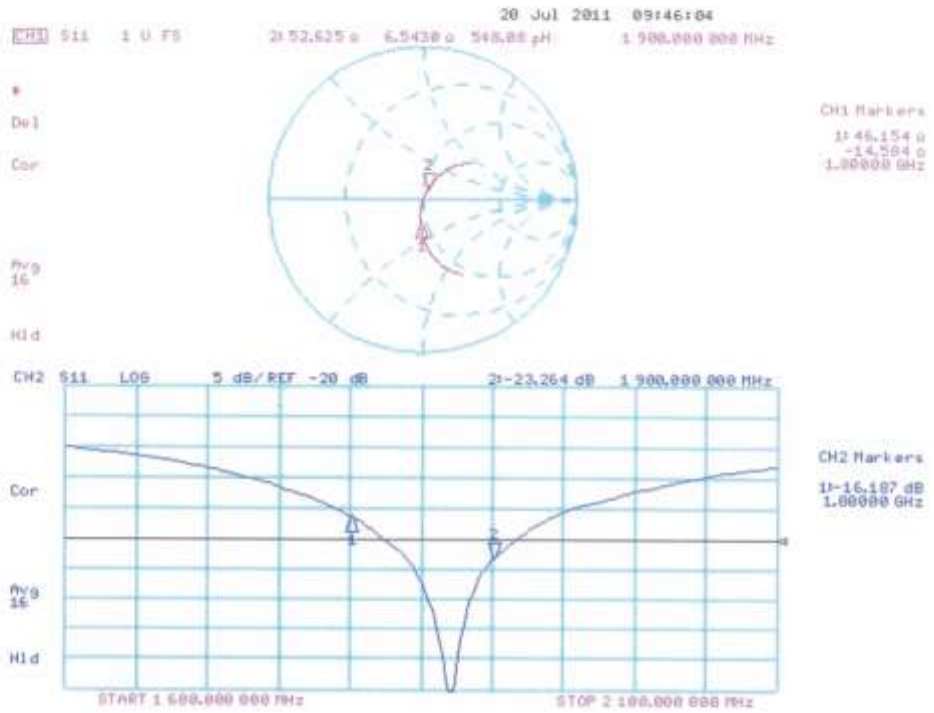
- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.253 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 18.469 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.29 mW/g
Maximum value of SAR (measured) = 12.721 mW/g



0 dB = 12.720mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 22.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

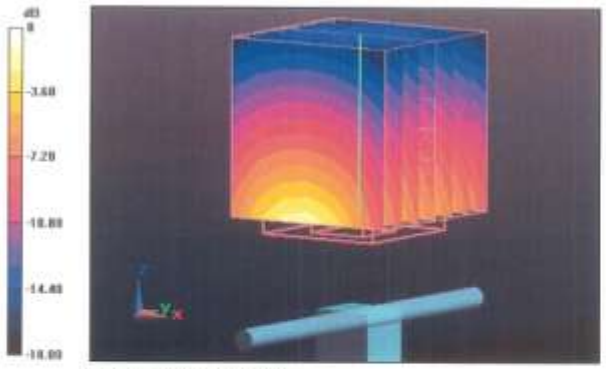
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d032

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

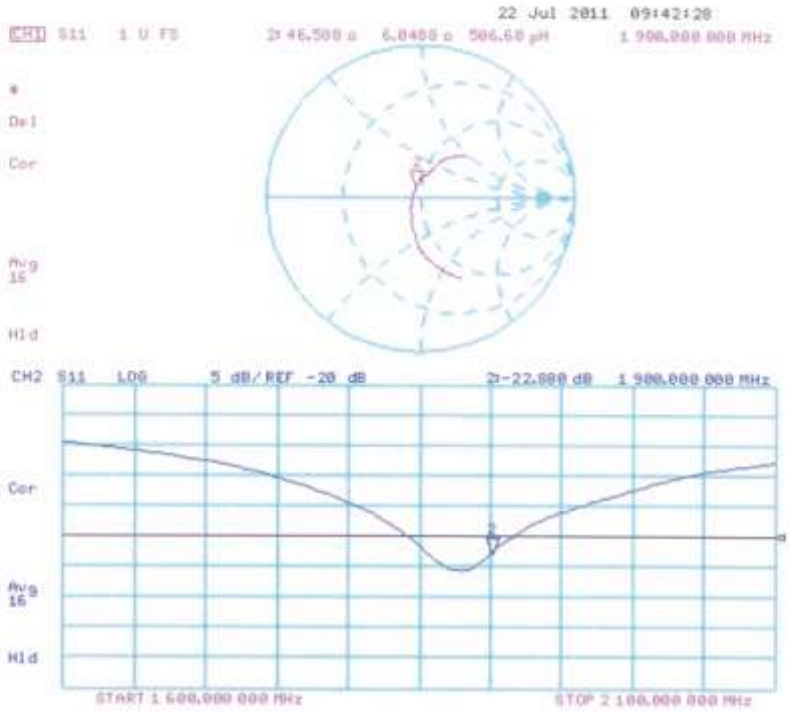
- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.827 V/m; Power Drift = 0.0078 dB
Peak SAR (extrapolated) = 18.111 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.39 mW/g
Maximum value of SAR (measured) = 12.898 mW/g



0 dB = 12.900mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client HCT (Dymstec) Certificate No: D2450V2-743_Aug11

CALIBRATION CERTIFICATE

Object D2450V2 - SN: 743

Calibration procedure(s) QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: August 29, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 29, 2011

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.4 ± 6 %	1.85 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.7 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**53.8 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.40 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**25.4 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.8 ± 6 %	2.02 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**51.7 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.11 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**24.2 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	55.0 Ω + 4.8 jΩ
Return Loss	- 23.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.3 Ω + 5.8 jΩ
Return Loss	- 24.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.160 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 01, 2003

DASY5 Validation Report for Head TSL

Date: 29.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

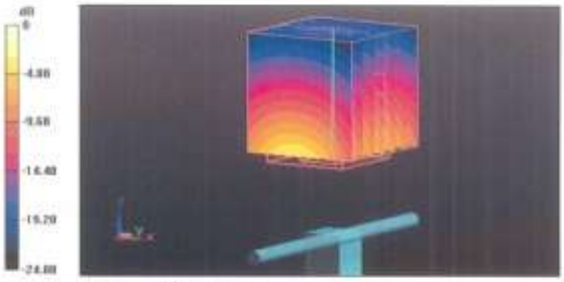
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 743

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.85 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

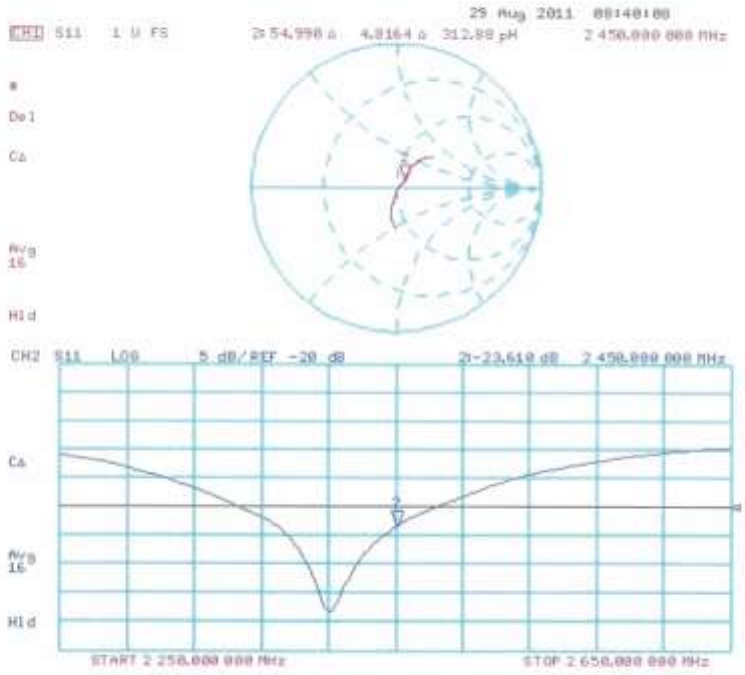
- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.2 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 28.291 W/kg
SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.4 mW/g
Maximum value of SAR (measured) = 17.657 mW/g



0 dB = 17.660mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 29.08.2011

Test Laboratory: SPEAG, Zurich, Switzerland

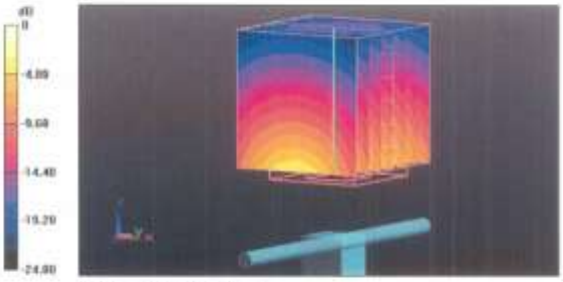
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 743

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 2.02 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

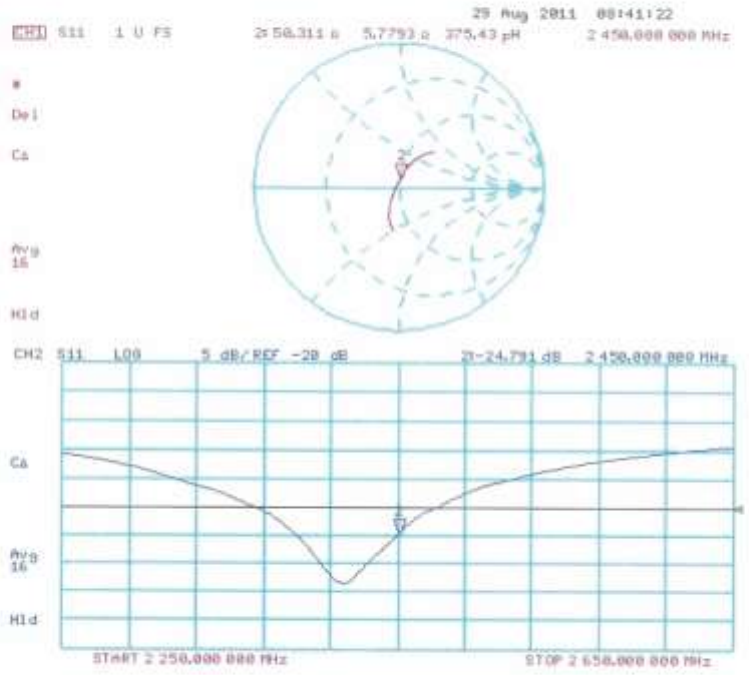
- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

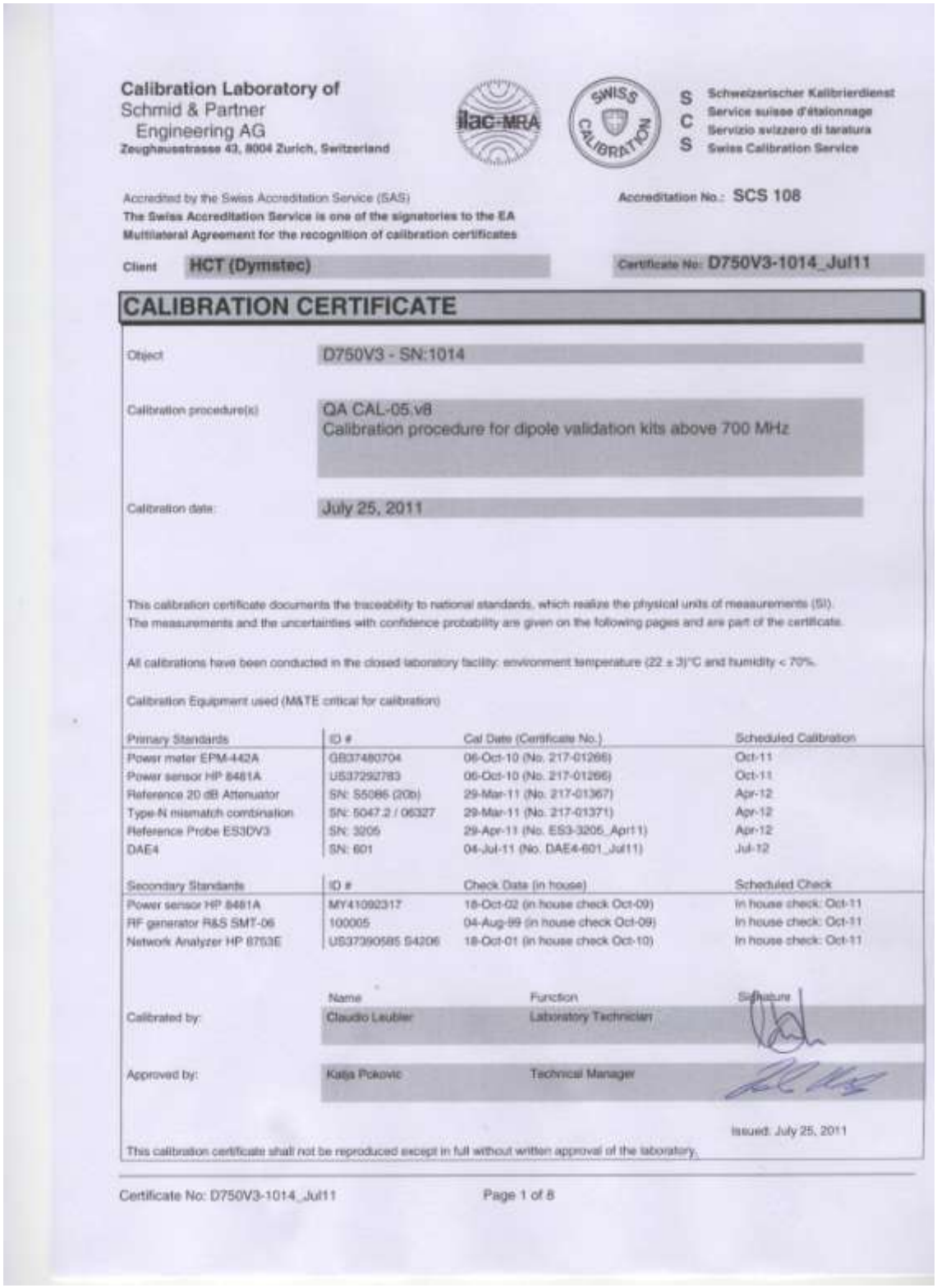
Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.903 V/m; Power Drift = -0.0051 dB
Peak SAR (extrapolated) = 27.107 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.11 mW/g
Maximum value of SAR (measured) = 17.329 mW/g



0 dB = 17.330mW/g

Impedance Measurement Plot for Body TSL





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Accreditation No.: SCS 108

Client HCT (Dymstec)

Certificate No: D750V3-1014_Jul11

CALIBRATION CERTIFICATE

Object D750V3 - SN:1014

Calibration procedure(s) QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: July 25, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
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 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Data (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: July 25, 2011

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D750V3-1014_Jul11 Page 1 of 8

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) 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
b) 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
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Certificate No: D750V3-1014_Jul11 Page 2 of 8

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.7 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.15 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**8.44 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.40 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**5.52 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.2 ± 6 %	0.96 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	---	---

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.22 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**8.87 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.47 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**5.88 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.3 Ω + 0.4 jΩ
Return Loss	- 30.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.0 Ω - 2.7 jΩ
Return Loss	- 30.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.040 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 22, 2010

DASY5 Validation Report for Head TSL

Date: 25.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

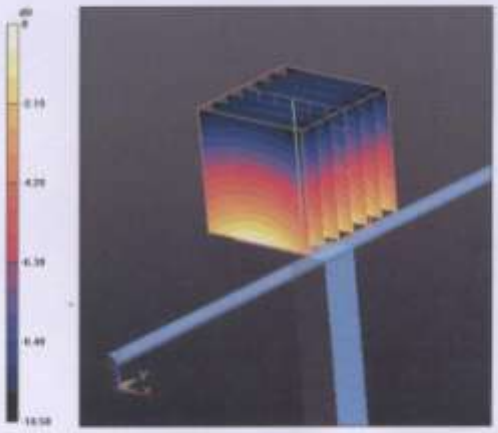
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1014

Communication System: CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.91 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.33, 6.33, 6.33); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

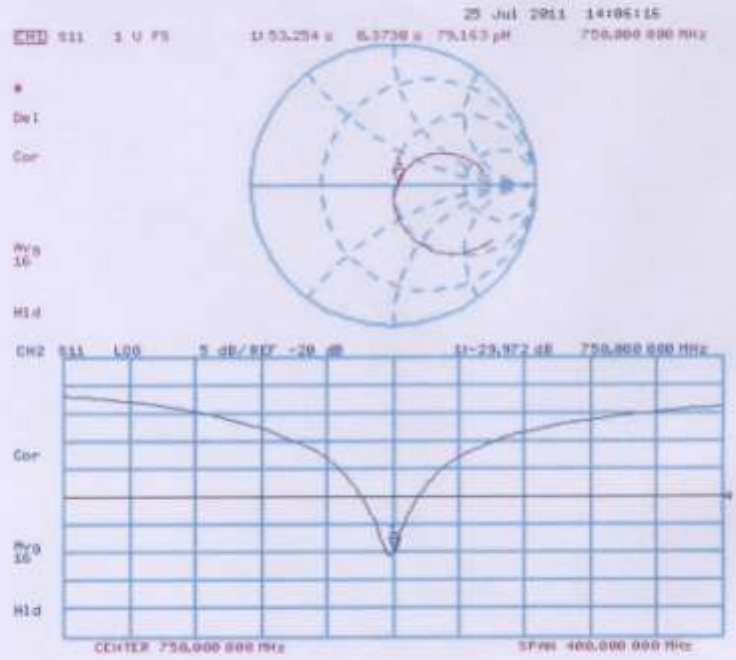
Dipole Calibration for Head Tissue/Pin=250mW; dip=15mm; dist=3.0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.352 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.258 W/kg
SAR(1 g) = 2.15 mW/g; SAR(10 g) = 1.4 mW/g
Maximum value of SAR (measured) = 2.524 mW/g



0 dB = 2.520mW/g

Certificate No: D750V3-1014_Jul11 Page 5 of 8

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 25.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

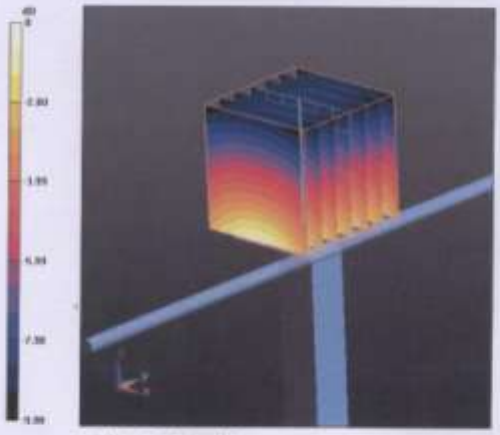
DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1014

Communication System: CW; Frequency: 750 MHz
Medium parameters used: f = 750 MHz; σ = 0.96 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.12, 6.12, 6.12); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250mW; dip=15mm; dist=3.0mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.652 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.311 W/kg
SAR(1 g) = 2.22 mW/g; SAR(10 g) = 1.47 mW/g
Maximum value of SAR (measured) = 2.584 mW/g



0 dB = 2.580mW/g

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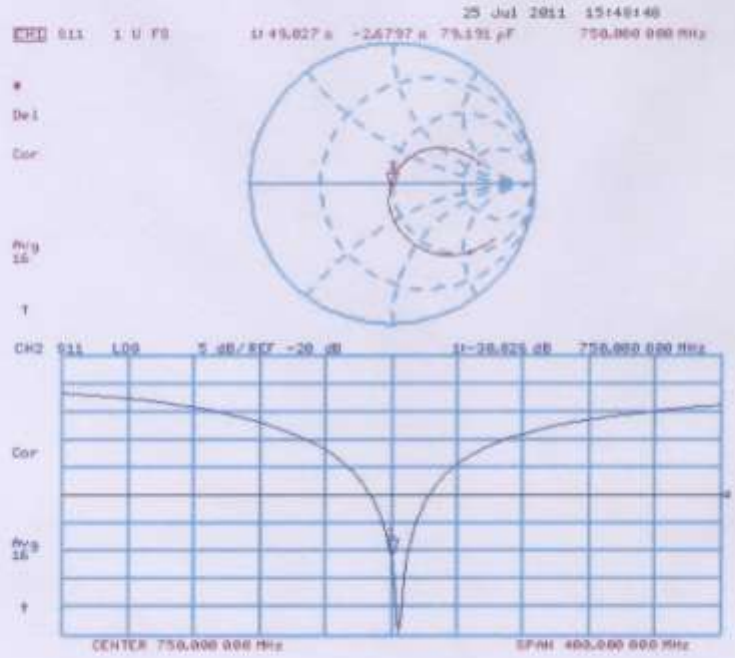
Impedance Measurement Plot for Body TSL



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