SAR Test Report

Report No.: AGC00572131201FH01

FCC ID	:	C89PRIME4-5
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	3G Mobile Phone
BRAND NAME	:	Ice Mobile
MODEL NAME	:	prime 4.5
CLIENT	:	Dynamics Hong Kong Limited
DATE OF ISSUE	:	Dec.25, 2013
STANDARD(S)	:	IEEE Std. 1528:2003 47CFR § 2.1093 IEEE/ANSI C95.1
REPORT VERSION	:	V1.0

*A*ttestation of Global Compliance(Shenzhen) Co., Ltd.

Report Revise Record

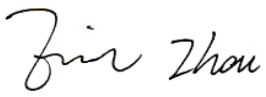
Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Dec.25, 2013	Valid	Original Report

The test plans were performed in accordance with IEEE Std. 1528:2003; 47CFR § 2.1093; IEEE/ANSI C95.1 and the following specific FCC Test Procedures:

- KDB 447498 D01 General RF Exposure Guidance v05r01
- KDB 648474 D04 SAR Handsets Multi Xmiter and Ant v01
- KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01
- KDB 941225 D01 SAR test for 3G devices v02
- KDB 941225 D02 Guidance for 3GPP R6 and R7 HSPA v02v01
- KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE v01
- KDB 941225 D06 Hot Spot SAR v01
- KDB 248227 D01 SAR meas for 802 11 a b g v01r02

Test Report Certification

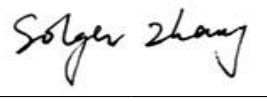
Applicant Name	:	Dynamics Hong Kong Limited
Applicant Address	:	Room F, 16/F, Block1, Golden Dragon Industrial Center, 152-160 Tai Lin Pai Road, Kwai Chung, N.T.
Manufacturer Name	:	Dynamics Hong Kong Limited
Manufacturer Address	:	Room F, 16/F, Block1, Golden Dragon Industrial Center, 152-160 Tai Lin Pai Road, Kwai Chung, N.T.
Product Designation	:	3G Mobile Phone
Brand Name	:	Ice Mobile
Model Name	:	prime 4.5
Different Description		N/A
EUT Voltage	:	DC3.7V by battery
Applicable Standard	:	IEEE Std. 1528:2003 47CFR § 2.1093 IEEE/ANSI C95.1
Test Date	:	Dec.23, 2013
Performed Location		Attestation of Global Compliance(Shenzhen) Co., Ltd.
		2 F, Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang Street, Bao'an District, Shenzhen, China
Report Template		AGCRT-US-3G/SAR (2013-03-01)

Tested By 

Eric Zhou Dec.25, 2013

Checked By 

Angela Li Dec.25, 2013

Authorized By 

Solger Zhang Dec.25, 2013

TABLE OF CONTENTS

1. SUMMARY OF MAXIMUM SAR VALUE

The maximum results of Specific Absorption Rate (SAR) found during testing for EUT are as follows:

Highest Report standalone SAR Summary

Exposure Position	Frequency Band	Highest Reported 1g-SAR(W/Kg)	Highest Reported 1g-SAR(W/Kg)
Head	GSM 835	0.110	**0.110**
	PCS 1900	0.102	
	WCDMA Band V	0.126	**0.126**
Body- worn	GSM 835	0.789	**0.789**
	PCS 1900	0.501	
	WCDMA Band V	0.769	**0.769**

Exposure Position	Test Mode	Highest Reported 1g-SAR(W/Kg)	Highest Reported 1g-SAR(W/Kg)
Head	802.11b	**0.017**	**0.019**
	HOTSPOT	**0.019**	
Body	802.11b	0.087	**0.087**
	HOTSPOT	0.053	

Maximum Scaling standalone SAR Summary

Exposure Position	Frequency Band	Frequency(MHz)	Maximum Scaling 1g-SAR(W/Kg)
Body- worn	GSM 835	836.6	**0.851**

Highest Simultaneous transmission SAR Summary

Exposure Position	Frequency Band	Highest Reported 1g-SAR(W/Kg)	Highest Reported 1g-SAR(W/Kg)
Head	GSM 835+Bluetooth	0.211	**0.227**
	GSM 835+WLAN	0.120	
	GSM 835+ HOTSPOT	0.125	
	PCS 1900+Bluetooth	0.203	
	PCS 1900+WLAN	0.112	
	PCS 1900+HOTSPOT	0.117	
	WCDMA Band V+Bluetooth	0.227	
	WCDMA Band V +WLAN	0.136	
	WCDMA Band V +HOTSPOT	0.141	
Body- worn	GSM 835+Bluetooth	0.890	**0.890**
	GSM 835+WLAN	0.876	
	GSM 835+ HOTSPOT	0.842	
	PCS 1900+Bluetooth	0.602	
	PCS 1900+WLAN	0.588	
	PCS 1900+HOTSPOT	0.554	
	WCDMA Band V+Bluetooth	0.870	
	WCDMA Band V +WLAN	0.856	
	WCDMA Band V +HOTSPOT	0.822	

This device is compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/Kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1, and had been tested in accordance with measurement methods and procedures specified in IEEE 1528-2003 and the relevant KDB files like KDB 941225 D01 , KDB 941225 D03 ,KDB 865664 D02….etc.

2. GENERAL INFORMATION

2.1. EUT Description

General Information	
Product Designation	3G Mobile Phone
Test Model	prime 4.5
Hardware Version	T850_MB_V3.0_PCB
Software Version	N/A
Device Category	Portable
RF Exposure Environment	Uncontrolled
Antenna Type	Internal
GSM and GPRS	
Support Band	☒GSM 850 ☒PCS 1900 (U.S. Bands) ☒GSM 900 ☒DCS 1800 (Non-U.S. Bands)
GPRS Type	Class B
GPRS Class	Class 12(1Tx+4Rx, 2Tx+3Rx, 3Tx+2Rx, 4Tx+1Rx)
TX Frequency Range	GSM 850 : 824.2~848.8MHz; PCS 1900: 1850.2~1909.8MHz;
RX Frequency Range	GSM 850 : 869~894MHz PCS 1900: 1930~1990MHz
Release Version	R99
Type of modulation	GMSK for GSM/GPRS
Antenna Gain	1.0dBi
Max. Average Power (Max. Peak Power)	GSM850: 31.65dBm(32.68dBm- Peak Power) PCS1900: 28.55dBm(29.62dBm-Peak Power)
WCDMA	
Support Band	U.S. Bands: ☐UMTS FDD Band II ☒UMTS FDD Band V Non-U.S. Bands: ☒UMTS FDD Band I ☐UMTS FDD Band III ☐UMTS FDD Band VIII
HS Type	HSPA(HSUPA/HSDPA)
TX Frequency Range	WCDMA FDD Band V: 826.4-846.6MHz

RX Frequency Range	WCDMA FDD Band V: 869-894MHz
Release Version	Rel-6
Type of modulation	QPSK
Antenna Gain	0.8dBi
Max. Average Power (Max. Peak Power)	Band V: 23.54dBm (23.67dBm- Peak Power)
Bluetooth	
Bluetooth Version	☐V2.0 ☐V2.1 ☐V2.1+EDR ☒V3.0 ☐V3.0+HS ☒V4.0
Operation Frequency	2402~2480MHz
Type of modulation	☒GFSK ☒∏/4-DQPSK ☒8-DPSK
Avg. Burst Power	3.83dBm
Antenna Gain	1.2dBi
WIFI	
WIFI Specification	☐802.11a ☒802.11b ☒802.11g ☒802.11n(20) ☒802.11n(40)
Operation Frequency	2412~2462MHz
Avg. Burst Power	11b: 16.21dBm,11g: 13.28dBm,11n(20): 13.35dBm,11n(40): 10.93dBm
Antenna Gain	1.2dBi
Accessories	
Battery	Brand name: Ice Mobile Model No. : prime 4.5 Voltage and Capacitance: 3.7 V & 2200mAh
Adapter	Brand name: Ice Mobile Model No. : prime 4.5 Input: AC 110-220V, 50/60Hz, 0.15A Output: DC 5V, 1000mA
Earphone	Brand name: Ice Mobile Model No. : prime 4.5

Note: The sample used for testing is end product.

2.2. Test Procedure

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	EUT Communicate with 8960, and test them respectively at U.S. bands

2.3. Test Environment

Ambient conditions in the laboratory:

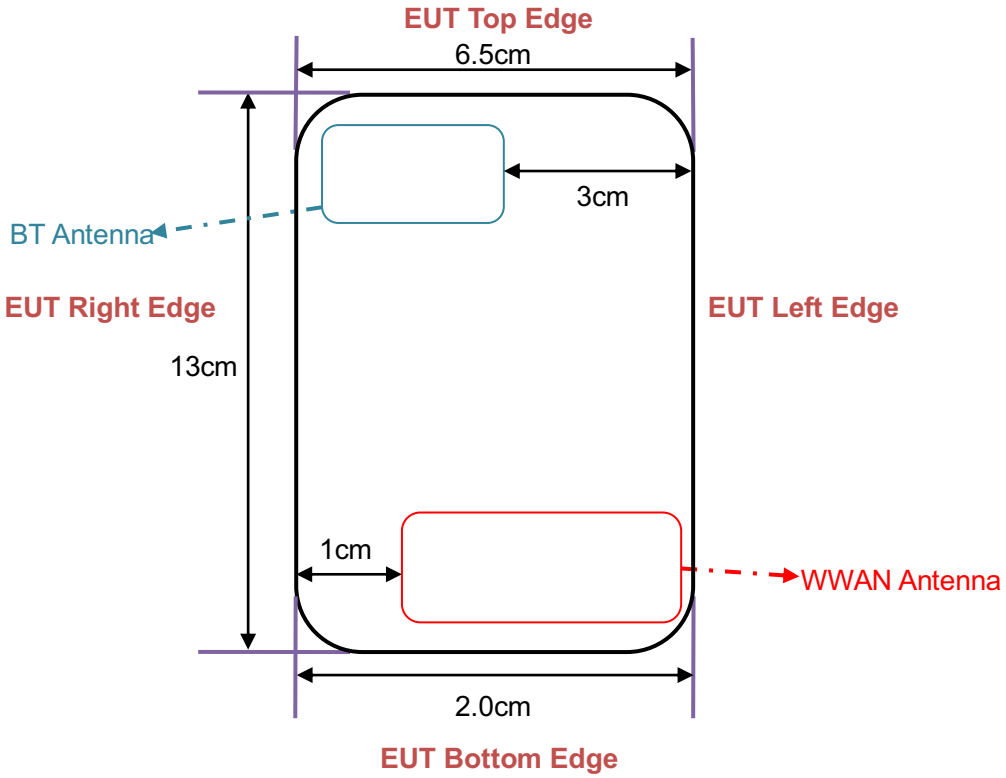
Items	Required	Actual
Temperature (°C)	18-25	21± 2
Humidity (%RH)	30-70	55±2

2.4. Test Configuration and setting

The EUT is a model of GSM Portable Mobile Station (MS). It supports GSM/GPRS, BT, WIFI, and support hot spot mode.
For WWAN SAR testing, the device was controlled by using a base station emulator. Communication between The device and the emulator were established by air link. The distance between the EUT and the antenna is larger than 50cm, and the output power radiated from the emulator antenna is at least 30db smaller than the output power of EUT.

For WLAN testing, the EUT is configured with the WLAN continuous TX tool through engineering command.

Antenna Location:



The separation distance for antenna to edge:

Antenna	To Top Side(mm)	To Bottom Side(mm)	To Left Side(mm)	To Right Side(mm)
WWAN	10	0	0	1
BT/WIFI	0	10.8	3	0.4

The simultaneous transmission possibilities are listed as below:

Simultaneous TX Combination	Configuration	Head	Body	Hotspot
1	GSM 835+ BT/WIFI	Yes	Yes	Yes
2	PCS 1900+ BT/WIFI	Yes	Yes	Yes

3. SAR MEASUREMENT SYSTEM

3.1. Specific Absorption Rate (SAR)

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

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

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

SAR is expressed in units of Watts per kilogram (W/Kg)
SAR can be obtained using either of the following equations:

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

$$SAR = c_h \left.\frac{dT}{dt}\right|_{t=0}$$

Where

SAR is the specific absorption rate in watts per kilogram;
E is the r.m.s. value of the electric field strength in the tissue in volts per meter;
σ is the conductivity of the tissue in siemens per metre;
ρ is the density of the tissue in kilograms per cubic metre;
c_h is the heat capacity of the tissue in joules per kilogram and Kelvin;

$\left.\frac{dT}{dt}\right| t = 0$ is the initial time derivative of temperature in the tissue in kelvins per second

3.2. SAR Measurement Procedure

The EUT is set to transmit at the required power in line with product specification, at each frequency relating to the LOW, MID, and HIGH channel settings.

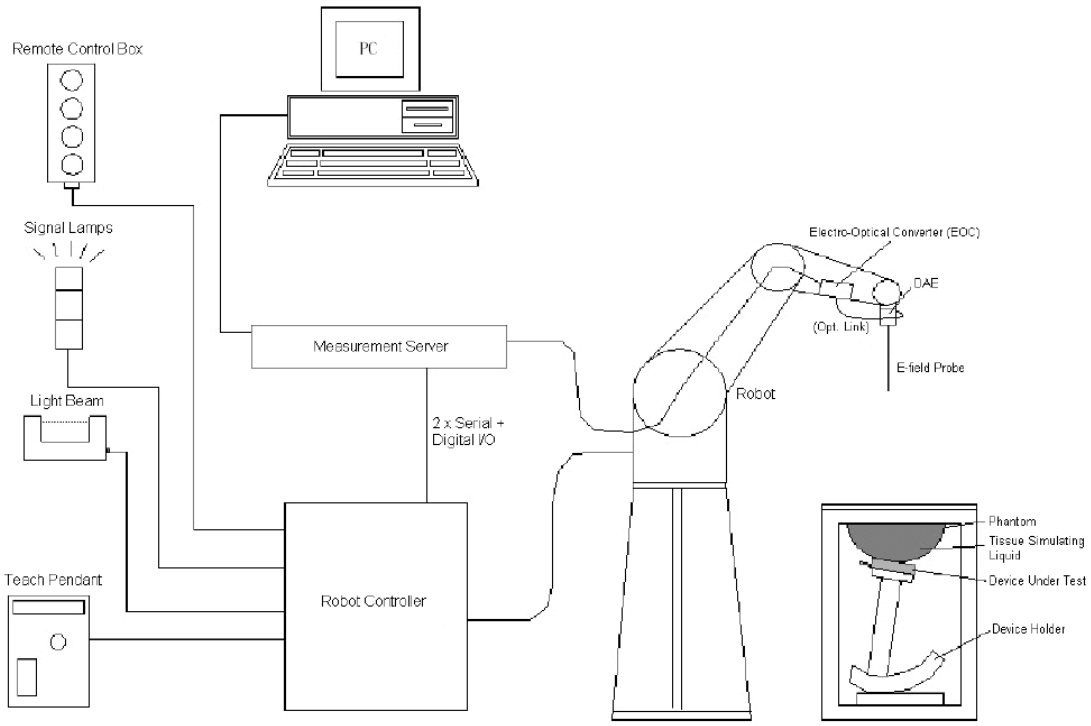
Pre-scans are made on the device to establish the location for the transmitting antenna, using a large area scan in either air or tissue simulation fluid.

The EUT is placed against the Universal Phantom where the maximum area scan dimensions are larger than the physical size of the resonating antenna. When the scan size is not large enough to cover the peak SAR distribution, it is modified by either extending the area scan size in both the X and Y directions, or the device is shifted within the predefined area.

The area scan is then run to establish the peak SAR location (interpolated resolution set at $1mm^2$) which is then used to orient the center of the zoom scan. The zoom scan is then executed and the 1g and 10g averages are derived from the zoom scan volume (interpolated resolution set at $1mm^3$).

When multiple peak SAR location were found during the same configuration or test mode, Zoom scan shall performed on each peak SAR location, only the peak point with maximum SAR value will be reported for the configuration or test mode.

3.3. COMOSAR System Description



The COMOSAR system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot with controller, teach pendant and software.

An arm extension for accommodating the data acquisition electronics (DAE).

- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection,

collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital Communicate to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the Opensar software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

3.3.1. Applications

Predefined procedures and evaluations for automated compliance testing with all worldwide standards, e.g., IEEE 1528, OET 65, IEC 62209-1, IEC 62209-2, EN 50360, EN 50383 and others.

3.3.2. Area Scans

Area scans are defined prior to the measurement process being executed with a user
defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 10mm² step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.
When an Area Scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE 1528-2003, EN 50361 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan).

3.3.3. Zoom Scan (Cube Scan Averaging)

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. A density of 1000 kg/m³ is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm, with the side length of the 10 g cube 21,5mm.
The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications utilize a physical step of 7x7x7 (5mmx5mmx5mm) providing a volume of 30mm in the X & Y axis, and 30mm in the Z axis.

3.3.4. Uncertainty of Inter-/Extrapolation and Averaging

In order to evaluate the uncertainty of the interpolation, extrapolation and averaged SAR calculation algorithms of the Post processor, COMOSAR allows the generation of measurement grids which are artificially predefined by analytically based test functions. Therefore, the grids of area scans and zoom scans can be filled with uncertainty test data, according to the SAR benchmark functions of IEEE 1528.The three analytical functions shown in equations as below are used to describe the possible range of the expected SAR distributions for the tested handsets. The field gradients are covered by the spatially flat distribution f1, the spatially steep distribution f3 and f2 accounts for H-field cancellation on the phantom/tissue surface.

$$f_1(x,y,z) = Ae^{-\frac{z}{2a}}\cos^2\left(\frac{\pi}{2}\frac{\sqrt{x'^2+y'^2}}{5a}\right)$$

$$f_2(x,y,z) = Ae^{-\frac{z}{a}}\frac{a^2}{a^2+x'^2}\left(3-e^{-\frac{2z}{a}}\right)\cos^2\left(\frac{\pi}{2}\frac{y'}{3a}\right)$$

$$f_3(x,y,z) = A\frac{a^2}{\frac{a^2}{4}+x'^2+y'^2}\left(e^{-\frac{2z}{a}}+\frac{a^2}{2(a+2z)^2}\right)$$

3.4. DASY5 E-Field Probe

The SAR measurement is conducted with the dissymmetric probe manufactured by SPEAG.
The probe is specially designed and calibrated for use in liquid with high permittivity. The dissymmetric probe has special calibration in liquid at different frequency. SPEAG conducts the probe calibration in compliance with international and national standards (e.g. IEEE 1528, EN62209-1, IEC 62209, etc.) Under ISO17025. The calibration data are in Appendix D.

3.5. Isotropic E-Field Probe Specification

Model	EX3DV4	
Manufacture	SPEAG	
frequency	0.3GHz-6 GHz Linearity:±0.2dB(30 MHz-6 GHz)	
Dynamic Range	0.01W/Kg-100W/Kg Linearity:±0.2dB	
Dimensions	Overall length:337mm Tip diameter:2.5mm Typical distance from probe tip to dipole centers:1mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

3.6. Robot

The DASY system uses the high precision robots (DASY5:TX60) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version from is used. The XL robot series have many features that are important for our application: □ High precision (repeatability 0.02 mm) □ High reliability (industrial design) □ Jerk-free straight movements □ Low ELF interference (the closed metallic construction shields against motor control fields) □ 6-axis controller	

3.7. Light Beam Unit

The light beam switch allows automatic “tooling” of the probe. During the process, the actual position of the probe tip with respect to the robot arm is measured, as well as the probe length and the horizontal probe offset. The software then corrects all movements, such that the robot coordinates are valid for the probe tip. The repeatability of this process is better than 0.1 mm. If a position has been taught with an aligned probe, the same position will be reached with another aligned probe within 0.1 mm, even if the other probe has different dimensions. During probe rotations, the probe tip will keep its actual position.	

3.8. Device Holder

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (EPR). Thus the device needs no repositioning when changing the angles. The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.	

3.9. Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chip-disk (DASY5: 128MB), RAM (DASY5: 128MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DAYS I/O board, which is directly connected to the PC/104 bus of the CPU board.
The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

3.10. SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:
- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

4. TISSUE SIMULATING LIQUID

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15cm. For head SAR testing the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15cm For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15cm.The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in 4.2

4.1. The composition of the tissue simulating liquid

Ingredient	835MHz	835MHz	1900MHz	1900MHz	2450MHz	2450MHz
(% Weight)	Head	Body	Head	Body	Head	Body
Water	40.45	52.4	54.90	40.5	46.7	73.2
Salt	1.42	1.40	0.18	0.50	0.00	0.04
Sugar	57.6	45.0	0.00	58.0	0.00	0.00
HEC	0.40	1.00	0.00	0.50	0.00	0.00
Preventol	0.10	0.20	0.00	0.50	0.00	0.00
DGBE	0.00	0.00	44.92	0.00	53.3	26.7
TWEEN	0.00	0.00	0.00	0.00	0.00	0.00

4.2. Tissue Calibration Result

The dielectric parameters of the liquids were verified prior to the SAR evaluation using COMOSAR Dielectric Probe Kit and R&S Network Analyzer ZVL6 .

Tissue Stimulant Measurement for GSM 835					
Frequency (MHz)	**Parts**	**Description**	**Dielectric Parameters**		**Tissue Temp [°C]**
835MHz	Head	Reference result ±5% window	εr 41.50 39.425-43.575	δ[s/m] 0.90 0.855-0.945	N/A
		Dec.23, 2013	42.083	0.894	21
835MHz	Body	Reference result ±5% window	εr 55.20 52.44-57.96	δ[s/m] 0.97 0.9215-1.0185	N/A
		Dec.23, 2013	54.207	1.014	21

Tissue Stimulant Measurement for PCS 1900					
Frequency (MHz)	**Parts**	**Description**	**Dielectric Parameters**		**Tissue Temp [°C]**
1900MHz	Head	Reference result ±5% window	εr 40.00 38.00-42.00	δ[s/m] 1.40 1.33-1.47	N/A
		Dec.23, 2013	39.74	1.45	21
1900MHz	Body	Reference result ±5% window	εr 53.30 50.635-55.965	δ[s/m] 1.52 1.444-1.596	N/A
		Dec.23, 2013	51.14	1.57	21

Tissue Stimulant Measurement for 2450MHz					
Frequency (MHz)	**Parts**	**Description**	**Dielectric Parameters**		**Tissue Temp [°C]**
2450MHz	Head	Reference result ±5% window	εr 39.2 37.24-41.16	δ[s/m] 1.80 1.71-1.89	N/A
		Dec.23, 2013	38.021	1.883	21
2450MHz	Body	Reference result ±5% window	εr 52.7 50.065-55.335	δ[s/m] 1.95 1.8525-2.0475	N/A
		Dec.23, 2013	50.739	2.013	21

4.3. Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

Target Frequency (MHz)	head		body	
	εr	**σ (S/m)**	**εr**	**σ (S/m)**
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	**41.5**	**0.90**	**55.2**	**0.97**
900	41.5	0.97	55.0	1.05
915	41.5	1.01	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 – 2000	**40.0**	**1.40**	**53.3**	**1.52**
2450	**39.2**	**1.80**	**52.7**	**1.95**
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

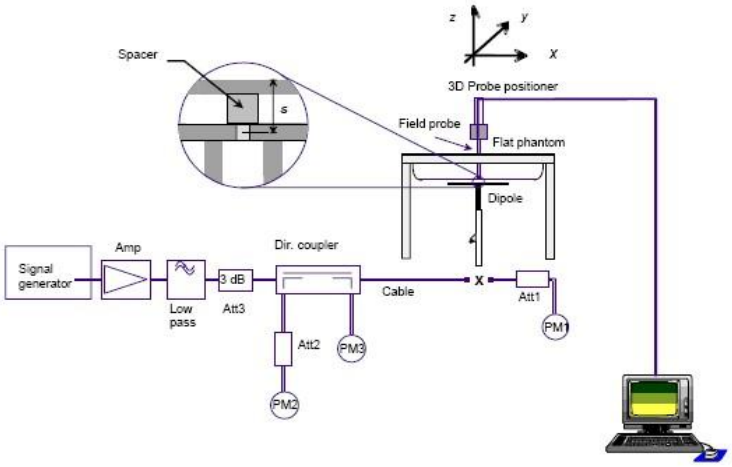
(εr = relative permittivity, σ = conductivity and ρ = 1000 kg/m3)

5. SAR MEASUREMENT PROCEDURE

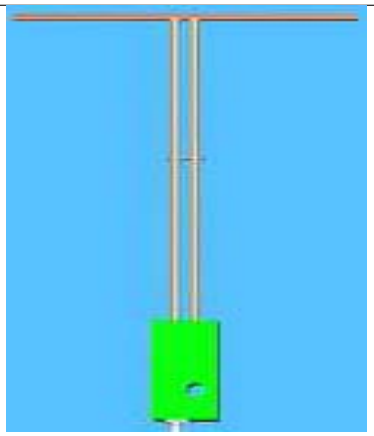
5.1. SAR System Validation Procedures

Each DASY5 system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY5 software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



5.2. SAR System Validation
5.2.1. Validation Dipoles



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

Frequency	L (mm)	h (mm)	d (mm)
900 MHz	149	83.3	3.6
1900MHz	68	39.5	3.6
2450MHz	51.5	30.4	3.6

5.2.2. Validation Result

System Performance Check at 835 MHz &1900MHz & 2450MHz for Head				
Validation Kit: SN 46/11DIP 0G900-185				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
835 MHz	Reference result ± 10% window	10.9 9.81 to 11.99	6.99 6.29 to 7.69	N/A
	Dec.23, 2013	9.96	6.36	21.0
Validation Kit: SN 46/11DIP 1G900-187				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
1900 MHz	Reference result ± 10% window	39.7 35.73 to 43.67	20.5 18.45 to 22.55	N/A
	Dec.23, 2013	41.6	21.64	21.0
Validation Kit: SN 46/11DIP 2G450-189				
Frequency [MHz]	Description	SAR [w/kg] 1g	SAR [w/kg] 10g	Tissue Temp.[°C]
2450 MHz	Reference result ± 10% window	52.4 47.16 to 57.64	24.0 21.6 to 26.4	N/A
	Dec.23, 2013	47.6	22.44	21
Note: All SAR values are normalized to 1W forward power.				

6. EUT TEST POSITION

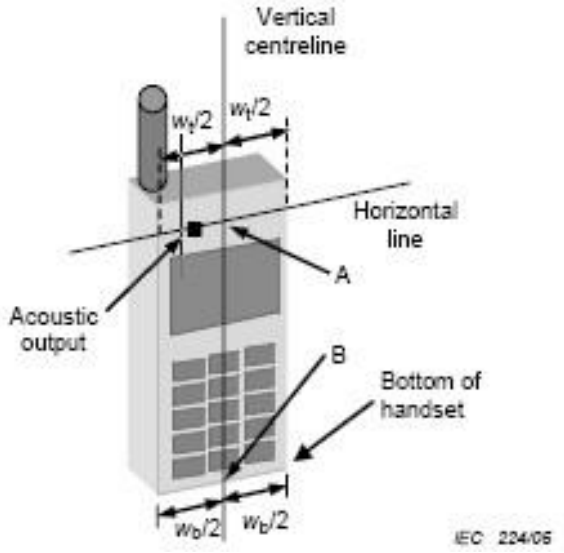
This EUT was tested in **Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.**

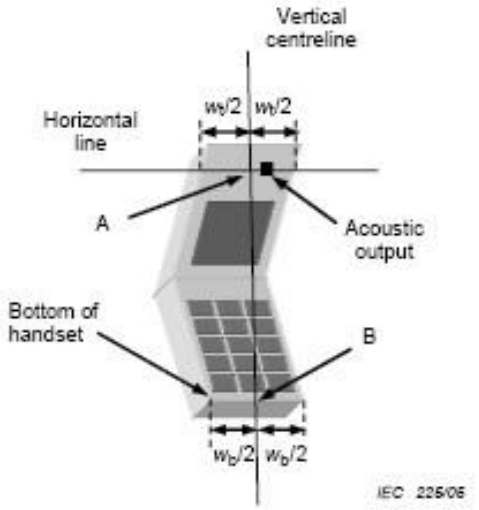
6.1. Define Two Imaginary Lines on the Handset

(1)The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.

(2)The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

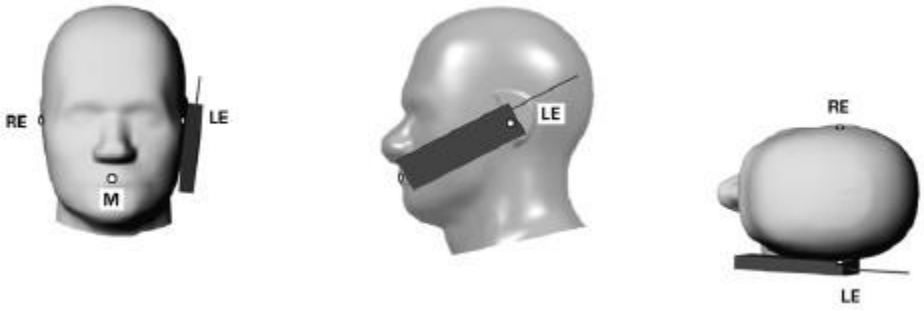
(3)The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.





6.2. Cheek Position

(1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center picec in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point(M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
(2) To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost

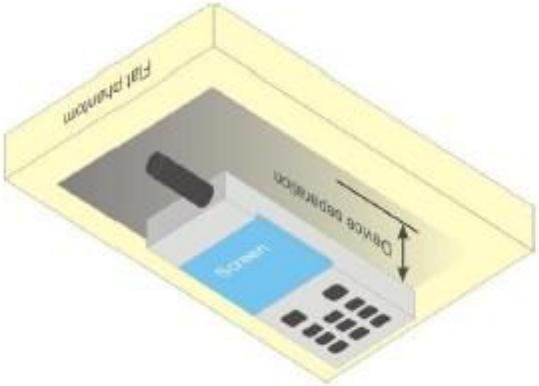


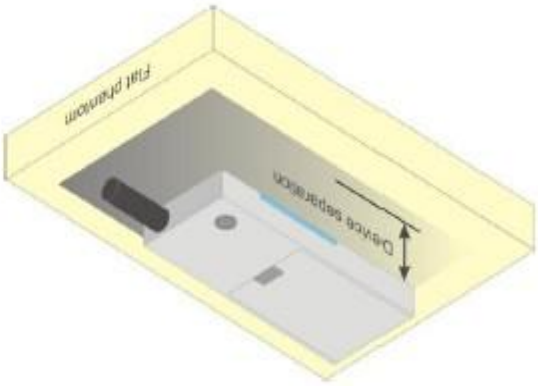
6.3. Title Position

(1) To position the device in the “cheek” position described above.
(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.

6.4. Body Worn Position

(1) To position the EUT parallel to the phantom surface.
(2) To adjust the EUT parallel to the flat phantom.
(3) To adjust the distance between the EUT surface and the flat phantom to **5mm** (Hotspot mode the distance of **10mm**).





7. SAR EXPOSURE LIMITS

SAR assessments have been made in line with the requirements of IEEE-1528, FCC Supplement C, and comply with ANSI/IEEE C95.1-1992 “Uncontrolled Environments” limits. These limits apply to a location which is deemed as “Uncontrolled Environment” which can be described as a situation where the general public may be exposed to an RF source with no prior knowledge or control over their exposure.

Limits for General Population/Uncontrolled Exposure (W/kg)

Type Exposure	Uncontrolled Environment Limit
Spatial Peak SAR (1g cube tissue for brain or body)	1.60 W/kg

8. TEST EQUIPMENT LIST

Equipment description	Manufacturer/ Model	Identification No.	Current calibration date	Next calibration date
Stäubli Robot	Stäubli-TX60	F13/5Q2UD1/A/01	N/A	N/A
Robot Controller	Stäubli-CS8	139522	N/A	N/A
E-Field Probe	Speag-EX3DV4	3595	10/15/2013	14/10/2014
SAM Twin Phantom	Speag-SAM	1790	N/A	N/A
Device Holder	Speag-SD 000 H01 KA	SD 000 H01 KA	N/A	N/A
DAE4	Speag-SD 000 D04 BM	1398	10/10/2013	09/10/2014
SAR Software	Speag-DASY5	DASY52.8	N/A	N/A
Liquid	SATIMO	-	N/A	N/A
Radio Communication Tester	R&S-CMU200	069Y7-158-13-712	02/28/2013	02/27/2014
Radio Communication Tester	Agilent-8960	GB46310822	10/22/2013	10/21/2014
Dipole	SATIMO SID900	SN46/11 DIP 0G900-185	11/14/2013	11/13/2015
Dipole	SATIMO SID1800	SN46/11 DIP 1G800-186	11/14/2013	11/13/2015
Dipole	SATIMO SID2450	SN46/11 DIP 2G450-189	11/14/2013	11/13/2015
Amplifier	Aethercomm	SN 046	12/08/2013	12/07/2014
Signal Generator	Agilent-E4421B	MY43351603	05/13/2013	05/12/2014
Power Probe	NRP-Z23	US38261498	02/28/2013	02/27/2014
SPECTRUM ANALYZER	Agilent-E4440A	MY44303916	10/22/2013	10/21/2014
Power Attenuator	BED	DLA-5W	07/30/2013	07/29/2014
Network Analyzer	Rhode & Schwarz ZVA	SN100132	02/28/2013	02/27/2014

Note: Per KDB 450824 Dipole SAR Validation Verification, AGC Lab has adopted 3 years calibration intervals. On annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:
1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss is within 20% of calibrated measurement;
4. Impedance is within 5Ω of calibrated measurement.

9. CONDUCTED POWER MEASUREMENT

GSM BAND

Mode	Frequency(MHz)	Avg. Burst Power(dBm)	Duty cycle Factor(dBm)	Frame Power(dBm)
Maximum Power <1>				
GSM 835	824.2	**31.65**	-9	22.65
	836.6	31.52	-9	22.52
	848.8	31.55	-9	22.55
GPRS 835 （1 Slot）	824.2	31.46	-9	22.46
	836.6	31.37	-9	22.37
	848.8	30.36	-9	21.36
GPRS 835 （2 Slot）	824.2	28.73	-6	22.73
	836.6	28.73	-6	22.73
	848.8	28.65	-6	22.65
GPRS 835 （3 Slot）	824.2	26.71	-4.26	22.45
	836.6	26.72	-4.26	22.46
	848.8	26.66	-4.26	22.40
GPRS 835 （4 Slot）	824.2	25.73	-3	22.73
	836.6	25.68	-3	22.68
	848.8	25.65	-3	22.65
PCS1900	1850.2	**28.55**	-9	19.55
	1880	28.52	-9	19.52
	1909.8	28.45	-9	19.45
GPRS1900 （1 Slot）	1850.2	28.40	-9	19.40
	1880	28.36	-9	19.36
	1909.8	28.33	-9	19.33
GPRS1900 （2 Slot）	1850.2	25.54	-6	19.54
	1880	25.53	-6	19.53
	1909.8	25.48	-6	19.48
GPRS1900 （3 Slot）	1850.2	24.41	-4.26	20.15
	1880	24.37	-4.26	20.11
	1909.8	24.34	-4.26	20.08
GPRS1900 （4 Slot）	1850.2	22.55	-3	19.55
	1880	22.53	-3	19.53
	1909.8	22.51	-3	19.51
Maximum Power <2>				
GSM 835	824.2	31.56	-9	22.56
PCS1900	1850.2	28.47	-9	19.47

Note 1:
The Frame Power (Source-based time-averaged Power) is scaled the maximum burst average power based on time slots. The calculated methods are show as following:
Frame Power = Max burst power (1 Up Slot) – 9 dB
Frame Power = Max burst power (2 Up Slot) – 6 dB
Frame Power = Max burst power (3 Up Slot) – 4.26 dB
Frame Power = Max burst power (4 Up Slot) – 3 dB

UMTS BAND V

Mode	Frequency (MHz)	Avg.Burst Power
WCDMA 835 RMC	826.4	**23.54**
	835.0	23.46
	846.6	23.41
WCDMA 835 AMR	826.4	23.43
	835.0	22.38
	846.6	22.37
HSDPA Subtest 1	826.4	22.51
	835.0	22.42
	846.6	22.46
HSDPA Subtest 2	826.4	22.40
	835.0	22.44
	846.6	22.40
HSDPA Subtest 3	826.4	22.41
	835.0	22.39
	846.6	22.53
HSDPA Subtest 4	826.4	22.51
	835.0	22.39
	846.6	22.47
HSUPA Subtest 1	826.4	22.37
	835.0	22.38
	846.6	22.29
HSUPA Subtest 2	826.4	22.33
	835.0	22.27
	846.6	22.31
HSUPA Subtest 3	826.4	22.31
	835.0	22.31
	846.6	22.26
HSUPA Subtest 4	826.4	22.4
	835.0	22.32
	846.6	22.30
HSUPA Subtest 5	826.4	22.42
	835.0	22.38
	846.6	22.38

WIFI

Mode	Data Rate (Mbps)	Channel	Frequency(MHz)	Avg. Burst Power(dBm)
802.11b	1	01	2412	**16.21**
		06	2437	15.99
		11	2462	15.93
802.11g	6	01	2412	10.86
		06	2437	13.28
		11	2462	10.45
802.11n(20)	6.5	01	2412	10.44
		06	2437	13.35
		11	2462	11.43
802.11n(40)	13.5	03	2422	8.59
		06	2437	10.93
		09	2452	8.96

Bluetooth_V3.0

Modulation	Channel	Frequency(MHz)	Average Power (dBm)
GFSK	0	2402	3.70
	39	2441	**3.83**
	78	2480	3.57
π /4-DQPSK	0	2402	2.88
	39	2441	3.09
	78	2480	2.82
8-DPSK	0	2402	2.86
	39	2441	3.06
	78	2480	2.77

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1aA: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	0≤ CM≤3.5	MAX(CM-1,0)
Note: CM=1 for β_c/β_d=12/15, β_{hs}/β_c=24/15.For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.
The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

10. TEST RESULTS

10.1. SAR Test Results Summary

10.1.1. Test position and configuration

Head SAR was performed with the device configured in the positions according to IEEE1528, and Body SAR was performed with the device 5mm from the phantom; Body SAR was also performed with the headset attached and without. The overall device length and width(13cm×6.5cm) are＞9cm×5cm, Hotspot mode with a test separation distance of 10mm.

10.1.2. Operation Mode

- According to KDB 447498 D01 v05r01 ,for each exposure position, if the highest 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional.

- Per KDB 865664 D01 v01r01,for each frequency band, if the measured SAR is ≥0.8W/Kg, testing for repeated SAR measurement is required , that the highest measured SAR is only to be tested. When the SAR results are near the limit, the following procedures are required for each device to verify these types of SAR measurement related variation concerns by repeating the highest measured SAR configuration in each frequency band.
  (1) When the original highest measured SAR is ≥0.8W/Kg, repeat that measurement once.
  (2) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is ＞1.20 or when the original or repeated measurement is ≥1.45 W/Kg.
  (3) Perform a third repeated measurement only if the original, first and second repeated measurement is ≥ 1.5 W/Kg and ratio of largest to smallest SAR for the original, first and second measurement is ≥1.20.

- Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call mode is selected to be test.

- According to KDB 648474 D04 v01r01,when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤1.2W/Kg, SAR testing with a headset connected is not required.

- According to 941225 D06, when the overall device length and width are＞9cm×5cm, Hotspot mode with a test separation distance of 10mm. For device with form factors smaller than 9cm×5cm, Hotspot mode with a test separation distance of 5mm. Body SAR was also performed with the headset attached and without.

- According to 248227 D01, SAR is not required for 802.11g channels when the maximum average output power is less than 1/4dB higher than measured on the corresponding 802.11b channels.

- Maximum Scaling SAR in order to calculate the Maximum SAR values to test under the standard Peak Power, Calculation method is as follows:
  Maximum Scaling SAR =tested SAR (Max.) ×[GSM standard Peak Power (mw)/ tested Max. Peak Power (mw)]

10.1.3. SAR Test Results Summary

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: GSM835 with GMSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Left Head	Cheek	Fixed	128	824.2	--	--	--
				190	836.6	-0.06	**0.110**	1.6
				251	848.8	--	--	--
		Tilted	Fixed	128	824.2	--	--	--
				190	836.6	-0.37	0.058	1.6
				251	848.8	--	--	--
	Right Head	Cheek	Fixed	128	824.2	--	--	--
				190	836.6	-0.51	0.096	1.6
				251	848.8	--	--	--
		Tilted	Fixed	128	824.2	--	--	--
				190	836.6	-0.22	0.054	1.6
				251	848.8	--	--	--
<2>	Left	Cheek	Fixed	190	836.6	0.05	0.106	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2					Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2					Depth of Liquid (cm):>15			
Product: 3G Mobile Phone								
Test Mode: GSM835 with GMSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Body back	MS	Fixed	128	824.2	--	--	--
				190	836.6	0.14	**0.789**	1.6
				251	848.8	--	--	--
	Body Front	MS	Fixed	128	824.2	--	--	--
				190	836.6	0.11	0.174	1.6
				251	848.8	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: PCS1900 with GMSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Left Head	Cheek	Fixed	512	1850.2	--	--	--
				661	1880.0	1.50	**0.102**	1.6
				810	1909.8	--	--	--
		Tilted	Fixed	512	1850.2	--	--	--
				661	1880.0	0.58	0.018	1.6
				810	1909.8	--	--	--
	Right Head	Cheek	Fixed	512	1850.2	--	--	--
				661	1880.0	2.85	0.069	1.6
				810	1909.8	--	--	--
		Tilted	Fixed	512	1850.2	--	--	--
				661	1880.0	0.39	0.016	1.6
				810	1909.8	--	--	--
<2>	Left	Cheek	Fixed	661	1880.0	4.27	0.101	1.6
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2					Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2					Depth of Liquid (cm):>15			
Product: 3G Mobile Phone								
Test Mode: PCS 1900 with GMSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Body Back	MS	Fixed	512	1850.2	--	--	--
				661	1880.0	0.01	**0.501**	1.6
				810	1909.8	--	--	--
	Body front	MS	Fixed	512	1850.2	--	--	--
				661	1880.0	0.04	0.157	1.6
				810	1909.8	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: WCDMA Band V with QPSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Left Head	Cheek	Fixed	4132	826.4	--	--	--
				4182	835.0	-0.39	**0.126**	1.6
				4233	846.6	--	--	--
		Tilted	Fixed	4132	826.4	--	--	--
				4182	835.0	-3.17	0.058	1.6
				4233	846.6	--	--	--
	Right Head	Cheek	Fixed	4132	826.4	--	--	--
				4182	835.0	-1.42	0.101	1.6
				4233	846.6	--	--	--
		Tilted	Fixed	4132	826.4	--	--	--
				4182	835.0	-1.73	0.031	1.6
				4233	846.6	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: WCDMA Band V with QPSK modulation								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
SIM	Position	Status		channel	MHz			
<1>	Body	RMC (towards grounds)	Fixed	4132	826.4	--	--	--
				4182	835.0	0.15	**0.769**	1.6
				4233	846.6	--	--	--
		RMC (towards phantom)	Fixed	4132	826.4	--	--	--
				4182	835.0	0.13	0.147	1.6
				4233	846.6	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. refer to KDB 941225.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2					Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2					Depth of Liquid (cm):>15			
Product: 3G Mobile Phone								
Test Mode: 802.11b								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
Test Mode	Position	Status		channel	MHz			
802.11b	Left Head	Cheek	Fixed	1	2412	--	--	--
				6	2437	-0.12	0.010	1.6
				11	2462	--	--	--
		Tilted	Fixed	1	2412	--	--	--
				6	2437	-0.72	**0.017**	1.6
				11	2462	--	--	--
	Right Head	Cheek	Fixed	1	2412	--	--	--
				6	2437	0.61	0.009	1.6
				11	2462	--	--	--
		Tilted	Fixed	1	2412	--	--	--
				6	2437	2.56	0.012	1.6
				11	2462	--	--	--
Note1: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Note2: IEEE802.11b support DBPSK, DQPSK, CCK modulation mode, IEEE802.11g/n support OFDM, 16-QAM, 64-QAM modulation mode.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2					Relative Humidity (%): 55			
Liquid Temperature (°C) : 21 ± 2					Depth of Liquid (cm):>15			
Product: 3G Mobile Phone								
Test Mode: 802.11b								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
Test Mode	Position	Status		channel	MHz			
802.11b	Body Back	MS	Fixed	1	2412	--	--	--
				6	2437	-0.07	**0.087**	1.6
				11	2462	--	--	--
	Body front	MS	Fixed	1	2412	--	--	--
				6	2437	0.45	0.006	1.6
				11	2462	--	--	--
Note1: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional. Note2: IEEE802.11b support DBPSK, DQPSK, CCK modulation mode, IEEE802.11g/n support OFDM, 16-QAM, 64-QAM modulation mode.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: Hotspot								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
Test Mode	Position	Status		channel	MHz			
Hotspot	Left Head	Cheek	Fixed	1	2412	--	--	--
				6	2437	0.32	0.015	1.6
				11	2462	--	--	--
		Tilted	Fixed	1	2412	--	--	--
				6	2437	-1.53	**0.019**	1.6
				11	2462	--	--	--
	Right Head	Cheek	Fixed	1	2412	--	--	--
				6	2437	2.52	0.013	1.6
				11	2462	--	--	--
		Tilted	Fixed	1	2412	--	--	--
				6	2437	4.34	0.018	1.6
				11	2462	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional.								

SAR MEASUREMENT								
Ambient Temperature (°C) : 21 ± 2						Relative Humidity (%): 55		
Liquid Temperature (°C) : 21 ± 2						Depth of Liquid (cm):>15		
Product: 3G Mobile Phone								
Test Mode: Hotspot								
Configuration			Antenna Position	Frequency		Power Drift (<±5%)	SAR (1g) (W/kg)	Limit (W/kg)
Test Mode	Position	Status		channel	MHz			
Hotspot	Body Back	MS	Fixed	1	2412	--	--	--
				6	2437	0.25	**0.053**	1.6
				11	2462	--	--	--
	Body front	MS	Fixed	1	2412	--	--	--
				6	2437	1.20	0.007	1.6
				11	2462	--	--	--
Note: when the 1-g SAR is ≤ 0.8 W/kg, testing for low and high channel is optional.								

Simultaneous Multi-band Transmission Evaluation:

Application Simultaneous Transmission information:

Position	Simultaneous state
Head	**1.WWAN(voice)+WLAN 2.4GHz band**
	2.WWAN(voice)+Bluetooth
	3.WWAN(voice)+ HOTSPOT 2.4GHz band
Body	**4. WWAN(voice)+WLAN 2.4GHz band**
	5. WWAN(voice)+Bluetooth
	6.WWAN(voice)+ HOTSPOT 2.4GHz band

NOTE:

1. WLAN and BT share the same antenna, and cannot transmit simultaneously.
2. Simultaneous with every transmitter must be the same test position.
3. Based upon KDB 447498 D01 v05, BT SAR is excluded as below table.
4. Based upon KDB 447498 D01 v05,for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user; which is 0mm for head SAR AND 5mm for body-worn SAR.
5. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
6. For minimum test separation distance≦50mm,Bluetooth standalone SAR is excluded according to *[(max. power of channel, including tune-up tolerance, mW)/ (min. test separation distance, mm) ·[√f (GHz) /x] ≦3.0 for 1-g SAR and ≦7.5 for 10-g extremity SAR*
7. KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
   a) (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f (GHz) /x] W/kg for test separation distances≤ 50 mm; Where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
   b) 0.4W/Kg for 1-g SAR and 1.0W/Kg for 10-g SAR, when the separation distance is >50mm.

		Maximum Average Power		Antenna to user (mm)	SAR exclusion threshold (mW)	SAR testing required （Yes/No）	Head (0mm gap)	Body (5mm gap)
		dBm	mW					
BT	Head	3.83	2.415	5	10	NO	0.1006 W/kg	0.1006 W/kg
	Body			5	10	NO		

Maximum test results (WWAN) with BT and WIFI/ HOTSPOT SAR:

BT: Head (0 cm gap): 0.1006 W/kg and Body (0.5 cm gap): 0.1006 W/kg
WIFI: Head (0 cm gap): 0.017 W/kg and Body (0.5 cm gap): 0.087 W/kg
HOTSPOT: Head (0 cm gap): 0.019 W/kg and Body (1.0 cm gap): 0.053 W/kg

WIFI

Head					
Conditions (SAR1+SAR2)	**Position**	**Max. SAR1**	**Max. SAR2**	**SAR Summation**	**Limit (W/kg)**
GSM835 +WIFI (voice)	Left Cheek	0.110	0.010	0.120	1.6
PCS1900 +WIFI (voice)	Left Cheek	0.102	0.010	0.112	1.6
WCDMA Band V +WIFI (voice)	Left Cheek	0.126	0.010	**0.136**	1.6
Body					
Conditions (SAR1+SAR2)	**Position**	**Max. SAR1**	**Max. SAR2**	**SAR Summation**	**Limit (W/kg)**
GSM835 +WIFI (voice)	Body Back (MS)	0.789	0.087	**0.876**	1.6
PCS1900 +WIFI (voice)	Body Back (MS)	0.501	0.087	0.588	1.6
WCDMA Band V +WIFI (voice)	RMC (towards grounds)	0.769	0.087	0.856	1.6

HOTSPOT

Head					
Conditions (SAR1+SAR2)	**Position**	**Max. SAR1**	**Max. SAR2**	**SAR Summation**	**Limit (W/kg)**
GSM835 + Hotspot (voice)	Left Cheek	0.110	0.015	0.125	1.6
PCS1900 +Hotspot (voice)	Left Cheek	0.102	0.015	0.117	1.6
WCDMA Band V + Hotspot (voice)	Left Cheek	0.126	0.015	**0.141**	1.6
Body					
Conditions (SAR1+SAR2)	**Position**	**Max. SAR1**	**Max. SAR2**	**SAR Summation**	**Limit (W/kg)**
GSM835 + Hotspot (voice)	Body Back (MS)	0.789	0.053	**0.842**	1.6
PCS1900 +Hotspot I (voice)	Body Back (MS)	0.501	0.053	0.554	1.6
WCDMA Band V +Hotspot (voice)	RMC (towards grounds)	0.769	0.053	0.822	1.6

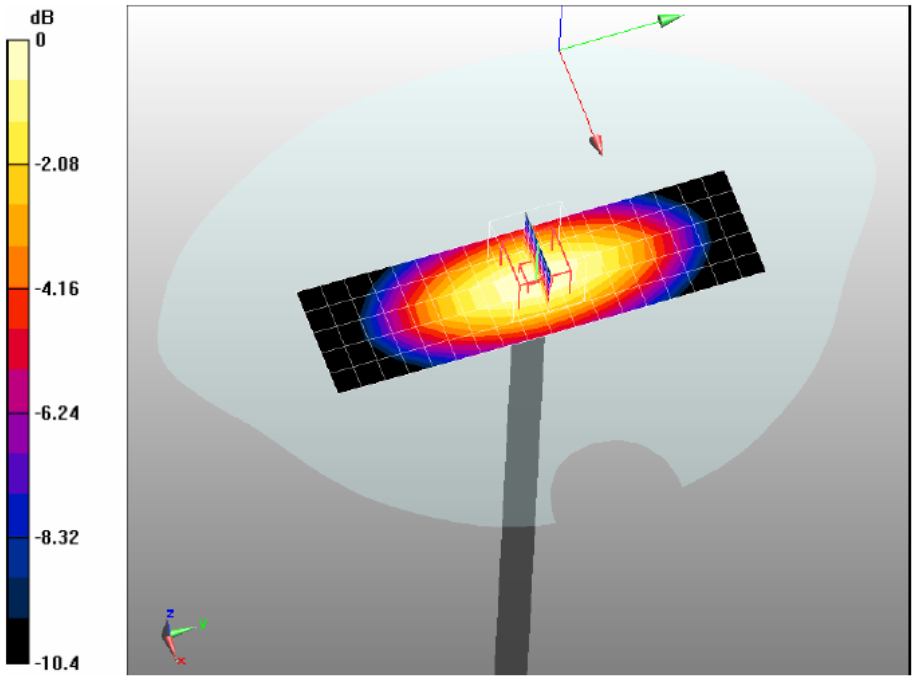
APPENDIX A. SAR SYSTEM VALIDATION DATA

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
System Check Head 835 MHz
DUT: Dipole 900 MHz Type: SID 900
Communication System CW; Communication System Band: D835 (835.0 MHz); Duty Cycle: 1:1;
Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ=0.894 S/m; εr =42.083; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=250mW
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:

- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Touch-Left /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 2.56 W/kg
Configuration/GSM 850 Mid-Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.9 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.34 W/kg
SAR(1 g) = 2.49 W/kg; SAR(10 g) = 1.59 W/kg
Maximum value of SAR (measured) = 2.68 W/kg

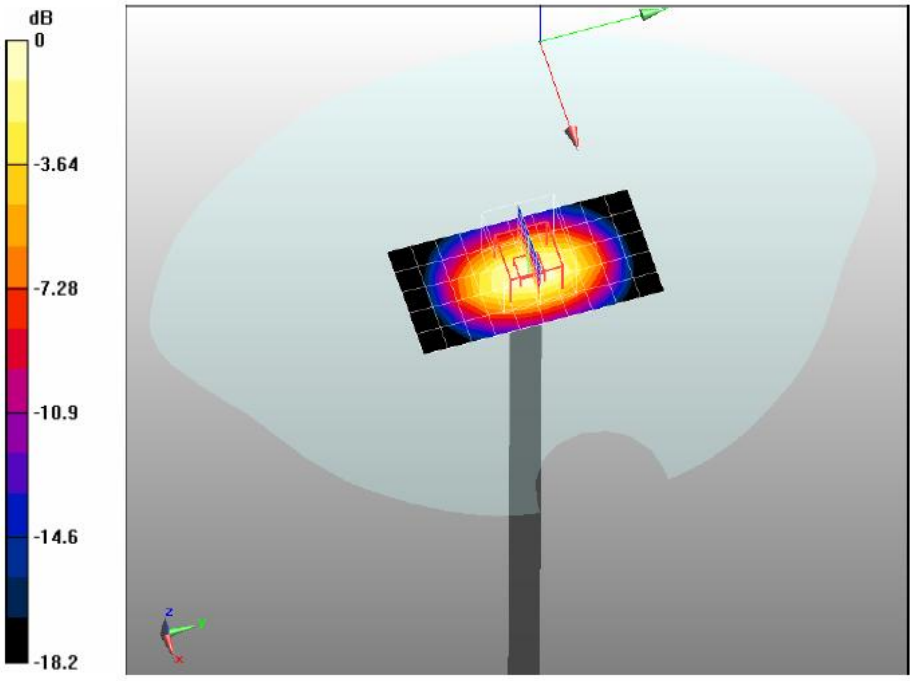


0 dB = 2.68mW/g

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
System Check Head 1900MHz
DUT: Dipole 1900 MHz; Type: SID 1900
Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Duty Cycle:1:1;
Frequency: 1900 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=250mW
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Touch-Right /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 11.2 W/kg
Configuration/PCS 1900 Mid-Touch-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.3 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) =20 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.41 W/kg
Maximum value of SAR (measured) = 12 W/kg

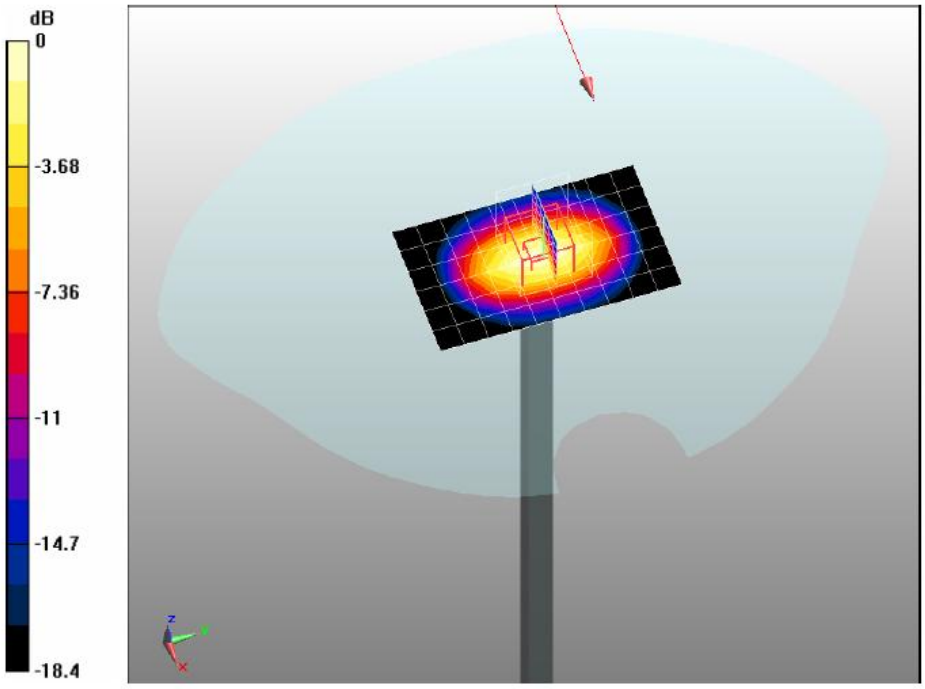


0 dB = 12mW/g

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
System Check Head 2450 MHz
DUT: Dipole 2450 MHz Type: SID 2450
Communication System: CW; Communication System Band: D2450 (2450.0 MHz); Duty Cycle: 1:1;
Frequency: 2450 MHz; Medium parameters used: f = 2450 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Flat Section; Input Power=250mw
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid- Touch-Left /Area Scan (91x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 13.2 W/kg
Configuration/802.11b Mid- Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.9 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 20.5 W/kg
SAR(1 g) = 11.9 W/kg; SAR(10 g) = 5.61 W/kg
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1mW/g

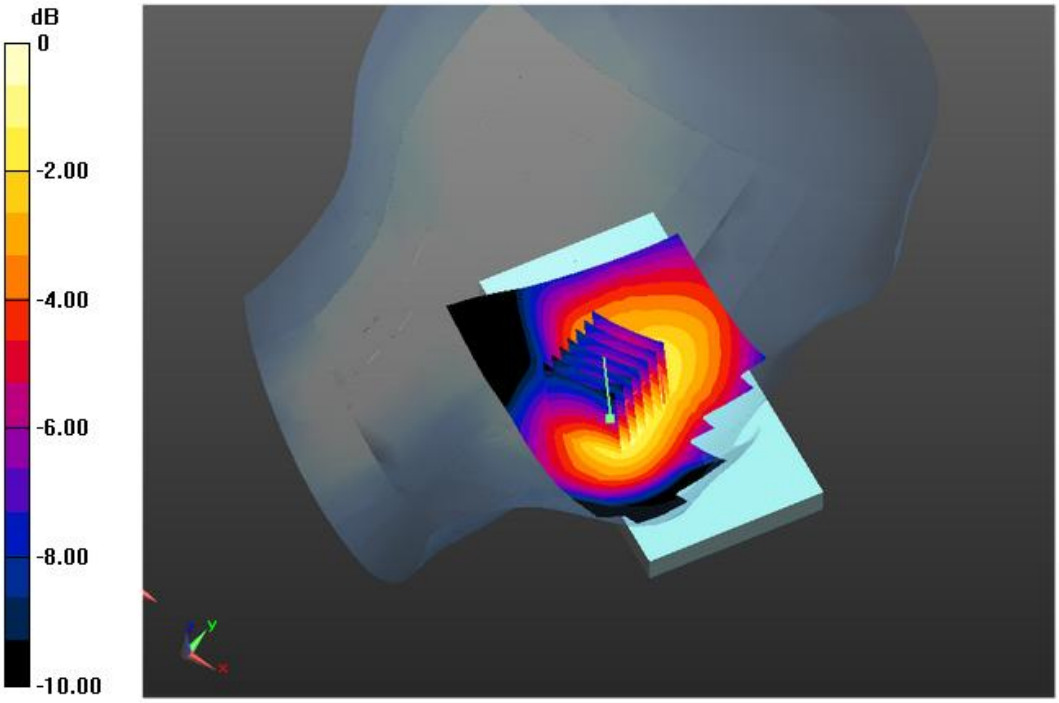
APPENDIX B. SAR MEASUREMENT DATA

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid-Touch-Left <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used: f = 836.6 MHz; σ=0.894 S/m; εr =42.083; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Touch-Left /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.132 W/kg
Configuration/GSM 850 Mid-Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.380 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.110 W/kg; SAR(10 g) = 0.077 W/kg
Maximum value of SAR (measured) = 0.131 W/kg



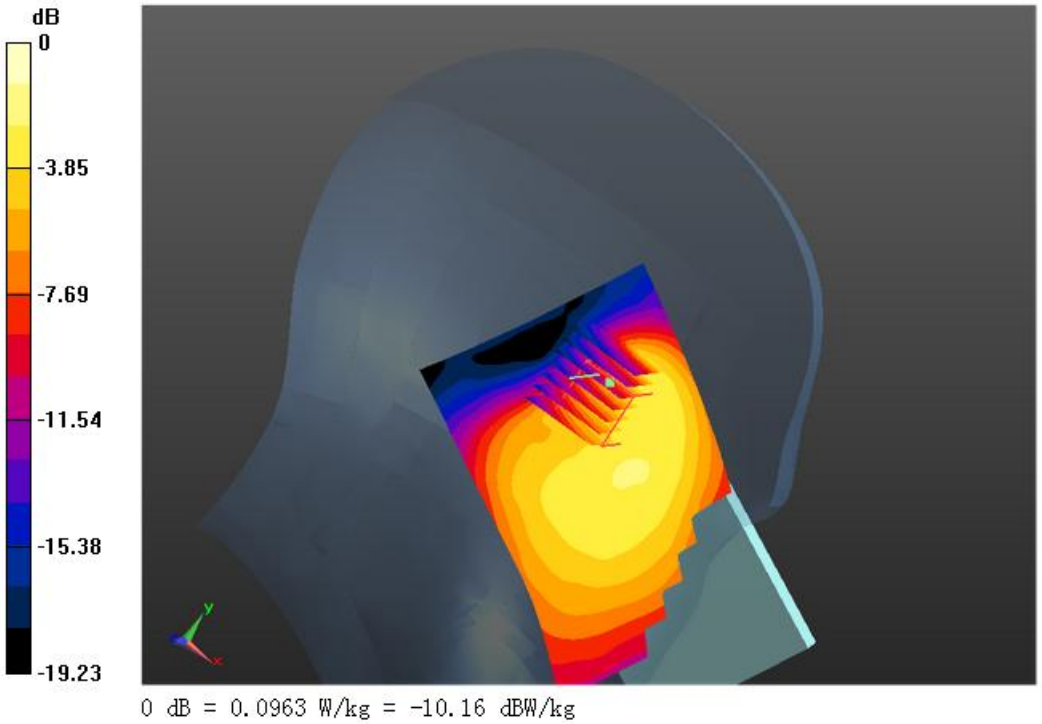
0 dB = 0.131 W/kg = -8.83 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid-Tilt-Left <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used: f = 836.6 MHz; σ = 0.894 S/m; εr = 42.083; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Tilt-Left /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.107 W/kg
Configuration/GSM 850Mid-Tilt-Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.876 V/m; Power Drift = -0.37 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.058 W/kg; SAR(10 g) = 0.034 W/kg
Maximum value of SAR (measured) = 0.0963 W/kg



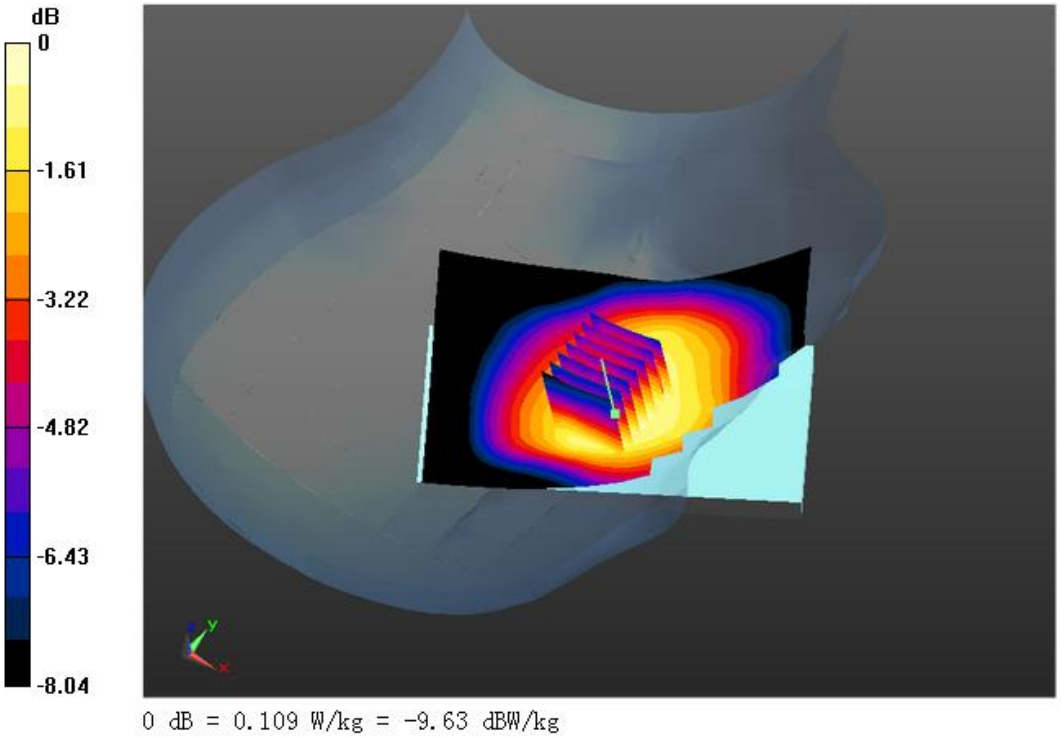
0 dB = 0.0963 W/kg = -10.16 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid-Touch-Right <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used: f = 836.6 MHz; σ=0.894 S/m; εr =42.083; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Touch-Right /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.109 W/kg
Configuration/GSM 850 Mid-Touch-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.463 V/m; Power Drift = -0.51 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.096 W/kg; SAR(10 g) = 0.076 W/kg
Maximum value of SAR (measured) = 0.109 W/kg

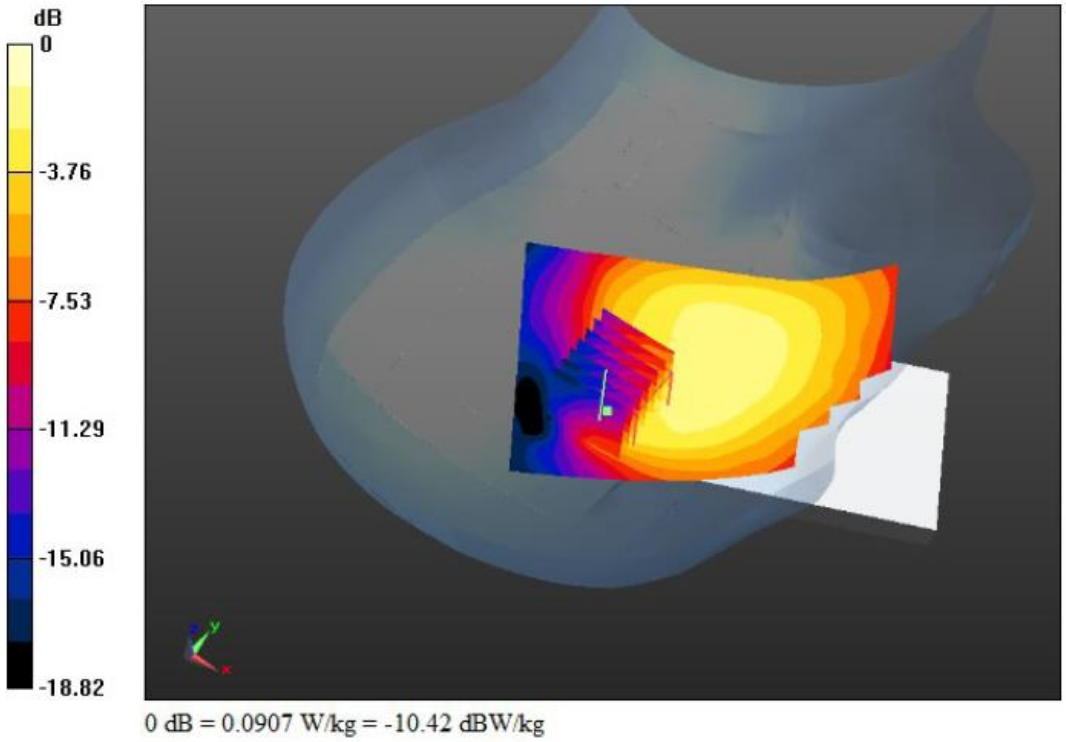


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid-Tilt-Right <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used: f = 836.6 MHz; σ=0.894 S/m; εr =42.083; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Tilt-Right /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.112 W/kg
Configuration/GSM 850 Mid-Tilt-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.343 V/m; Power Drift = -0.22 dB
Peak SAR (extrapolated) = 0.0700 W/kg
SAR(1 g) = 0.054 W/kg; SAR(10 g) = 0.032 W/kg
Maximum value of SAR (measured) =0.0907 W/kg



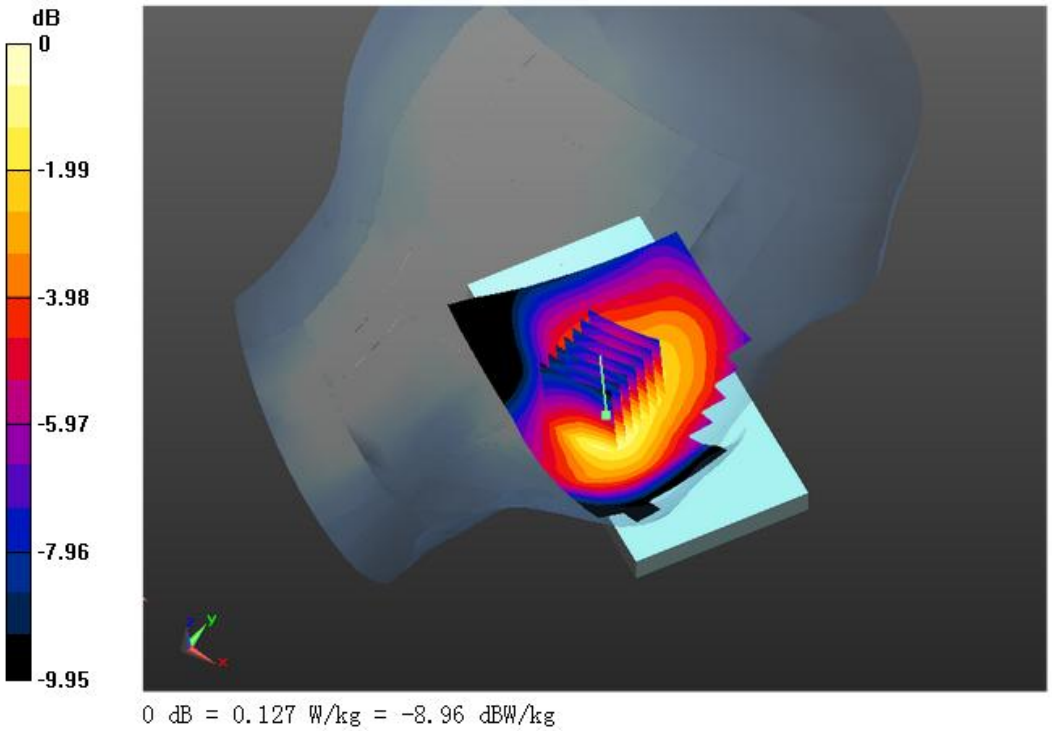
0 dB = 0.0907 W/kg = -10.42 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid-Touch-Left <SIM 2>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz); Duty Cycle: 1:8.3; Frequency: 836.6 MHz; Medium parameters used: f = 836.6 MHz; σ=0.894 S/m; εr =42.083; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid-Touch-Left /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.127 W/kg
Configuration/GSM 850 Mid-Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.507 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.148 W/kg
SAR(1 g) = 0.106 W/kg; SAR(10 g) = 0.075 W/kg
Maximum value of SAR (measured) = 0.127 W/kg



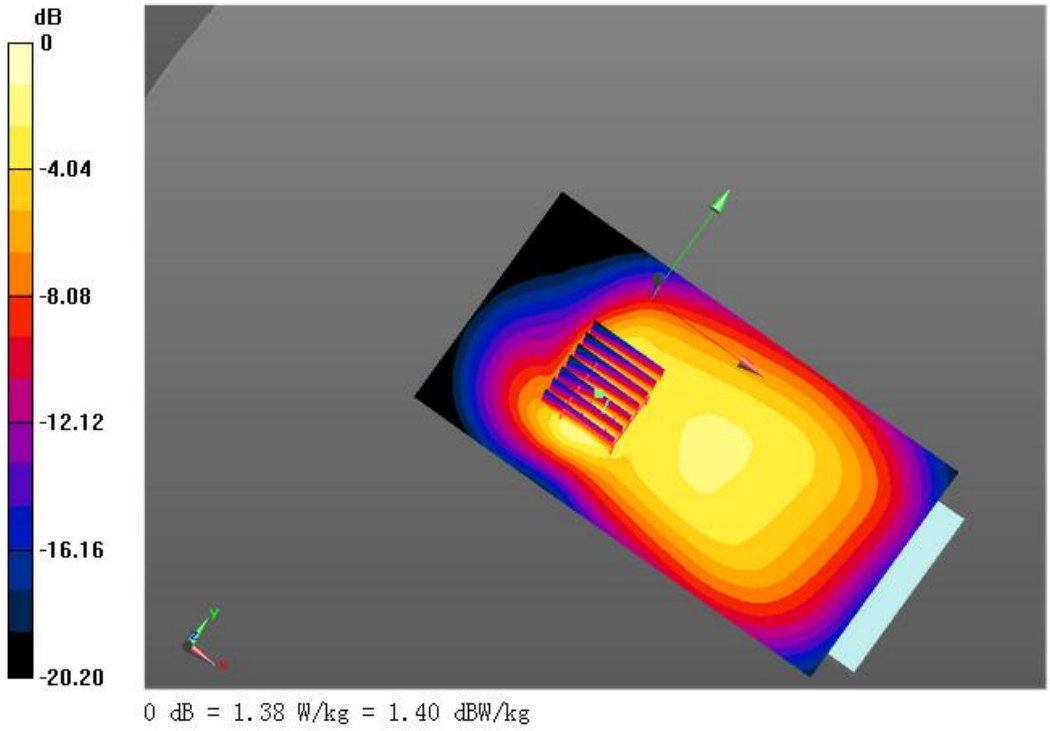
0 dB = 0.127 W/kg = -8.96 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid- Body- Back
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz);
Duty Cycle: 1:8.3;
Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ = 1.014 S/m; εr = 54.207;
ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.91, 9.91, 9.91); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid- Body- Back /Area Scan (171x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 1.26 W/kg
Configuration/GSM 850 Mid- Body- Back /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.156 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 0.789 W/kg; SAR(10 g) = 0.437 W/kg
Maximum value of SAR (measured) = 1.38 W/kg

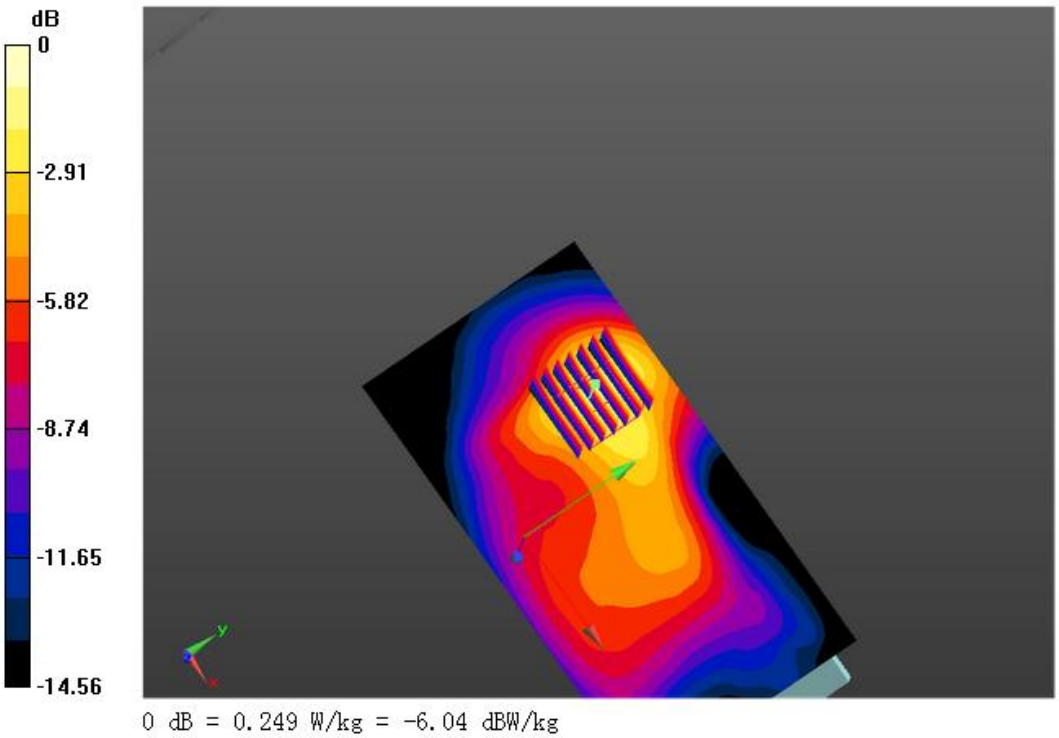


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
GSM 835 Mid- Body- Front
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: GSM 850 (824.2 – 848.8 MHz);
Duty Cycle: 1:8.3;
Frequency: 836.6 MHz; Medium parameters used: f = 835 MHz; σ = 1.014 S/m; εr = 54.207;
ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
- Probe: EX3DV4 - SN3953; ConvF(9.91, 9.91, 9.91); Calibrated: 10/15/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), z = 1.0, 31.0
- Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
- Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/GSM 850 Mid- Body- Front /Area Scan (171x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.238 W/kg
Configuration/GSM 850 Mid- Body- Front /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.595V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) =0.328 W/kg
SAR(1 g) =0.174 W/kg; SAR(10 g) = 0.098 W/kg
Maximum value of SAR (measured) = 0.249W/kg

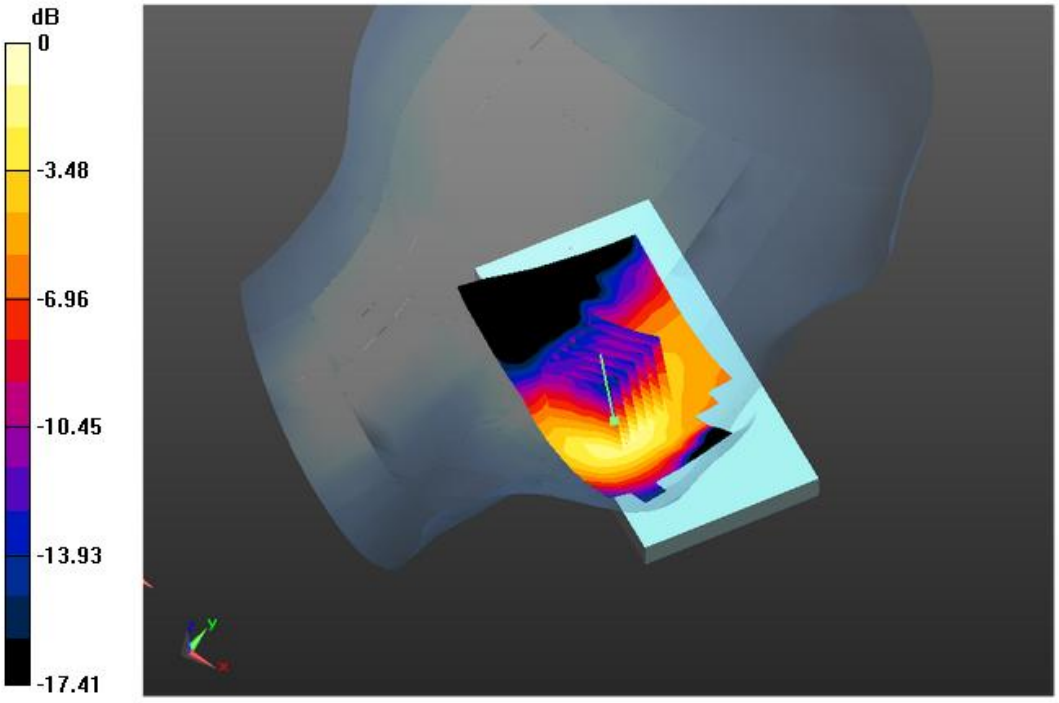


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Touch-Left <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Touch-Left /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.114 W/kg
Configuration/PCS 1900 Mid-Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.169 V/m; Power Drift = 1.50 dB
Peak SAR (extrapolated) = 0.173 W/kg
SAR(1 g) = 0.102 W/kg; SAR(10 g) = 0.060 W/kg
Maximum value of SAR (measured) = 0.113 W/kg



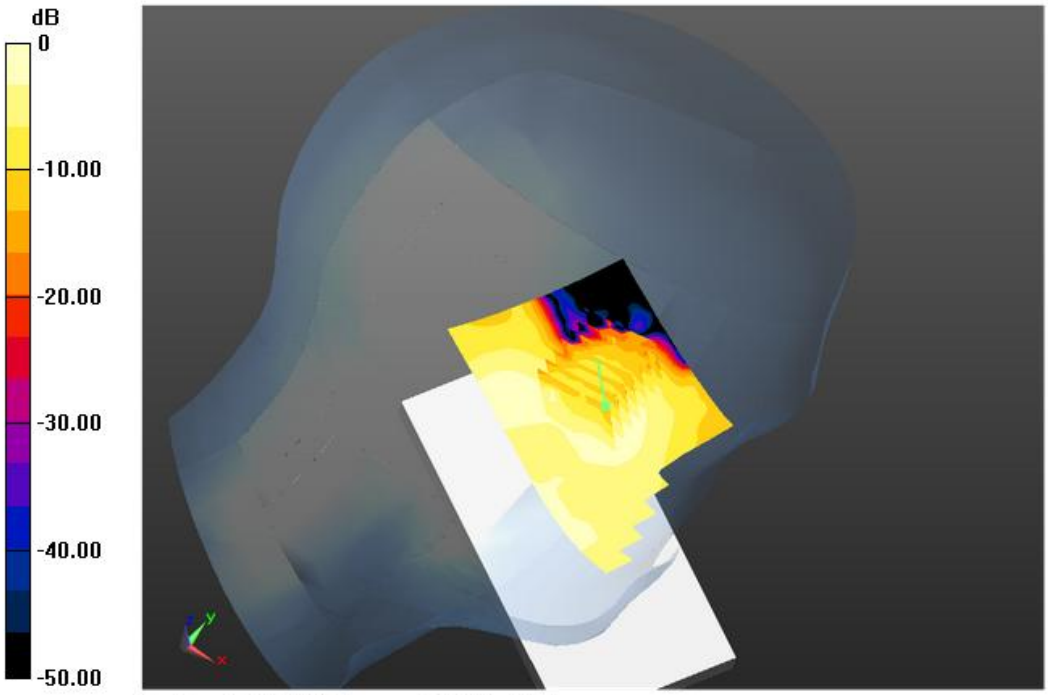
0 dB = 0.113 W/kg = -9.47 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Tilt-Left <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Tilt-Left /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR =0.0218 W/kg
Configuration/PCS 1900 Mid-Tilt-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.369 V/m; Power Drift = 0.58 dB
Peak SAR (extrapolated) = 0.0290 W/kg
SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.00985 W/kg
Maximum value of SAR (measured) = 0.0203 W/kg

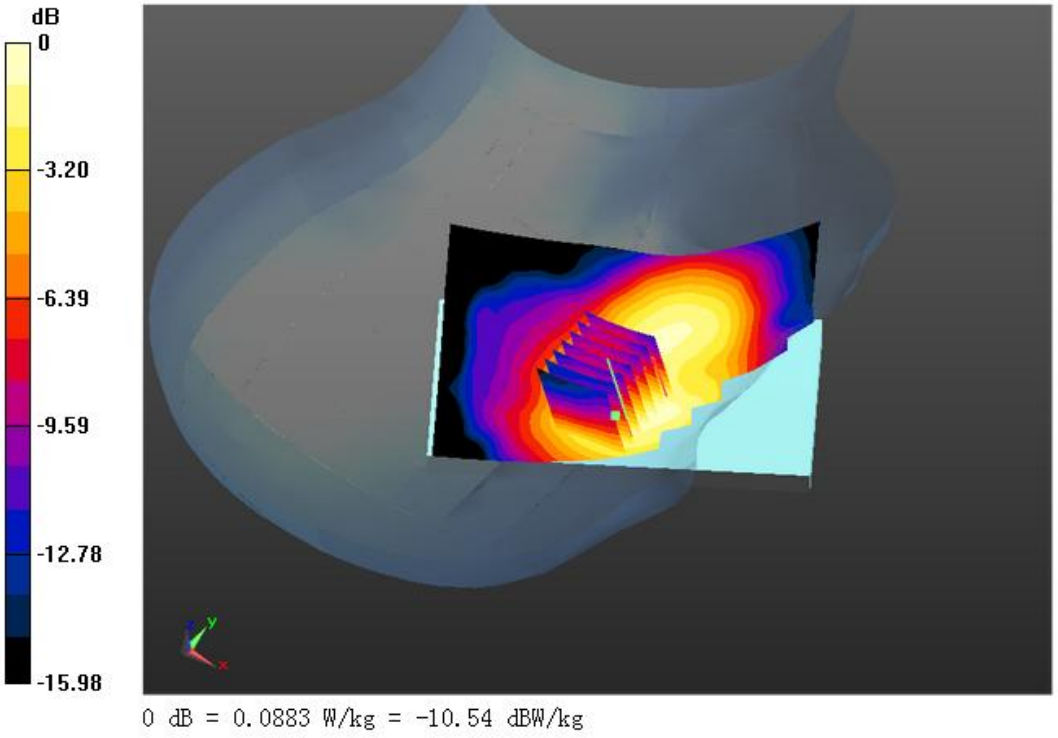


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Touch-Right <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Touch-Right /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0943 W/kg
Configuration/PCS 1900 Mid-Touch-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.031 V/m; Power Drift = 2.85 dB
Peak SAR (extrapolated) =0.105 W/kg
SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.044 W/kg
Maximum value of SAR (measured) = 0.0883 W/kg

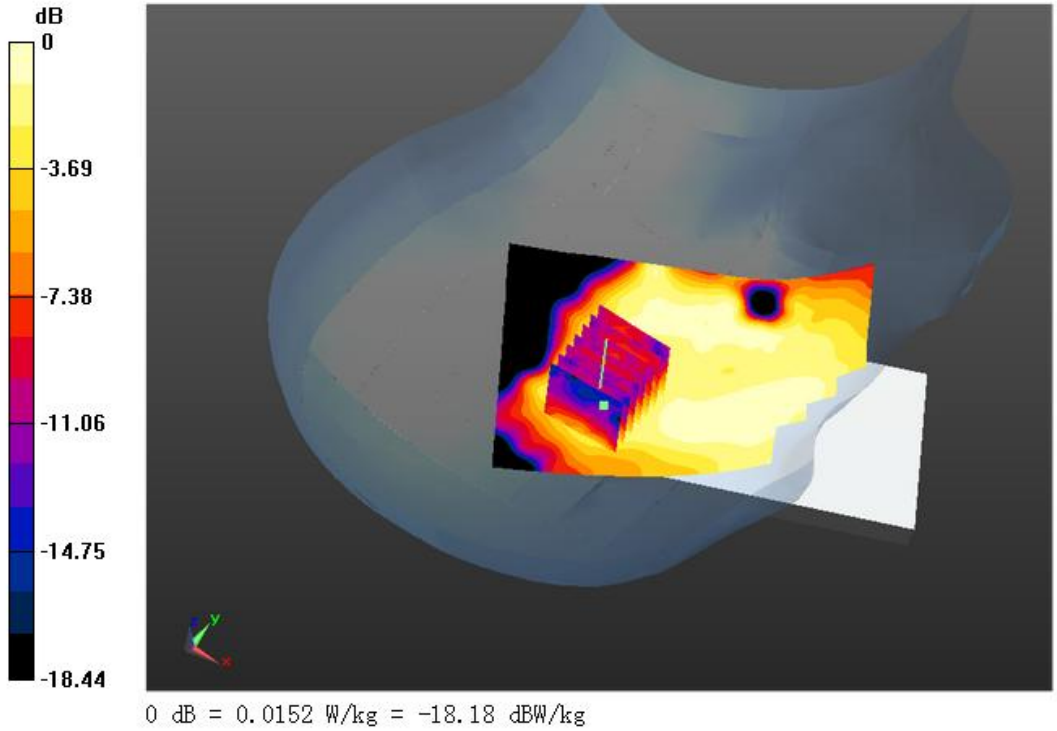


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Tilt-Right <SIM 1>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Tilt-Right /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0182 W/kg
Configuration/PCS 1900 Mid-Tilt-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.195 V/m; Power Drift = 0.39 dB
Peak SAR (extrapolated) = 0.0700 W/kg
SAR(1 g) = 0.016 W/kg; SAR(10 g) = 0.00396 W/kg
Maximum value of SAR (measured) = 0.0152 W/kg

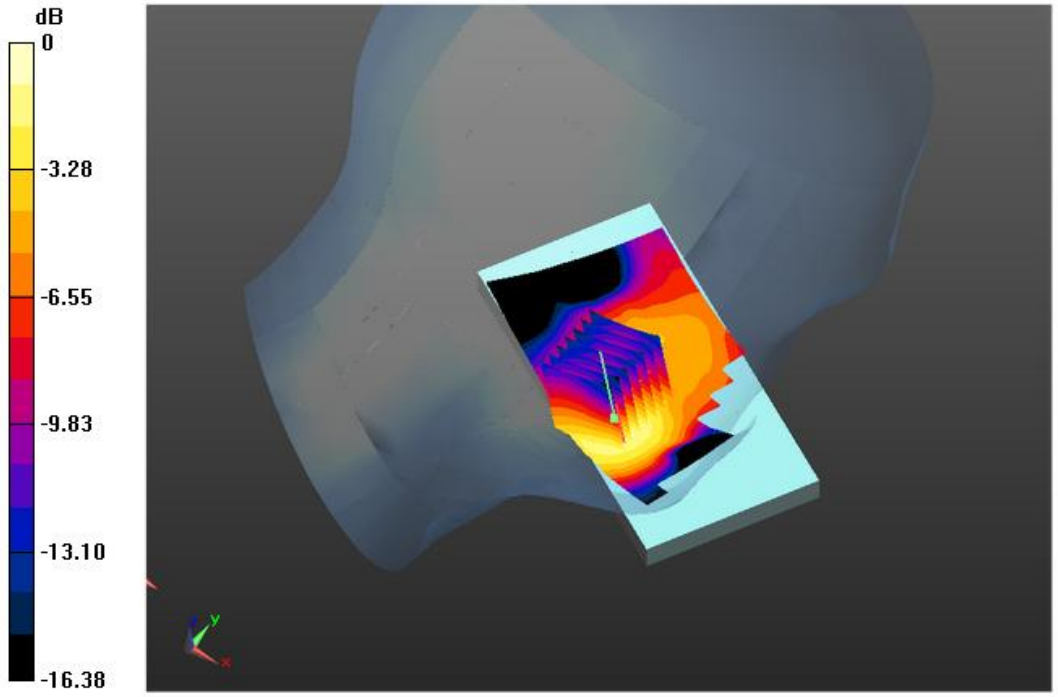


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Touch-Left <SIM 2>
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.45 S/m; εr = 39.74; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(8.17, 8.17, 8.17); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Touch-Left /Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.109 W/kg
Configuration/PCS 1900 Mid-Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.760 V/m; Power Drift = 4.27 dB
Peak SAR (extrapolated) = 0.165 W/kg
SAR(1 g) = 0.101 W/kg; SAR(10 g) = 0.059 W/kg
Maximum value of SAR (measured) = 0.112 W/kg



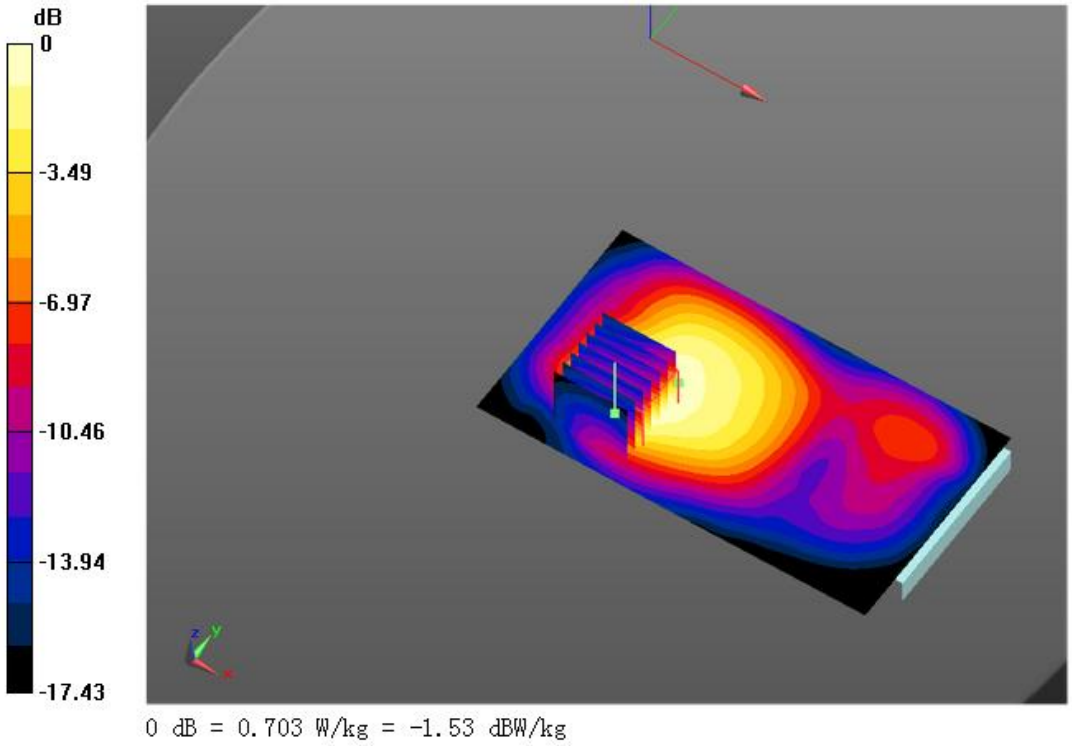
0 dB = 0.112 W/kg = -9.51 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Body- Back
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.57 S/m; εr = 51.14; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.8, 7.8, 7.8); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Body- Back /Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.694 W/kg
Configuration/PCS 1900 Mid-Body- Back /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.490 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.939 W/kg
SAR(1 g) =0.501 W/kg; SAR(10 g) = 0.280 W/kg
Maximum value of SAR (measured) = 0.703 W/kg



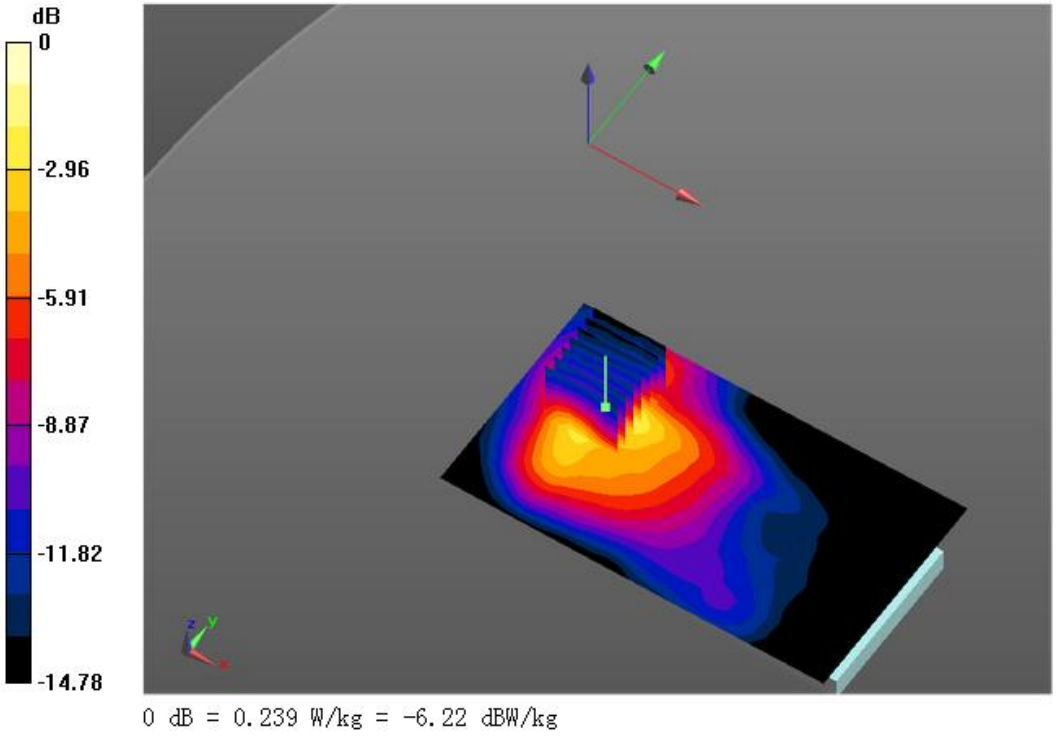
0 dB = 0.703 W/kg = -1.53 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
PCS 1900 Mid-Body -Front
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, Generic GSM (0); Communication System Band: PCS 1900 (1850.2 – 1909.8 MHz); Duty Cycle: 1:8.3; Frequency: 1880 MHz; Medium parameters used: f = 1900 MHz; σ = 1.57 S/m; εr = 51.14; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21.0, Liquid temperature (℃): 21.0

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.8, 7.8, 7.8); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/PCS 1900 Mid-Body -Front /Area Scan (161x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.215 W/kg
Configuration/PCS 1900 Mid-Body -Front /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.271 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.323 W/kg
SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.080 W/kg
Maximum value of SAR (measured) =0.239W/kg



Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid-Touch-Left

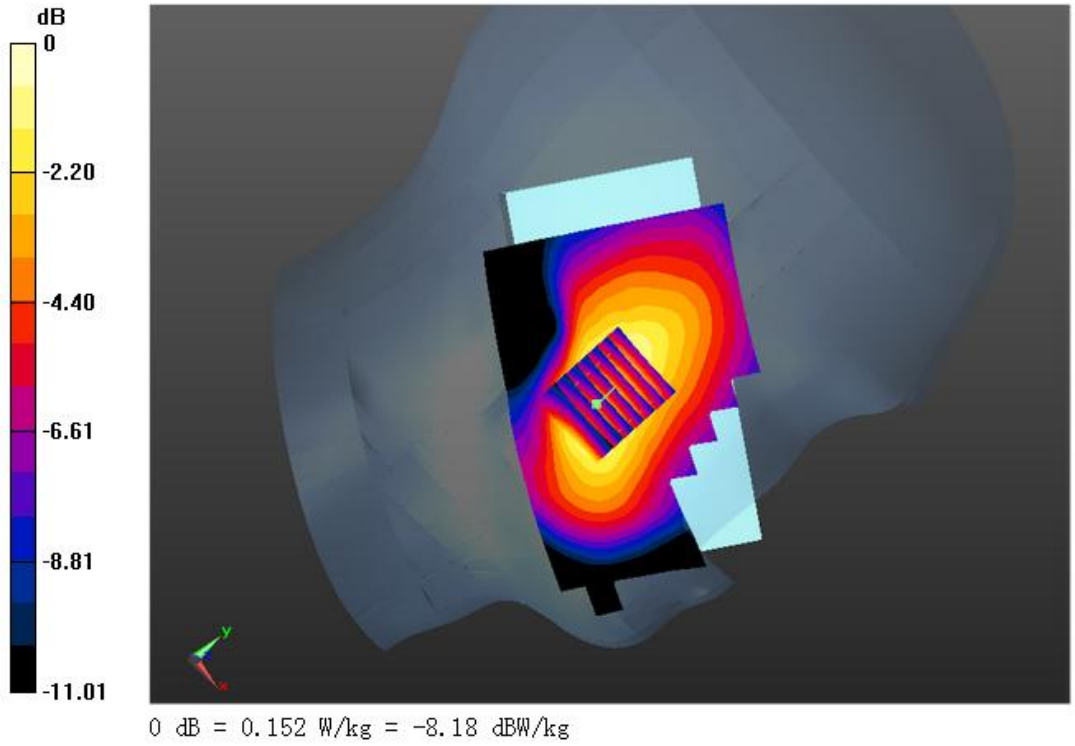
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD;
Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.893 S/m; εr = 42.086;
ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid-Touch-Left/Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.159 W/kg

Configuration/ WCDMA Band Ⅴ Mid-Touch-Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.570 V/m; Power Drift = -0.39 dB
Peak SAR (extrapolated) = 0.177 W/kg
SAR(1 g) =0.126 W/kg; SAR(10 g) = 0.087 W/kg
Maximum value of SAR (measured) = 0.152 W/kg



0 dB = 0.152 W/kg = -8.18 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid-Tilt-Left

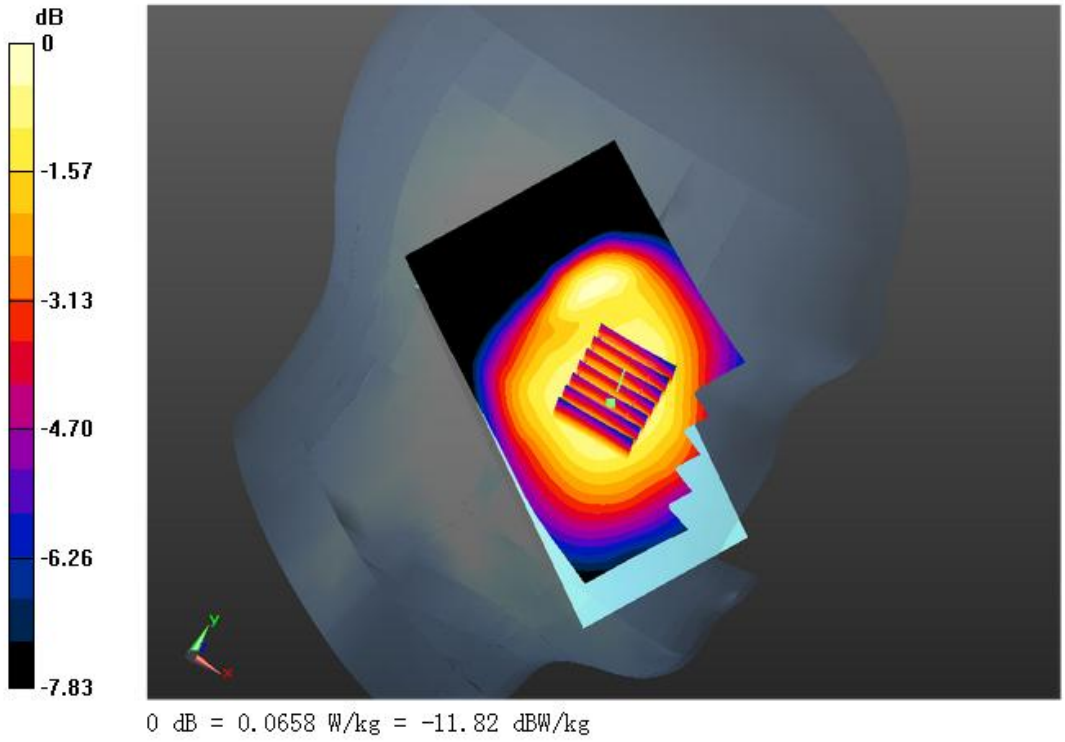
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD;
Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.893 S/m; εr = 42.086;
ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid-Tilt-Left /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR =0.0662W/kg

Configuration/ WCDMA Band Ⅴ Mid-Tilt-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.642 V/m; Power Drift = -3.17 dB
Peak SAR (extrapolated) = 0.0710 W/kg
SAR(1 g) =0.058 W/kg; SAR(10 g) = 0.046 W/kg
Maximum value of SAR (measured) = 0.0658W/kg



Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid- Touch-Right

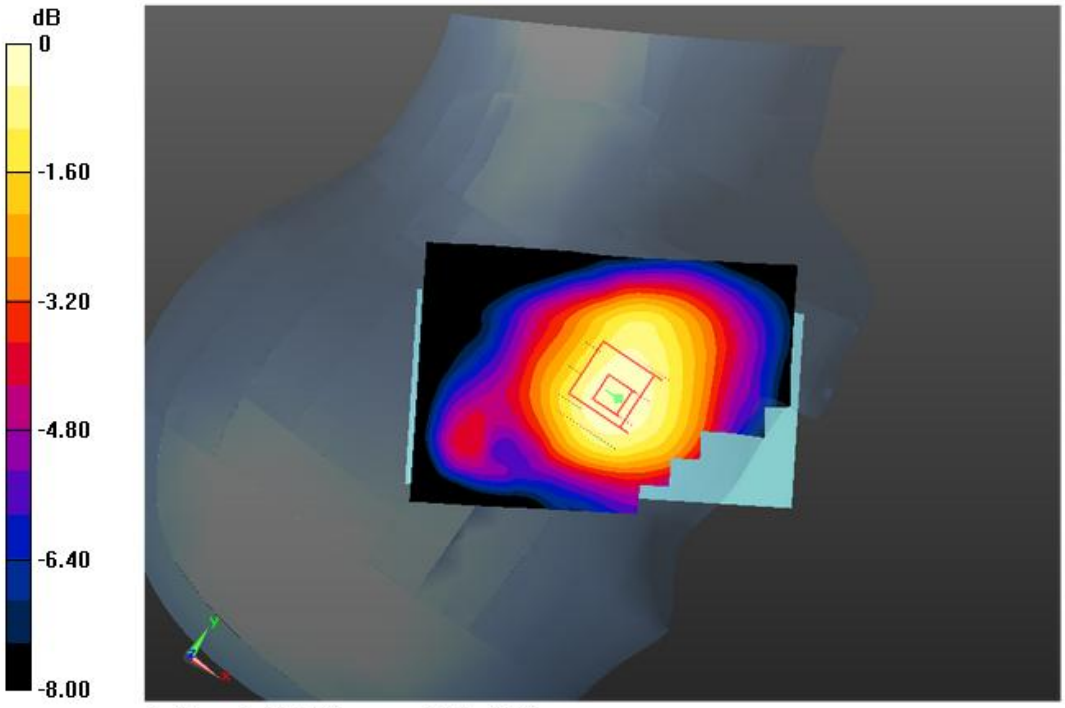
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD;
Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.893 S/m; εr = 42.086;
ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid- Touch-Right /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.112 W/kg

Configuration/ WCDMA Band Ⅴ Mid- Touch-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.196 V/m; Power Drift = -1.42 dB
Peak SAR (extrapolated) =0.119 W/kg
SAR(1 g) = 0.101 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.112 W/kg



0 dB = 0.112 W/kg = -9.51 dBW/kg

Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid-Tilt-Right

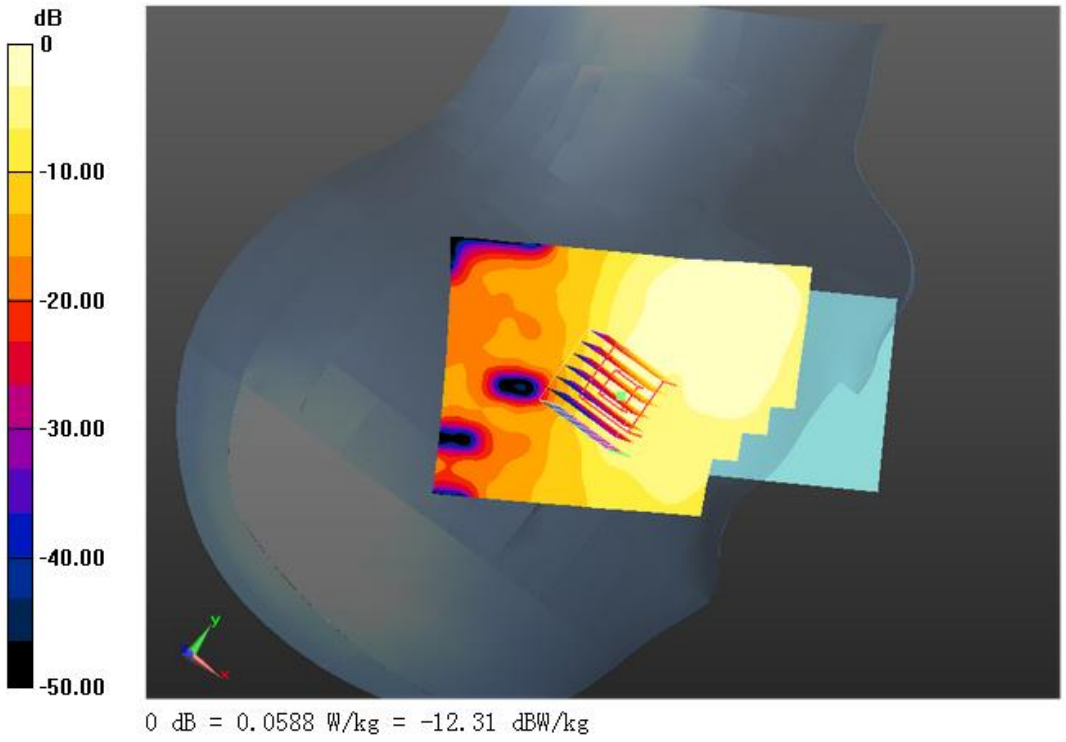
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD; Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 0.893 S/m; εr = 42.086; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.97, 9.97, 9.97); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid-Tilt-Right /Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0588 W/kg

Configuration/ WCDMA Band Ⅴ Mid-Tilt-Right /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.631 V/m; Power Drift = -1.73 dB
Peak SAR (extrapolated) = 0.0780W/kg
SAR(1 g) = 0.031 W/kg; SAR(10 g) = 0.020 W/kg
Maximum value of SAR (measured) =0.0478 W/kg



Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid-Body-Towards Grounds

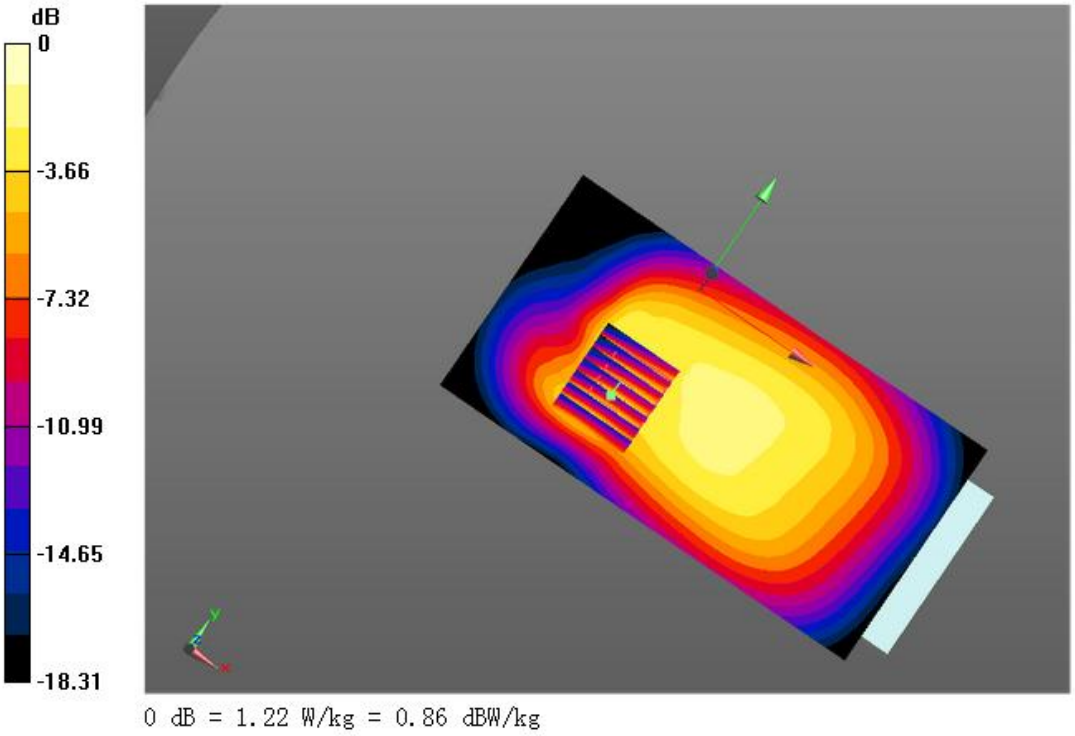
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD;
Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ = 1.013 S/m; εr = 54.204;
ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.91, 9.91, 9.91); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid-Body-Back/Area Scan (171x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 1.27 W/kg

Configuration/ WCDMA Band Ⅴ Mid-Body-Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.018 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.76 W/kg
SAR(1 g) = 0.769 W/kg; SAR(10 g) = 0.401 W/kg
Maximum value of SAR (measured) = 1.22 W/kg



Test Laboratory: AGC Lab **Date: Dec.23, 2013**

WCDMA Band Ⅴ Mid- Body - Towards Phantom

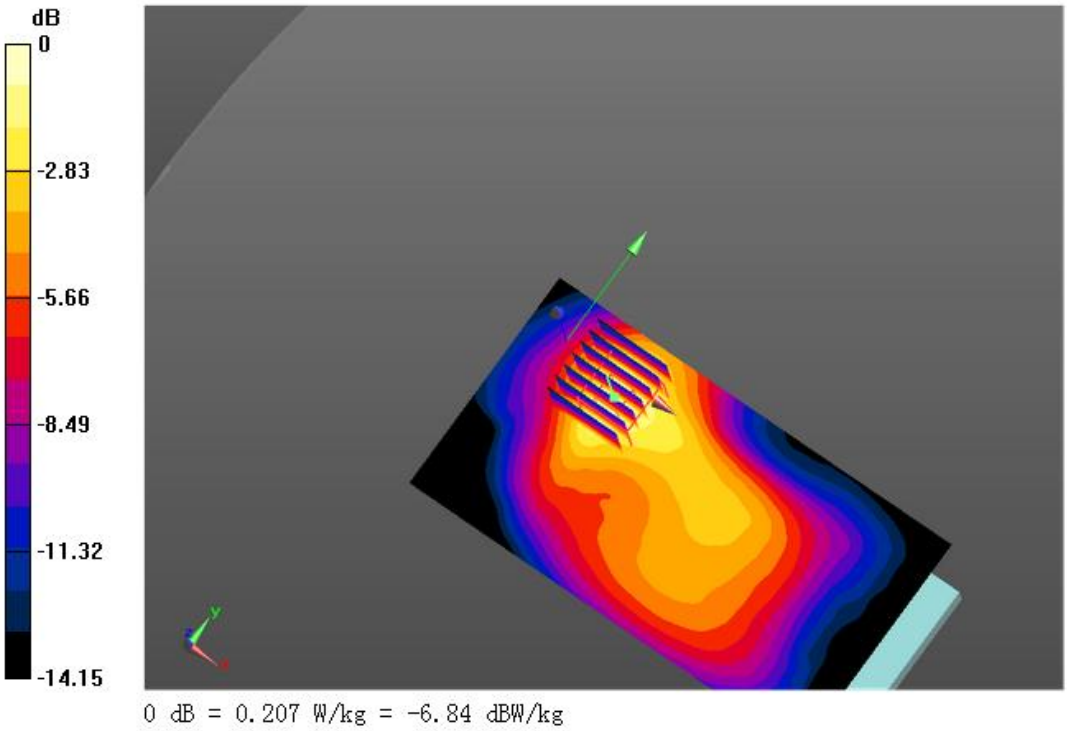
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WCDMA 850 (0); Communication System Band: BAND Ⅴ UTRA/FDD;
Duty Cycle:1:1; Frequency: 835 MHz; Medium parameters used: f = 835 MHz; σ =1.013 S/m; εr = 54.204;
ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃):21, Liquid temperature (℃):21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(9.91, 9.91, 9.91); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/ WCDMA Band Ⅴ Mid-Body-Front/Area Scan (171x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.206 W/kg

Configuration/ WCDMA Band Ⅴ Mid-Body-Front/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.705 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.266 W/kg
SAR(1 g) = 0.147 W/kg; SAR(10 g) = 0.084 W/kg
Maximum value of SAR (measured) = 0.207 W/kg



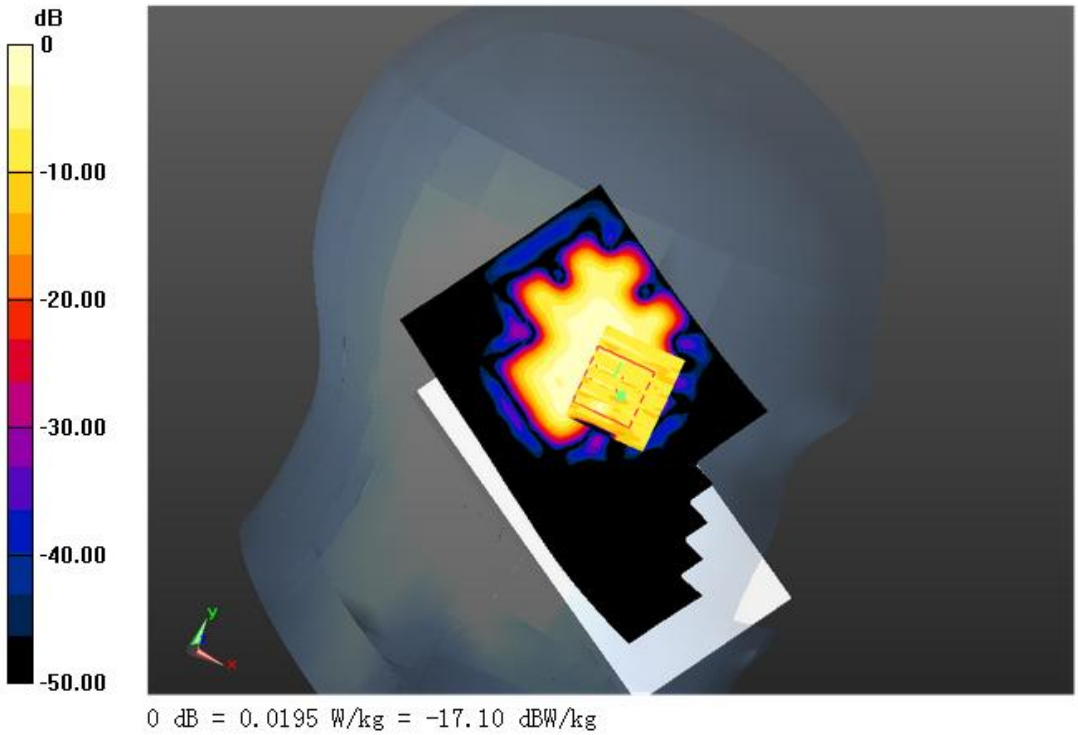
WIFI MODE

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid-Touch-Left
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m^3 ;
Phantom section: Left Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid- Touch-Left /Area Scan (91x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0190 W/kg
Configuration/802.11b Mid- Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.074 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.0380 W/kg
SAR(1 g) = 0.010 W/kg; SAR(10 g) = 0.00212 W/kg
Maximum value of SAR (measured) = 0.112 W/kg

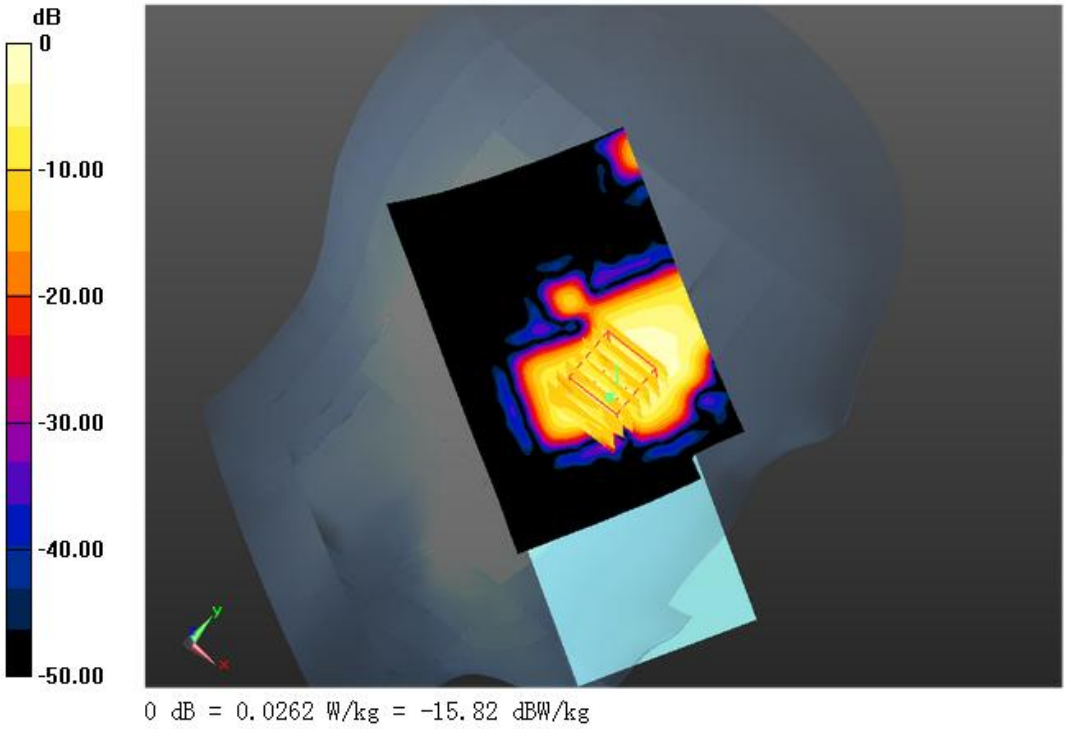


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid -Tilt-Left
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid -Tilt-Left/Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0386 W/kg
Configuration/802.11b Mid -Tilt-Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.996 V/m; Power Drift = -0.72 dB
Peak SAR (extrapolated) = 0.0390 W/kg
SAR(1 g) =0.017 W/kg; SAR(10 g) = 0.00809 W/kg
Maximum value of SAR (measured) =0.0262 W/kg

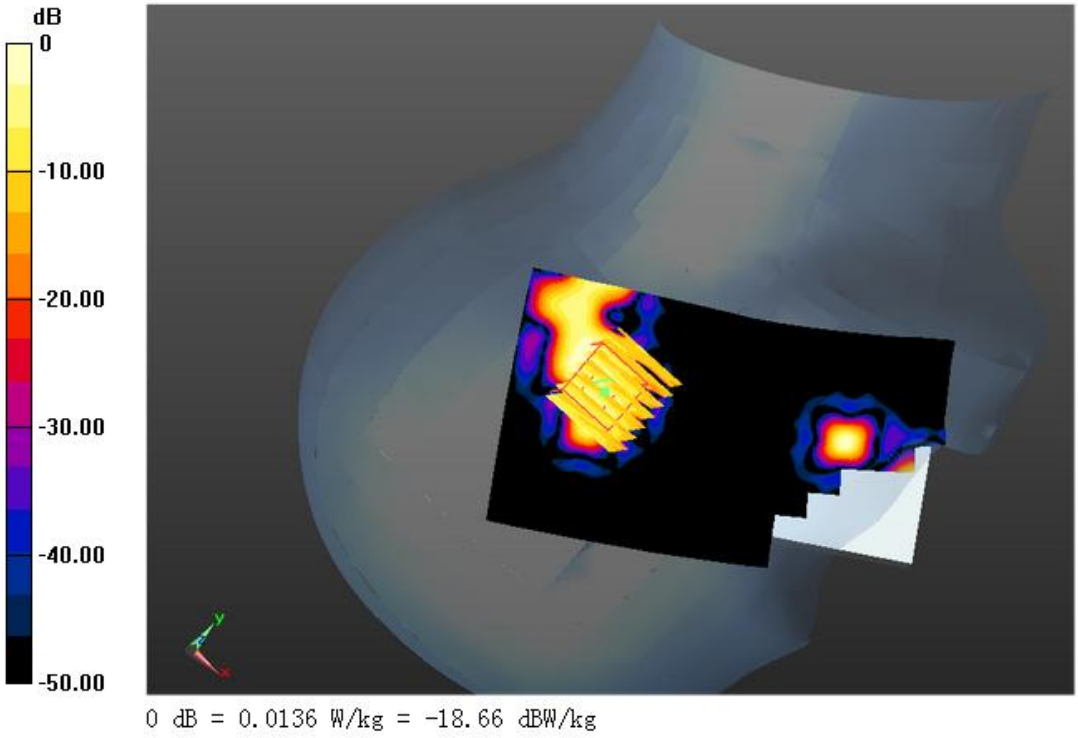


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid- Touch-Right
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid- Touch-Right/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0263 W/kg
Configuration/802.11b Mid- Touch-Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =2.264 V/m; Power Drift = 0.61 dB
Peak SAR (extrapolated) =0.0170 W/kg
SAR(1 g) = 0.00877 W/kg; SAR(10 g) = 0.00316 W/kg
Maximum value of SAR (measured) = 0.0136 W/kg

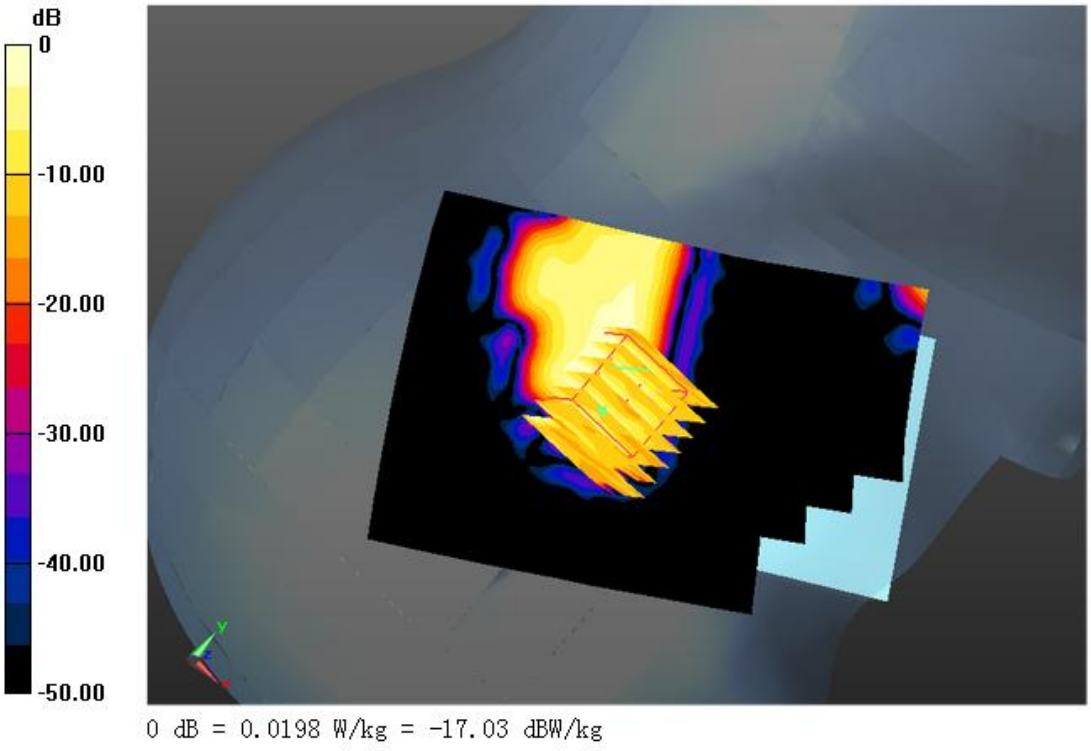


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid-Tilt-Right
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid-Tilt-Right/Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0483 W/kg
Configuration/802.11b Mid-Tilt-Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.719 V/m; Power Drift = 2.56 dB
Peak SAR (extrapolated) = 0.0390 W/kg
SAR(1 g) = 0.012 W/kg; SAR(10 g) = 0.00573 W/kg
Maximum value of SAR (measured) = 0.0198 W/kg

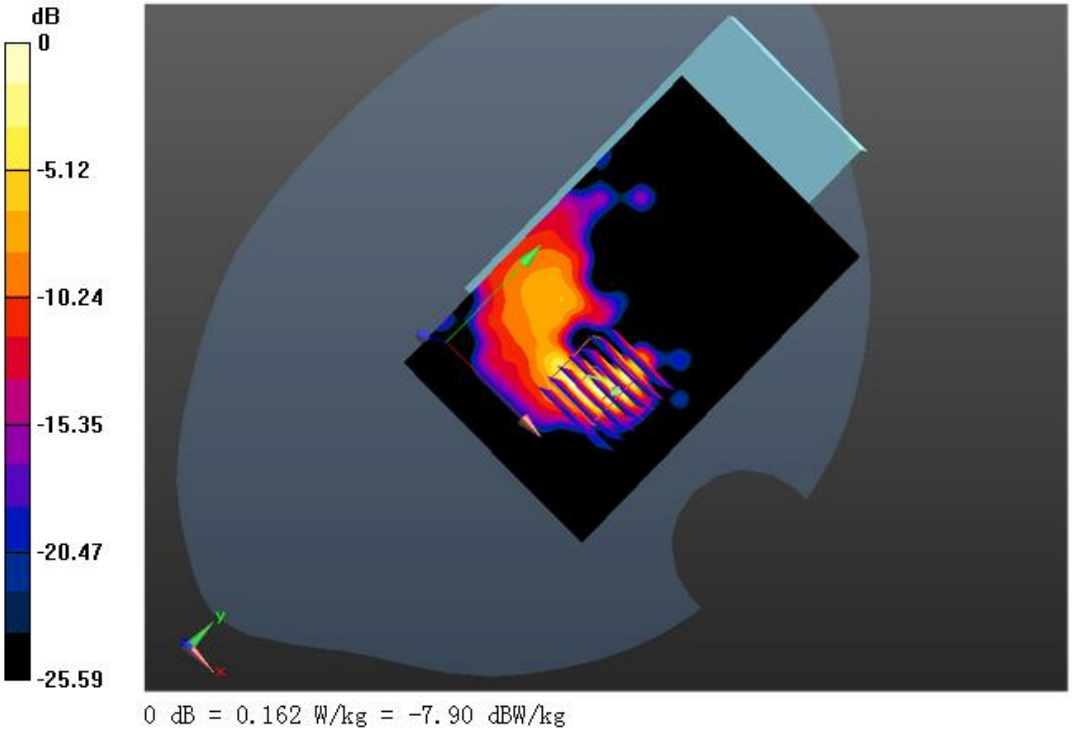


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid-Body-Worn- Back
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ =2.013 S/m; εr = 50.739; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.35, 7.35, 7.35); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid- Body- Back/Area Scan (91x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.158 W/kg
Configuration/802.11b Mid- Body- Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.656 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.271 W/kg
SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.028 W/kg
Maximum value of SAR (measured) =0.162 W/kg

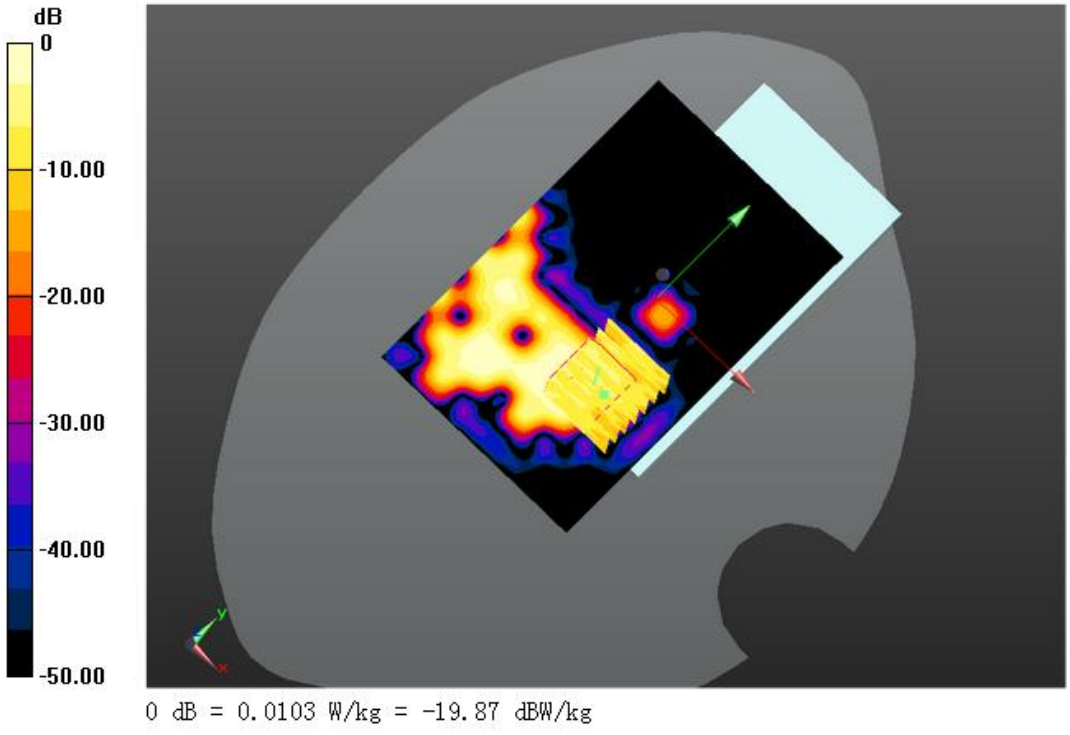


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
802.11b Mid-Body -Front
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi 802.11b (0); Communication System Band: 802.11b; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ =2.013 S/m; εr = 50.739; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.35, 7.35, 7.35); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/802.11b Mid-Body -Front/Area Scan (91x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0247 W/kg
Configuration/802.11b Mid-Body -Front/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.244 V/m; Power Drift = 0.45 dB
Peak SAR (extrapolated) = 0.0140 W/kg
SAR(1 g) = 0.00631 W/kg; SAR(10 g) = 0.00254 W/kg
Maximum value of SAR (measured) = 0.0103 W/kg



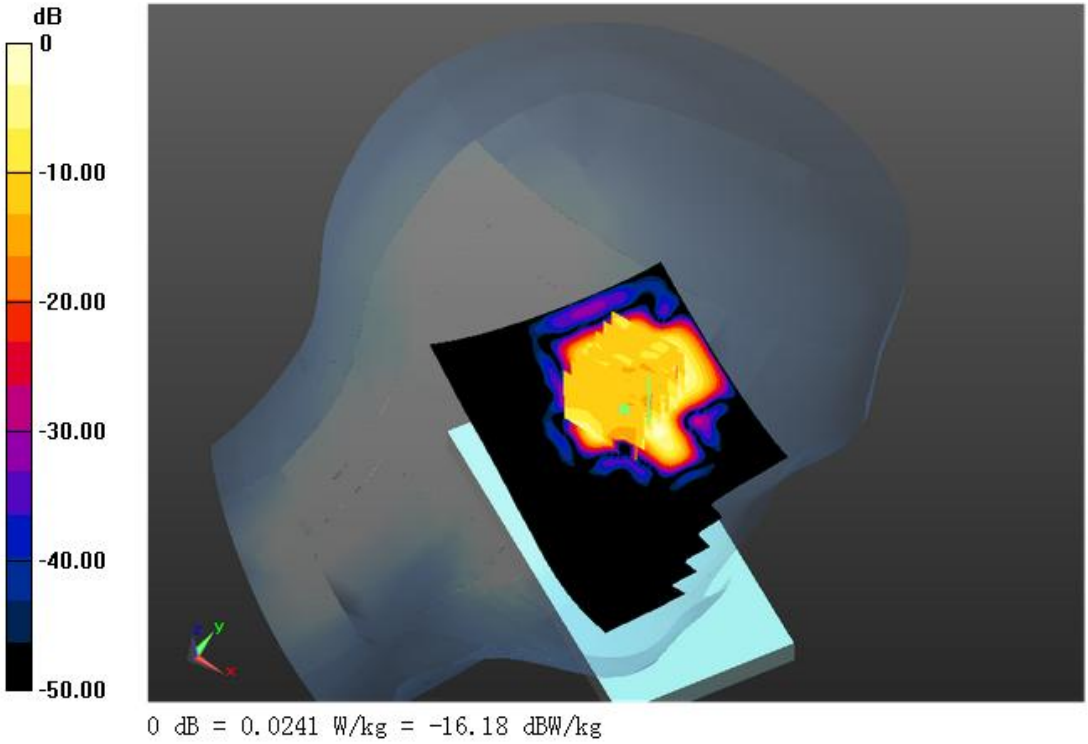
HOTSPOT MODE

Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid-Touch-Left
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid- Touch-Left /Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0451 W/kg
Configuration/Hotspot Mid- Touch-Left /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.354 V/m; Power Drift = 0.32 dB
Peak SAR (extrapolated) = 0.0820 W/kg
SAR(1 g) = 0.015 W/kg; SAR(10 g) = 0.0067 W/kg
Maximum value of SAR (measured) = 0.0241 W/kg

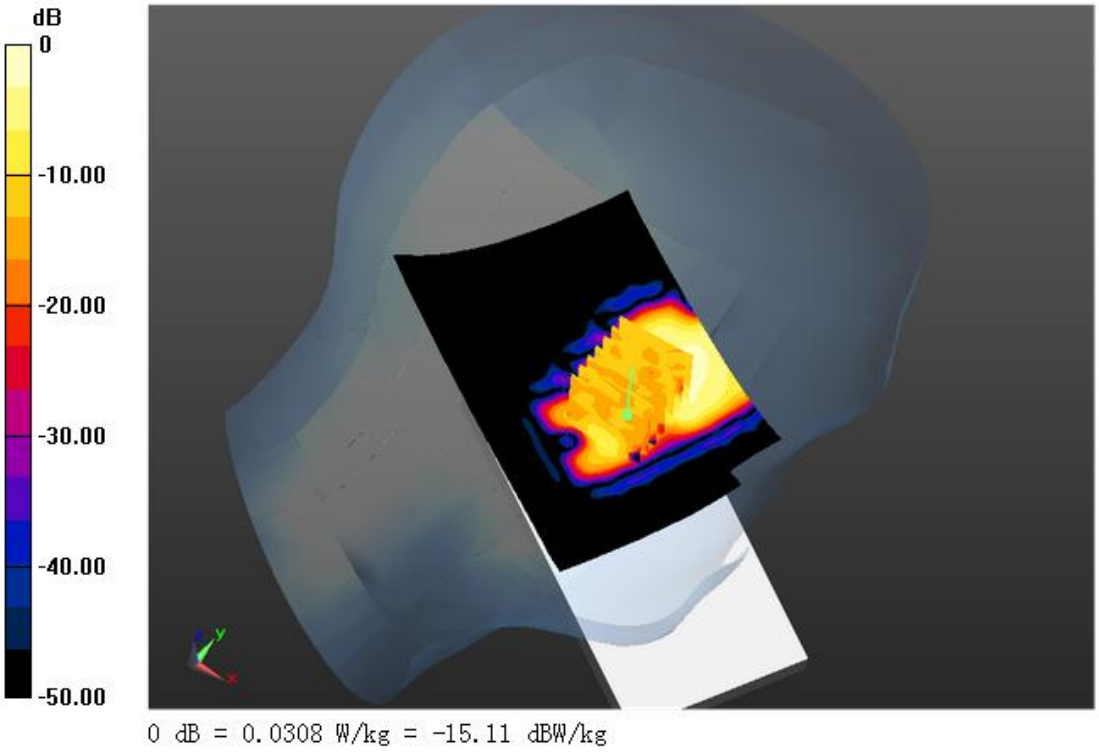


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid -Tilt-Left
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Left Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid -Tilt-Left/Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0345 W/kg
Configuration/Hotspot Mid -Tilt-Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.923 V/m; Power Drift = -1.53 dB
Peak SAR (extrapolated) = 0.0480 W/kg
SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.0074 W/kg
Maximum value of SAR (measured) =0.0308W/kg

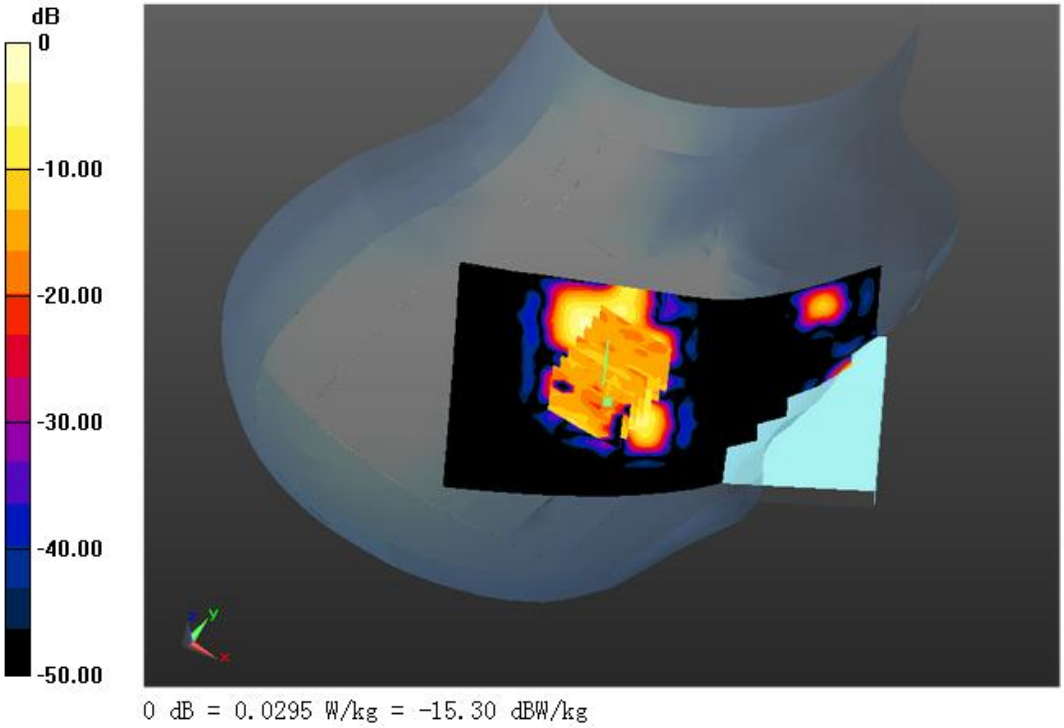


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid- Touch-Right
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid- Touch-Right/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0539 W/kg
Configuration/Hotspot Mid- Touch-Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.991 V/m; Power Drift = 2.52 dB
Peak SAR (extrapolated) = 0.0750 W/kg
SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00327 W/kg
Maximum value of SAR (measured) =0.0295W/kg

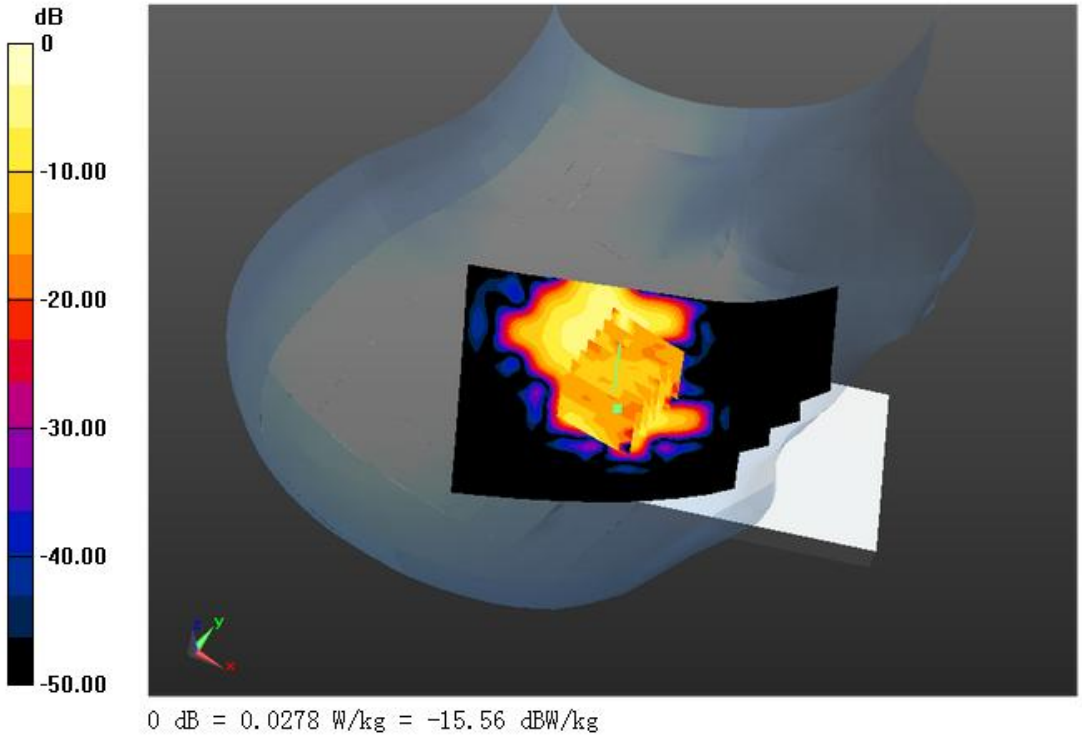


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid-Tilt-Right
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 1.883 S/m; εr = 38.021; ρ= 1000 kg/m³ ;
Phantom section: Right Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.39, 7.39, 7.39); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QD000P40CD;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid-Tilt-Right/Area Scan (91x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0415 W/kg
Configuration/Hotspot Mid-Tilt-Right/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.211 V/m; Power Drift = 4.34 dB
Peak SAR (extrapolated) = 0.0400W/kg
SAR(1 g) = 0.018 W/kg; SAR(10 g) = 0.008 W/kg
Maximum value of SAR (measured) =0.0278 W/kg

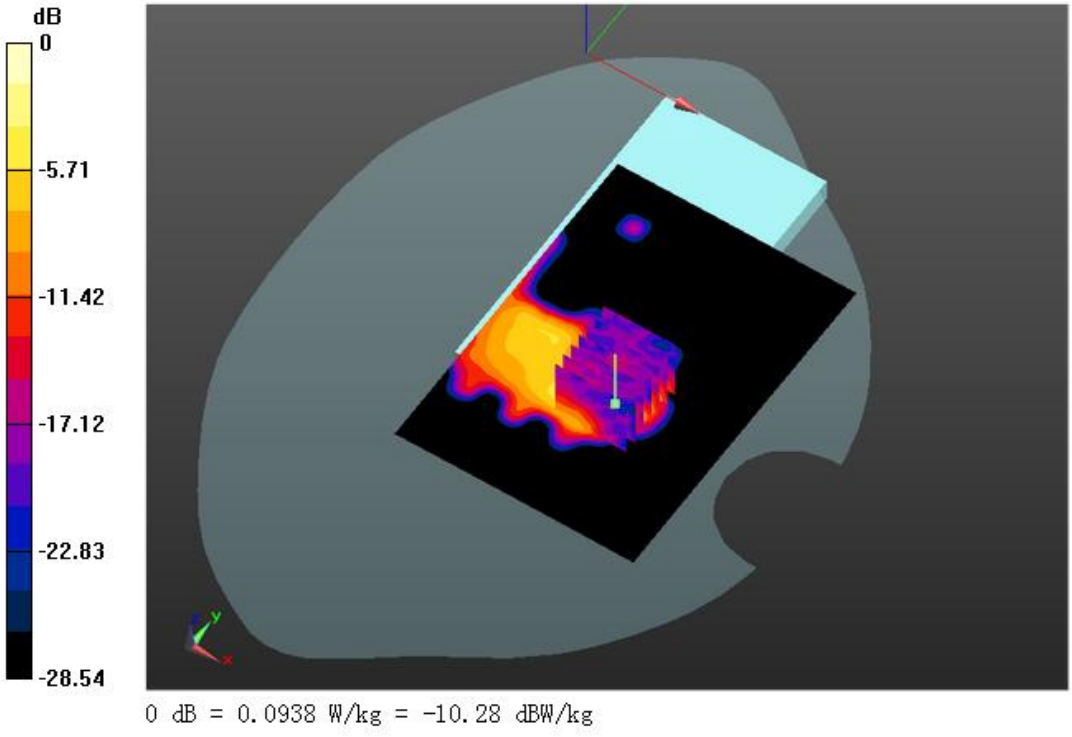


Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid-Body-Worn- Back
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 2.013 S/m; εr = 50.739; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.35, 7.35, 7.35); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid- Body- Back/Area Scan (101x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0949 W/kg
Configuration/Hotspot Mid- Body- Back/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.220 V/m; Power Drift = 0.25 dB
Peak SAR (extrapolated) =0.145 W/kg
SAR(1 g) = 0.053 W/kg; SAR(10 g) = 0.017 W/kg
Maximum value of SAR (measured) = 0.0938W/kg



Test Laboratory: AGC Lab **Date: Dec.23, 2013**
Hotspot Mid-Body -Front
DUT: 3G Mobile Phone; Type: prime 4.5

Communication System: UID 0, WiFi Hotspot (0); Communication System Band: Hotspot; Duty Cycle: 1:1;
Frequency: 2437 MHz; Medium parameters used: f = 2437 MHz; σ = 2.013 S/m; εr = 50.739; ρ= 1000 kg/m³ ;
Phantom section: Flat Section
Ambient temperature (℃): 21, Liquid temperature (℃): 21

DASY Configuration:
Probe: EX3DV4 - SN3953; ConvF(7.35, 7.35, 7.35); Calibrated: 10/15/2013;
Sensor-Surface: 4mm (Mechanical Surface Detection), z = 1.0, 31.0
Electronics: DAE4 Sn1398; Calibrated: 10/10/2013
Phantom: SAM (20deg probe tilt) with CRP v5.0; Type: QDOVA002AA;
DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

Configuration/Hotspot Mid-Body -Front/Area Scan (111x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR = 0.0201 W/kg
Configuration/Hotspot Mid-Body -Front/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.120 V/m; Power Drift = 1.20 dB
Peak SAR (extrapolated) = 0.0230 W/kg
SAR(1 g) = 0.00672 W/kg; SAR(10 g) = 0.00271 W/kg
Maximum value of SAR (measured) = 0.0140 W/kg