



## SAR EVALUATION REPORT

For

### KINGTECH MOBILE LTD

7/F, Kin On Commercial Building 49-51 Jervois Street, Sheung Wan, HongKong

**FCC ID: O65MAGNUM**

<b>Report Type:</b> Original Report	<b>Product Type:</b> WCDMA+GSM MOBILE PHONE
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<b>Report Number:</b> <u>RSZ120621002-20</u>	
<b>Report Date:</b> <u>2012-07-11</u>	
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\* This report contain data that are not covered by the NVLAP accreditation and are marked with an asterisk “★” (Rev.2)

Attestation of Test Results					
EUT Information	Company Name	KINGTECH MOBILE LTD			
	EUT Description	WCDMA+GSM MOBILE PHONE			
	FCC ID	O65MAGNUM			
	Model Number	MAGNUM			
	Test Date	2012.07.06—2012.07.08			
Frequency	Max. SAR Level(s) Measured	Limit(W/Kg)			
Cellular Band	0.034 W/kg 1g Head Tissue 0.306 W/kg 1g Body Tissue	1.6			
PCS Band	0.054 W/kg 1g Head Tissue 0.506 W/kg 1g Body Tissue				
WCDMA 850	0.030 W/kg 1g Head Tissue 0.271 W/kg 1g Body Tissue				
WCDMA 1900	0.059 W/kg 1g Head Tissue 0.562 W/kg 1g Body Tissue				
WiFi (802.11b)	0.048 W/kg 1g Body Tissue				
Applicable Standards	<b>ANSI / IEEE C95.1 : 2005</b> IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fileds,3 kHz to 300 GHz.				
	<b>ANSI / IEEE C95.3 : 2002</b> IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to SuchFields,100 kHz—300 GHz.				
	<b>OET BULLETIN 65 SUPPLEMENT C</b> Evaluating Compliance with FCC Guidelines for Human Exposure To Radiofrequency Electromagnetic Fields				
	<b>IEEE1528:2003</b> IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques				
<b>Note:</b> This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in ANSI/IEEE Standards and has been tested in accordance with the measurement procedures specified in FCC OET 65 Supplement C and IEEE 1528-2003.					
<b>The results and statements contained in this report pertain only to the device(s) evaluated.</b>					

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## DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RSZ120621002-20	Original Report	2012-07-11

## EUT DESCRIPTION

This report has been prepared on behalf of KINGTECH MOBILE LTD and their product, FCC ID: O65MAGNUM, Model: MAGNUM or the EUT (Equipment under Test) as referred to in the rest of this report. The EUT is a WCDMA+GSM Mobile phone.

### Technical Specification

<b>Product Type</b>	Portable
<b>Exposure Category:</b>	Population / Uncontrolled
<b>Antenna Type(s):</b>	Internal Antenna
<b>Body-Worn Accessories:</b>	Headset
<b>Face-Head Accessories:</b>	None
<b>Multi-slot Class:</b>	Class 10
<b>Hot-spot</b>	Support
<b>Operation Mode :</b>	GSM Voice , GPRS Data , WCDMA , Bluetooth and WiFi
<b>Frequency Band:</b>	Cellular Band : 824-849 MHz(TX) ; 869-894 MHz(RX) PCS Band : 1850-1910 MHz(TX) ; 1930-1990 MHz(RX) WCDMA850 : 824-849 MHz(TX) ; 869-894 MHz(RX) WCDMA1900 : 1850-1910 MHz(TX) ; 1930-1990 MHz(RX) Bluetooth : 2402MHz-2480MHz WiFi(802.11b/11g/802.11n-20) : 2412MHz-2462MHz
<b>Conducted RF Power:</b>	Cellular Band : 32.29 dBm PCS Band : 29.43 dBm WCDMA850 : 22.21 dBm WCDMA1900 : 22.67 dBm Bluetooth : 1.96 dBm WiFi(802.11b) : 13.11 dBm WiFi(802.11g): 12.01 dBm WiFi(802.11n): 11.92 dBm
<b>Dimensions (L*W*H):</b>	149mm (L)× 82mm (W)× 11mm (H)
<b>Weight:</b>	194.7g
<b>Power Source:</b>	3.7VDC/ 2500mAh Rechargeable Battery
<b>Normal Operation:</b>	Head and Body-worn

## REFERENCE, STANDARDS, AND GUIDELINES

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### FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 "Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

### CE:

The order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 2 mW/g as recommended by EN62209-1 for an uncontrolled environment. According to the Standard, the device should be evaluated at maximum output power (radiated from the antenna) under "worst-case" conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in Europe is 2 mW/g average over 10 gram of tissue mass.

The test configurations were laid out on a specially designed test fixture to ensure the reproducibility of measurements. Each configuration was scanned for SAR. Analysis of each scan was carried out to characterize the above effects in the device.

## SAR Limits

### FCC Limit (1g Tissue)

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

### CE Limit (10g Tissue)

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 10 g of tissue)	2.0	10
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

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

Occupational/Controlled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg (FCC) & 2 W/kg (CE) applied to the EUT.

## FACILITIES AND ACCREDITATION

The test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect data is located at 6/F, the 3rd Phase of WanLi Industrial Building, Shi Hua Road, Fu Tian Free Trade Zone, Shenzhen, Guangdong, P.R. of China

Additionally, Bay Area Compliance Laboratories Corp. (Shenzhen) is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (Lab Code 200707-0).



The current scope of accreditations can be found at <http://ts.nist.gov/Standards/scopes/2007070.htm>

## DESCRIPTION OF TEST SYSTEM

These measurements were performed with ALSAS 10 Universal Integrated SAR Measurement system from APREL Laboratories.

### ALSAS-10U System Description

ALSAS-10-U is fully compliant with the technical and scientific requirements of IEEE 1528, IEC 62209, CENELEC, ARIB, ACA, and the Federal Communications Commission. The system comprises of a six axes articulated robot which utilizes a dedicated controller.

ALSAS-10U uses the latest methodologies. And FDTD modeling to provide a platform which is repeatable with minimum uncertainty.

### Applications

Predefined measurement procedures compliant with the guidelines of CENELEC, IEEE, IEC, FCC, etc are utilized during the assessment for the device. Automatic detection for all SAR maxima are embedded within the core architecture for the system, ensuring that peak locations used for centering the zoom scan are within a 1mm resolution and a 0.05mm repeatable position. System operation range currently available up-to 6 GHz in simulated tissue.

### 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 10mm<sup>2</sup> step integral, with 1mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

### Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the ALSAS-10U software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m<sup>3</sup> 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.

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 5x5x8 (8mmx8mmx5mm) providing a volume of 32mm in the X & Y axis, and 35mm in the Z axis.



## ALSAS-10U Interpolation and Extrapolation Uncertainty

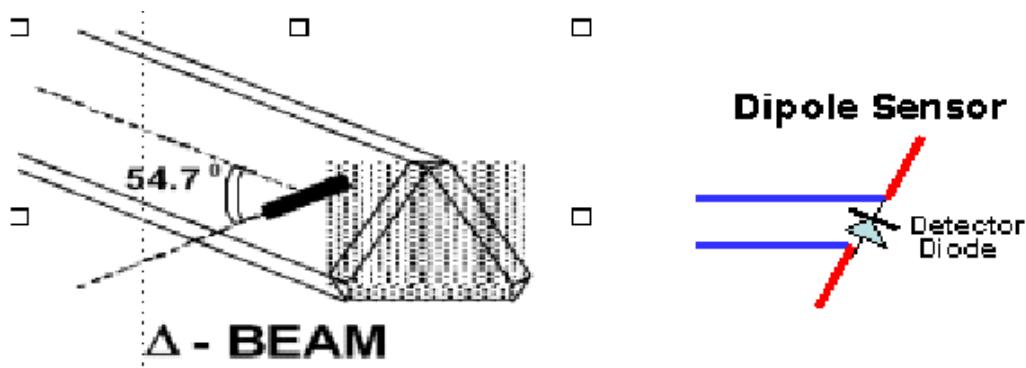
The overall uncertainty for the methodology and algorithms used during the SAR calculation was evaluated using the data from IEEE 1528 based on the example f3 algorithm:

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

## Isotropic E-Field Probe

The isotropic E-Field probe has been fully calibrated and assessed for isotropicity, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change.

The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:



SAR is assessed with a calibrated probe which moves at a default height of 5mm from the center of the diode, which is mounted to the sensor, to the phantom surface (in the Z Axis). The 5mm offset height has been selected so as to minimize any resultant boundary effect due to the probe being in close proximity to the phantom surface.

The following algorithm is an example of the function used by the system for linearization of the output from the probe when measuring complex modulation schemes.

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

## Isotropic E-Field Probe Specification

<b>Calibration Method</b>	Frequency Dependent Below 1 GHz Calibration in air performed in a TEM Cell Above 1 GHz Calibration in air performed in waveguide
<b>Sensitivity</b>	0.70 $\mu\text{V}/(\text{V}/\text{m})^2$ to 0.85 $\mu\text{V}/(\text{V}/\text{m})^2$
<b>Dynamic Range</b>	0.0005 W/kg to 100 W/kg
<b>Isotropic Response</b>	Better than 0.1 dB
<b>Diode Compression Point (DCP)</b>	Calibration for Specific Frequency
<b>Probe Tip Diameter</b>	< 2.9 mm
<b>Sensor Offset</b>	1.56 (+/- 0.02 mm)
<b>Probe Length</b>	289 mm
<b>Video Bandwidth</b>	@ 500 Hz: 1 dB @ 1.02 kHz: 3 dB
<b>Boundary Effect</b>	Less than 2.1% for distance greater than 0.58 mm
<b>Spatial Resolution</b>	The spatial resolution uncertainty is less than 1.5% for 4.9mm diameter probe. The spatial resolution uncertainty is less than 1.0% for 2.5mm diameter probe

## Boundary Detection Unit and Probe Mounting Device

ALSAS-10U incorporates a boundary detection unit with a sensitivity of 0.05mm for detecting all types of surfaces. The robust design allows for detection during probe tilt (probe normalize) exercises, and utilizes a second stage emergency stop. The signal electronics are fed directly into the robot controller for high accuracy surface detection in lateral and axial detection modes (X, Y, & Z).

The probe is mounted directly onto the Boundary Detection unit for accurate tooling and displacement calculations controlled by the robot kinematics. The probe is connect to an isolated probe interconnect where the output stage of the probe is fed directly into the amplifier stage of the Daq-Paq.

## Daq-Paq (Analog to Digital Electronics)

ALSAS-10U incorporates a fully calibrated Daq-Paq (analog to digital conversion system) which has a 4 channel input stage, sent via a 2 stage auto-set amplifier module. The input signal is amplified accordingly so as to offer a dynamic range from 5 $\mu\text{V}$  to 800mV. Integration of the fields measured is carried out at board level utilizing a Co-Processor which then sends the measured fields down into the main computational module in digitized form via an RS232 communications port. Probe linearity and duty cycle compensation is carried out within the main Daq-Paq module.

<b>ADC</b>	12 Bit
<b>Amplifier Range</b>	20 mV to 200 mV and 150 mV to 800 mV
<b>Field Integration</b>	Local Co-Processor utilizing proprietary integration algorithms
<b>Number of Input Channels</b>	4 in total 3 dedicated and 1 spare
<b>Communication</b>	Packet data via RS232

## Axis Articulated Robot

ALSAS-10U utilizes a six axis articulated robot, which is controlled using a Pentium based real-time movement controller. The movement kinematics engine utilizes proprietary (Thermo CRS) interpolation and extrapolation algorithms, which allow full freedom of movement for each of the six joints within the working envelope. Utilization of joint 6 allows for full probe rotation with a tolerance better than 0.05mm around the central axis.



<b>Robot/Controller Manufacturer</b>	Thermo CRS
<b>Number of Axis</b>	Six independently controlled axis
<b>Positioning Repeatability</b>	0.05 mm
<b>Controller Type</b>	Single phase Pentium based C500C
<b>Robot Reach</b>	710 mm
<b>Communication</b>	RS232 and LAN compatible

## ALSAS Universal Workstation

ALSAS Universal workstation allows for repeatability and fast adaptability. It allows users to do calibration, testing and measurements using different types of phantoms with one set up, which significantly speeds up the measurement process.

## Universal Device Positioner

The universal device positioner allows complete freedom of movement of the EUT. Developed to hold a EUT in a free-space scenario any additional loading attributable to the material used in the construction of the positioner has been eliminated. Repeatability has been enhanced through the linear scales which form the design used to indicate positioning for any given test scenario in all major axes. A 15° tilt indicator is included for the aid of cheek to tilt movements for head SAR analysis. Overall uncertainty for measurements have been reduced due to the design of the Universal device positioner, which allows positioning of a device in as near to a free-space scenario as possible, and by providing the means for complete repeatability.

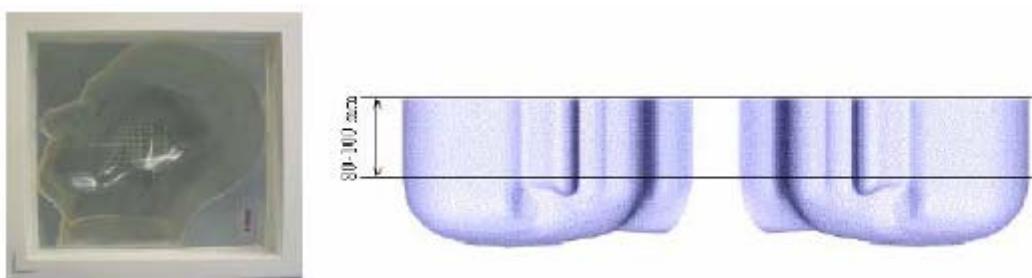


## Phantom Types

The ALSAS-10U allows the integration of multiple phantom types. SAM Phantoms fully compliant with IEEE 1528, Universal Phantom, and Universal Flat.

## APREL SAM Phantoms

The SAM phantoms developed using the IEEE SAM CAD file. They are fully compliant with the requirements for both IEEE 1528 and FCC Supplement C. Both the left and right SAM phantoms are interchangeable, transparent and include the IEEE 1528 grid with visible NF and MB lines.



## APREL Laboratories Universal Phantom

The Universal Phantom is used on the ALSAS-10U as a system validation phantom. The Universal Phantom has been fully validated both experimentally from 800MHz to 6GHz and numerically using XFDTD numerical software.

The shell thickness is 2mm overall, with a 4mm spacer located at the NF/MB intersection providing an overall thickness of 6mm in line with the requirements of IEEE-1528.

The design allows for fast and accurate measurements, of handsets, by allowing the conservative SAR to be evaluated at on frequency for both left and right head experiments in one measurement.



## 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.

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

## Recommended Tissue Dielectric Parameters for Head and Body

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

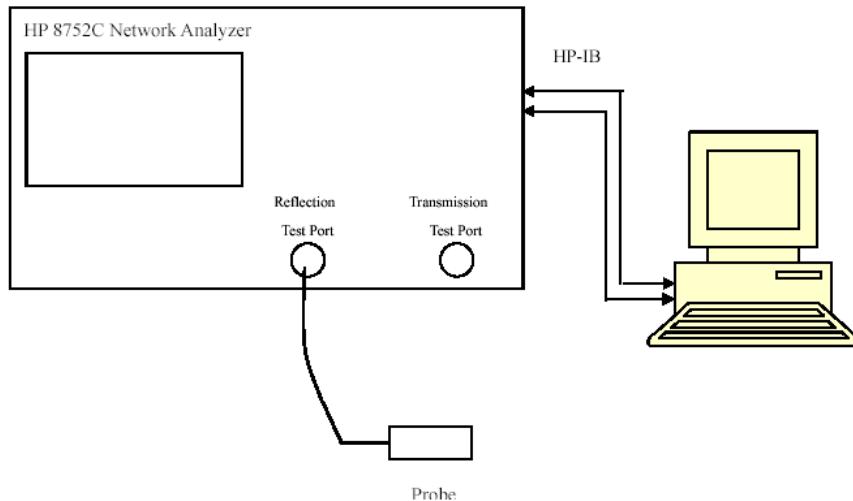
## EQUIPMENT LIST AND CALIBRATION

### Equipments List & Calibration Information

Equipment	Model	Calibration Date	S/N
CRS F3 robot	ALS-F3	N/A	RAF0805352
CRS F3 Software	ALS-F3-SW	N/A	N/A
CRS C500C controller	ALS-C500	N/A	RCF0805379
Probe mounting device & Boundary Detection Sensor System	ALS-PMDPS-3	N/A	120-00270
Universal Work Station	ALS-UWS	N/A	100-00157
Data Acquisition Package	ALS-DAQ-PAQ-3	2012-05-13	110-00212
Miniature E-Field Probe	ALS-E-020	2011-07-14	500-00283
Dipole, 835MHz	ALS-D-835-S-2	2011-08-25	180-00558
Dipole, 1900MHz	ALS-D-1900-S-2	2011-08-25	210-00710
Dipole, 2450MHz	ALS-D-2450-S-2	2011-08-25	220-00758
Dipole Spacer	ALS-DS-U	N/A	250-00907
Device holder/Positioner	ALS-H-E-SET-2	N/A	170-00510
Left ear SAM phantom	ALS-P-SAM-L	N/A	130-00311
Right ear SAM phantom	ALS-P-SAM-R	N/A	140-00359
UniPhantom	ALS-P-UP-1	N/A	150-00413
Simulated Tissue 835 MHz Head	ALS-TS-835-H	Each Time	270-01002
Simulated Tissue 835 MHz Body	ALS-TS-835-B	Each Time	270-02101
Simulated Tissue 1900 MHz Head	ALS-TS-1900-H	Each Time	295-01103
Simulated Tissue 1900 MHz Body	ALS-TS-1900-B	Each Time	295-02102
Simulated Tissue 2450 MHz Body	ALS-TS-2450-B	Each Time	290-01109
Power Amplifier	5S1G4	N/A	71377
Synthesized Sweeper	HP 8341B	2012-05-17	2624A00116
UNIVERSAL RADIO COMMUNICATION TESTER	CMU 200	2011.12.16	1100.0008.02
EMI Test Receiver	ESCI	2011-11-17	101122

# SAR MEASUREMENT SYSTEM VERIFICATION

## Liquid Verification



Liquid Verification Setup Block Diagram

## Liquid Verification Results

Frequency Band	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		$\epsilon_r$	$\sigma$ (S/m)	$\epsilon_r$	$\sigma$ (S/m)			
835	Head	42.32	0.91	41.50	0.90	1.976	1.111	$\pm 5$
835	Body	53.18	0.98	55.20	0.97	-3.659	1.031	$\pm 5$
1900	Head	40.36	1.39	40.00	1.40	0.900	-0.714	$\pm 5$
1900	Body	56.50	1.51	55.30	1.53	2.170	-1.307	$\pm 5$
2450	Body	53.13	1.98	52.70	1.95	0.816	1.538	$\pm 5$

\*Liquid Verification was performed on 2012-07-06.

Please refer to the following tables

850 MHz Head			850 MHz Body		
Frequency (MHz)	e'	e''	Frequency (MHz)	e'	e''
824.0	41.152586	19.602063	824.0	53.027516	20.96178
824.5	41.161621	19.602258	824.5	53.031489	20.96582
825.0	41.173698	19.602953	825.0	53.041585	20.96986
825.5	41.182584	19.603649	825.5	53.047599	20.97239
826.0	41.195458	19.604344	826.0	53.054633	20.97793
826.5	41.205874	19.605039	826.5	53.061668	20.98197
827.0	41.215796	19.605735	827.0	53.068702	20.98601
827.5	41.219698	19.611201	827.5	53.075737	20.98705
828.0	41.221245	19.616667	828.0	53.082771	20.99009
828.5	41.228689	19.622134	828.5	53.089806	20.99262
829.0	41.232593	19.627612	829.0	53.096840	20.99516
829.5	41.236475	19.633066	829.5	53.103875	20.99177
830.0	41.245663	19.638532	830.0	53.110909	21.00024
830.5	41.248453	19.643999	830.5	53.117944	21.00278
831.0	42.251654	19.649465	831.0	53.124978	21.00531
831.5	42.258958	19.654931	831.5	53.132013	21.00785
832.0	42.264689	19.660397	832.0	53.139047	21.01039
832.5	42.266844	19.665864	832.5	53.146082	21.01293
833.0	42.278455	19.671331	833.0	53.153116	21.01547
833.5	42.285247	19.676796	833.5	53.160151	21.03018
834.0	42.298565	19.682262	834.0	53.167185	21.02054
834.5	42.318526	19.687729	834.5	53.174122	21.02308
835.0	42.320586	19.693195	835.0	53.181251	21.02562
835.5	42.331795	19.698661	835.5	53.188282	21.02816
836.0	42.342564	19.704127	836.0	53.199323	21.03069
836.5	42.355344	19.709594	836.5	53.210364	21.03323
837.0	42.362545	19.715064	837.0	53.221404	21.03577
837.5	42.376845	19.720526	837.5	53.232445	21.03831
838.0	42.382654	19.725992	838.0	53.243485	21.04085
838.5	42.392574	19.731459	838.5	53.254526	21.04338
839.0	42.406248	19.736925	839.0	53.265567	21.04592
839.5	42.412147	19.742391	839.5	53.276607	21.04846
840.0	42.425895	19.747857	840.0	53.287648	21.01251
840.5	42.439545	19.753324	840.5	53.298688	21.05354
841.0	42.448745	19.758795	841.0	53.309729	21.05607
841.5	42.455456	19.764256	841.5	53.320770	21.05861
842.0	42.464556	19.769722	842.0	53.331812	21.06115
842.5	42.478654	19.775189	842.5	53.342851	21.06369
843.0	42.485245	19.780655	843.0	53.353891	21.06623
843.5	42.491547	19.786121	843.5	53.364932	21.06876
844.0	42.250596	19.791587	844.0	53.375973	21.07113
844.5	42.251597	19.797054	844.5	53.387013	21.07384
845.0	42.252987	19.802522	845.0	53.398054	21.07638
845.5	42.532587	19.807986	845.5	53.409094	21.07892
846.0	42.545221	19.813452	846.0	53.420135	21.08145
846.5	42.552051	19.818919	846.5	53.431176	21.08399
847.0	42.561423	19.824385	847.0	53.442216	21.08653
847.5	42.572587	19.829851	847.5	53.453257	21.08907
848.0	42.585587	19.835317	848.0	53.464297	21.09161
848.5	42.595896	19.840784	848.5	53.475338	21.09414
849.0	42.605253	19.846254	849.0	53.486379	21.09668

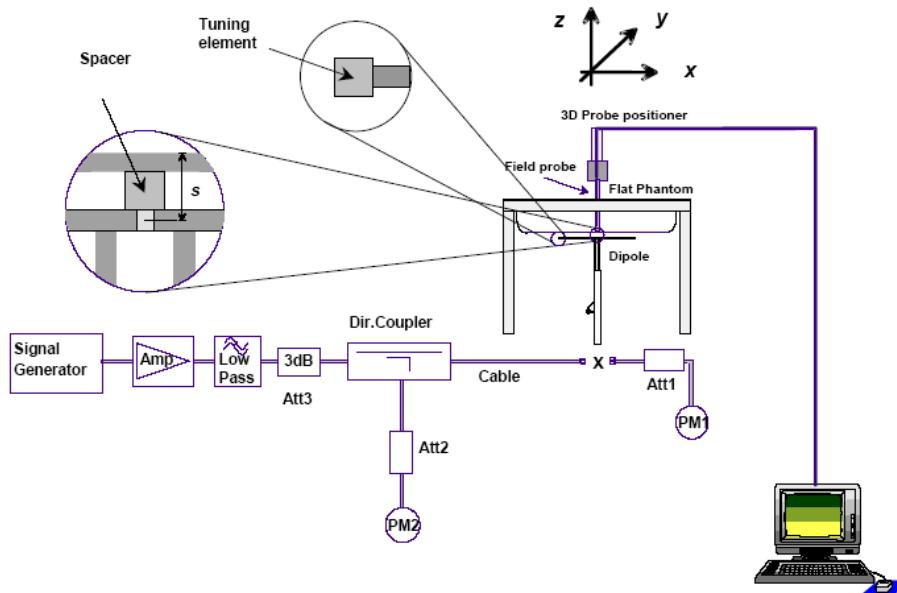
1900 MHz Head			1900 MHz Body		
Frequency (MHz)	e'	e''	Frequency (MHz)	e'	e''
1850.0	39.961472	12.984519	1850.0	56.132493	14.215372
1851.2	39.968578	12.995841	1851.2	56.147066	14.224376
1852.4	39.975684	13.007163	1852.4	56.161639	14.233138
1853.6	39.98279	13.018485	1853.6	56.176212	14.242384
1854.8	39.989896	13.029807	1854.8	56.190785	14.251388
1856.0	39.997002	13.041129	1856.0	56.205358	14.260392
1857.2	40.034108	13.052451	1857.2	56.219931	14.269396
1858.4	40.051219	13.063773	1858.4	56.234504	14.272184
1859.6	40.068331	13.075095	1859.6	56.249077	14.287404
1860.8	40.085441	13.086417	1860.8	56.263651	14.296408
1862.0	40.102552	13.097739	1862.0	56.278223	14.305412
1863.2	40.119663	13.109061	1863.2	56.292796	14.314416
1864.4	40.136774	13.120383	1864.4	56.307369	14.321342
1865.6	40.153885	13.131705	1865.6	56.321942	14.332424
1866.8	40.170996	13.143027	1866.8	56.336515	14.341428
1868.0	40.188107	13.154349	1868.0	56.351088	14.350432
1869.2	40.205218	13.165671	1869.2	56.365661	14.359436
1870.4	40.222329	13.176993	1870.4	56.380234	14.361844
1871.6	40.23944	13.188315	1871.6	56.394807	14.377444
1872.8	40.256551	13.199637	1872.8	56.409382	14.386448
1874.0	40.273662	13.210959	1874.0	56.423953	14.395452
1875.2	40.290773	13.218288	1875.2	56.438526	14.404456
1876.4	40.307884	13.2304086	1876.4	56.453099	14.413246
1877.6	40.324995	13.2401932	1877.6	56.467672	14.422464
1878.8	40.342106	13.2514554	1878.8	56.482245	14.431468
1880.0	40.359217	13.2619788	1880.0	56.496818	14.440472
1881.2	40.376328	13.2725022	1881.2	56.511391	14.449476
1882.4	40.393439	13.2830256	1882.4	56.525964	14.451848
1883.6	40.410551	13.2932549	1883.6	56.540537	14.467484
1884.8	40.427661	13.3040724	1884.8	56.555111	14.476488
1886.0	40.444772	13.3145958	1886.0	56.569683	14.485492
1887.2	40.461883	13.3251192	1887.2	56.584256	14.494496
1888.4	40.478994	13.3356426	1888.4	56.598829	14.502235
1889.6	40.496105	13.3461616	1889.6	56.613402	14.512504
1890.8	40.513216	13.3566894	1890.8	56.627975	14.521508
1892.0	40.530327	13.3672128	1892.0	56.642548	14.530512
1893.2	40.547438	13.3777362	1893.2	56.657121	14.539516
1894.4	40.564549	13.3882596	1894.4	56.671694	14.514852
1895.6	40.581665	13.3987783	1895.6	56.686267	14.557524
1896.8	40.598771	13.4093064	1896.8	56.700184	14.566528
1898.0	40.615882	13.4198298	1898.0	56.715413	14.575532
1899.2	40.632993	13.4303532	1899.2	56.729986	14.584536
1900.4	40.650104	13.4408766	1900.4	56.744559	14.591354
1901.6	40.667215	13.4514525	1901.6	56.759132	14.602544
1902.8	40.684326	13.4619234	1902.8	56.773705	14.611548
1904.0	40.701437	13.4724468	1904.0	56.788278	14.620552
1905.2	40.718548	13.4829702	1905.2	56.802851	14.629556
1906.4	40.735659	13.4934936	1906.4	56.817424	14.623856
1907.6	40.75277	13.5040171	1907.6	56.831997	14.647564
1908.8	40.769881	13.5145404	1908.8	56.841657	14.656568
1910.0	40.786992	13.5250638	1910.0	56.861143	14.665572

2450 MHz Body		
Frequency (MHz)	e'	e''
2410	53.26658	14.650436
2411	53.24475	14.623666
2412	53.26682	14.621901
2413	53.21898	14.586291
2414	53.21788	14.638855
2415	53.22033	14.600929
2416	53.20192	14.633919
2417	53.19021	14.619132
2418	53.18607	14.636095
2419	53.15508	14.595696
2420	53.18778	14.619869
2421	53.17675	14.662295
2422	53.18639	14.654825
2423	53.13272	14.618011
2424	53.11842	14.716108
2425	53.14481	14.719365
2426	53.14451	14.666751
2427	53.13931	14.721046
2428	53.14126	14.692146
2429	53.13996	14.731252
2430	53.13853	14.649273
2431	53.15313	14.698272
2432	53.15164	14.726799
2433	53.09732	14.665801
2434	53.13949	14.631356
2435	53.03798	14.705968
2436	53.09888	14.645488
2437	53.12544	14.655245
2438	53.10521	14.654238
2440	53.14337	14.679601
2441	53.10873	14.673956
2442	53.14072	14.638589
2443	53.11556	14.623333
2444	53.08607	14.615913
2445	53.04836	14.638173
2446	53.10253	14.625855
2447	53.08285	14.617721
2448	53.06315	14.592729
2449	53.05352	14.623573
2450	53.03945	14.631193
2451	53.04815	14.595965
2452	53.02137	14.602235
2453	53.03445	14.600675
2454	53.05871	14.586408
2455	53.05902	14.589762
2456	53.02077	14.604095
2457	53.05467	14.578392
2458	53.04722	14.586850
2459	53.07322	14.596368
2460	53.05446	14.606115
2461	53.07186	14.574704
2462	53.26658	14.650436

## System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of  $\pm 10\%$ . The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

### System Verification Setup Block Diagram



### System Accuracy Check Results

Date	Frequency (MHz)	Liquid Type	Measured SAR (W/Kg)		Target Value (W/Kg)	Delta (%)	Tolerance (%)
2012-07-06	835	Head	1g	9.630	9.590	0.417	$\pm 10$
		Body	1g	10.084	9.684	4.131	$\pm 10$
	1900	Head	1g	40.346	39.648	1.760	$\pm 10$
		Body	1g	41.070	39.769	3.271	$\pm 10$
	2450	Body	1g	50.916	52.561	5.032	$\pm 10$

\*All SAR values are normalized to 1 Watt forward power.

**SAR SYSTEM VALIDATION DATA****Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 835MHz Head Liquid****Dipole 835 MHz; Type: ALS-D-835-S-2; S/N: 180-00558**

## Product Data

Device Name : Dipole 835 MHz  
Serial No. : 180-00558  
Type : Dipole  
Model : ALS-D-835-S-2  
Frequency : 835.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 9.212 W/kg  
Power Drift-Finish : 9.253 W/kg  
Power Drift (%) : 1.137

## Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Default  
Phantom Data

## Tissue Data

Type : HEAD  
Serial No. : 270-01002  
Frequency : 835.00 MHz  
Last Calib. Date : 06-Jul-2012  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 42.32 F/m  
Sigma : 0.91 S/m  
Density : 1000.00 kg/cu. m

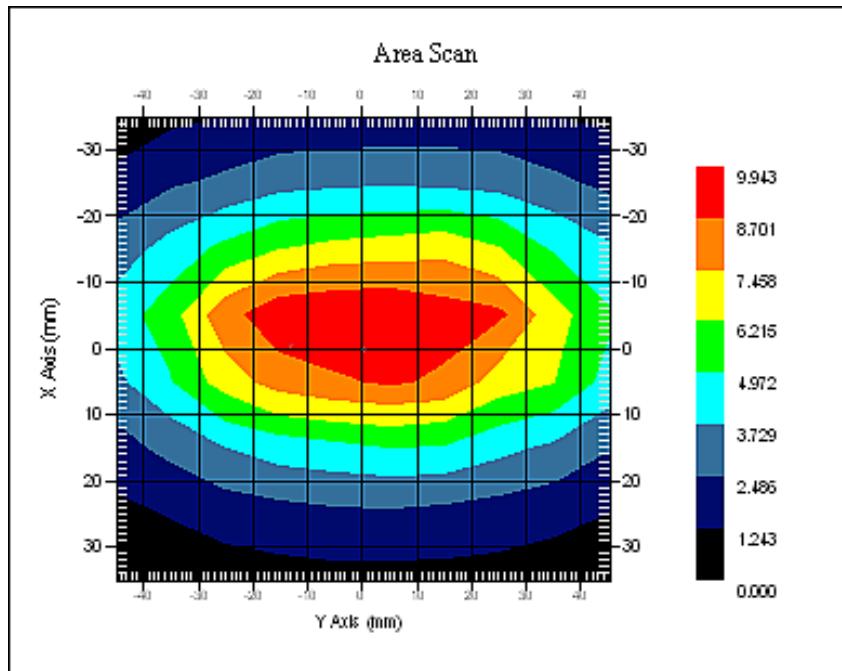
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 14-Jul-2011  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

## Measurement Data

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 21.00 °C  
Ambient Temp. : 21.00 °C  
Area Scan : 8x10x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 9.630 W/kg  
10 gram SAR value : 6.027 W/kg  
Area Scan Peak SAR : 9.876 W/kg  
Zoom Scan Peak SAR : 14.328 W/kg



### 835 MHz System Validation with Head Tissue

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 835MHz Body Liquid****Dipole 835 MHz; Type: ALS-D-835-S-2; S/N: 180-00558**

## Product Data

Device Name : Dipole 835 MHz  
Serial No. : 180-00558  
Type : Dipole  
Model : ALS-D-835-S-2  
Frequency : 835.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 10.916 W/kg  
Power Drift-Finish : 10.949 W/kg  
Power Drift (%) : 0.307

## Phantom Data

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Default  
Phantom Data

## Tissue Data

Type : Body  
Serial No. : 270-02101  
Frequency : 835.00 MHz  
Last Calib. Date : 06-Jul-2012  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

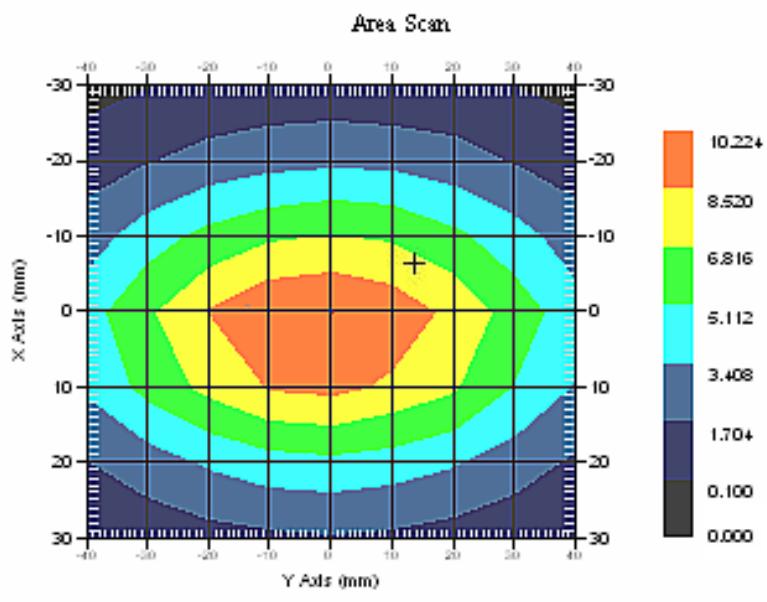
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 14-Jul-2011  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

## Measurement Data

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 21.00 °C  
Ambient Temp. : 21.00 °C  
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 10.084 W/kg  
10 gram SAR value : 6.171 W/kg  
Area Scan Peak SAR : 10.204 W/kg  
Zoom Scan Peak SAR : 15.815 W/kg



### 835 MHz System Validation with Body Tissue

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 1900 Head Liquid****Dipole 1900 MHz; Type: ALS-D-1900-S-2; S/N: 210-00710****Product Data**

Device Name : Dipole 1900MHz  
Serial No. : 210-00710  
Type : Dipole  
Model : ALS-D-1900-S-2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 45.287 W/kg  
Power Drift-Finish : 47.328 W/kg  
Power Drift (%) : 3.637

**Phantom Data**

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Default

**Tissue Data**

Type : HEAD  
Serial No. : 295-01103  
Frequency : 1900.00 MHz  
Last Calib. Date : 06-Jul-2012  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 40.36 F/m  
Sigma : 1.39 S/m  
Density : 1000.00 kg/cu. M

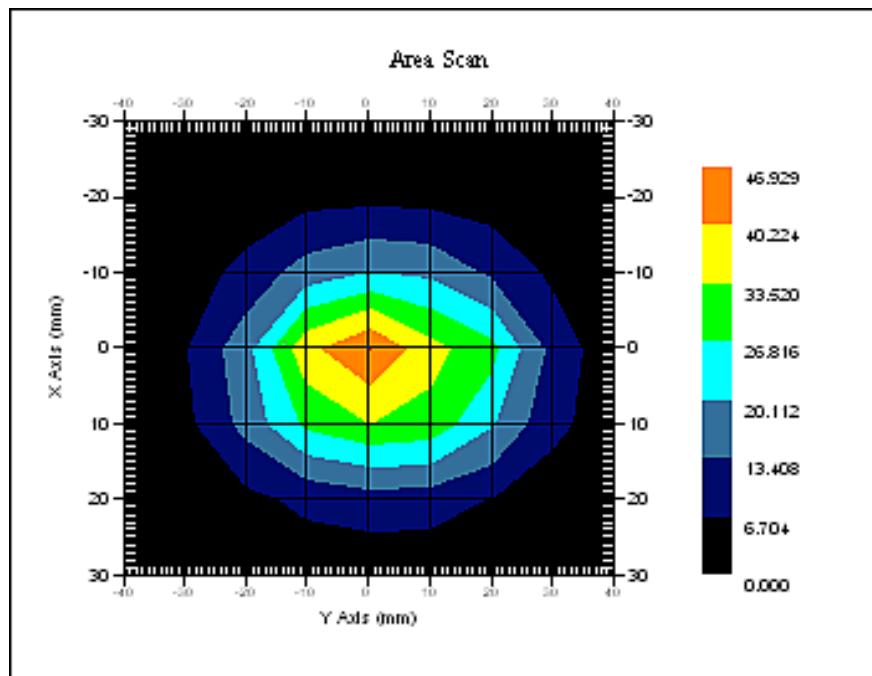
**Probe Data**

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 14-Jul-2011  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.20  
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

**Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 20.00 °C  
Ambient Temp. : 20.00 °C  
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 40.346 W/kg  
10 gram SAR value : 20.526 W/kg  
Area Scan Peak SAR : 45.836 W/kg  
Zoom Scan Peak SAR : 75.249 W/kg



### 1900 MHz System Validation with Head Tissue

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 1900 Body Liquid****Dipole 1900 MHz; Type: ALS-D-1900-S-2; S/N: 210-00710****Product Data**

Device Name : Dipole 1900MHz  
Serial No. : 210-00710  
Type : Dipole  
Model : ALS-D-1900-S-2  
Frequency : 1900.00 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 49.197 W/kg  
Power Drift-Finish : 49.612 W/kg  
Power Drift (%) : 0.843

**Phantom Data**

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Default

**Tissue Data**

Type : Body  
Serial No. : 295-02102  
Frequency : 1900.00 MHz  
Last Calib. Date : 06-Jul-2012  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

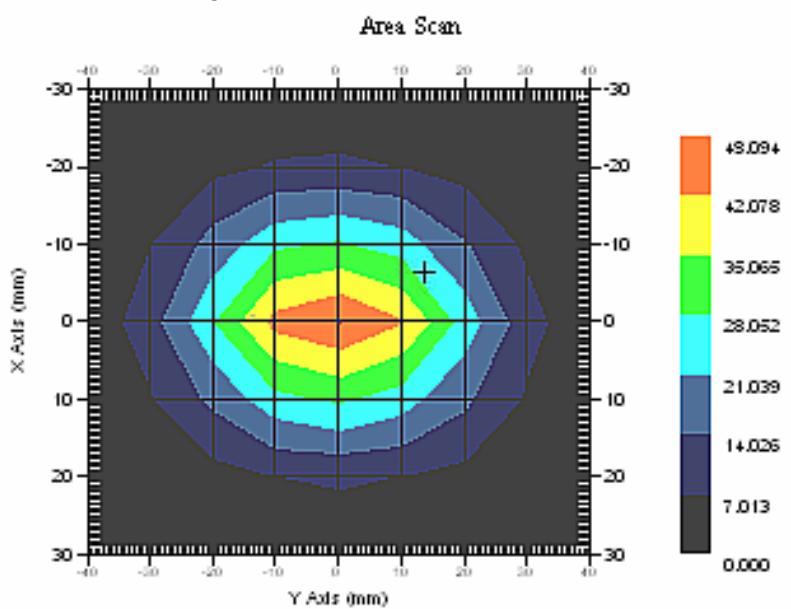
**Probe Data**

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 14-Jul-2011  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)  
Compression Point : 95.00 mV  
Offset : 1.56 mm

**Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 20.00 °C  
Ambient Temp. : 21.00 °C  
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 41.070 W/kg  
10 gram SAR value : 22.019 W/kg  
Area Scan Peak SAR : 48.094 W/kg  
Zoom Scan Peak SAR : 76.569 W/kg



### 1900 MHz System Validation with Body Tissue

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 2450 MHz Body Liquid****Dipole 2450 MHz; Type: ALS-D-2450-S-2; S/N: 220-00758****Product Data**

Device Name : Dipole 2450MHz  
Serial No. : 220-00758  
Type : Dipole  
Model : ALS-D-2450-S-2  
Frequency : 2450 MHz  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 48.642 W/kg  
Power Drift-Finish : 48.979 W/kg  
Power Drift (%) : 0.693

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**Phantom Data**

Name : APREL-Uni  
Type : Uni-Phantom  
Size (mm) : 280 x 280 x 200  
Serial No. : System Default  
Location : Center  
Description : Default

**Tissue Data**

Type : BODY  
Serial No. : 290-01109  
Frequency : 2450 MHz  
Last Calib. Date : 06-Jul-2012  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 50.00 RH%  
Epsilon : 53.13 F/m  
Sigma : 1.98 S/m  
Density : 1000.00 kg/cu. M

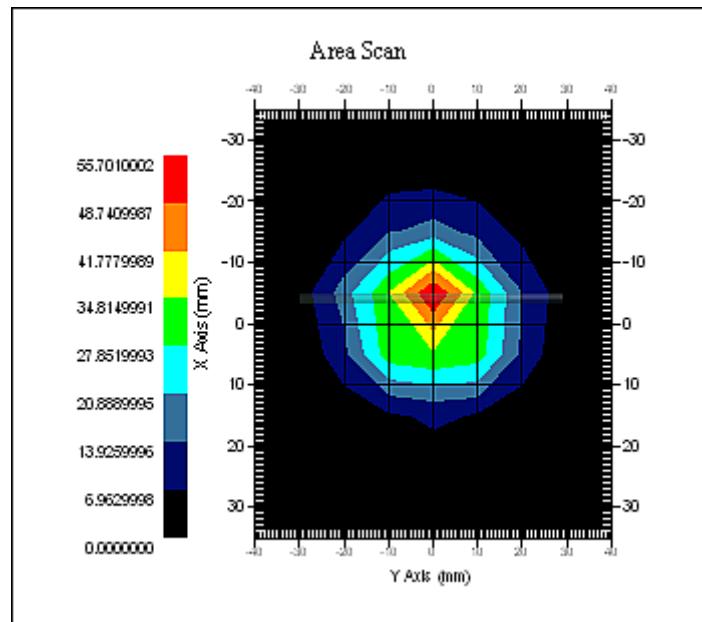
**Probe Data**

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 14-Jul-2011  
Frequency : 2450 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)<sup>2</sup>  
Compression Point : 95.00 mV  
Offset : 1.56 mm

**Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 20.00 °C  
Ambient Temp. : 20.00 °C  
Area Scan : 7x7x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 50.916 W/kg  
10 gram SAR value : 25.333 W/kg  
Area Scan Peak SAR : 54.068 W/kg  
Zoom Scan Peak SAR : 98.600 W/kg



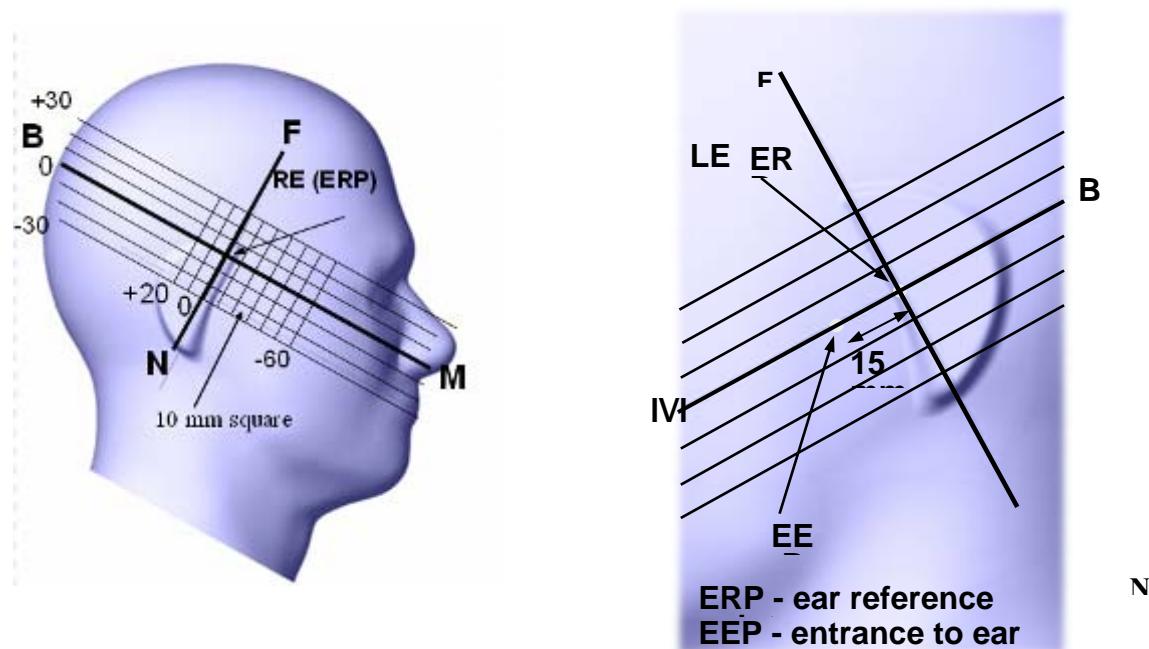
### 2450 MHz System Validation

## EUT TEST STRATEGY AND METHODOLOGY

### Test Positions for Device Operating Next to a Person's Ear

This category includes most wireless handsets with fixed, retractable or internal antennas located toward the top half of the device, with or without a foldout, sliding or similar keypad cover. The handset should have its earpiece located within the upper  $\frac{1}{4}$  of the device, either along the centerline or off-centered, as perceived by its users. This type of handset should be positioned in a normal operating position with the “test device reference point” located along the “vertical centerline” on the front of the device aligned to the “ear reference point”. The “test device reference point” should be located at the same level as the center of the earpiece region. The “vertical centerline” should bisect the front surface of the handset at its top and bottom edges. A “ear reference point” is located on the outer surface of the head phantom on each ear spacer. It is located 1.5 cm above the center of the ear canal entrance in the “phantom reference plane” defined by the three lines joining the center of each “ear reference point” (left and right) and the tip of the mouth.

A handset should be initially positioned with the earpiece region pressed against the ear spacer of a head phantom. For the SCC-34/SC-2 head phantom, the device should be positioned parallel to the “N-F” line defined along the base of the ear spacer that contains the “ear reference point”. For interim head phantoms, the device should be positioned parallel to the cheek for maximum RF energy coupling. The “test device reference point” is aligned to the “ear reference point” on the head phantom and the “vertical centerline” is aligned to the “phantom reference plane”. This is called the “initial ear position”. While maintaining these three alignments, the body of the handset is gradually adjusted to each of the following positions for evaluating SAR:



## Cheek/Touch Position

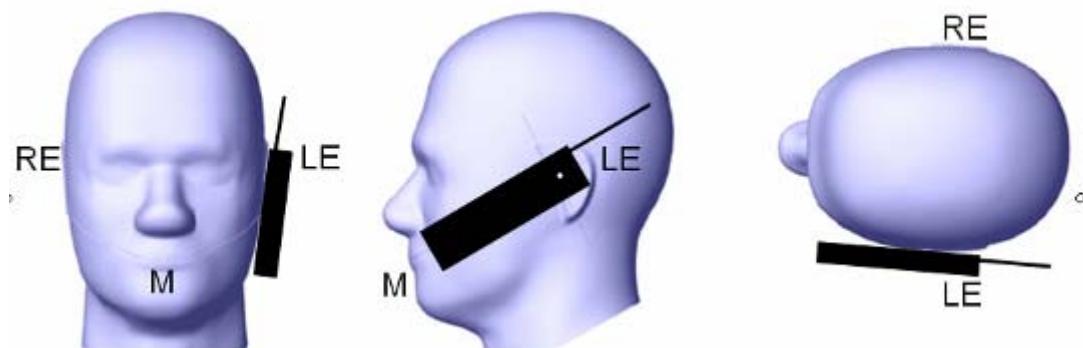
The device is brought toward the mouth of the head phantom by pivoting against the “ear reference point” or along the “N-F” line for the SCC-34/SC-2 head phantom.

This test position is established:

- When any point on the display, keypad or mouthpiece portions of the handset is in contact with the phantom.
- (or) When any portion of a foldout, sliding or similar keypad cover opened to its intended self-adjusting normal use position is in contact with the cheek or mouth of the phantom.

For existing head phantoms – when the handset loses contact with the phantom at the pivoting point, rotation should continue until the device touches the cheek of the phantom or breaks its last contact from the ear spacer.

### Cheek /Touch Position



## Ear/Tilt Position

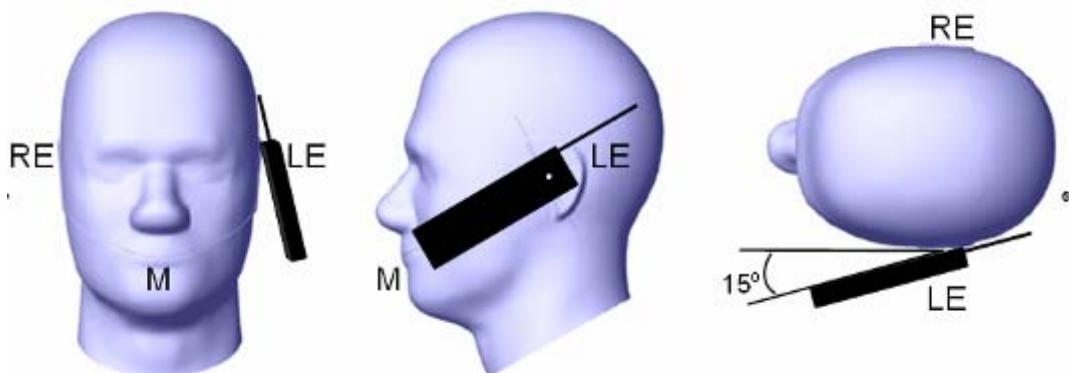
With the handset aligned in the “Cheek/Touch Position”:

1) If the earpiece of the handset is not in full contact with the phantom’s ear spacer (in the “Cheek/Touch position”) and the peak SAR location for the “Cheek/Touch” position is located at the ear spacer region or corresponds to the earpiece region of the handset, the device should be returned to the “initial ear position” by rotating it away from the mouth until the earpiece is in full contact with the ear spacer.

2) (otherwise) The handset should be moved (translated) away from the cheek perpendicular to the line passes through both “ear reference points” (note: one of these ear reference points may not physically exist on a split head model) for approximate 2-3 cm. While it is in this position, the device handset is tilted away from the mouth with respect to the “test device reference point” until the inside angle between the vertical centerline on the front surface of the phone and the horizontal line passing through the ear reference point is by 15°. After the tilt, it is then moved (translated) back toward the head perpendicular to the line passes through both “ear reference points” until the device touches the phantom or the ear spacer. If the antenna touches the head first, the positioning process should be repeated with a tilt angle less than 15° so that the device and its antenna would touch the phantom simultaneously. This test position may require a device holder or positioner to achieve the translation and tilting with acceptable positioning repeatability.

If a device is also designed to transmit with its keypad cover closed for operating in the head position, such positions should also be considered in the SAR evaluation. The device should be tested on the left and right side of the head phantom in the “Cheek/Touch” and “Ear/Tilt” positions. When applicable, each configuration should be tested with the antenna in its fully extended and fully retracted positions. These test configurations should be tested at the high, middle and low frequency channels of each operating mode; for example, AMPS, CDMA, and TDMA. If the SAR measured at the middle channel for each test configuration (left, right, Cheek/Touch, Ear, extended and retracted) is at least 2.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s). If the transmission band of the test device is less than 10 MHz, testing at the high and low frequency channels is optional.

#### Ear /Tilt 15° Position



#### **Test positions for body-worn and other configurations**

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

## SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or EUT and the horizontal grid spacing was 10 mm x 10 mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 35 mm x 35 mm x 35 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

- 1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
- 2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the "Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

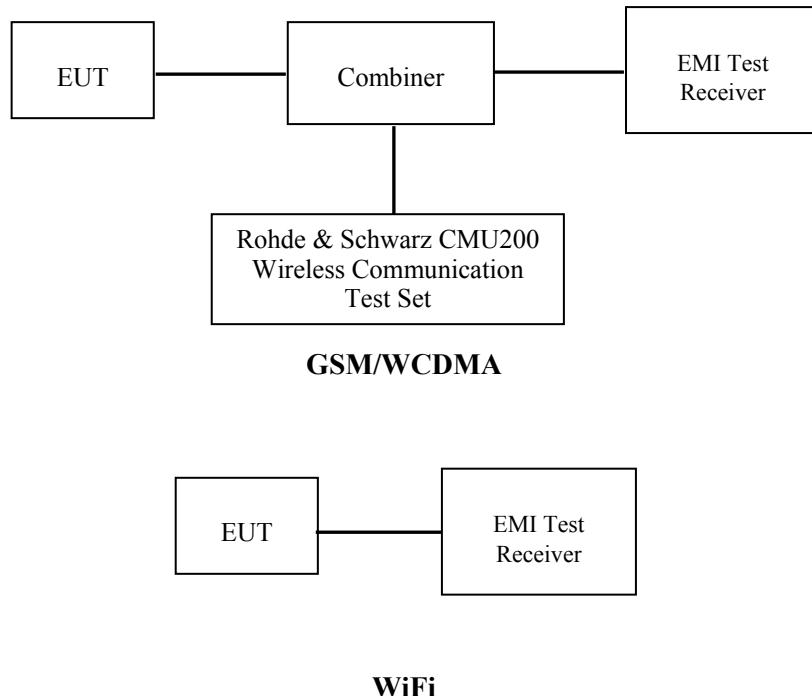
## CONDUCTED OUTPUT POWER MEASUREMENT

### Provision Applicable

The measured peak output power should be greater and within 5% than EMI measurement.

### Test Procedure

The RF output of the transmitter was connected to the input of the EMI Test Receiver through sufficient attenuation.



### Test Results:

#### GSM

Band	Frequency (MHz)	Conducted Output Power	
		(dBm)	(Watt)
Cellular Band	824.2	32.23	1.671
	836.6	32.22	1.667
	848.8	32.19	1.656
PCS Band	1850.2	29.20	0.832
	1880.0	29.08	0.809
	1909.8	29.20	0.832

**GPRS**

Mode	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
Cellular	128	824.2	32.27	31.42	Not Support	Not Support
	190	836.6	32.29	31.48	Not Support	Not Support
	251	848.8	31.17	31.43	Not Support	Not Support
PCS	512	1850.2	29.43	28.53	Not Support	Not Support
	661	1880.0	29.31	28.44	Not Support	Not Support
	810	1909.8	29.32	28.48	Not Support	Not Support

For SAR, the time based average power is relevant, the difference in between depends on the duty cycle of the TDMA signal.

Number of Time slot	1	2	3	4
Duty Cycle	1:8	1:4	1:2.66	1:2
Time based Ave. power compared to slotted Ave. power	-9 dB	-6 dB	-4.25 dB	-3 dB
Crest Factor	8	4	2.66	2

**The time based average power for GPRS**

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
Cellular	128	824.2	23.27	25.42	Not Support	Not Support
	190	836.6	23.29	25.48	Not Support	Not Support
	251	848.8	22.17	25.43	Not Support	Not Support
PCS	512	1850.2	20.43	22.53	Not Support	Not Support
	661	1880.0	20.31	22.44	Not Support	Not Support
	810	1909.8	20.32	22.48	Not Support	Not Support

**Note:**

1. Rohde & Schwarz Radio Communication Tester (CMU200) was used for the measurement of GSM peak and average output power for active timeslots.
2. For GSM voice, 1 timeslot has been activated with power level 5 (850 MHz band) and 0 (1900 MHz band).
3. For GPRS, 1, and 2 timeslots has been activated separately with power control level 5(850 MHz band) and 0(1900 MHz band).

**WCDMA**

Mode	Conducted Output Power					
Band	WCDMA 850			WCDMA 1900		
Tx Channel	4132	4182	4233	9262	9400	9538
Frequency(MHz)	826.4	836.4	846.6	1852.4	1880	1907.6
RMC 12.2kbps	22.21	21.72	21.57	22.41	22.67	22.60
HSDPA subtest-1	21.74	21.91	21.10	20.70	21.65	22.13
HSDPA subtest-2	22.05	21.35	21.94	21.54	21.80	21.73
HSDPA subtest-3	21.37	21.20	21.50	22.34	22.60	22.53
HSDPA subtest-4	21.22	21.22	21.07	21.25	22.17	22.10
HSUPA sbutest-1	21.34	21.50	21.43	22.29	22.54	22.18
HSUPA sbutest-2	21.71	21.53	21.08	21.82	22.08	22.11
HSUPA sbutest-3	21.27	21.22	21.37	21.61	21.57	21.80
HSUPA sbutest-4	21.39	21.65	21.02	21.46	21.72	21.65
HSUPA sbutest-5	21.10	21.64	21.50	21.34	21.60	21.53

**Note:**

1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA when the maximum average output of each RF channel with HSDPA active is less than  $\frac{1}{4}$  dB higher than measured without HSDPA using 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
3. KDB 941225 D01-Body SAR is not required for HSUPA when the maximum average output of each RF channel with HSUPA active is less than  $\frac{1}{4}$  dB higher than measured without HSUPA using 12.2kbps RMC and the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

**WiFi**

<b>Band</b>	<b>Frequency (MHz)</b>	<b>Conducted Output Power</b>	
		<b>(dBm)</b>	<b>(Watt)</b>
802.11b	2412	12.91	0.020
	2437	13.11	0.020
	2462	11.86	0.015
802.11g	2412	11.71	0.015
	2437	12.01	0.016
	2462	11.55	0.014
802.11n-20	2412	11.33	0.014
	2437	11.92	0.016
	2462	11.45	0.014

**Note:**

KDB248227-SAR is not required for 802.11g/802.11n channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

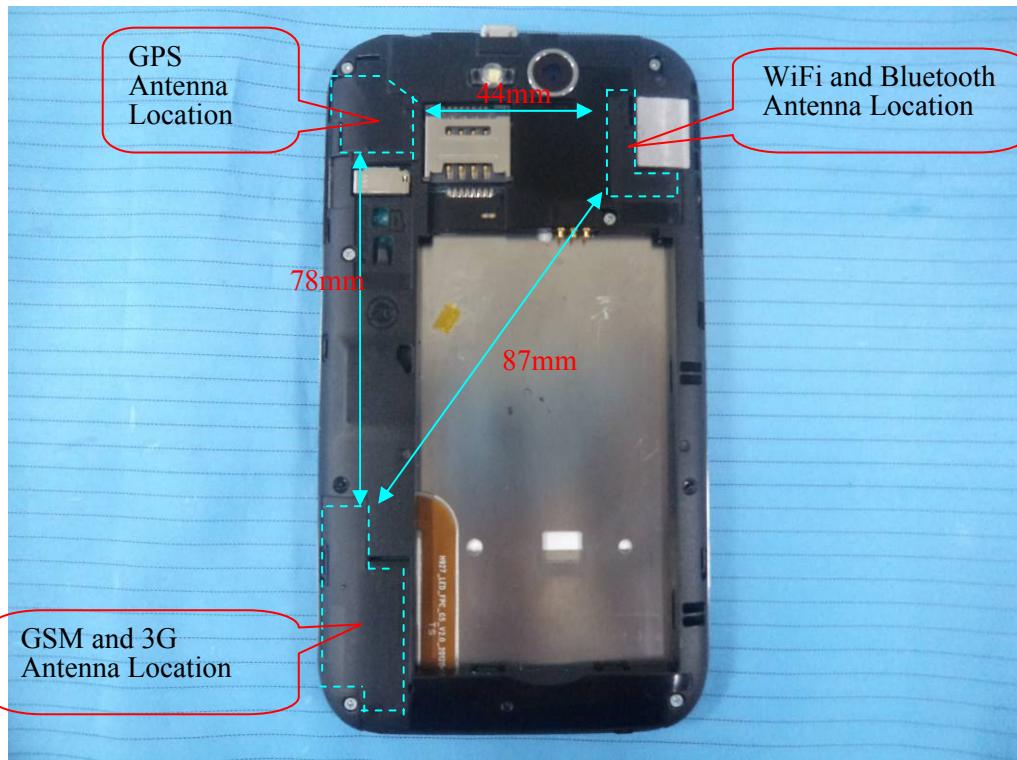
The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n-20.

## SAR SIMULTANEOUS TRANSMISSION EVALUATION

### KDB648474 SIMULTANEOUS TRANSMITION CONSIDERATION

Stand-alone and simultaneous SAR evaluation for a cell phone with multiple transmitters is base on the antennas distance of each radio.

#### WiFi &BT, GPS and GSM&3G Antenna Location:



#### Antenna Information:

<b>Antenna-to-antenna separation distances:</b>	87mm from GSM&3G main antenna-to- WiFi&BT main antenna 78mm from GSM&3G main antenna-to-GPS main antenna 44mm from WiFi main antenna-to-GPS main antenna
<b>Simultaneous transmission:</b>	GSM voice can transmit simultaneously with WiFi data. GPRS data can transmit simultaneously with WiFi data. WCDMA can transmit simultaneously with WiFi data

#### CONCLUSION:

Individual transmitter	Stand-alone SAR	Simultaneous SAR
GSM&3G	Required	Simultaneous SAR of Bluetooth and GSM is not required
WiFi& BT	Not Required	Not Required

#### Note:

- 1) The distance between WiFi and GSM antenna is 8.7cm > 5cm, The max output power of WiFi antenna is(13.11dBm) 20.47mW < 2P<sub>Ref</sub>(24mW) . According to KDB648474, stand-alone SAR is not required for WiFi antenna, simultaneous SAR evaluation is not required for GSM and WiFi antenna.

## SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

### SAR Test Data

#### Environmental Conditions

Temperature:	21° C
Relative Humidity:	50%
ATM Pressure:	1002 mbar

\* Testing was performed by Sandy Wang on 2012.07.06-2012.07.08

#### Cellular Band:

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Head Cheek	128(Low)	824.2	GSM	Integral	0.034	1.6	1.928
	190(Middle)	836.6	GSM	Integral	\	1.6	
	251(High)	848.8	GSM	Integral	\	1.6	
Body-Back-Headset(10mm)	128(Low)	824.2	GSM	Integral	0.121	1.6	2.708
	190(Middle)	836.6	GSM	Integral	\	1.6	
	251(High)	848.8	GSM	Integral	\	1.6	

#### PCS Band:

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Head Cheek	512(Low)	1850.2	GSM	Integral	\	1.6	
	661(Middle)	1880.0	GSM	Integral	\	1.6	
	810(High)	1909.8	GSM	Integral	0.054	1.6	
Body-Back-Headset(10mm)	512(Low)	1850.2	GSM	Integral	\	1.6	
	661(Middle)	1880.0	GSM	Integral	\	1.6	
	810(High)	1909.8	GSM	Integral	0.297	1.6	

#### Note:

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. According to KDB648474, flat phantom is required when testing Head Cheek Mode, and the EUT is positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM.

**WCDMA 850**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Head Cheek	4132	824.2	WCDMA 850	Integral	\	1.6	
	4183	836.6	WCDMA 850	Integral	0.030	1.6	
	4233	848.8	WCDMA 850	Integral	\	1.6	

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. According to KDB648474, flat phantom is required when testing Head Cheek Mode, and the EUT is positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model

**WCDMA 1900**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Head Cheek	9262	1852.4	WCDMA 1900	Integral	0.059	1.6	
	9400	1880.0	WCDMA 1900	Integral	\	1.6	
	9538	1907.6	WCDMA 1900	Integral	\	1.6	

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. According to KDB648474, flat phantom is required when testing Head Cheek Mode, and the EUT is positioned with its bottom edge positioned from the flat phantom with the same distance provided by the cheek touching position using SAM.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model.

## Mobile Hot-Spot Test Result

The DUT is capable of functioning as a WiFi to Cellular Mobile hotspot. Additional SAR testing was performed according to KDB 941225 D06. Testing was performed with a separation of 1cm between the DUT and the flat phantom. The DUT was positioned for SAR tests with the front and back surfaces facing the phantom, and also with the edges facing the phantom in which the transmitting antenna is <2.5 cm from the edge. Each transmit band was utilized for SAR testing. The tested mode has been selected within each band that exhibits the highest time average output power. When the overall device length and width are  $\geq 9$  cm x 5 cm respectively, a test separation of 10 mm is required.

### Hot spot-GPRS

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Body-Front (10mm)	128	824.2	GPRS	Integral	/	1.6	
	190	836.6	GPRS	Integral	0.052	1.6	
	251	848.8	GPRS	Integral	/	1.6	
Body-Back (10mm)	128	824.2	GPRS	Integral	/	1.6	
	190	836.6	GPRS	Integral	0.306	1.6	
	251	848.8	GPRS	Integral	/	1.6	
Body-Right (10mm)	128	824.2	GPRS	Integral	/	1.6	
	190	836.6	GPRS	Integral	0.038	1.6	
	251	848.8	GPRS	Integral	/	1.6	
Body-Bottom (10mm)	128	824.2	GPRS	Integral	/	1.6	
	190	836.6	GPRS	Integral	0.023	1.6	
	251	848.8	GPRS	Integral	/	1.6	
Body-Front (10mm)	512	1850.2	GPRS	Integral	0.054	1.6	
	661	1880.0	GPRS	Integral	/	1.6	
	810	1909.8	GPRS	Integral	/	1.6	
Body-Back (10mm)	512	1850.2	GPRS	Integral	0.506	1.6	
	661	1880.0	GPRS	Integral	/	1.6	
	810	1909.8	GPRS	Integral	/	1.6	
Body-Right (10mm)	512	1850.2	GPRS	Integral	0.177	1.6	
	661	1880.0	GPRS	Integral	/	1.6	
	810	1909.8	GPRS	Integral	/	1.6	
Body-Bottom (10mm)	512	1850.2	GPRS	Integral	0.040	1.6	
	661	1880.0	GPRS	Integral	/	1.6	
	810	1909.8	GPRS	Integral	/	1.6	

#### Note:

- When the 1-g SAR is  $\leq 0.8$ W/Kg, testing for other channels are optional.
- The EUT is a Capability Class B mobile phone which can be attached to both GPRS and GSM services.
- The Multi-slot Classes of EUT is Class 10 which has maximum 4 Downlink slots and 2 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 3 DL+2UL is the worse case.

4. The EUT transmit and receive through the same GSM antenna while testing SAR.

### Hot Spot-WCDMA

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Body-Front (10mm)	4132	824.2	WCDMA850	Integral	/	1.6	
	4183	836.6	WCDMA850	Integral	0.054	1.6	
	4233	848.8	WCDMA850	Integral	/	1.6	
Body-Back (10mm)	4132	824.2	WCDMA850	Integral	/	1.6	
	4183	836.6	WCDMA850	Integral	0.271	1.6	
	4233	848.8	WCDMA850	Integral	/	1.6	
Body-Right (10mm)	4132	824.2	WCDMA850	Integral	/	1.6	
	4183	836.6	WCDMA850	Integral	0.047	1.6	
	4233	848.8	WCDMA850	Integral	/	1.6	
Body-Bottom (10mm)	4132	824.2	WCDMA850	Integral	/	1.6	
	4183	836.6	WCDMA850	Integral	0.040	1.6	
	4233	848.8	WCDMA850	Integral	/	1.6	
Body-Front (10mm)	9262	1852.4	WCDMA1900	Integral	0.065	1.6	
	9400	1880.0	WCDMA1900	Integral	/	1.6	
	9538	1907.6	WCDMA1900	Integral	/	1.6	
Body-Back (10mm)	9262	1852.4	WCDMA1900	Integral	0.562	1.6	
	9400	1880.0	WCDMA1900	Integral	/	1.6	
	9538	1907.6	WCDMA1900	Integral	/	1.6	
Body-Right (10mm)	9262	1852.4	WCDMA1900	Integral	0.087	1.6	
	9400	1880.0	WCDMA1900	Integral	/	1.6	
	9538	1907.6	WCDMA1900	Integral	/	1.6	
Body-Bottom (10mm)	9262	1852.4	WCDMA1900	Integral	0.046	1.6	
	9400	1880.0	WCDMA1900	Integral	/	1.6	
	9538	1907.6	WCDMA1900	Integral	/	1.6	

#### Note:

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 1.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model 1.

**Hot Spot-WiFi**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	FCC 1g SAR (W/Kg)		
	Channel	MHz			Measurement	Limit	Power Drift
Body-Front (10mm)	1	2412	802.11b	Integral	/	1.6	
	6	2437	802.11b	Integral	0.048	1.6	
	11	2462	802.11b	Integral	/	1.6	
Body-Back (10mm)	1	2412	802.11b	Integral	/	1.6	
	6	2437	802.11b	Integral	0.038	1.6	
	11	2462	802.11b	Integral	/	1.6	
Body-Left (10mm)	1	2412	802.11b	Integral	/	1.6	
	6	2437	802.11b	Integral	0.029	1.6	
	11	2462	802.11b	Integral	/	1.6	
Body-Top (10mm)	1	2412	802.11b	Integral	/	1.6	
	6	2437	802.11b	Integral	0.026	1.6	
	11	2462	802.11b	Integral	/	1.6	

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The SAR testing is conducted with 100% duty cycle factor.
3. The output power was tested under data rate 1Mbps for 802.11b.

## EUT SCAN RESULTS

### Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)

#### Head Cheek (835 MHz Low Channel)

##### Measurement Data

Test mode : GSM  
Crest Factor : 8  
Scan Type : Complete  
Area Scan : 9x12x1: Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.017 W/kg  
Power Drift-Finish : 0.017 W/kg  
Power Drift (%) : 1.928

##### Tissue Data

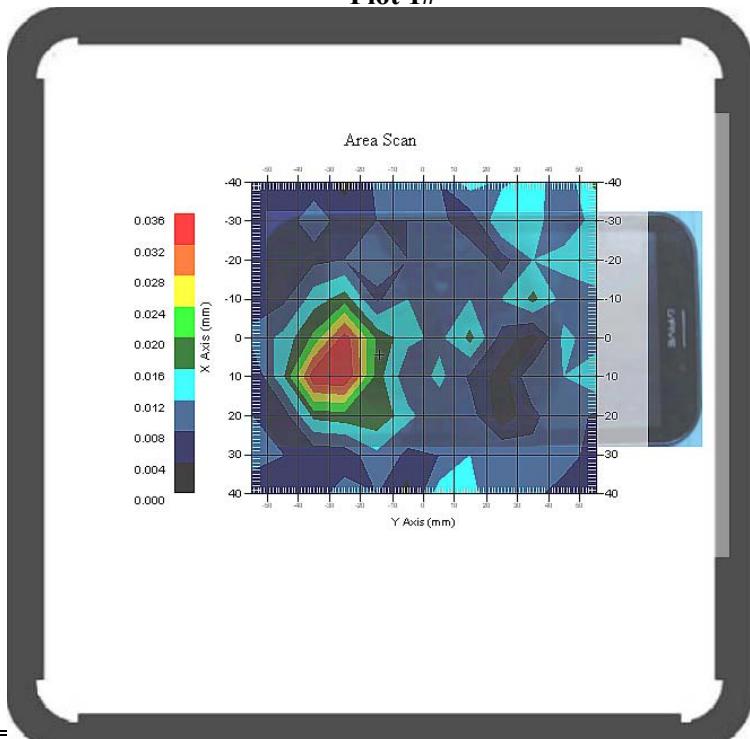
Type : HEAD  
Frequency : 835.00 MHz  
Epsilon : 42.32 F/m  
Sigma : 0.91 S/m  
Density : 1000.00 kg/cu. m

##### Probe Data

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 8  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.034 W/kg  
10 gram SAR value : 0.019 W/kg  
Area Scan Peak SAR : 0.036 W/kg  
Zoom Scan Peak SAR : 0.075 W/kg

**Plot 1#**



**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Back-Worn-Headset (835 MHz Low Channel)****Measurement Data**

Test mode : GSM  
Crest Factor : 8  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.037 W/kg  
Power Drift-Finish : 0.038 W/kg  
Power Drift (%) : 2.708

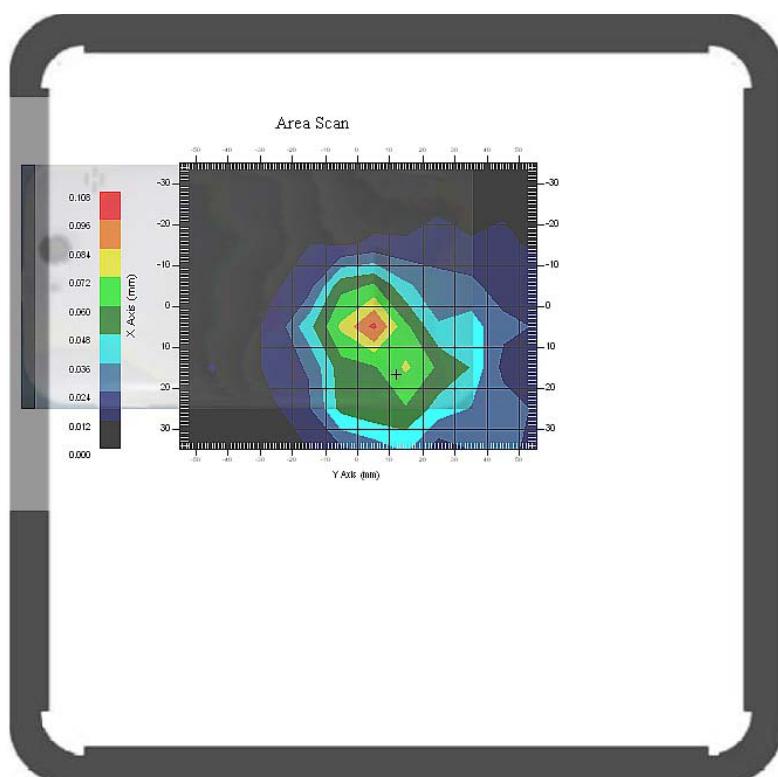
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 8  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.121 W/kg  
10 gram SAR value : 0.069 W/kg  
Area Scan Peak SAR : 0.101 W/kg  
Zoom Scan Peak SAR : 0.370 W/kg

**Plot 2#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Front (835 MHz Middle Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.030 W/kg  
Power Drift-Finish : 0.031 W/kg  
Power Drift (%) : 3.329

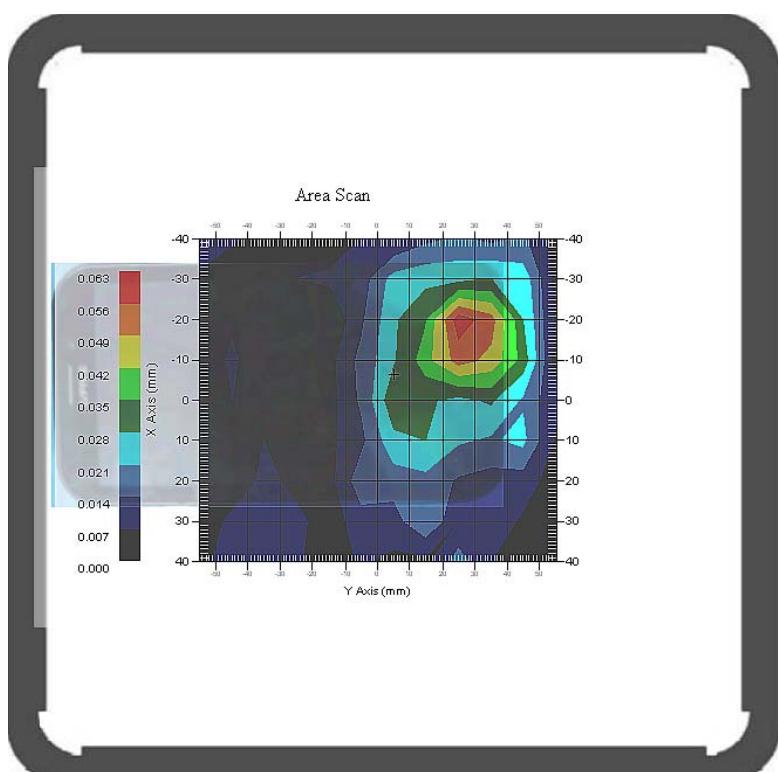
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.052 W/kg  
10 gram SAR value : 0.027 W/kg  
Area Scan Peak SAR : 0.062 W/kg  
Zoom Scan Peak SAR : 0.109 W/kg

**Plot 3#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Back (835 MHz Middle Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 10x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.204 W/kg  
Power Drift-Finish : 0.205 W/kg  
Power Drift (%) : 0.491

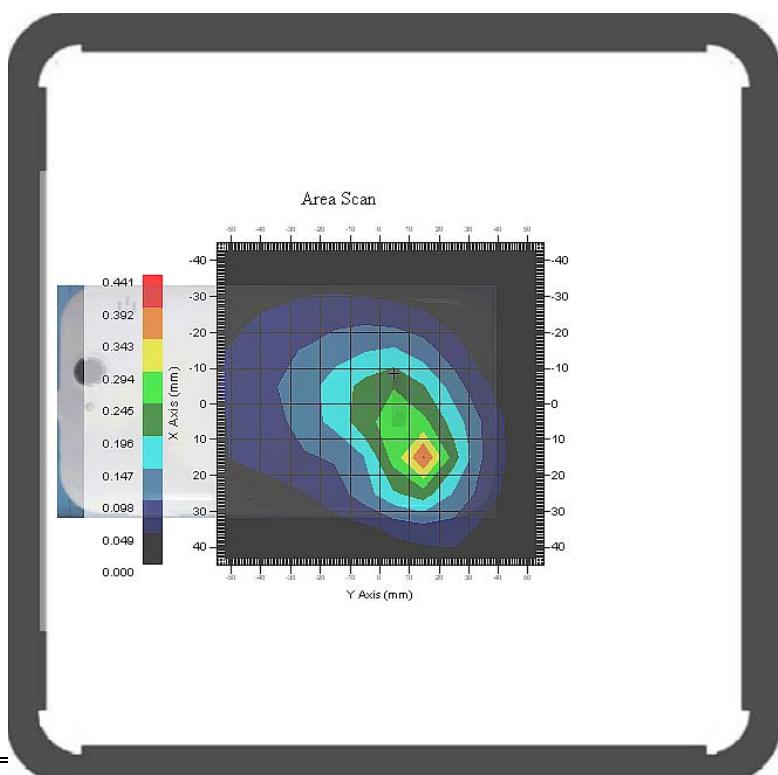
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.306 W/kg  
10 gram SAR value : 0.154 W/kg  
Area Scan Peak SAR : 0.394 W/kg  
Zoom Scan Peak SAR : 0.580 W/kg

**Plot 4#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Right (835 MHz Middle Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.031 W/kg  
Power Drift-Finish : 0.031 W/kg  
Power Drift (%) : 1.209

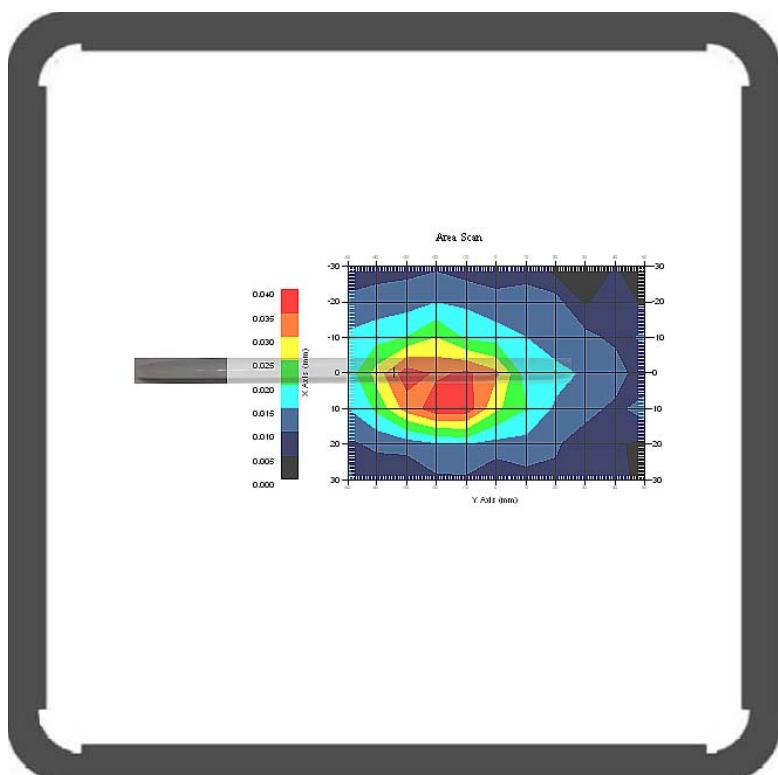
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.038 W/kg  
10 gram SAR value : 0.019 W/kg  
Area Scan Peak SAR : 0.038 W/kg  
Zoom Scan Peak SAR : 0.080 W/kg

**Plot 5#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Bottom (835 MHz Middle Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.018 W/kg  
Power Drift-Finish : 0.018 W/kg  
Power Drift (%) : 3.024

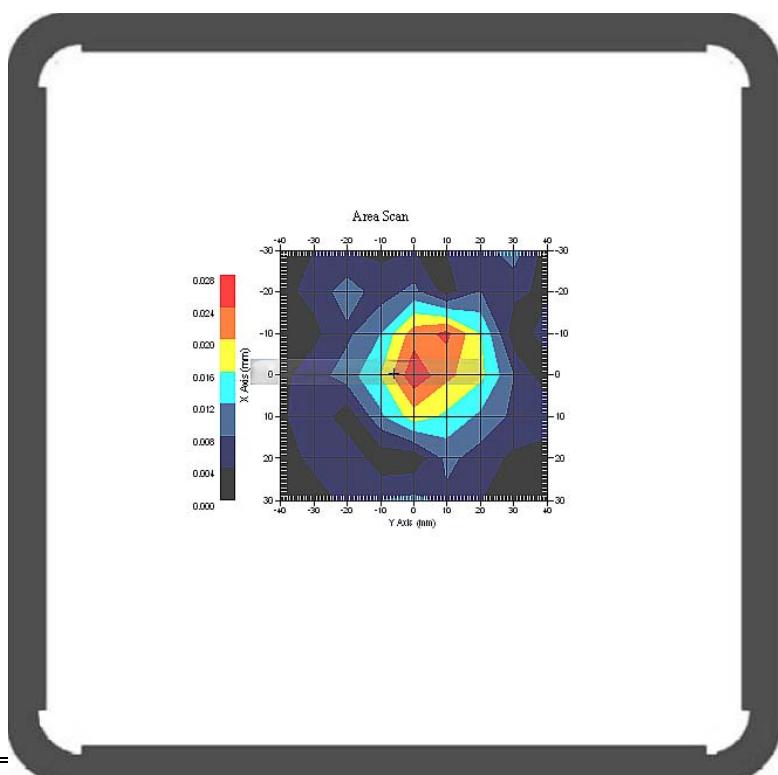
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.023 W/kg  
10 gram SAR value : 0.014 W/kg  
Area Scan Peak SAR : 0.028 W/kg  
Zoom Scan Peak SAR : 0.061 W/kg

**Plot 6#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Head Cheek (1900 MHz High Channel)**

## Measurement Data

Test mode : GSM  
Crest Factor : 8  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.034 W/kg  
Power Drift-Finish : 0.034 W/kg  
Power Drift (%) : 0.823

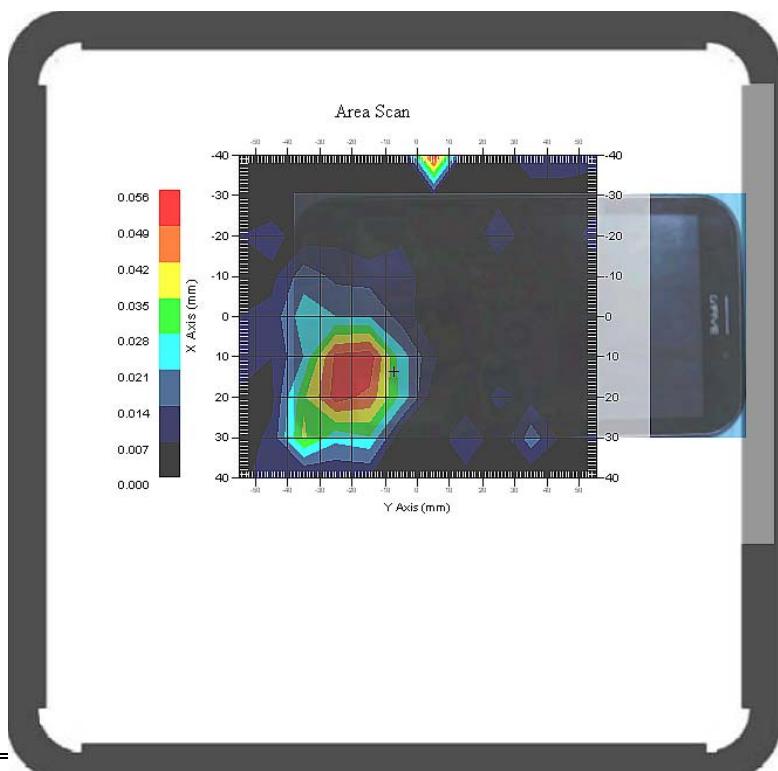
## Tissue Data

Type : HEAD  
Frequency : 1900.00 MHz  
Epsilon : 40.36 F/m  
Sigma : 1.39 S/m  
Density : 1000.00 kg/cu. m

## Probe Data

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 8  
Conversion Factor : 5.2  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.054 W/kg  
10 gram SAR value : 0.032 W/kg  
Area Scan Peak SAR : 0.056 W/kg  
Zoom Scan Peak SAR : 0.107W/kg

**Plot 7#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Headset (1900 MHz High Channel)****Measurement Data**

Test mode : GSM  
Crest Factor : 8  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.297 W/kg  
Power Drift-Finish : 0.304 W/kg  
Power Drift (%) : 2.357

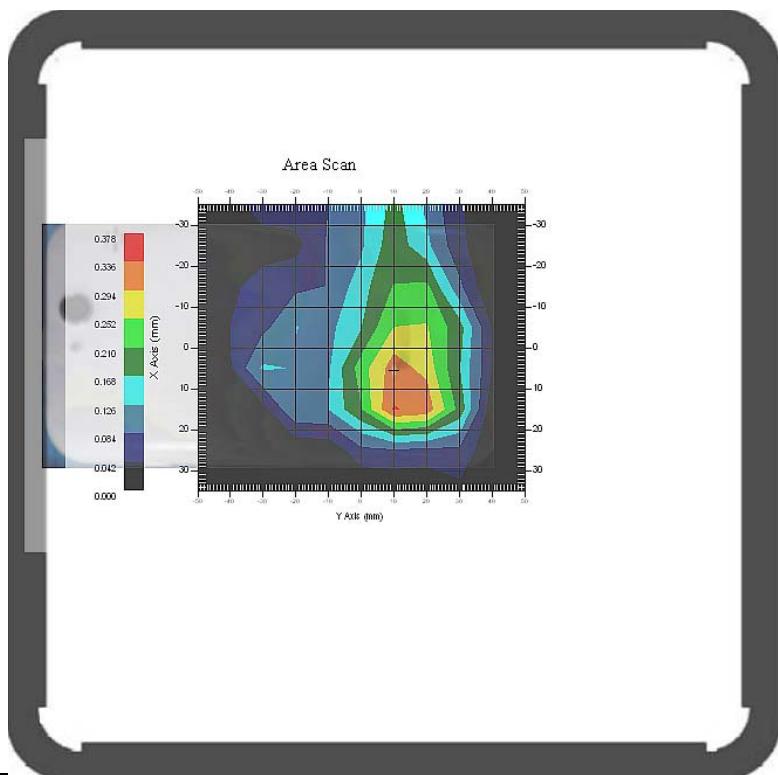
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 8  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.297W/kg  
10 gram SAR value : 0.179 W/kg  
Area Scan Peak SAR : 0.338 W/kg  
Zoom Scan Peak SAR : 0.693 W/kg

**Plot 8#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Front (1900 MHz Low Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.039 W/kg  
Power Drift-Finish : 0.041 W/kg  
Power Drift (%) : 3.235

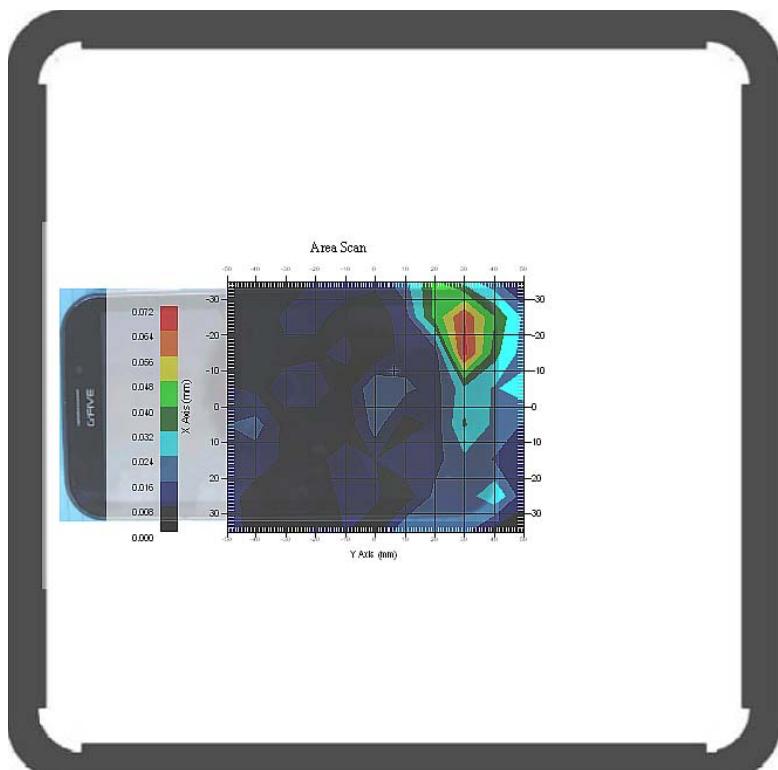
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.054 W/kg  
10 gram SAR value : 0.029 W/kg  
Area Scan Peak SAR : 0.067 W/kg  
Zoom Scan Peak SAR : 0.090 W/kg

**Plot 9#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Back (1900 MHz Low Channel)**

## Measurement Data

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.139 W/kg  
Power Drift-Finish : 0.140 W/kg  
Power Drift (%) : 1.159

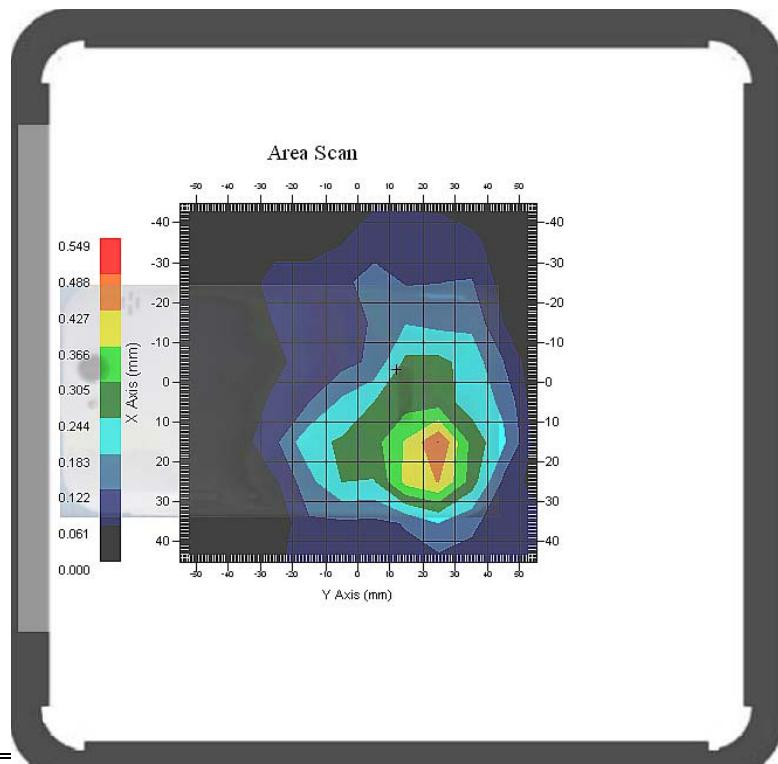
## Tissue Data

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

## Probe Data

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.506 W/kg  
10 gram SAR value : 0.271 W/kg  
Area Scan Peak SAR : 0.537 W/kg  
Zoom Scan Peak SAR : 1.040 W/kg

**Plot 10#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Right (1900 MHz Low Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.189 W/kg  
Power Drift-Finish : 0.184 W/kg  
Power Drift (%) : -2.754

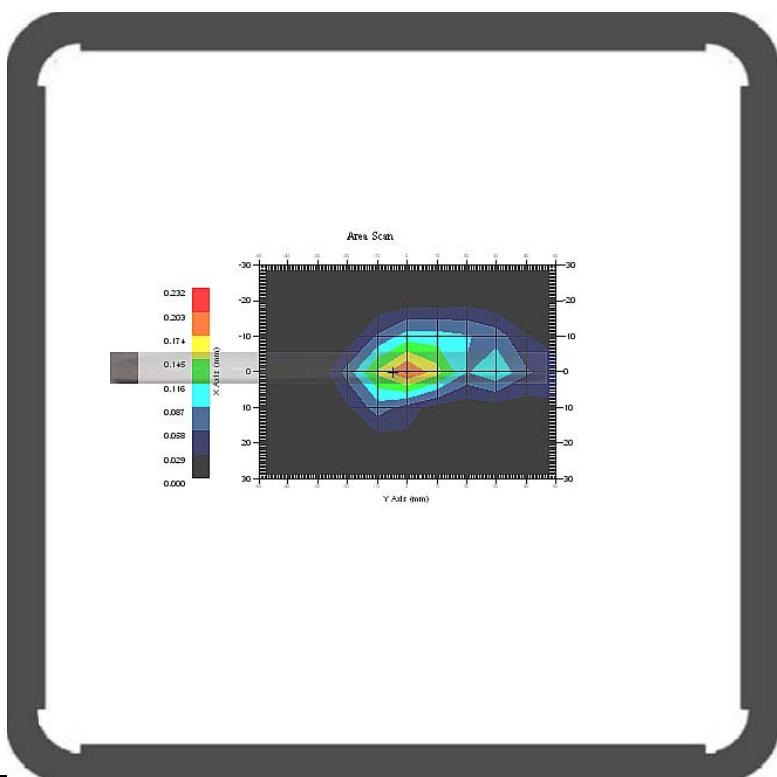
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.177 W/kg  
10 gram SAR value : 0.069 W/kg  
Area Scan Peak SAR : 0.205 W/kg  
Zoom Scan Peak SAR : 0.410 W/kg

**Plot 11#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Bottom (1900 MHz Low Channel)****Measurement Data**

Test mode : GPRS  
Crest Factor : 4  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.039 W/kg  
Power Drift-Finish : 0.040 W/kg  
Power Drift (%) : 3.178

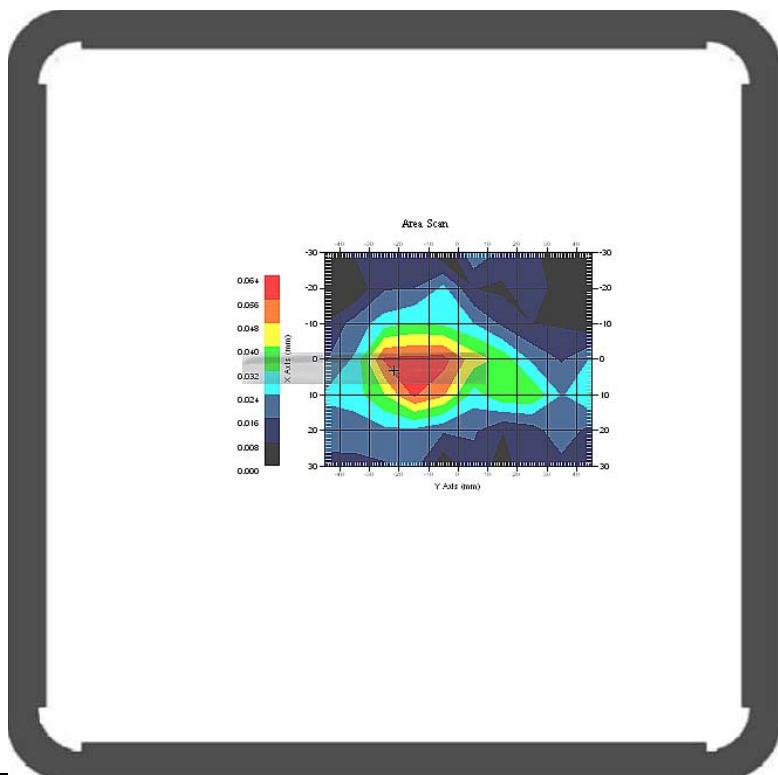
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 4  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.040 W/kg  
10 gram SAR value : 0.025 W/kg  
Area Scan Peak SAR : 0.059 W/kg  
Zoom Scan Peak SAR : 0.090 W/kg

**Plot 12#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Head Cheek (Middle Channel)****Measurement Data**

Test mode : WCDMA 850  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.016 W/kg  
Power Drift-Finish : 0.016 W/kg  
Power Drift (%) : -1.120

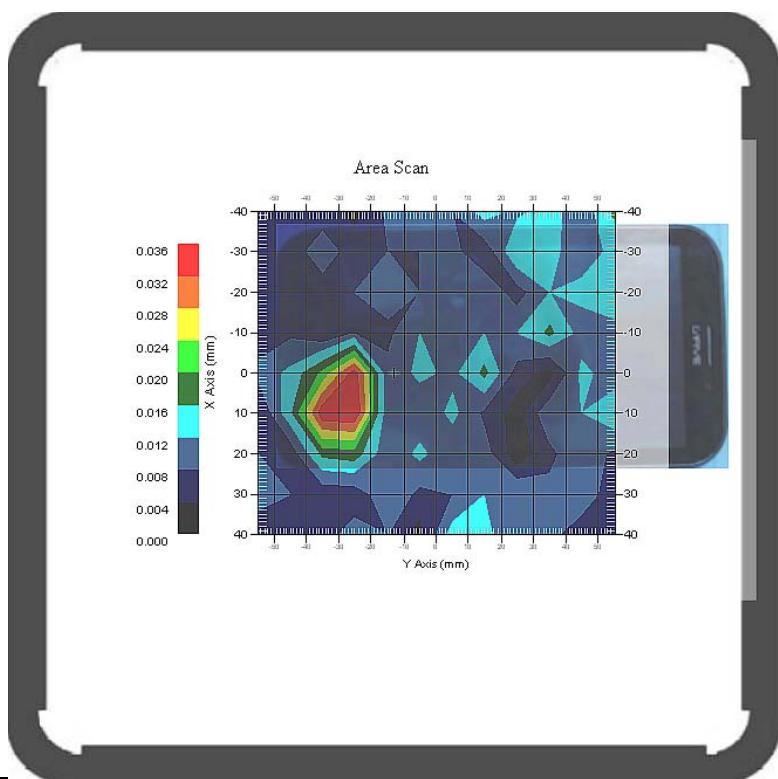
**Tissue Data**

Type : HEAD  
Frequency : 835.00 MHz  
Epsilon : 42.32 F/m  
Sigma : 0.91 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.030 W/kg  
10 gram SAR value : 0.044 W/kg  
Area Scan Peak SAR : 0.057 W/kg  
Zoom Scan Peak SAR : 0.100 W/kg

**Plot 13#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Front (Middle Channel)****Measurement Data**

Test mode : WCDMA 850  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.037 W/kg  
Power Drift-Finish : 0.038 W/kg  
Power Drift (%) : 2.708

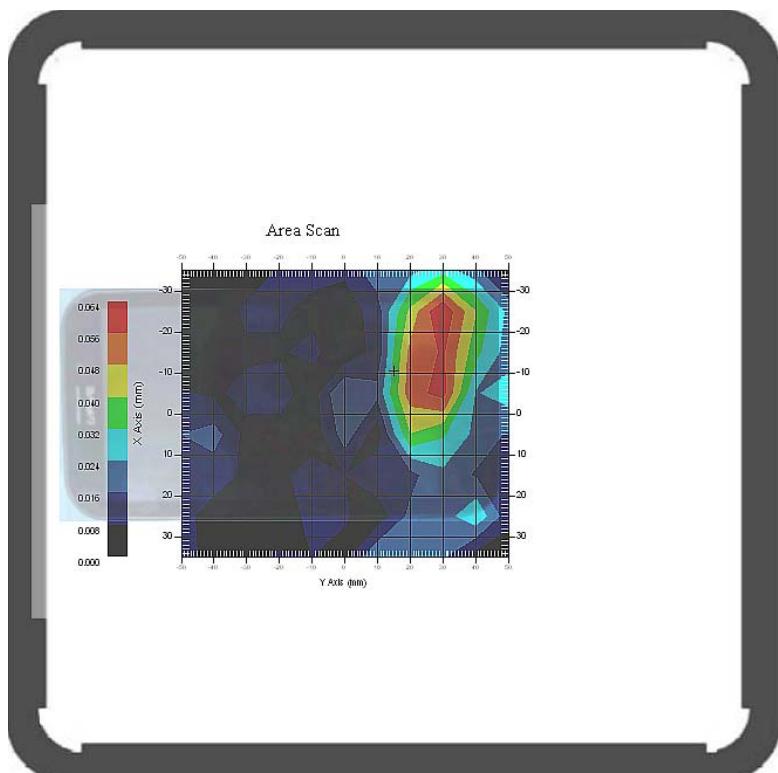
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.054 W/kg  
10 gram SAR value : 0.029 W/kg  
Area Scan Peak SAR : 0.067 W/kg  
Zoom Scan Peak SAR : 0.090 W/kg

**Plot 14#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Back (Middle Channel)****Measurement Data**

Test mode : WCDMA 850  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.130 W/kg  
Power Drift-Finish : 0.133 W/kg  
Power Drift (%) : 2.256

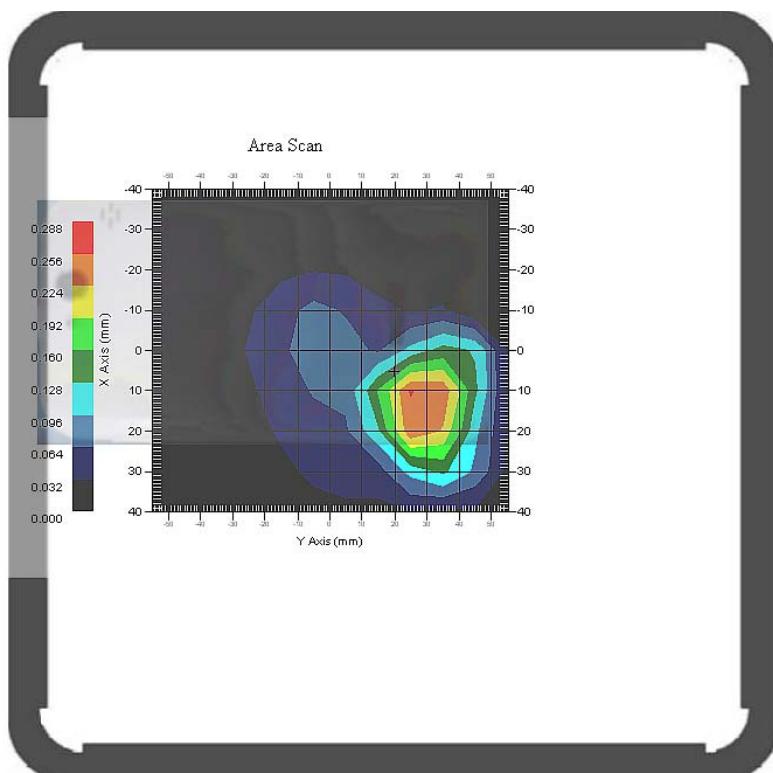
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)<sup>2</sup>  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.271 W/kg  
10 gram SAR value : 0.153 W/kg  
Area Scan Peak SAR : 0.282 W/kg  
Zoom Scan Peak SAR : 0.467 W/kg

**Plot 15#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Right (Middle Channel)****Measurement Data**

Test mode : WCDMA 850  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.189 W/kg  
Power Drift-Finish : 0.184 W/kg  
Power Drift (%) : -2.754

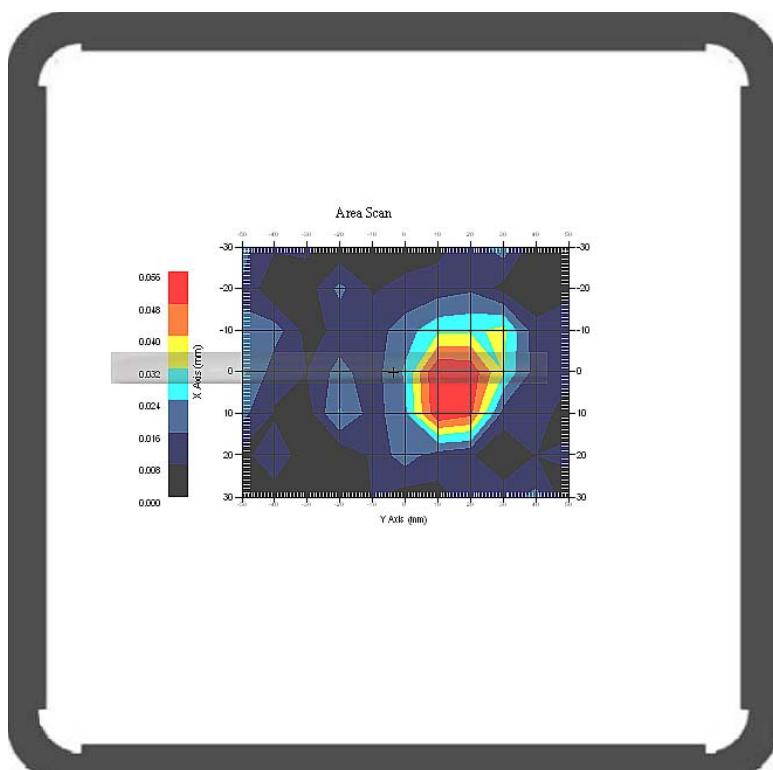
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.047 W/kg  
10 gram SAR value : 0.029 W/kg  
Area Scan Peak SAR : 0.055 W/kg  
Zoom Scan Peak SAR : 0.110 W/kg

**Plot 16#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Bottom (Middle Channel)****Measurement Data**

Test mode : WCDMA 850  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.039 W/kg  
Power Drift-Finish : 0.040 W/kg  
Power Drift (%) : 2.178

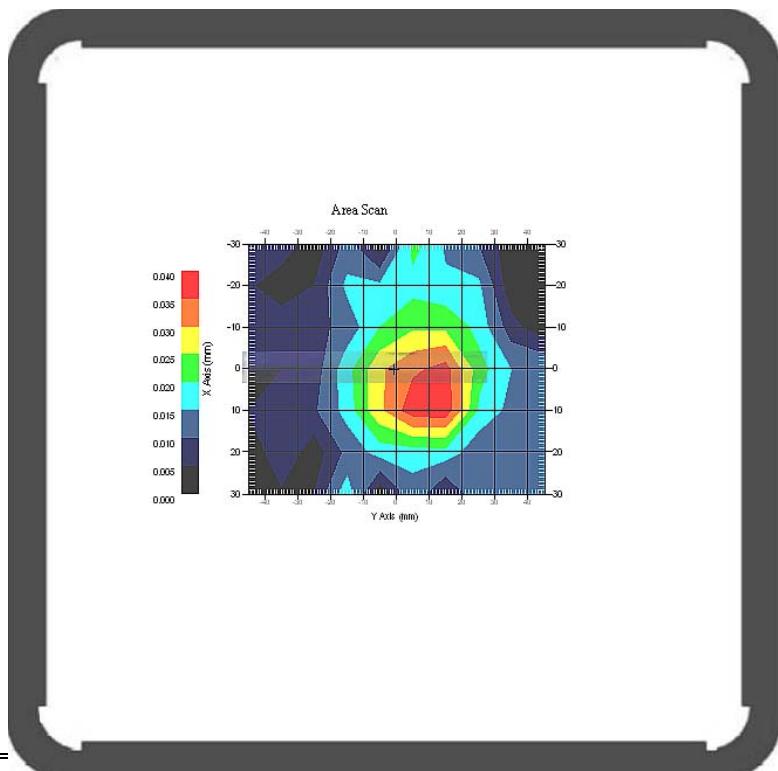
**Tissue Data**

Type : BODY  
Frequency : 835.00 MHz  
Epsilon : 53.18 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 835.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)<sup>2</sup>  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.040 W/kg  
10 gram SAR value : 0.025 W/kg  
Area Scan Peak SAR : 0.059 W/kg  
Zoom Scan Peak SAR : 0.090 W/kg

**Plot 17#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Head Cheek (Low Channel)****Measurement Data**

Test mode : WCDMA 1900  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.051 W/kg  
Power Drift-Finish : 0.051 W/kg  
Power Drift (%) : 1.455

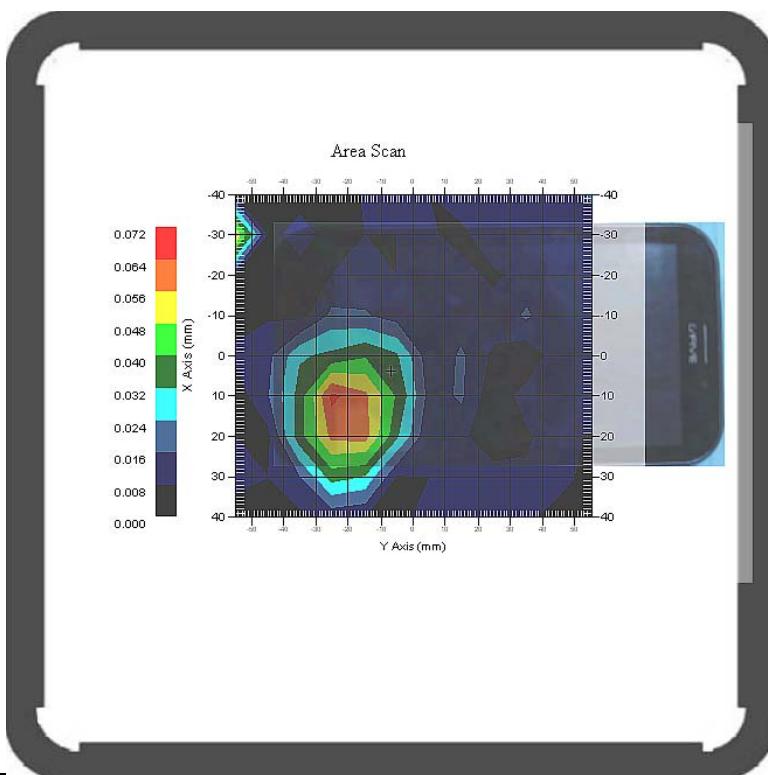
**Tissue Data**

Type : HEAD  
Frequency : 1900.00 MHz  
Epsilon : 40.36 F/m  
Sigma : 1.39 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.2  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.059 W/kg  
10 gram SAR value : 0.034 W/kg  
Area Scan Peak SAR : 0.070 W/kg  
Zoom Scan Peak SAR : 0.124 W/kg

**Plot 18#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Front (Low Channel)****Measurement Data**

Test mode : WCDMA 1900  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.011 W/kg  
Power Drift-Finish : 0.012 W/kg  
Power Drift (%) : 4.405

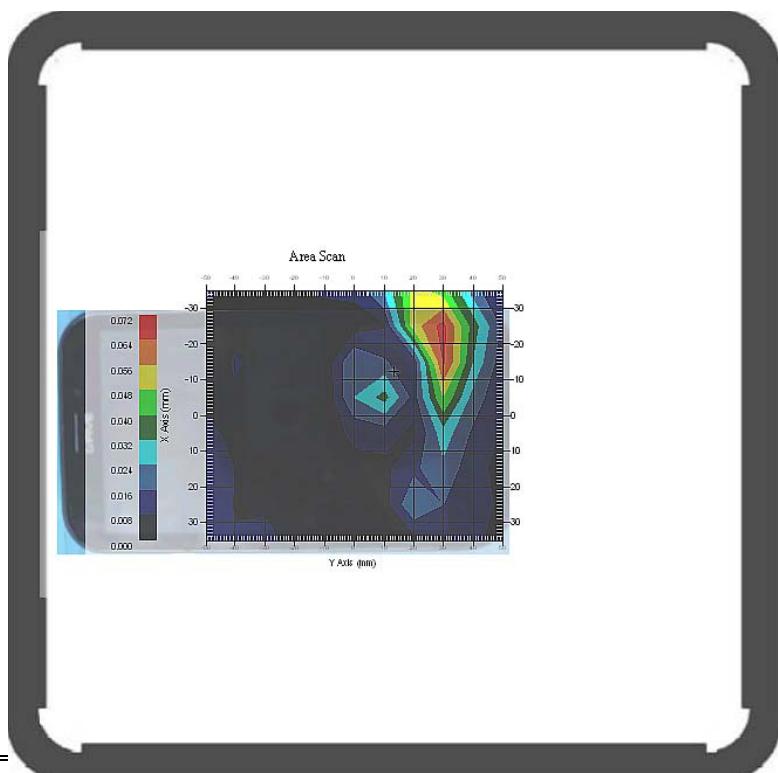
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.065 W/kg  
10 gram SAR value : 0.031 W/kg  
Area Scan Peak SAR : 0.067 W/kg  
Zoom Scan Peak SAR : 0.130 W/kg

**Plot 19#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Back (Low Channel)****Measurement Data**

Test mode : WCDMA 1900  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.191 W/kg  
Power Drift-Finish : 0.189 W/kg  
Power Drift (%) : -3.605

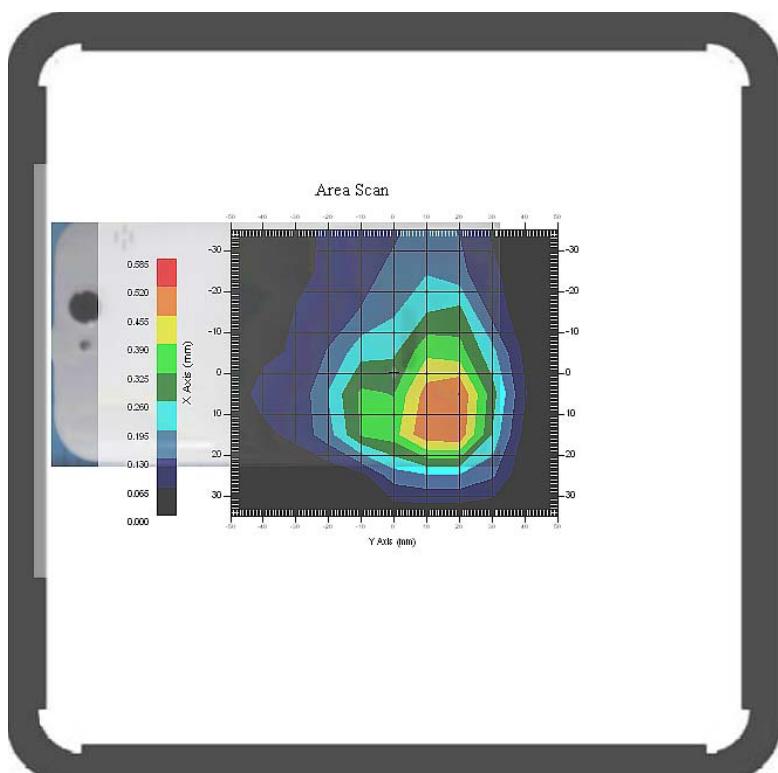
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.562 W/kg  
10 gram SAR value : 0.264 W/kg  
Area Scan Peak SAR : 0.571 W/kg  
Zoom Scan Peak SAR : 1.191 W/kg

**Plot 20#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Right (Low Channel)****Measurement Data**

Test mode : WCDMA 1900  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.096 W/kg  
Power Drift-Finish : 0.097 W/kg  
Power Drift (%) : 0.961

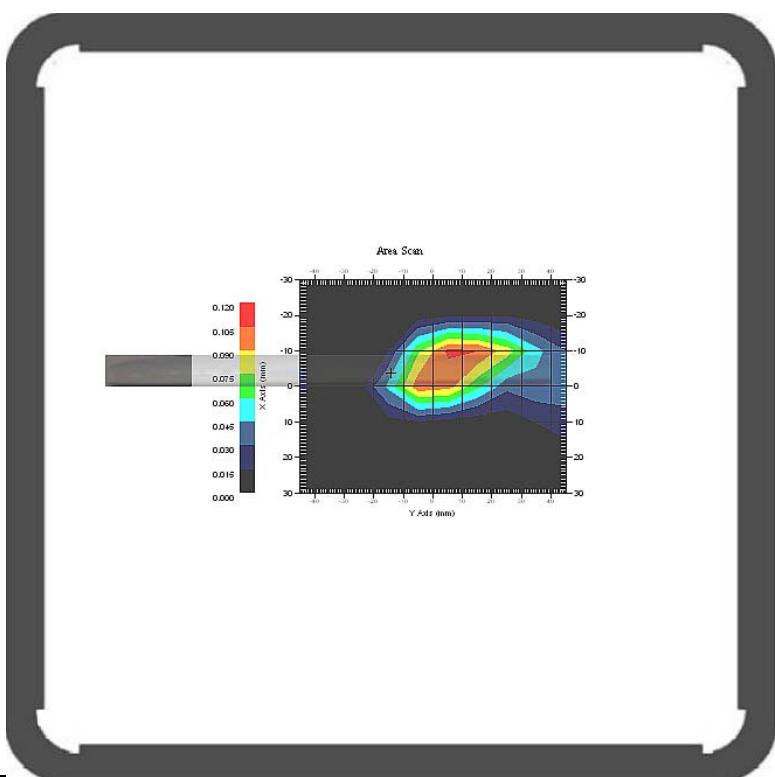
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.087 W/kg  
10 gram SAR value : 0.060 W/kg  
Area Scan Peak SAR : 0.107 W/kg  
Zoom Scan Peak SAR : 0.250 W/kg

**Plot 21#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****Body-Bottom (Low Channel)****Measurement Data**

Test mode : WCDMA 1900  
Crest Factor : 1  
Scan Type : Complete  
Area Scan : 9x12x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.042 W/kg  
Power Drift-Finish : 0.042 W/kg  
Power Drift (%) : -3.717

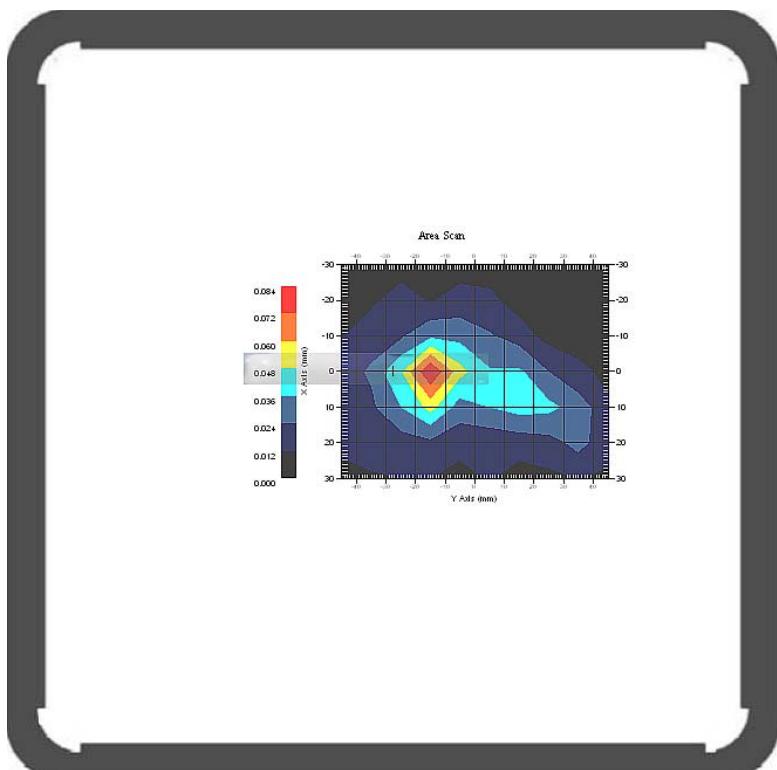
**Tissue Data**

Type : BODY  
Frequency : 1900.00 MHz  
Epsilon : 56.50 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 1900.00 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.046 W/kg  
10 gram SAR value : 0.025 W/kg  
Area Scan Peak SAR : 0.083 W/kg  
Zoom Scan Peak SAR : 0.120 W/kg

**Plot 22#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****802.11b; Body-Front (2450 MHz Channel 6)****Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Area Scan : 16x10x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.052 W/kg  
Power Drift-Finish : 0.051 W/kg  
Power Drift (%) : -2.014

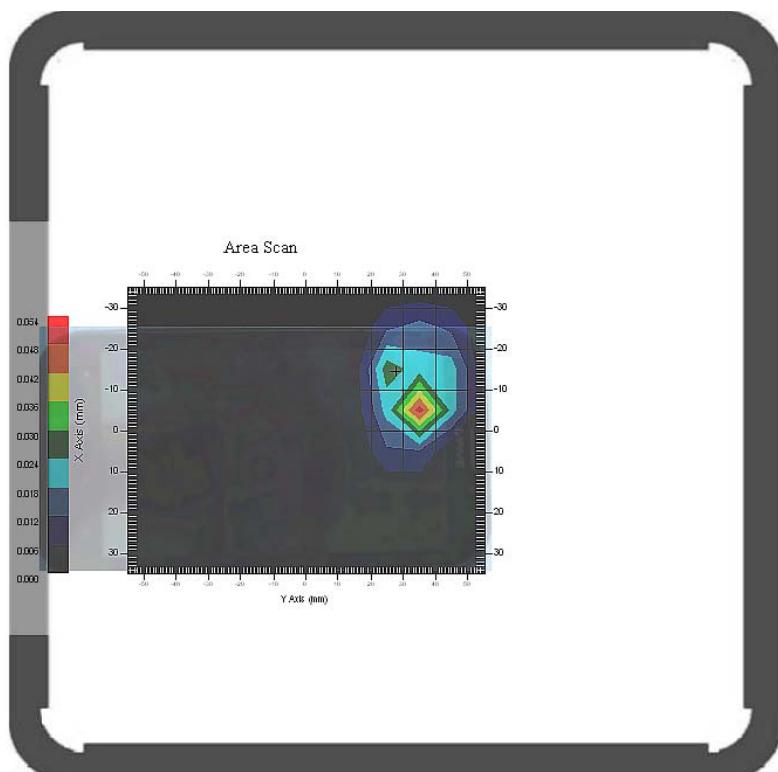
**Tissue Data**

Type : BODY  
Frequency : 2450 MHz  
Epsilon : 53.13 F/m  
Sigma : 1.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 2450 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.048 W/kg  
10 gram SAR value : 0.022 W/kg  
Area Scan Peak SAR : 0.051 W/kg  
Zoom Scan Peak SAR : 0.105 W/kg

**Plot 23#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****802.11b; Body-Back (2450 MHz Channel 6)****Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Area Scan : 10x6x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.005 W/kg  
Power Drift-Finish : 0.005 W/kg  
Power Drift (%) : -0.773

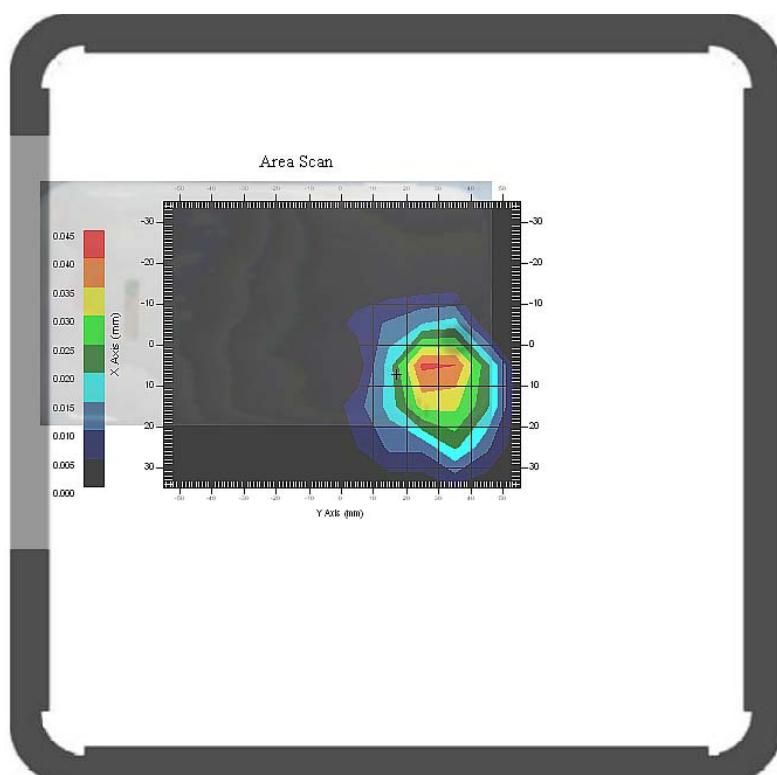
**Tissue Data**

Type : BODY  
Frequency : 2450 MHz  
Epsilon : 53.13 F/m  
Sigma : 1.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 2450 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.038 W/kg  
10 gram SAR value : 0.020 W/kg  
Area Scan Peak SAR : 0.042 W/kg  
Zoom Scan Peak SAR : 0.076 W/kg

**Plot 24#**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****802.11b; Body-Left (2450 MHz Channel 6)****Measurement Data**

Crest Factor : 1  
Scan Type : Complete  
Area Scan : 16x6x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.017 W/kg  
Power Drift-Finish : 0.018 W/kg  
Power Drift (%) : 2.940

**Tissue Data**

Type : BODY  
Frequency : 2450 MHz  
Epsilon : 53.13 F/m  
Sigma : 1.98 S/m  
Density : 1000.00 kg/cu. m

**Probe Data**

Serial No. : 500-00283  
Frequency : 2450 MHz  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20  $\mu$ V/(V/m)2  
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.029 W/kg  
10 gram SAR value : 0.011 W/kg  
Area Scan Peak SAR : 0.034 W/kg  
Zoom Scan Peak SAR : 0.057 W/kg

**Plot 25#**