

## SAR EVALUATION REPORT

For

### **Nexpro International Limitada**

San Jose-Goicoechea, Guadalupe, Barrio Tournon, Frente Al Hotel Villas Tournon,  
Oficinas Del Bufete Facio Y Canas, Costa Rica

**FCC ID: ZYPS9081**

<b>Report Type:</b> Original Report	<b>Product Type:</b> Smartphone
<b>Test Engineer:</b> Sandy Wang	<i>Sandy Wang</i>
<b>Report Number:</b> R1DG130121001-20	
<b>Report Date:</b> 2013-02-19	
<b>Reviewed By:</b> Alvin Huang RF Leader	<i>Alvin Huang</i>
<b>Test Laboratory:</b>	Bay Area Compliance Laboratories Corp. (Shenzhen) 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China Tel: +86-755-33320018 Fax: +86-755-33320008 <a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a>

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\* This report may contain data that are not covered by the NVLAP accreditation and shall be marked with an asterisk "★"

Attestation of Test Results		
<b>EUT Information</b>	<b>Company Name</b>	Nexpro International Limitada
	<b>EUT Description</b>	Smartphone
	<b>FCC ID</b>	ZYPS9081
	<b>Model Number</b>	Neat
	<b>Test Date</b>	2013-01-25 to 2013-01-27
<b>Frequency</b>	<b>Max. SAR Level(s) Measured</b>	<b>Limit(W/Kg)</b>
<b>Cellular Band</b>	0.155 W/kg 1g Head SAR 0.554 W/kg 1g Body SAR	<b>1.6</b>
<b>PCS Band</b>	0.058 W/kg 1g Head SAR 0.720 W/kg 1g Body SAR	
<b>WCDMA850</b>	0.209 W/kg 1g Head SAR 0.218 W/kg 1g Body SAR	
<b>WCDMA1900</b>	0.379 W/kg 1g Head SAR 0.671W/kg 1g Body SAR	
<b>WiFi(802.11b)</b>	0.014 W/kg 1g Head SAR 0.011 W/kg 1g Body SAR	
<b>Simultaneous SAR</b>	0.729 W/kg 1g Body SAR	
<b>Applicable Standards</b>	<b>ANSI / IEEE C95.1 : 2005</b> IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields,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	
<p><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.</p> <p><b>The results and statements contained in this report pertain only to the device(s) evaluated.</b></p>		

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**DOCUMENT REVISION HISTORY**

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<b>Revision Number</b>	<b>Report Number</b>	<b>Description of Revision</b>	<b>Date of Revision</b>
0	RIDG130121001-20	Original Report	2013-02-19

## EUT DESCRIPTION

This report has been prepared on behalf of Nexpro International Limitada and their product, FCC ID: ZYPS9081, Model: Neat or the EUT (Equipment under Test) as referred to in the rest of this report. The EUT is a Smartphone.

### 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>	Class12
<b>Operation Mode :</b>	GSM Voice, GPRS Data, EGPRS, 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: 824-849MHz(TX); 869-894MHz(RX) WCDMA1900: 1850-1910MHz(TX); 1930-1990MHz(RX) WiFi(802.11b/g) : 2412MHz-2462MHz Bluetooth : 2400MHz-2483.5MHz
<b>Conducted RF Power:</b>	Cellular Band : 32.31 dBm PCS Band : 29.30 dBm WCDMA850:22.69 dBm WCDMA1900:22.61 dBm WiFi(802.11b/g) :15.10 dBm Bluetooth: 8.25 dBm
<b>Dimensions (L*W*H):</b>	147.0mm (L)× 77.0mm (W)× 10.0mm (H)
<b>Weight:</b>	168.6g
<b>Power Source:</b>	3.7 VDC Rechargeable Battery
<b>Normal Operation:</b>	Head and Body-worn

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## 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.

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## FACILITIES AND ACCREDITATION

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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<sup>3</sup> in the X & Y axis, and 35mm in the Z axis.



### ALSAS-10U Interpolation and Extrapolation Uncertainty

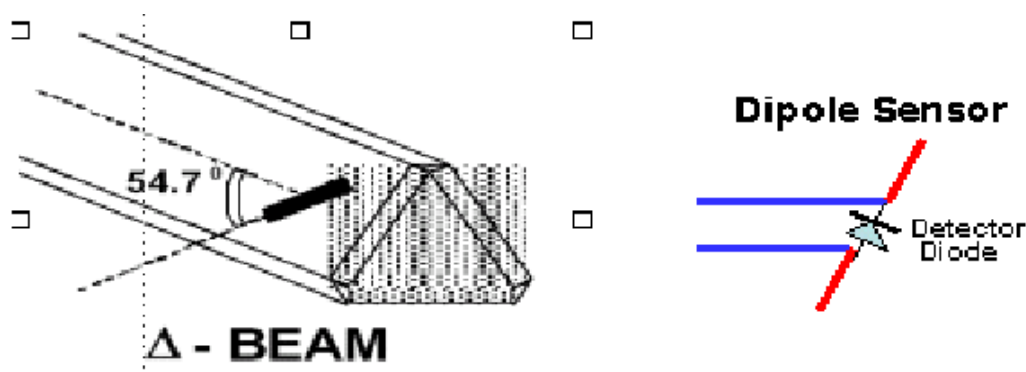
The overall uncertainty for the methodology and algorithms the used during the SAR calculation was evaluated using the data from IEEE 1528 based on the example f3 algorithm:

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

### 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 of aid 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.

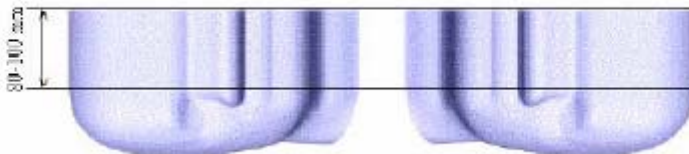


**Phantom Types**

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

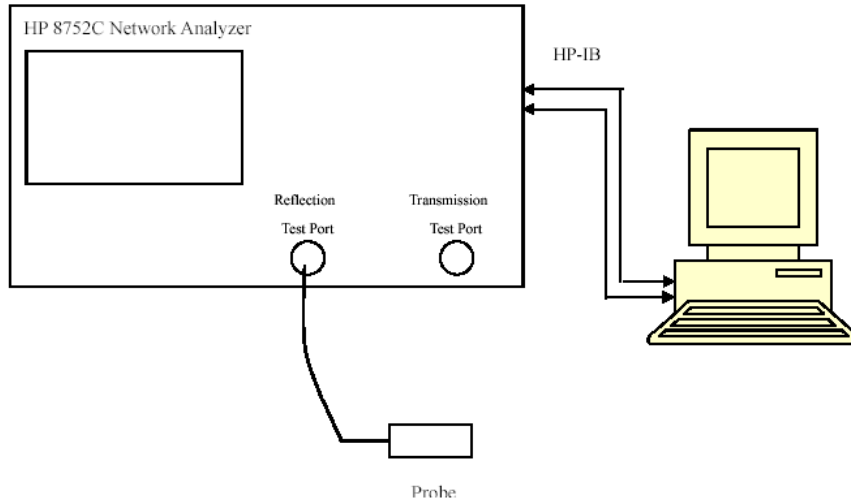
### Equipments List & Calibration Information

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	2012-08-09	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 Head	ALS-TS-2450-H	Each Time	290-01108
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	2012-05-28	1100.0008.02
EMI Test Receiver	ESCI	2012-08-08	101122



# SAR MEASUREMENT SYSTEM VERIFICATION

## Liquid Verification



Liquid Verification Setup Block Diagram

**Liquid Verification Results**

Frequency	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		$\epsilon_r$	$\sigma$ (S/m)	$\epsilon_r$	$\sigma$ (S/m)	$\Delta\epsilon_r$	$\Delta\sigma$ (S/m)	
824.2	Head	41.11	0.92	41.50	0.90	-0.949	2.174	±5
	Body	55.56	0.96	55.20	0.97	0.648	-1.042	±5
826.4	Head	41.21	0.92	41.50	0.90	-0.704	2.174	±5
	Body	55.69	0.97	55.20	0.97	0.880	0.000	±5
836.6	Head	41.35	0.93	41.50	0.90	-0.363	3.226	±5
	Body	55.81	0.98	55.20	0.97	1.093	1.020	±5
846.6	Head	41.46	0.94	41.50	0.90	-0.096	4.255	±5
	Body	55.90	0.98	55.20	0.97	1.252	1.020	±5
848.8	Head	41.66	0.95	41.50	0.90	0.384	5.263	±5
	Body	55.98	0.99	55.20	0.97	1.393	2.020	±5
1850.2	Head	40.13	1.38	40.00	1.40	0.324	-1.449	±5
	Body	53.66	1.49	53.30	1.52	0.671	-2.013	±5
1852.4	Head	40.28	1.39	40.00	1.40	0.695	-0.719	±5
	Body	53.69	1.49	53.30	1.52	0.726	-2.013	±5
1880.0	Head	40.40	1.41	40.00	1.40	0.990	0.709	±5
	Body	53.78	1.51	53.30	1.52	0.893	-0.662	±5
1907.6	Head	40.46	1.43	40.00	1.40	1.137	2.098	±5
	Body	53.89	1.53	53.30	1.52	1.095	0.654	±5
1909.8	Head	40.51	1.43	40.00	1.40	1.259	2.098	±5
	Body	53.93	1.53	53.30	1.52	1.168	0.654	±5
2412.0	Head	40.22	1.81	39.20	1.80	2.122	0.552	±5
	Body	53.25	1.93	52.70	1.95	0.977	-1.036	±5
2437.0	Head	40.28	1.82	39.20	1.80	2.390	1.099	±5
	Body	53.39	1.95	52.70	1.95	1.292	0.000	±5
2462.0	Head	40.39	1.83	39.20	1.80	2.681	1.639	±5
	Body	53.50	1.96	52.70	1.95	1.495	0.510	±5

\*Liquid Verification was performed on 2013-01-25

Please refer to the following tables.

850 MHz Head				850 MHz Body		
Frequency (MHz)	e'	e''		Frequency (MHz)	e'	e''
824.0	41.110362	20.074648		824.0	55.563656	20.943656
824.5	41.116515	20.055202		824.5	55.588222	20.968216
825.0	41.151156	20.025756		825.0	55.601156	20.990734
825.5	41.186512	20.056314		825.5	55.654151	21.053168
826.0	41.195123	20.026123		826.0	55.667021	21.088232
826.5	41.212356	20.027145		826.5	55.690322	21.111961
827.0	41.229118	20.057256		827.0	55.694114	21.125236
827.5	41.236035	20.028258		827.5	55.700212	21.120269
828.0	41.258565	20.039236		828.0	55.716203	21.115302
828.5	41.266285	20.049322		828.5	55.759512	21.110335
829.0	41.226325	20.060369		829.0	55.722365	21.105368
829.5	41.252812	20.060256		829.5	55.751485	21.120401
830.0	41.281041	20.051522		830.0	55.761523	21.135434
830.5	41.228202	20.022581		830.5	55.776986	21.120467
831.0	41.211205	20.012655		831.0	55.789215	21.105500
831.5	41.260701	20.012959		831.5	55.742142	21.090533
832.0	41.212552	20.003363		832.0	55.711203	21.085566
832.5	41.257406	20.004987		832.5	55.721252	21.080599
833.0	41.237905	19.994485		833.0	55.750236	21.075632
833.5	41.219304	19.995589		833.5	55.780365	21.090665
834.0	41.206705	19.995522		834.0	55.791258	21.085698
834.5	41.255306	19.986156		834.5	55.799856	21.080731
835.0	41.280044	19.976526		835.0	55.809622	21.075764
835.5	41.291105	19.967258		835.5	55.811547	21.075236
836.0	41.324712	19.958632		836.0	55.821258	21.080269
836.5	41.353965	19.999523		836.5	55.810236	21.068358
837.0	41.366622	19.960262		837.0	55.810059	21.035441
837.5	41.360829	19.971369		837.5	55.829652	21.071707
838.0	41.354002	19.981852		838.0	55.821236	21.095599
838.5	41.312532	19.952854		838.5	55.821589	21.071194
839.0	41.322463	19.963515		839.0	55.812541	21.093206
839.5	41.354933	19.984255		839.5	55.810236	21.028164
840.0	41.306100	19.995256		840.0	55.830147	21.095307
840.5	41.355362	19.956255		840.5	55.850258	21.040671
841.0	41.358634	19.937101		841.0	55.852582	21.095799
841.5	41.398076	19.927956		841.5	55.860369	21.032536
842.0	41.389778	19.958811		842.0	55.889545	21.008376
842.5	41.403474	19.919666		842.5	55.856325	21.016889
843.0	41.407569	19.950488		843.0	55.892541	21.037287
843.5	41.411272	19.951339		843.5	55.851258	21.092798
844.0	41.427524	19.912195		844.0	55.867456	21.010456
844.5	41.411815	19.923049		844.5	55.833965	21.036363
845.0	41.467833	19.933908		845.0	55.883652	21.045781
845.5	41.453135	19.964763		845.5	55.899658	20.992167
846.0	41.427718	19.952631		846.0	55.913253	20.905168
846.5	41.463220	19.966120		846.5	55.902563	20.826572
847.0	41.458926	19.987025		847.0	55.922585	20.875431
847.5	41.492112	19.998023		847.5	55.951452	20.895732
848.0	41.555712	20.029102		848.0	55.930323	20.955889
848.5	41.611164	20.088262		848.5	55.963210	20.933973
849.0	41.661428	20.123400		849.0	55.983695	20.974155

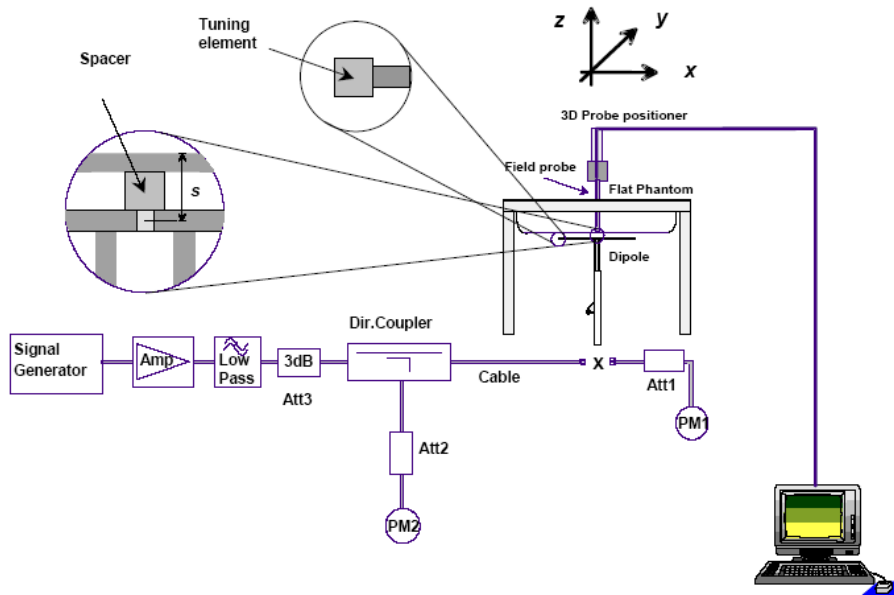
1900 MHz Head				1900 MHz Body		
Frequency (MHz)	e'	e''		Frequency (MHz)	e'	e''
1850.0	40.137745	13.417621		1850.0	53.662820	14.481524
1851.2	40.229968	13.457658		1851.2	53.671245	14.473558
1852.4	40.280228	13.495225		1852.4	53.690593	14.465592
1853.6	40.250472	13.497557		1853.6	53.717276	14.457626
1854.8	40.260164	13.505689		1854.8	53.720813	14.459660
1856.0	40.259642	13.513821		1856.0	53.753632	14.461694
1857.2	40.232144	13.521953		1857.2	53.766630	14.463728
1858.4	40.254652	13.539998		1858.4	53.798118	14.465762
1859.6	40.267134	13.558043		1859.6	53.779587	14.467796
1860.8	40.281962	13.476088		1860.8	53.775184	14.469830
1862.0	40.322212	13.494133		1862.0	53.753551	14.471864
1863.2	40.352463	13.512178		1863.2	53.749232	14.473898
1864.4	40.362685	13.530223		1864.4	53.784585	14.475932
1865.6	40.352955	13.508268		1865.6	53.790262	14.477966
1866.8	40.343202	13.466313		1866.8	53.765570	14.480000
1868.0	40.333501	13.484358		1868.0	53.734210	14.482034
1869.2	40.353705	13.502403		1869.2	53.743370	14.454068
1870.4	40.363955	13.537923		1870.4	53.756672	14.466102
1871.6	40.384206	13.525137		1871.6	53.798955	14.468136
1872.8	40.394535	13.512351		1872.8	53.737698	14.460170
1874.0	40.387026	13.499565		1874.0	53.763354	14.452204
1875.2	40.369528	18.490546		1875.2	53.727214	14.424238
1876.4	40.382118	18.480511		1876.4	53.730034	14.436272
1877.6	40.394529	18.480476		1877.6	53.732011	14.438306
1878.8	40.396995	18.480441		1878.8	53.706020	14.420340
1880.0	40.402942	13.481159		1880.0	53.781514	14.442374
1881.2	40.416121	13.496550		1881.2	53.805714	14.445222
1882.4	40.426444	13.508586		1882.4	53.791316	14.462639
1883.6	40.386655	13.500622		1883.6	53.762847	14.460056
1884.8	40.396142	13.522658		1884.8	53.756704	14.457473
1886.0	40.377590	13.554694		1886.0	53.762915	14.454890
1887.2	40.387545	13.536730		1887.2	53.805692	14.452307
1888.4	40.367699	13.568766		1888.4	53.796967	14.449724
1889.6	40.387346	13.520802		1889.6	53.802658	14.447141
1890.8	40.398292	13.512838		1890.8	53.768333	14.444558
1892.0	40.388444	13.504874		1892.0	53.756597	14.441975
1893.2	40.368281	13.566910		1893.2	53.789249	14.439392
1894.4	40.358042	13.558946		1894.4	53.801587	14.436809
1895.6	40.369585	13.520982		1895.6	53.854835	14.434226
1896.8	40.389838	13.533018		1896.8	53.864736	14.431643
1898.0	40.399984	13.545054		1898.0	53.884466	14.429060
1899.2	40.409631	13.517090		1899.2	53.851167	14.426477
1900.4	40.420382	13.519126		1900.4	53.860683	14.423894
1901.6	40.420130	13.521162		1901.6	53.896166	14.421311
1902.8	40.430502	13.523198		1902.8	53.853257	14.418728
1904.0	40.450633	13.496550		1904.0	53.886968	14.416145
1905.2	40.461386	13.488586		1905.2	53.895725	14.413562
1906.4	40.451046	13.490622		1906.4	53.882637	14.410979
1907.6	40.459871	13.483919		1907.6	53.891317	14.425396
1908.8	40.481420	13.479072		1908.8	53.925597	14.365222
1910.0	40.511174	13.467225		1910.0	53.931124	14.402639

2450 MHz Head			2450 MHz Body		
Frequency (MHz)	e'	e''	Frequency (MHz)	e'	e''
2410	40.222365	13.496654	2410	53.220222	14.396699
2411	40.226362	13.494457	2411	53.231132	14.403696
2412	40.224025	13.492260	2412	53.252132	14.408698
2413	40.222525	13.490063	2413	53.263036	14.413695
2414	40.223845	13.487866	2414	53.254085	14.418698
2415	40.224896	13.485669	2415	53.255089	14.423703
2416	40.225563	13.483472	2416	53.266225	14.428698
2417	40.226252	13.481275	2417	53.281523	14.433698
2418	40.227145	13.479078	2418	53.301345	14.438697
2419	40.231101	13.476881	2419	53.329001	14.443695
2420	40.235236	13.474684	2420	53.300052	14.408702
2421	40.239852	13.472487	2421	53.311048	14.373698
2422	40.243002	13.470290	2422	53.284047	14.380701
2423	40.247005	13.468093	2423	53.296954	14.387698
2424	40.251225	13.465896	2424	53.259965	14.394697
2425	40.255235	13.463699	2425	53.262936	14.401698
2426	40.259015	13.461502	2426	53.335996	14.408697
2427	40.263458	13.459305	2427	53.328995	14.415696
2428	40.267965	13.457108	2428	53.351985	14.422703
2429	40.271025	13.454911	2429	53.364952	14.429698
2430	40.272072	13.452714	2430	53.377952	14.436695
2431	40.273125	13.450517	2431	53.350953	14.443695
2432	40.274145	13.448320	2432	53.363996	14.400697
2433	40.275147	13.446123	2433	53.386984	14.397702
2434	40.276787	13.443926	2434	53.399910	14.384697
2435	40.277095	13.441729	2435	53.392902	14.371697
2436	40.280969	13.439532	2436	53.405813	14.378702
2437	40.283636	13.432654	2437	53.393836	14.389701
2438	40.286553	13.432941	2438	53.401885	14.392701
2439	40.281451	13.430744	2439	53.424842	14.399697
2440	40.292237	13.428547	2440	53.437815	14.406696
2441	40.295694	13.426350	2441	53.450818	14.413695
2442	40.301109	13.424153	2442	53.463819	14.417694
2443	40.305014	13.421956	2443	53.456816	14.421697
2444	40.310039	13.419759	2444	53.469813	14.425724
2445	40.319634	13.417562	2445	53.452817	14.409699
2446	40.325219	13.415365	2446	53.485832	14.363698
2447	40.324584	13.413168	2447	53.488836	14.367696
2448	40.331119	13.410971	2448	53.421896	14.351696
2449	40.332364	13.408774	2449	53.454796	14.345697
2450	40.342549	13.406577	2450	53.462732	14.349696
2451	40.340014	13.404380	2451	53.430720	14.353695
2452	40.344529	13.402183	2452	53.463705	14.357696
2453	40.350214	13.399986	2453	53.456708	14.361701
2454	40.351251	13.397789	2454	53.489725	14.365696
2455	40.361476	13.395592	2455	53.492715	14.339696
2456	40.366862	13.393395	2456	53.505716	14.323703
2457	40.375288	13.391198	2457	53.518755	14.327696
2458	40.374974	13.389001	2458	53.521756	14.331701
2459	40.376270	13.386804	2459	53.514785	14.315696
2460	40.382256	13.374607	2460	53.507795	14.319699
2461	40.382212	13.372410	2461	53.520665	14.313694
2462	40.387316	13.360213	2462	53.500865	14.311634

### 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



### Probe and dipole antenna List and Detail

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
APREL	Probe	ALS-E-020	500-00283	2012-08-09	2013-08-08
APREL	Dipole antenna(835MHz)	ALS-D-835-S-2	180-00558	2011-08-25	2014-08-24
APREL	Dipole antenna(1900MHz)	ALS-D-1900-S-2	210-00710	2011-08-25	2014-08-24
APREL	Dipole antenna(2450MHz)	ALS-D-2450-S-2	220-00758	2011-08-25	2014-08-24

### System Accuracy Check Results

Date	Frequency Band	Liquid Type	Measured SAR (W/Kg)	Target Value (W/Kg)	Delta (%)	Tolerance (%)	
2013-01-25	835	Head	1g	9.126	9.590	-5.084	$\pm 10$
		Body	1g	10.059	9.684	3.728	$\pm 10$
	1900	Head	1g	41.335	39.648	4.081	$\pm 10$
		Body	1g	40.236	39.769	1.161	$\pm 10$
	2450	Head	1g	53.965	52.667	2.405	$\pm 10$
		Body	1g	49.306	52.561	-6.602	$\pm 10$

\*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 835 MHz 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 Band : 835  
 Max. Transmit Pwr : 1 W  
 Drift Time : 3 min(s)  
 Power Drift-Start : 10.532 W/kg  
 Power Drift-Finish : 10.332W/kg  
 Power Drift (%) : -1.056

## 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 : 835.0 MHz  
 Last Calib. Date : 25-Jan-2013  
 Temperature : 20.00 °C  
 Ambient Temp. : 21.00 °C  
 Humidity : 56.00 RH%  
 Epsilon : 41.28 F/m  
 Sigma : 0.93 S/m  
 Density : 1000.00 kg/cu. m

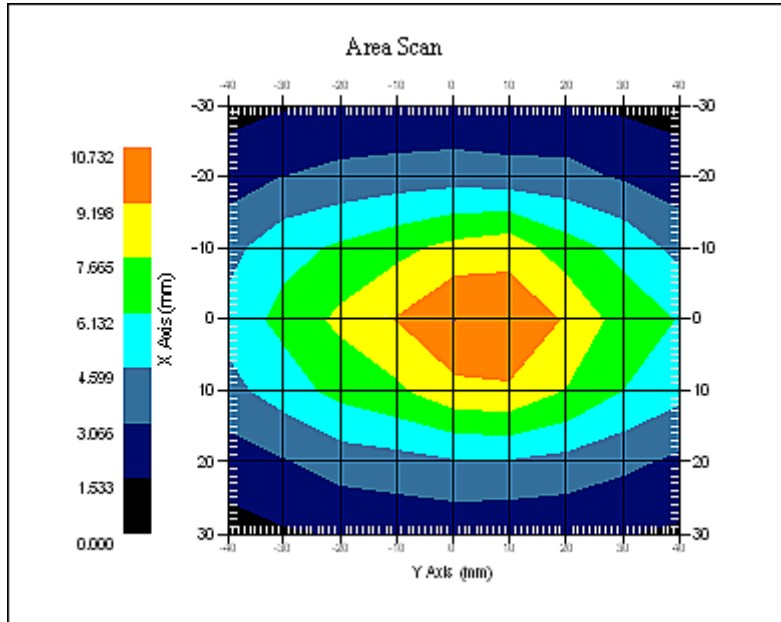
## Probe Data

Name : E-Field  
 Model : E-020  
 Type : E-Field Triangle  
 Serial No. : 500-00283  
 Last Calib. Date : 09-Aug-2012  
 Frequency Band : 835  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 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 : 9.126 W/kg  
10 gram SAR value : 5.356 W/kg  
Area Scan Peak SAR : 10.661 W/kg  
Zoom Scan Peak SAR : 16.565 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 Band : 835  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 10.502 W/kg  
Power Drift-Finish : 10.321 W/kg  
Power Drift (%) : -1.023

## 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 : 835.0 MHz  
Last Calib. Date : 25-Jan-2013  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 55.81 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

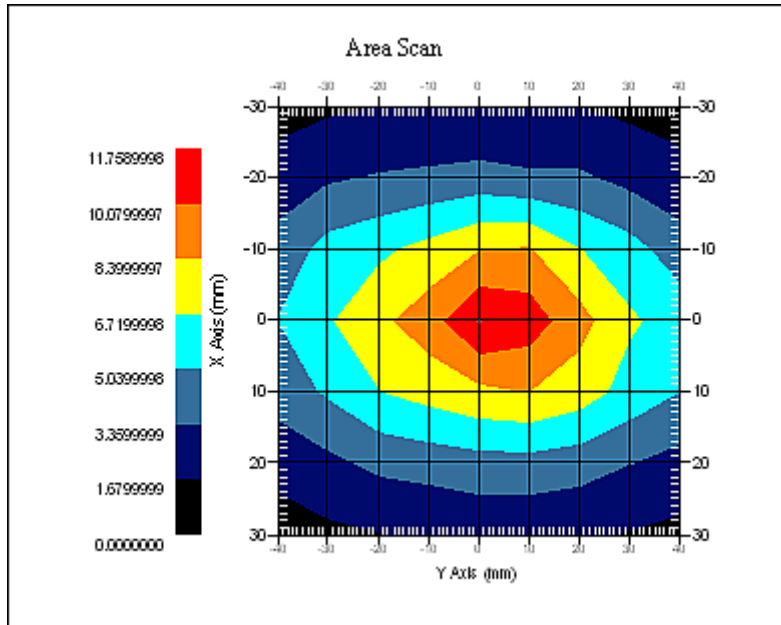
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 09-Aug-2012  
Frequency Band : 835  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
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 : 10.059 W/kg  
10 gram SAR value : 6.155 W/kg  
Area Scan Peak SAR : 11.356 W/kg  
Zoom Scan Peak SAR : 17.560 W/kg



**835 MHz System Validation with Body Tissue**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 1900 MHz 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 Band : 1900  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 41.103 W/kg  
Power Drift-Finish : 40.552 W/kg  
Power Drift (%) : -1.896

## 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 : 25-Jan-2013  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 40.40 F/m  
Sigma : 1.41 S/m  
Density : 1000.00 kg/cu. M

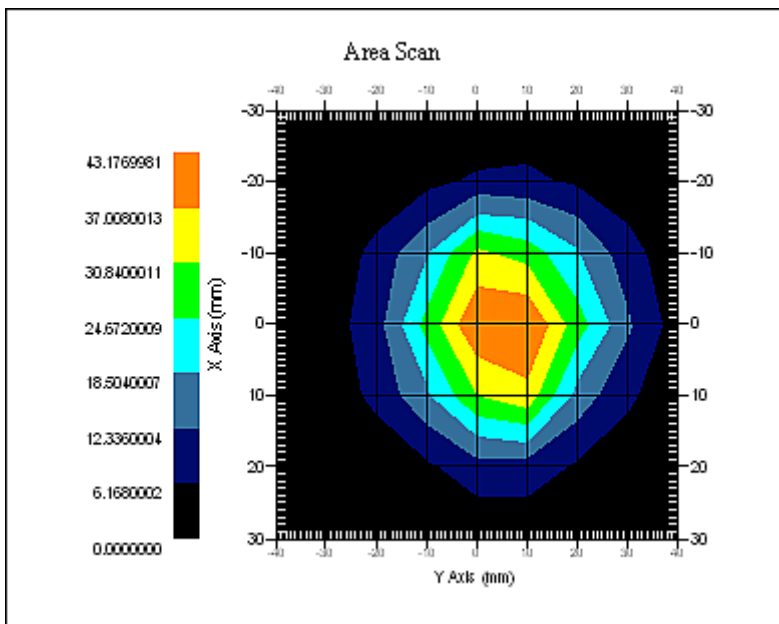
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 09-Aug-2012  
Frequency Band : 1900  
Duty Cycle Factor : 1  
Conversion Factor : 5.20  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
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 : 41.335 W/kg  
10 gram SAR value : 22.025 W/kg  
Area Scan Peak SAR : 43.178 W/kg  
Zoom Scan Peak SAR : 86.598 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 Band : 1900  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 40.336 W/kg  
Power Drift-Finish : 41.275 W/kg  
Power Drift (%) : 1.369

## 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 : 25-Jan-2013  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 56.00 RH%  
Epsilon : 53.78 F/m  
Sigma : 1.51 S/m  
Density : 1000.00 kg/cu. m

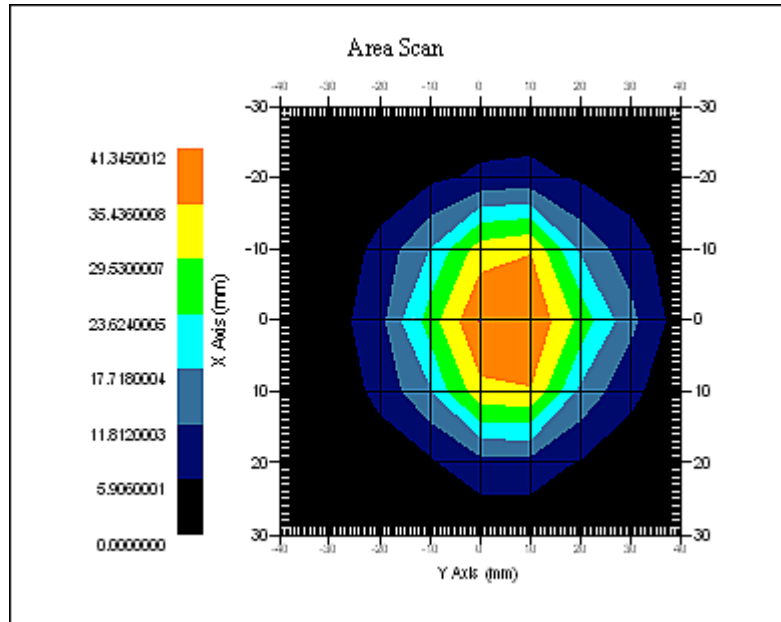
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 09-Aug-2012  
Frequency Band : 1900  
Duty Cycle Factor : 1  
Conversion Factor : 5.0  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point : 95.00 mV  
Offset : 1.56 mm

## Measurement Data

Crest Factor : 1  
Scan Type : Complete  
Tissue Temp. : 20.00 °C  
Ambient Temp. : 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 : 40.236 W/kg  
10 gram SAR value : 21.562 W/kg  
Area Scan Peak SAR : 41.338 W/kg  
Zoom Scan Peak SAR : 92.951 W/kg



**1900 MHz System Validation with Body Tissue**

**Test Laboratory: Bay Area Compliance Lab Corp. (Shenzhen)****System Performance Check 2450 MHz Head 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 Band : 2450  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 51.006 W/kg  
Power Drift-Finish : 50.256 W/kg  
Power Drift (%) : -1.756

## 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. : 290-01109  
Frequency : 2450.00 MHz  
Last Calib. Date : 25-Jan-2013  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 50.00 RH%  
Epsilon : 40.16 F/m  
Sigma : 1.82 S/m  
Density : 1000.00 kg/cu. M

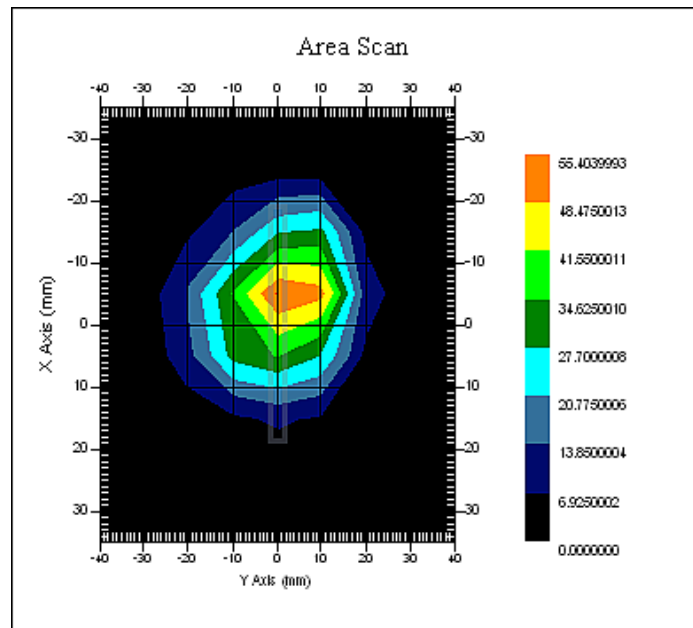
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 09-Aug-2012  
Frequency Band : 2450  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
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 : 8x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 53.965 W/kg  
10 gram SAR value : 25.352 W/kg  
Area Scan Peak SAR : 54.669 W/kg  
Zoom Scan Peak SAR : 99.152 W/kg



**2450 MHz System Validation with Head 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 Band : 2450  
Max. Transmit Pwr : 1 W  
Drift Time : 3 min(s)  
Power Drift-Start : 50.358 W/kg  
Power Drift-Finish : 49.156 W/kg  
Power Drift (%) : -2.532

## 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 : 2450.00 MHz  
Last Calib. Date : 25-Jan-2013  
Temperature : 20.00 °C  
Ambient Temp. : 21.00 °C  
Humidity : 50.00 RH%  
Epsilon : 53.39 F/m  
Sigma : 1.95 S/m  
Density : 1000.00 kg/cu. M

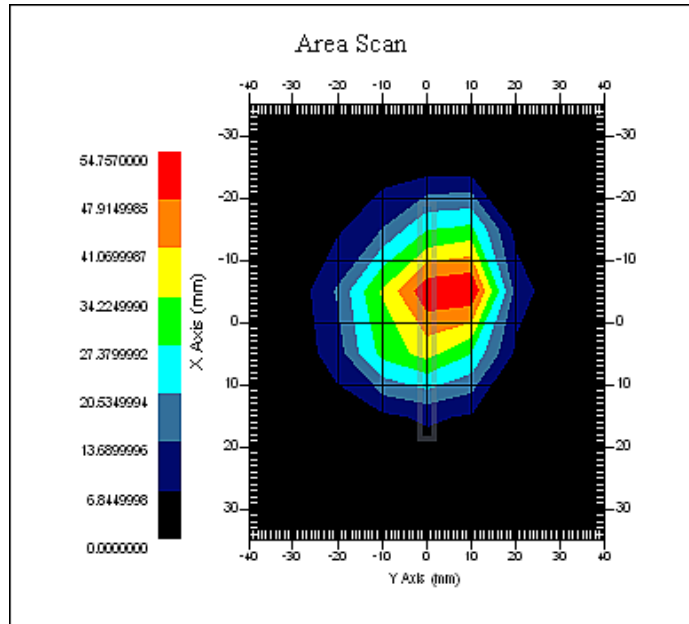
## Probe Data

Name : E-Field  
Model : E-020  
Type : E-Field Triangle  
Serial No. : 500-00283  
Last Calib. Date : 09-Aug-2012  
Frequency Band : 2450  
Duty Cycle Factor : 1  
Conversion Factor : 4.3  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
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 : 8x9x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm

1 gram SAR value : 49.306 W/kg  
10 gram SAR value : 24.556 W/kg  
Area Scan Peak SAR : 54.951 W/kg  
Zoom Scan Peak SAR : 100.564 W/kg



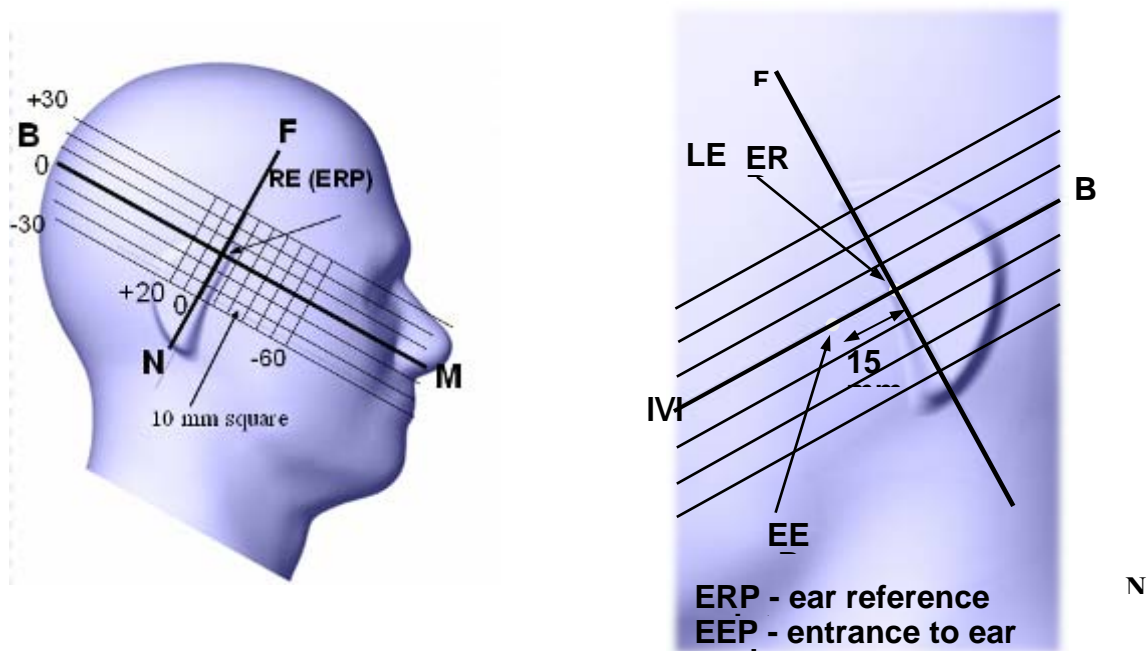
**2450 MHz System Validation with Body Tissue**

## 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 ¼ 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

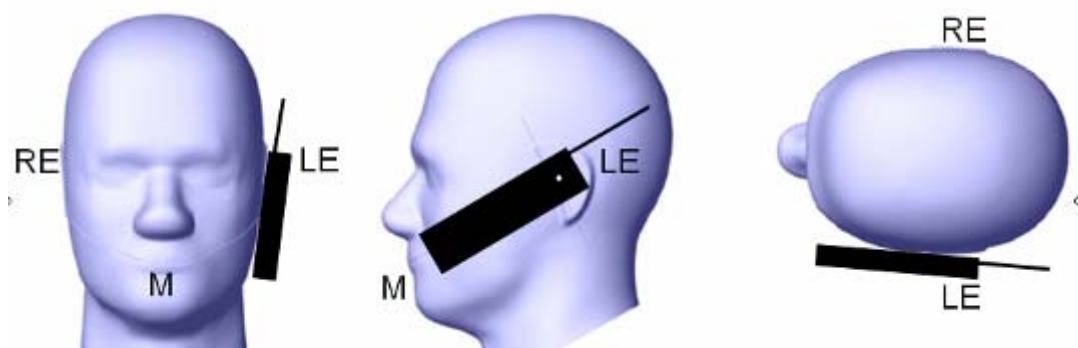
The device is brought toward the mouth of the head phantom by pivoting against the “ear reference point” or along the “N-F” line for the SCC-34/SC-2 head phantom.

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

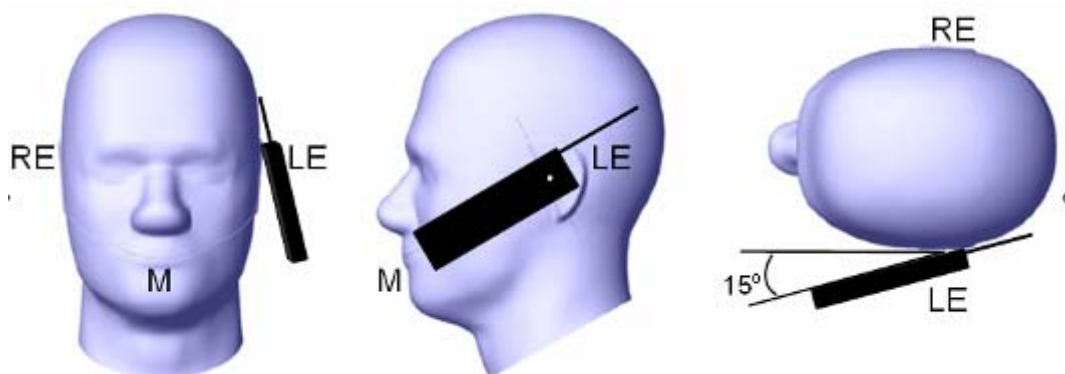
With the handset aligned in the “Cheek/Touch Position”:

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 80°. 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, Tile/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.

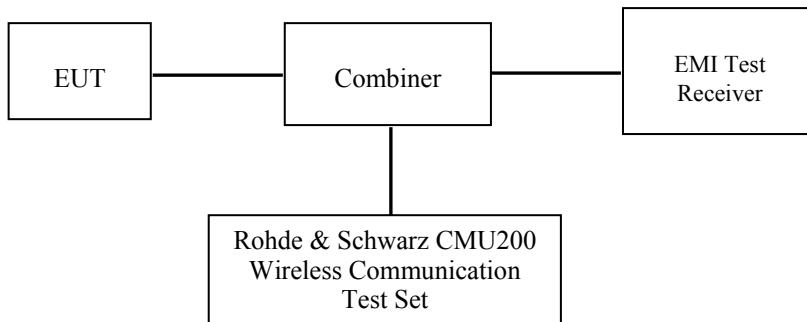
## CONDUCTED OUTPUT POWER MEASUREMENT

### Provision Applicable

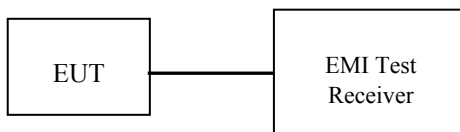
The measured peak output power should be greater and within 5% than EMI measurement.

### Test Procedure

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



### GSM/3G



### WiFi

### Test Results:

#### GSM

Band	Frequency (MHz)	Conducted Output Power	
		GSM (dBm)	GSM (W)
Cellular	824.2	32.31	1.702
	836.6	32.31	1.702
	848.8	32.31	1.702
PCS	1850.2	29.30	0.851
	1880.0	29.06	0.805
	1909.8	28.82	0.762

**GPRS**

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
Cellular	128	824.2	32.29	31.47	29.91	29.11
	190	836.6	32.27	31.50	29.92	29.13
	251	848.8	32.27	31.42	29.88	29.11
PCS	512	1850.2	29.30	28.52	26.99	26.19
	661	1880.0	29.05	28.25	26.64	25.90
	810	1909.8	28.81	28.00	26.38	25.63

**EGPRS**

Mode	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
Cellular	128	824.2	26.82	25.41	22.99	21.79
	190	836.6	26.60	25.20	22.78	21.63
	251	848.8	26.36	24.98	22.61	21.37
PCS	512	1850.2	25.79	24.58	22.57	21.50
	661	1880.0	25.50	24.32	22.24	21.12
	810	1909.8	25.06	23.84	21.73	20.62

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

#### GPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slot	3 slots	4 slots
Cellular	128	824.2	23.29	25.47	25.66	26.11
	190	836.6	23.27	25.50	25.67	26.13
	251	848.8	23.27	25.42	25.63	26.11
PCS	512	1850.2	20.30	22.52	22.74	23.19
	661	1880.0	20.05	22.25	22.39	22.90
	810	1909.8	19.81	22.00	22.13	22.63

#### EGPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
Cellular	128	824.2	17.82	19.41	18.74	18.79
	190	836.6	17.60	19.20	18.53	18.63
	251	848.8	17.36	18.98	18.36	18.37
PCS	512	1850.2	16.79	18.58	18.32	18.50
	661	1880.0	16.50	18.32	17.99	18.12
	810	1909.8	16.06	17.84	17.48	17.62

#### 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, 2, 3 and 4 timeslots has been activated separately with power level 5(850 MHz band) and 0(1900 MHz band).
4. For EGPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 8(850 MHz band) and 2(1900 MHz band).
5. The maximum average output power of the GPRS mode is more than 2 dB higher than EGPRS mode measured in the same frequency band, according to IEEE1528, only GPRS mode SAR is required.

**WCDMA-Release 99:**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

<b>WCDMA General Settings</b>	<b>Loopback Mode</b>	Test Mode 1
	<b>Rel99 RMC</b>	12.2kbps RMC
	<b>Power Control Algorithm</b>	Algorithm2
	<b><math>\beta_c / \beta_d</math></b>	8/15

**Results (12.2kbps RMC)**

<b>Band</b>	<b>Frequency (MHz)</b>	<b>Channel NO.</b>	<b>Conducted Output Power</b>	
			<b>(dBm)</b>	<b>(Watt)</b>
WCDMA 850	826.4	4132	22.69	0.186
	836.6	4183	22.29	0.169
	846.6	4233	22.69	0.186
WCDMA 1900	1852.4	9262	22.46	0.176
	1880.0	9400	22.61	0.182
	1907.6	9538	22.27	0.169

**WCDMA HSDPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	$\beta_c$	2/15	12/15	15/15	15/15
	$\beta_d$	15/15	15/15	8/15	4/15
	$\beta_d$ (SF)	64			
	$\beta_c/\beta_d$	2/15	12/15	15/8	15/4
	$\beta_{hs}$	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	$D_{ACK}$	8			
	$D_{NAK}$	8			
	$D_{CQI}$	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	$A_{hs} = \beta_{hs}/\beta_c$	30/15			

**Results (HSDPA)**

Band	Frequency (MHz)	Channel NO.	Conducted Output Power			
			Subset 1	Subset 2	Subset 3	Subset 4
WCDMA 850	826.4	4132	22.48	22.47	22.33	22.43
	836.6	4 183	22.25	22.10	22.25	22.18
	846.6	4 233	22.56	22.15	22.09	22.33
WCDMA 1900	1852.4	9 262	22.29	21.98	22.31	22.18
	1880.0	9 400	22.31	22.54	22.18	22.13
	1907.6	9 538	22.18	22.10	22.16	22.10

**WCDMA HSUPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	1	2	3	4	5
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	$\beta_c$	11/15	6/15	15/15	2/15	15/15
	$\beta_d$	15/15	15/15	9/15	15/15	0
	$\beta_{ec}$	209/225	12/15	30/15	2/15	5/15
	$\beta_c/\beta_d$	11/15	6/15	15/9	2/15	-
	$\beta_{hs}$	22/15	12/15	30/15	4/15	5/15
	CM(dB)	1.0	3.0	2.0	3.0	1.0
MPR(dB)	0	2	1	2	0	
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	$A_{hs} = \beta_{hs}/\beta_c$	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCIs	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	

**Results (HSUPA)**

Band	Frequency (MHz)	Channel NO.	Conducted Output Power				
			Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
WCDMA 850	826.4	4132	22.44	22.42	22.28	22.19	22.50
	836.6	4 183	22.09	22.10	22.15	22.15	22.19
	846.6	4 233	22.45	22.49	22.29	22.31	22.43
WCDMA 1900	1852.4	9 262	22.38	22.27	22.20	22.09	22.24
	1880.0	9 400	22.39	22.51	22.48	22.42	22.33
	1907.6	9 538	22.15	22.09	22.17	22.27	22.08

**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 ¼ 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 ¼ dB higher than measured without HSUPA using 12.2kbps RMC and the maximum SAR for 12.2kbps RMC is < 75% of SAR limit..

**WiFi**

Band	Frequency (MHz)	Conducted Output Power	
		(dBm)	(Watt)
802.11b	2412	14.46	0.028
	2437	14.23	0.026
	2462	13.82	0.024
802.11g	2412	13.92	0.025
	2437	13.71	0.023
	2462	13.46	0.022
802.11n20	2412	13.88	0.024
	2437	13.63	0.023
	2462	13.37	0.022
802.11n40	2422	13.75	0.024
	2437	13.57	0.023
	2452	13.33	0.022

**Note:**

1. The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n-20 and 13.5Mbps for 802.11n-40.
2. KDB248227-SAR is not required for 802.11g/n channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

**Bluetooth**

Mode	Channel frequency (MHz)	Reading power (dBm)	Power output (mw)
BDR(GFSK)	(Low)2402	8.25	6.683
	(Middle)2441	8.17	6.561
	(High)2480	7.50	5.623
EDR(4-DQPSK)	(Low)2402	7.75	5.957
	(Middle)2441	7.65	5.821
	(High)2480	6.93	4.932
EDR-8DPSK	(Low)2402	7.76	5.970
	(Middle)2441	7.73	5.929
	(High)2480	6.95	4.955

**Note:**

According to the appendix A of FCC KDB 447498 D01 General RF Exposure Guidance v05 generic portable criteria, the exclusion thresholds for 2450 MHz is 10 mW. So SAR test is not required for Bluetooth.

## SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

### SAR Test Data

#### Environmental Conditions

<b>Temperature:</b>	21-22° C
<b>Relative Humidity:</b>	50-53%
<b>ATM Pressure:</b>	1001-1002 mbar

\* Testing was performed by Sandy Wang on 2013-01-25 to 2013-01-27

#### Cellular Band:

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Left Head Cheek	128(Low)	824.2	GSM	Integral	SAM	/	/	1.6
	190(Middle)	836.6	GSM	Integral	SAM	-2.845	0.143	1.6
	251(High)	848.8	GSM	Integral	SAM	/	/	1.6
Left Head Tilt	128(Low)	824.2	GSM	Integral	SAM	/	/	1.6
	190(Middle)	836.6	GSM	Integral	SAM	-2.241	0.081	1.6
	251(High)	848.8	GSM	Integral	SAM	/	/	1.6
Right Head Cheek	128(Low)	824.2	GSM	Integral	SAM	/	/	1.6
	190(Middle)	836.6	GSM	Integral	SAM	1.507	<b>0.155</b>	1.6
	251(High)	848.8	GSM	Integral	SAM	/	/	1.6
Right Head Tilt	128(Low)	824.2	GSM	Integral	SAM	/	/	1.6
	190(Middle)	836.6	GSM	Integral	SAM	-0.631	0.100	1.6
	251(High)	848.8	GSM	Integral	SAM	/	/	1.6
Body-Front-Headset (10mm)	128(Low)	824.2	GSM	Integral	Universal	/	/	1.6
	190(Middle)	836.6	GSM	Integral	Universal	-3.419	0.217	1.6
	251(High)	848.8	GSM	Integral	Universal	/	/	1.6
Body-Back-Headset (10mm)	128(Low)	824.2	GSM	Integral	Universal	/	/	1.6
	190(Middle)	836.6	GSM	Integral	Universal	-1.729	<b>0.251</b>	1.6
	251(High)	848.8	GSM	Integral	Universal	/	/	1.6

#### Note:

1. When the 1-g SAR is  $\leq 0.8$ W/Kg, testing for other channels are optional.

**PCS Band:**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Left Head Cheek	512(Low)	1850.2	GSM	Integral	SAM	-3.641	<b>0.058</b>	1.6
	661(Middle)	1880.0	GSM	Integral	SAM	/	/	1.6
	810(High)	1909.8	GSM	Integral	SAM	/	/	1.6
Left Head Tilt	512(Low)	1850.2	GSM	Integral	SAM	-1.719	0.014	1.6
	661(Middle)	1880.0	GSM	Integral	SAM	/	/	1.6
	810(High)	1909.8	GSM	Integral	SAM	/	/	1.6
Right Head Cheek	512(Low)	1850.2	GSM	Integral	SAM	2.922	0.055	1.6
	661(Middle)	1880.0	GSM	Integral	SAM	/	/	1.6
	810(High)	1909.8	GSM	Integral	SAM	/	/	1.6
Right Head Tilt	512(Low)	1850.2	GSM	Integral	SAM	-0.927	0.013	1.6
	661(Middle)	1880.0	GSM	Integral	SAM	/	/	1.6
	810(High)	1909.8	GSM	Integral	SAM	/	/	1.6
Body-Front-Headset (10mm)	512(Low)	1850.2	GSM	Integral	Universal	1.359	0.244	1.6
	661(Middle)	1880.0	GSM	Integral	Universal	/	/	1.6
	810(High)	1909.8	GSM	Integral	Universal	/	/	1.6
Body-Back-Headset (10mm)	512(Low)	1850.2	GSM	Integral	Universal	-1.804	<b>0.347</b>	1.6
	661(Middle)	1880.0	GSM	Integral	Universal	/	/	1.6
	810(High)	1909.8	GSM	Integral	Universal	/	/	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.



**WCDMA850**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Left Head Cheek	4132(Low)	826.4	WCDMA850	Integral	SAM	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	SAM	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	SAM	1.098	0.201	1.6
Left Head Tilt	4132(Low)	826.4	WCDMA850	Integral	SAM	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	SAM	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	SAM	-1.319	0.103	1.6
Right Head Cheek	4132(Low)	826.4	WCDMA850	Integral	SAM	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	SAM	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	SAM	-0.948	<b>0.209</b>	1.6
Right Head Tilt	4132(Low)	826.4	WCDMA850	Integral	SAM	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	SAM	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	SAM	-1.390	0.107	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/kg$ , testing for other channels are optional.

**WCDMA1900**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Left Head Cheek	9262(Low)	1852.4	WCDMA1900	Integral	SAM	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	SAM	1.936	0.364	1.6
	9538(High)	1907.6	WCDMA1900	Integral	SAM	/	/	1.6
Left Head Tilt	9262(Low)	1852.4	WCDMA1900	Integral	SAM	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	SAM	-4.127	0.129	1.6
	9538(High)	1907.6	WCDMA1900	Integral	SAM	/	/	1.6
Right Head Cheek	9262(Low)	1852.4	WCDMA1900	Integral	SAM	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	SAM	-1.097	<b>0.379</b>	1.6
	9538(High)	1907.6	WCDMA1900	Integral	SAM	/	/	1.6
Right Head Tilt	9262(Low)	1852.4	WCDMA1900	Integral	SAM	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	SAM	2.517	0.136	1.6
	9538(High)	1907.6	WCDMA1900	Integral	SAM	/	/	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/kg$ , 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 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Mode.

**WiFi (802.11b)**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 10g SAR (W/Kg)	
	Channel NO.	MHz					Measurement	Limit
Left Head Cheek	1	2412.0	802.11b	Integral	SAM	1.156	0.013	1.6
	6	2437.0	802.11b	Integral	SAM	/	/	1.6
	11	2462.0	802.11b	Integral	SAM	/	/	1.6
Left Head Tilt	1	2412.0	802.11b	Integral	SAM	-2.047	0.009	1.6
	6	2437.0	802.11b	Integral	SAM	/	/	1.6
	11	2462.0	802.11b	Integral	SAM	/	/	1.6
Right Head Cheek	1	2412.0	802.11b	Integral	SAM	-1.934	<b>0.014</b>	1.6
	6	2437.0	802.11b	Integral	SAM	/	/	1.6
	11	2462.0	802.11b	Integral	SAM	/	/	1.6
Right Head Tilt	1	2412.0	802.11b	Integral	SAM	1.209	0.010	1.6
	6	2437.0	802.11b	Integral	SAM	/	/	1.6
	11	2462.0	802.11b	Integral	SAM	/	/	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8W/Kg$ , 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.

## 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.

### Hot spot-GPRS (Frequency Band: 835MHz)

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Body-Front (10mm)	128	824.2	GPRS	Integral	Universal	/	/	1.6
	190	836.6	GPRS	Integral	Universal	-1.893	0.460	1.6
	251	848.8	GPRS	Integral	Universal	/	/	1.6
Body-Back (10mm)	128	824.2	GPRS	Integral	Universal	/	/	1.6
	190	836.6	GPRS	Integral	Universal	-2.612	<b>0.554</b>	1.6
	251	848.8	GPRS	Integral	Universal	/	/	1.6
Body-Left (10mm)	128	824.2	GPRS	Integral	Universal	/	/	1.6
	190	836.6	GPRS	Integral	Universal	-1.301	0.481	1.6
	251	848.8	GPRS	Integral	Universal	/	/	1.6
Body-Right (10mm)	128	824.2	GPRS	Integral	Universal	/	/	1.6
	190	836.6	GPRS	Integral	Universal	1.418	0.317	1.6
	251	848.8	GPRS	Integral	Universal	/	/	1.6
Body-Bottom (10mm)	128	824.2	GPRS	Integral	Universal	/	/	1.6
	190	836.6	GPRS	Integral	Universal	-0.719	0.053	1.6
	251	848.8	GPRS	Integral	Universal	/	/	1.6

#### Note:

1 .When the 1-g SAR is  $\leq 0.8W/Kg$ , testing for other channels are optional.

**Hot spot-GPRS (Frequency Band: 1900MHz)**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Body-Front (10mm)	512	1850.2	GPRS	Integral	Universal	-1.198	0.491	1.6
	661	1880.0	GPRS	Integral	Universal	/	/	1.6
	810	1909.8	GPRS	Integral	Universal	/	/	1.6
Body-Back (10mm)	512	1850.2	GPRS	Integral	Universal	-2.104	<b>0.720</b>	1.6
	661	1880.0	GPRS	Integral	Universal	/	/	1.6
	810	1909.8	GPRS	Integral	Universal	/	/	1.6
Body-Left (10mm)	512	1850.2	GPRS	Integral	Universal	-2.911	0.112	1.6
	661	1880.0	GPRS	Integral	Universal	/	/	1.6
	810	1909.8	GPRS	Integral	Universal	/	/	1.6
Body-Right (10mm)	512	1850.2	GPRS	Integral	Universal	0.327	0.083	1.6
	661	1880.0	GPRS	Integral	Universal	/	/	1.6
	810	1909.8	GPRS	Integral	Universal	/	/	1.6
Body-Bottom (10mm)	512	1850.2	GPRS	Integral	Universal	-1.434	0.587	1.6
	661	1880.0	GPRS	Integral	Universal	/	/	1.6
	810	1909.8	GPRS	Integral	Universal	/	/	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The EUT is a Capability Class B mobile phone which can be attached to both GPRS and GSM services.
3. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 1DL+4UL is the worse case.
4. The EUT transmit and receive through the same GSM antenna while testing SAR.

**Hot spot-WCDMA850**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Body-Front (10mm)	4132(Low)	826.4	WCDMA850	Integral	Universal	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	Universal	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	Universal	-1.722	0.178	1.6
Body-Back (10mm)	4132(Low)	826.4	WCDMA850	Integral	Universal	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	Universal	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	Universal	1.503	<b>0.218</b>	1.6
Body-Left (10mm)	4132(Low)	826.4	WCDMA850	Integral	Universal	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	Universal	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	Universal	-1.824	0.116	1.6
Body-Right (10mm)	4132(Low)	826.4	WCDMA850	Integral	Universal	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	Universal	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	Universal	-0.633	0.080	1.6
Body-Bottom (10mm)	4132(Low)	826.4	WCDMA850	Integral	Universal	/	/	1.6
	4183(Middle)	836.6	WCDMA850	Integral	Universal	/	/	1.6
	4233(High)	846.6	WCDMA850	Integral	Universal	2.293	0.022	1.6

**WCDMA1900**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Body-Front (10mm)	9262(Low)	1852.4	WCDMA1900	Integral	Universal	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	Universal	1.397	0.518	1.6
	9538(High)	1907.6	WCDMA1900	Integral	Universal	/	/	1.6
Body-Back (10mm)	9262(Low)	1852.4	WCDMA1900	Integral	Universal	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	Universal	-2.317	<b>0.671</b>	1.6
	9538(High)	1907.6	WCDMA1900	Integral	Universal	/	/	1.6
Body-Left (10mm)	9262(Low)	1852.4	WCDMA1900	Integral	Universal	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	Universal	-2.287	0.051	1.6
	9538(High)	1907.6	WCDMA1900	Integral	Universal	/	/	1.6
Body-Right (10mm)	9262(Low)	1852.4	WCDMA1900	Integral	Universal	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	Universal	-1.014	0.032	1.6
	9538(High)	1907.6	WCDMA1900	Integral	Universal	/	/	1.6
Body-Bottom (10mm)	9262(Low)	1852.4	WCDMA1900	Integral	Universal	/	/	1.6
	9400(Middle)	1880.0	WCDMA1900	Integral	Universal	-2.773	0.502	1.6
	9538(High)	1907.6	WCDMA1900	Integral	Universal	/	/	1.6

**Note:**

1. When the 1-g SAR is  $\leq 0.8$ 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 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Mode.

**Hot Spot-WiFi**

EUT Position	Frequency (MHz)		Test Mode	Antenna Type	Phantom Type	Power Drift (%)	FCC 1g SAR (W/Kg)	
	Channel	MHz					Measurement	Limit
Body-Front (10mm)	1	2412	802.11b	Integral	Universal	1.205	0.002	1.6
	6	2437	802.11b	Integral	Universal	/	/	1.6
	11	2462	802.11b	Integral	Universal	/	/	1.6
Body-Back (10mm)	1	2412	802.11b	Integral	Universal	2.082	0.009	1.6
	6	2437	802.11b	Integral	Universal	/	/	1.6
	11	2462	802.11b	Integral	Universal	/	/	1.6
Body-Left (10mm)	1	2412	802.11b	Integral	Universal	-2.907	<b>0.011</b>	1.6
	6	2437	802.11b	Integral	Universal	/	/	1.6
	11	2462	802.11b	Integral	Universal	/	/	1.6
Body-Top (10mm)	1	2412	802.11b	Integral	Universal	1.333	0.010	1.6
	6	2437	802.11b	Integral	Universal	/	/	1.6
	11	2462	802.11b	Integral	Universal	/	/	1.6

**Note:**

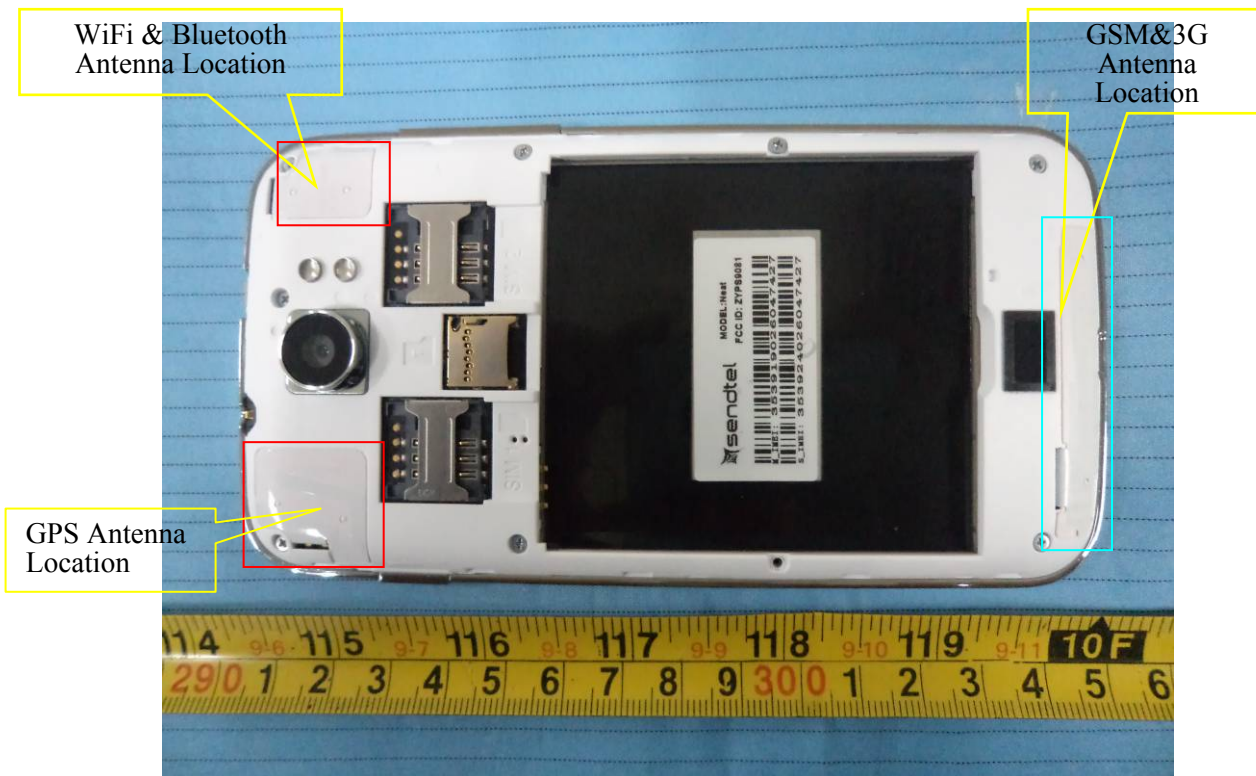
1. When the 1-g SAR is  $\leq 0.8\text{W/Kg}$ , testing for other channels are optional.
2. The SAR testing is conducted with 100% duty cycle factor.
3. The output power was tested under data rate 1Mbps for 802.11b.

**SAR SIMULTANEOUS TRANSMISSION DESCRIPTION**

**KDB 447498D01 General RF Exposure Guidance v05  
KDB 648474 D04 SAR Handsets Multi Xmitter and Ant v01**

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

**WiFi & BT and GSM Antenna Location:**



**Antenna Information:**

Description of Simultaneous Transmit Capabilities			Antennas Distance (mm)
Transmitter Combination	Scenario Supported?	Supported for Mobile Hot Spot	
GSM + GPRS	×	×	0.00
GSM + WCDMA	×	×	0.00
GSM + WiFi	√	×	136
GSM + Bluetooth	√	×	136
GPRS + WCDMA	×	×	0.00
GPRS + WiFi	√	√	136
GPRS + Bluetooth	√		136
WCDMA + WiFi	√	√	136
WCDMA + Bluetooth	√	×	136

**Standalone SAR test exclusion considerations:**

Head Position:

Mode	Frequency (MHz)	P <sub>avg</sub> (dBm)	P <sub>avg</sub> (mW)	Threshold (1-g)	Distance (mm)	SAR Test Exclusion
GSM850	835	23.31	214.3	16	5	No
PCS1900	1900	20.30	107.2	11	5	No
WCDMA850	850	22.69	185.8	16	5	No
WCDMA1900	1900	22.61	182.4	11	5	No
WiFi	2450	14.46	28.0	10	5	No
BlueTooth	2450	8.25	6.7	10	5	Yes

Body Position:

Mode	Frequency (MHz)	P <sub>avg</sub> (dBm)	P <sub>avg</sub> (mW)	Threshold (1-g)	Distance (mm)	SAR Test Exclusion
GSM850	835	26.13	409.3	33	10	No
PCS1900	1900	23.19	208.0	22	10	No
WCDMA850	850	22.69	185.8	33	10	No
WCDMA1900	1900	22.61	182.4	22	10	No
WiFi	2450	14.46	28.0	19	5	No
BlueTooth	2450	8.25	6.7	19	5	Yes

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

1.  $f(\text{GHz})$  is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.



**Simultaneous SAR test exclusion considerations:**

GSM with WiFi:

Mode	Position	Reported SAR (W/kg)		ΣSAR
		GSM	WiFi	< 1.6W/kg
GSM850	Left Head Cheek	0.143	0.013	0.156
	Left Head Tile	0.081	0.009	0.090
	Right Head Cheek	0.155	0.014	0.169
	Right Head Tilt	0.100	0.010	0.110
	Body Front	0.217	0.002	0.219
	Body Back	0.251	0.009	<b>0.260</b>
WCDMA 850	Left Head Cheek	0.201	0.013	0.214
	Left Head Tile	0.103	0.009	0.112
	Right Head Cheek	0.209	0.014	0.223
	Right Head Tilt	0.107	0.010	0.117
	Body Front	0.178	0.002	0.180
	Body Back	0.218	0.009	<b>0.227</b>
PCS1900	Left Head Cheek	0.058	0.013	0.071
	Left Head Tile	0.014	0.009	0.023
	Right Head Cheek	0.055	0.014	0.069
	Right Head Tilt	0.013	0.010	0.023
	Body Front	0.244	0.002	0.246
	Body Back	0.347	0.009	<b>0.356</b>
WCDMA 1900	Left Head Cheek	0.364	0.013	0.377
	Left Head Tile	0.129	0.009	0.138
	Right Head Cheek	0.379	0.014	0.393
	Right Head Tilt	0.136	0.010	0.146
	Body Front	0.518	0.002	0.520
	Body Back	0.671	0.009	<b>0.680</b>

GSM with BT

Mode	Position	Reported SAR (W/kg)		ΣSAR
		GSM	Bluetooth	< 1.6W/kg
GSM850	Left Head Cheek	0.143	0.028	0.171
	Left Head Tile	0.081		0.109
	Right Head Cheek	0.155		0.183
	Right Head Tilt	0.100		0.128
	Body Front	0.460	0.014	0.474
	Body Back	0.554		<b>0.568</b>
WCDMA 850	Left Head Cheek	0.201	0.028	0.229
	Left Head Tile	0.103		0.131
	Right Head Cheek	0.209		<b>0.237</b>
	Right Head Tilt	0.107		0.135
	Body Front	0.178	0.014	0.192
	Body Back	0.218		0.232
PCS1900	Left Head Cheek	0.058	0.028	0.086
	Left Head Tile	0.014		0.042
	Right Head Cheek	0.055		0.083
	Right Head Tilt	0.013		0.041
	Body Front	0.491	0.014	0.505
	Body Back	0.720		<b>0.734</b>
WCDMA 1900	Left Head Cheek	0.364	0.028	0.392
	Left Head Tile	0.129		0.157
	Right Head Cheek	0.379		0.407
	Right Head Tilt	0.136		0.164
	Body Front	0.518	0.014	0.532
	Body Back	0.671		<b>0.685</b>

Mode	Frequency (GHz)	Distance (mm)	P <sub>avg</sub> (dBm)	P <sub>avg</sub> (mW)	Estimated I-g (W/kg)
Bluetooth Head	2.45	5	8.25	6.70	0.28
Bluetooth Body	2.45	10	8.25	6.70	0.14

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})} / x]$$

W/kg for test separation distances ≤ 50 mm;

where  $x = 7.5$  for 1-g SAR.

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test Exclusion

**Conclusion:**

$\Sigma$ SAR  $< 1.6$  W/kg therefore simultaneous transmission SAR with Volume Scans is **not** required.

Evaluations for Simultaneous SAR									
Test Position	Stand Alone 1-g SAR (W/Kg)					$\Sigma$ 1-g SAR (W/Kg)			
	GSM 850	WCDMA 850	GSM 1900	WCDMA 1900	WiFi	GSM 850+WiFi	WCDMA 850 +WiFi	GSM 1900+WiFi	WCDMA 1900+WiFi
Body-Front (1.0cm)	0.460	0.178	0.491	0.518	0.002	0.462	0.180	0.493	0.520
Body-Back (1.0cm)	0.554	0.218	0.720	0.671	0.009	0.563	0.227	<b>0.729</b>	0.680
Body-Left (1.0cm)	0.481	0.116	0.112	0.051	0.011	0.492	0.127	0.123	0.062
Body-Right (1.0cm)	0.317	0.080	0.083	0.032	/	/	/	/	/
Body-Bottom (1.0cm)	0.053	0.022	0.587	0.502	/	/	/	/	/

**Note:**

1. If the sum of the 1g SAR measured for the simultaneously transmitting antennas is less than the SAR limit, SAR measurement for simultaneous transmission is not required.

**EUT SCAN RESULTS**

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

**Left Head Cheek (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1: 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 : 0.011W/kg  
 Power Drift (%) : -2.845

Tissue Data

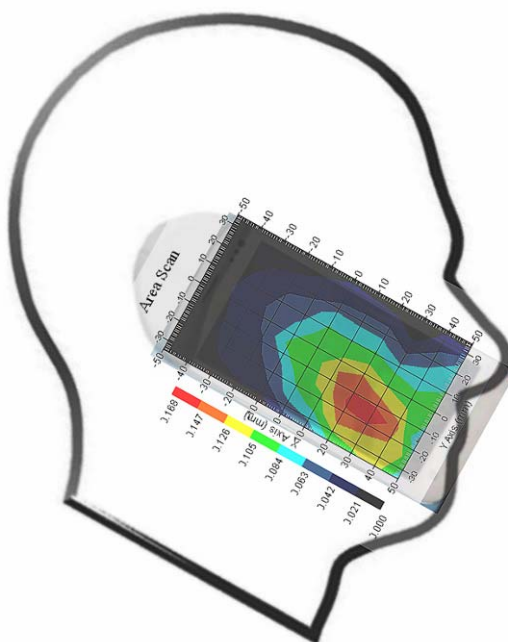
Type : Head  
 Frequency : 836.60 MHz  
 Epsilon : 41.35 F/m  
 Sigma : 0.93 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 8  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.143 W/kg  
 10 gram SAR value : 0.082 W/kg  
 Area Scan Peak SAR : 0.166 W/kg  
 Zoom Scan Peak SAR : 0.260 W/kg

**Plot 1#**



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

**Left Head Tilt (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1: 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 : 0.041W/kg  
 Power Drift (%) : -2.241

Tissue Data

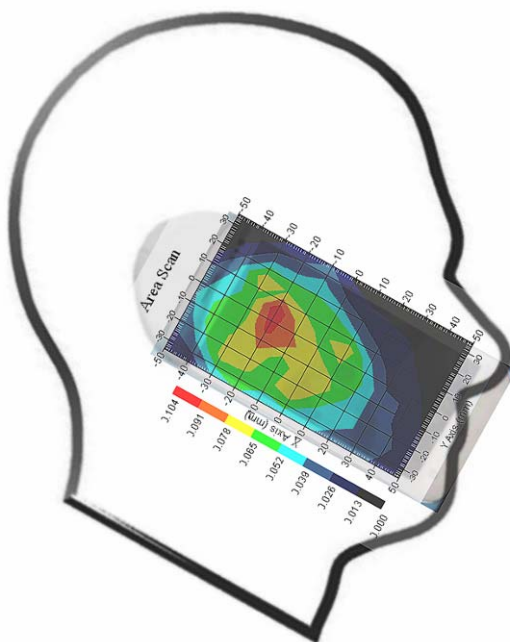
Type : Head  
 Frequency : 836.60 MHz  
 Epsilon : 41.35 F/m  
 Sigma : 0.93 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 8  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.081 W/kg  
 10 gram SAR value : 0.053 W/kg  
 Area Scan Peak SAR : 0.102 W/kg  
 Zoom Scan Peak SAR : 0.200 W/kg

**Plot 2#**



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

**Right Head Cheek (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
Crest Factor : 8  
Scan Type : Complete  
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.010 W/kg  
Power Drift-Finish : 0.010W/kg  
Power Drift (%) : 1.507

Tissue Data

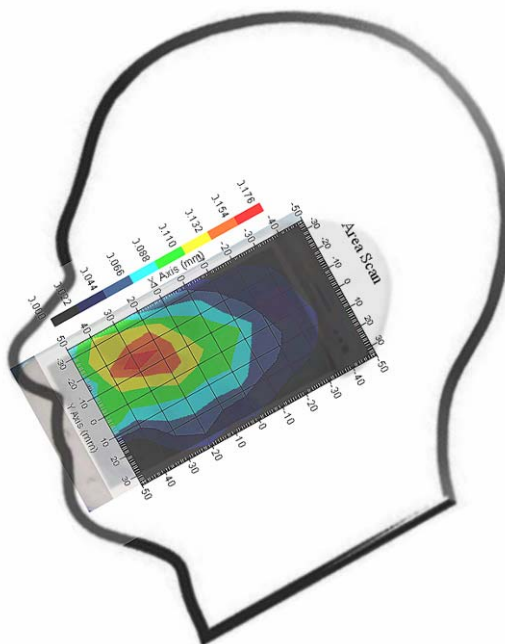
Type : Head  
Frequency : 836.60 MHz  
Epsilon : 41.35 F/m  
Sigma : 0.93 S/m  
Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
Frequency Band : 835  
Duty Cycle Factor : 8  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.155 W/kg  
10 gram SAR value : 0.076 W/kg  
Area Scan Peak SAR : 0.176 W/kg  
Zoom Scan Peak SAR : 0.288 W/kg

**Plot 3#**



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

**Right Head Tilt (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1: 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 : 0.051W/kg  
 Power Drift (%) : -0.631

Tissue Data

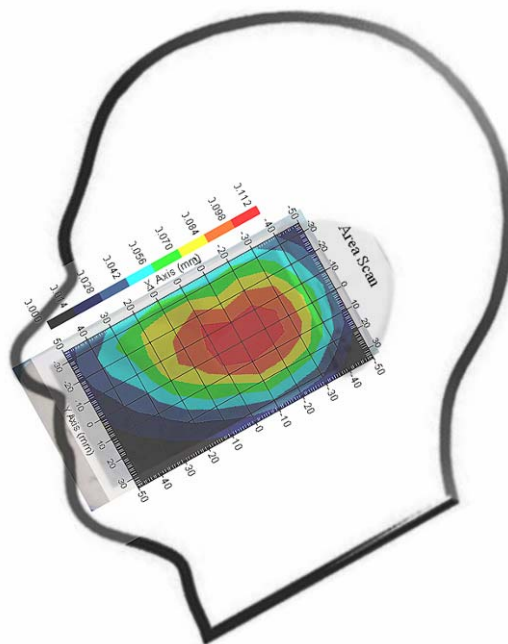
Type : Head  
 Frequency : 836.60 MHz  
 Epsilon : 41.35 F/m  
 Sigma : 0.93 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 8  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.100 W/kg  
 10 gram SAR value : 0.070 W/kg  
 Area Scan Peak SAR : 0.110 W/kg  
 Zoom Scan Peak SAR : 0.140 W/kg

**Plot 4#**



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

**Body-worn Front-Headset (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 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 : 0.216 W/kg  
 Power Drift-Finish : 0.209 W/kg  
 Power Drift (%) : -3.419

Tissue Data

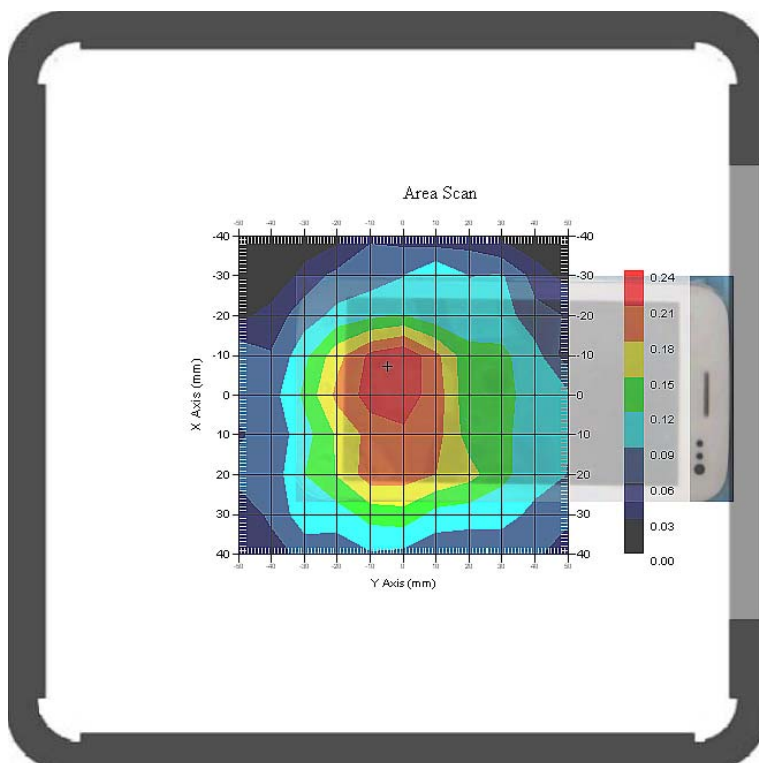
Type : Body  
 Frequency : 836.60 MHz  
 Epsilon : 55.81 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 8  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.217 W/kg  
 10 gram SAR value : 0.143 W/kg  
 Area Scan Peak SAR : 0.236 W/kg  
 Zoom Scan Peak SAR : 0.250 W/kg

**Plot 5#**





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

**Body-worn Back-Headset (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 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 : 0.228 W/kg  
 Power Drift-Finish : 0.224 W/kg  
 Power Drift (%) : -1.729

Tissue Data

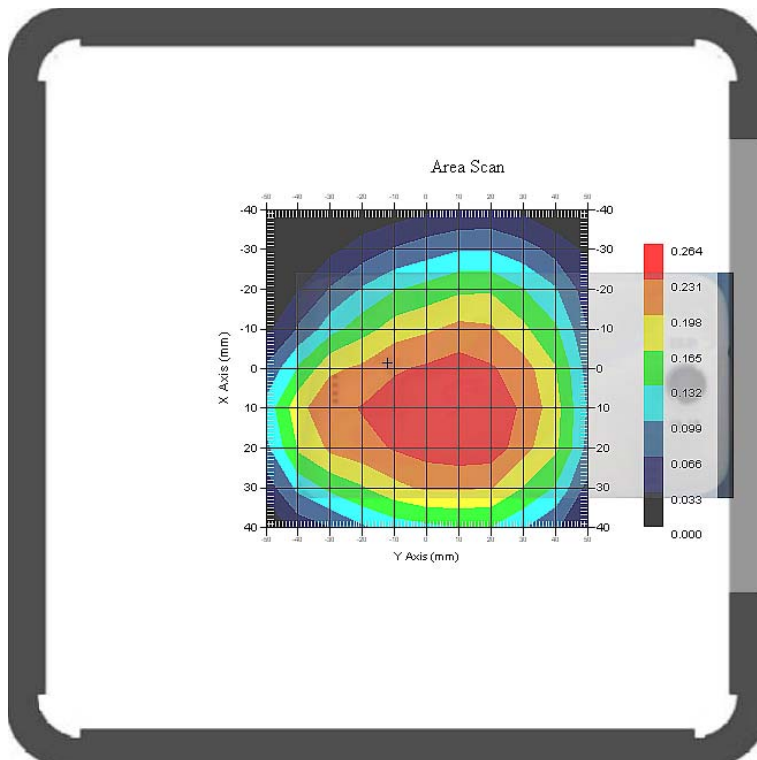
Type : Body  
 Frequency : 836.60 MHz  
 Epsilon : 55.81 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 8  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.251 W/kg  
 10 gram SAR value : 0.219 W/kg  
 Area Scan Peak SAR : 0.261 W/kg  
 Zoom Scan Peak SAR : 0.360 W/kg

**Plot 6#**



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

**Left Head Cheek (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : -3.641

Tissue Data

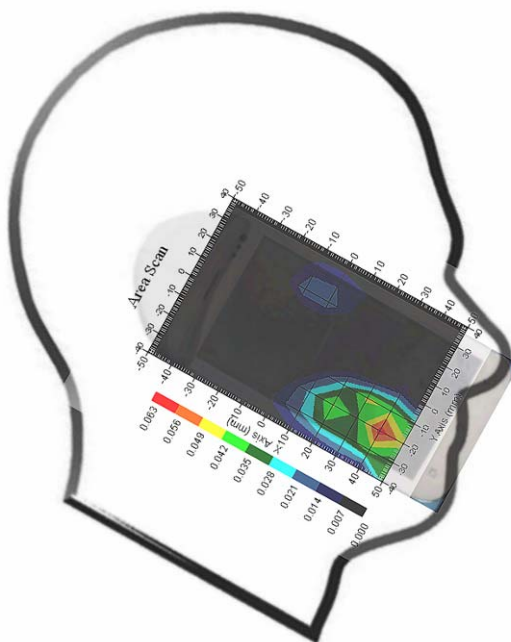
Type : Head  
 Frequency : 1850.20 MHz  
 Epsilon : 40.14 F/m  
 Sigma : 1.38 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.058 W/kg  
 10 gram SAR value : 0.034 W/kg  
 Area Scan Peak SAR : 0.060 W/kg  
 Zoom Scan Peak SAR : 0.190 W/kg

**Plot 7#**



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

**Left Head Tilt (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : -1.719

Tissue Data

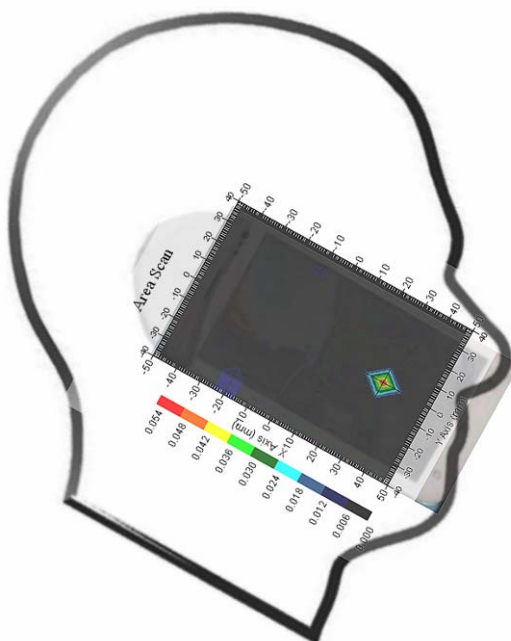
Type : Head  
 Frequency : 1850.20 MHz  
 Epsilon : 40.14 F/m  
 Sigma : 1.38 S/m  
 Density : 1000.00 kg/cu. M

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.014 W/kg  
 10 gram SAR value : 0.005 W/kg  
 Area Scan Peak SAR : 0.052 W/kg  
 Zoom Scan Peak SAR : 0.120 W/kg

**Plot 8#**



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

**Right Head Cheek (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.002 W/kg  
 Power Drift-Finish : 0.002W/kg  
 Power Drift (%) : 2.922

Tissue Data

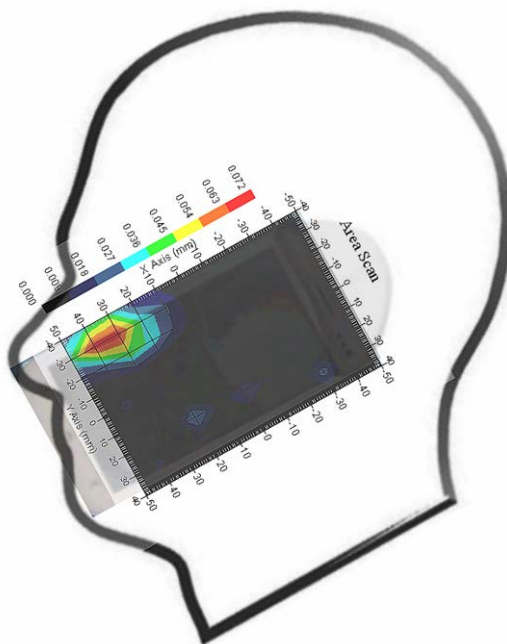
Type : Head  
 Frequency : 1850.20 MHz  
 Epsilon : 40.14 F/m  
 Sigma : 1.38 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.055 W/kg  
 10 gram SAR value : 0.035 W/kg  
 Area Scan Peak SAR : 0.069 W/kg  
 Zoom Scan Peak SAR : 0.160 W/kg

**Plot 9#**



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

**Right Head Tilt (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : -0.927

Tissue Data

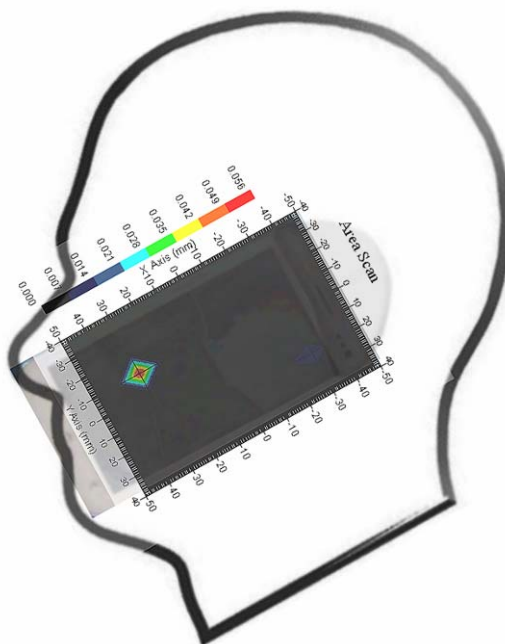
Type : Head  
 Frequency : 1850.20 MHz  
 Epsilon : 40.14 F/m  
 Sigma : 1.38 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.013 W/kg  
 10 gram SAR value : 0.007 W/kg  
 Area Scan Peak SAR : 0.055 W/kg  
 Zoom Scan Peak SAR : 0.015 W/kg

**Plot 10#**



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

**Body- worn Front-Headset (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 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 : 0.223 W/kg  
 Power Drift-Finish : 0.226 W/kg  
 Power Drift (%) : 1.359

Tissue Data

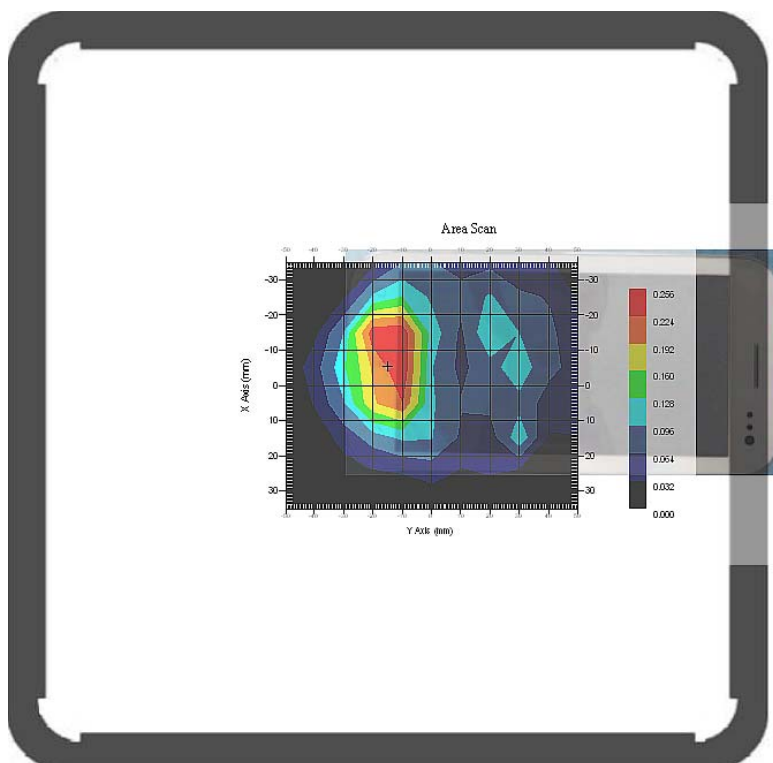
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.244 W/kg  
 10 gram SAR value : 0.116 W/kg  
 Area Scan Peak SAR : 0.252 W/kg  
 Zoom Scan Peak SAR : 0.650 W/kg

**Plot 11#**



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

**Body- worn Back- Headset (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GSM  
 Crest Factor : 8  
 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 : 0.329 W/kg  
 Power Drift-Finish : 0.323 W/kg  
 Power Drift (%) : -1.804

Tissue Data

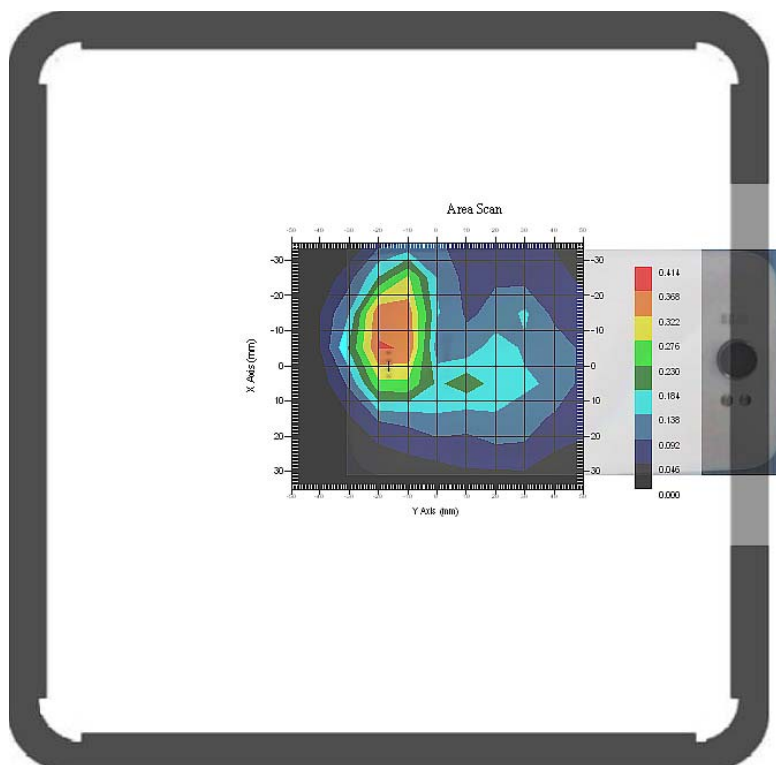
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 8  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.347 W/kg  
 10 gram SAR value : 0.187 W/kg  
 Area Scan Peak SAR : 0.370 W/kg  
 Zoom Scan Peak SAR : 0.890 W/kg

**Plot 12#**



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

**WCDMA850; Left Head Cheek (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.014 W/kg  
 Power Drift-Finish : 0.014 W/kg  
 Power Drift (%) : 1.098

Tissue Data

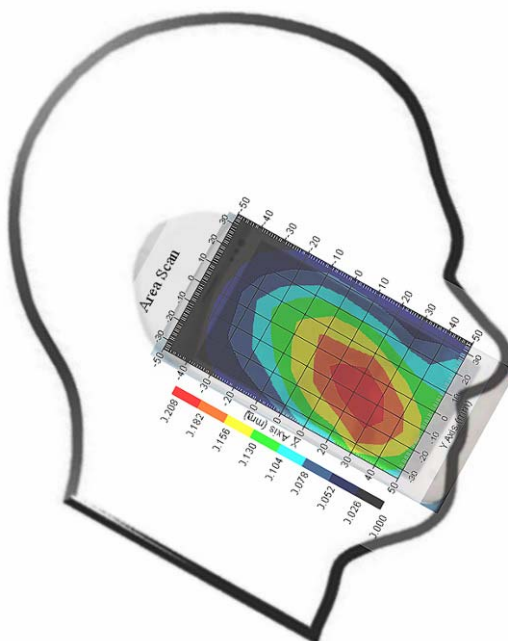
Type : Head  
 Frequency : 846.60 MHz  
 Epsilon : 41.46 F/m  
 Sigma : 0.94 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.201 W/kg  
 10 gram SAR value : 0.151 W/kg  
 Area Scan Peak SAR : 0.205 W/kg  
 Zoom Scan Peak SAR : 0.280 W/kg

**Plot 13#**





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

**WCDMA850; Left Head Tilt (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.065 W/kg  
 Power Drift-Finish : 0.064 W/kg  
 Power Drift (%) : -1.319

Tissue Data

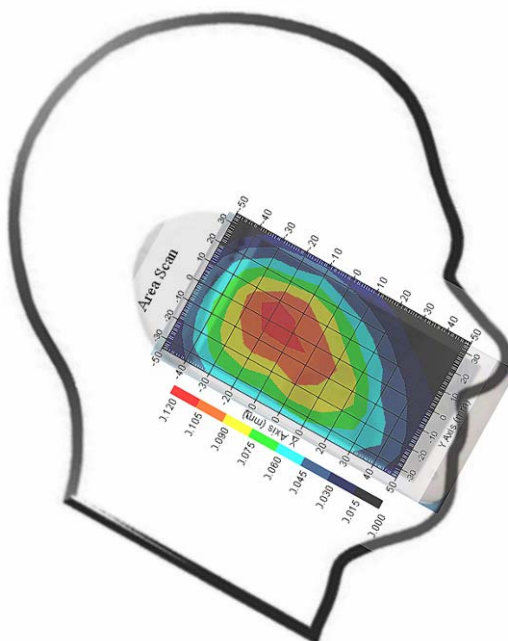
Type : Head  
 Frequency : 846.60 MHz  
 Epsilon : 41.46 F/m  
 Sigma : 0.94 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.103 W/kg  
 10 gram SAR value : 0.074 W/kg  
 Area Scan Peak SAR : 0.118 W/kg  
 Zoom Scan Peak SAR : 0.140 W/kg

**Plot 14#**



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

**WCDMA850; Right Head Cheek (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.010 W/kg  
 Power Drift-Finish : 0.010 W/kg  
 Power Drift (%) : -0.948

Tissue Data

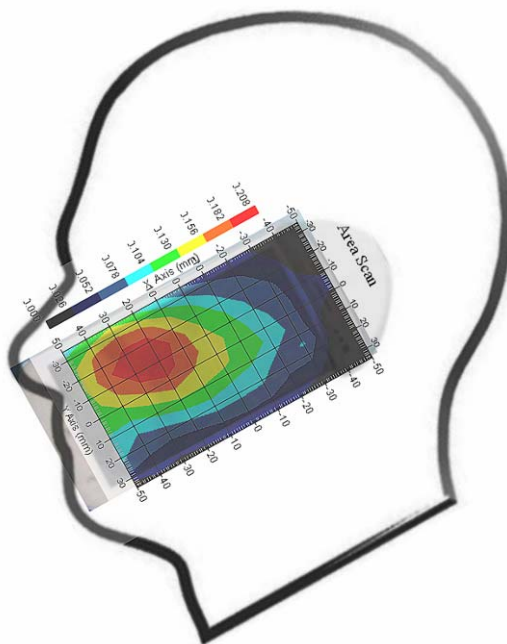
Type : Head  
 Frequency : 846.60 MHz  
 Epsilon : 41.46 F/m  
 Sigma : 0.94 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.209 W/kg  
 10 gram SAR value : 0.160 W/kg  
 Area Scan Peak SAR : 0.207 W/kg  
 Zoom Scan Peak SAR : 0.385 W/kg

**Plot 15#**



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

**WCDMA850; Right Head Tilt (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.071 W/kg  
 Power Drift-Finish : 0.070 W/kg  
 Power Drift (%) : -1.390

Tissue Data

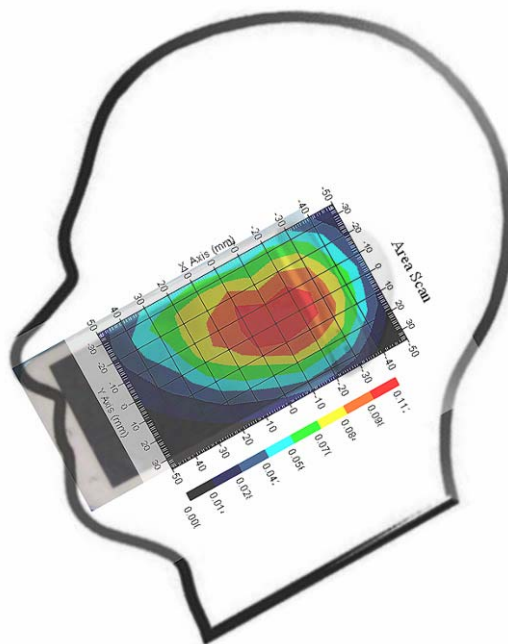
Type : Head  
 Frequency : 846.60 MHz  
 Epsilon : 41.46 F/m  
 Sigma : 0.94 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.107 W/kg  
 10 gram SAR value : 0.079 W/kg  
 Area Scan Peak SAR : 0.112 W/kg  
 Zoom Scan Peak SAR : 0.240 W/kg

**Plot 16#**



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

**WCDMA1900; Left Head Cheek (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: 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 (%) : 1.936

Tissue Data

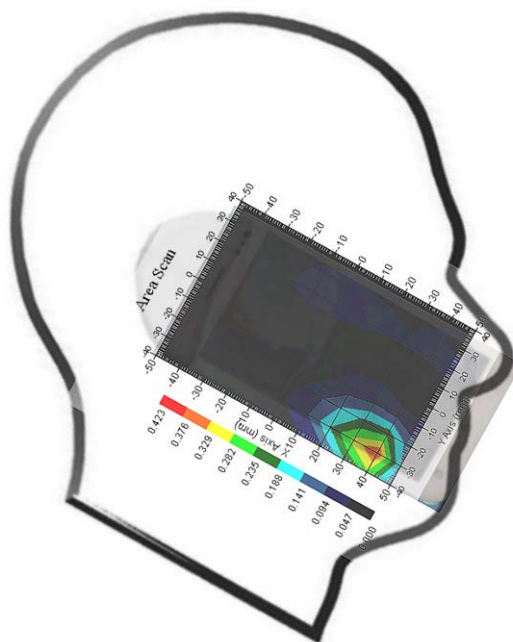
Type : Head  
 Frequency : 1880.0 MHz  
 Epsilon : 40.40 F/m  
 Sigma : 1.41 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.364 W/kg  
 10 gram SAR value : 0.210 W/kg  
 Area Scan Peak SAR : 0.377 W/kg  
 Zoom Scan Peak SAR : 0.690 W/kg

**Plot 17#**



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

**WCDMA1900; Left Head Tit (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.024 W/kg  
 Power Drift-Finish : 0.023 W/kg  
 Power Drift (%) : -4.127

Tissue Data

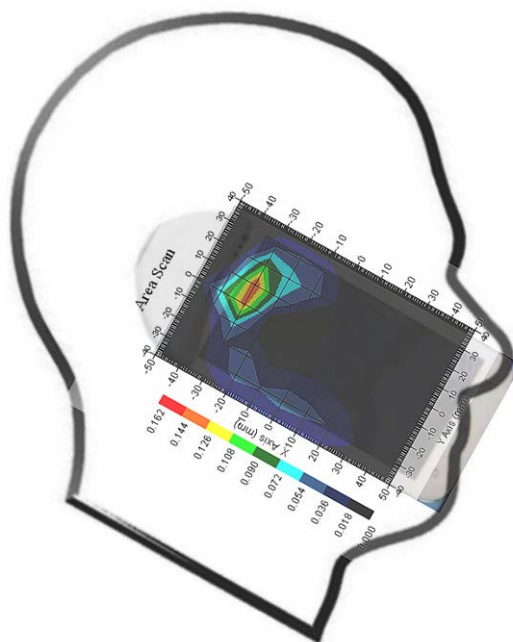
Type : Head  
 Frequency : 1880.0 MHz  
 Epsilon : 40.40 F/m  
 Sigma : 1.41 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.129 W/kg  
 10 gram SAR value : 0.044 W/kg  
 Area Scan Peak SAR : 0.145 W/kg  
 Zoom Scan Peak SAR : 0.330 W/kg

**Plot 18#**



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

**WCDMA1900; Right Head Cheek (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.002 W/kg  
 Power Drift-Finish : 0.002 W/kg  
 Power Drift (%) : -1.097

Tissue Data

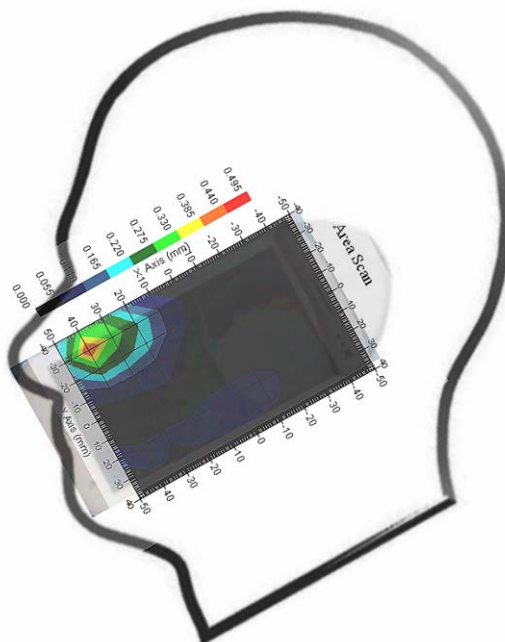
Type : Head  
 Frequency : 1880.0 MHz  
 Epsilon : 40.40 F/m  
 Sigma : 1.41 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.379 W/kg  
 10 gram SAR value : 0.217 W/kg  
 Area Scan Peak SAR : 0.443 W/kg  
 Zoom Scan Peak SAR : 0.690 W/kg

**Plot 19#**



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

**WCDMA1900; Right Head Tilt (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1: 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 (%) : 2.517

Tissue Data

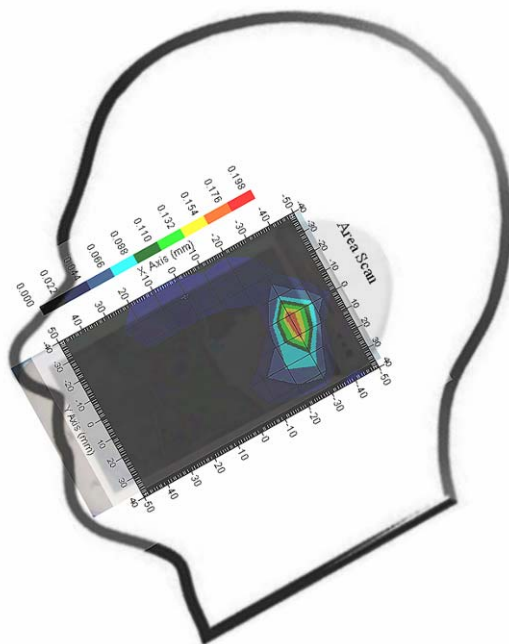
Type : Head  
 Frequency : 1880.0 MHz  
 Epsilon : 40.40 F/m  
 Sigma : 1.41 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.2  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.136 W/kg  
 10 gram SAR value : 0.049 W/kg  
 Area Scan Peak SAR : 0.177 W/kg  
 Zoom Scan Peak SAR : 0.270 W/kg

**Plot 20#**



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

**Left Head Cheek (2412 MHz Low Channel)**

Measurement Data

Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : 1.156

Tissue Data

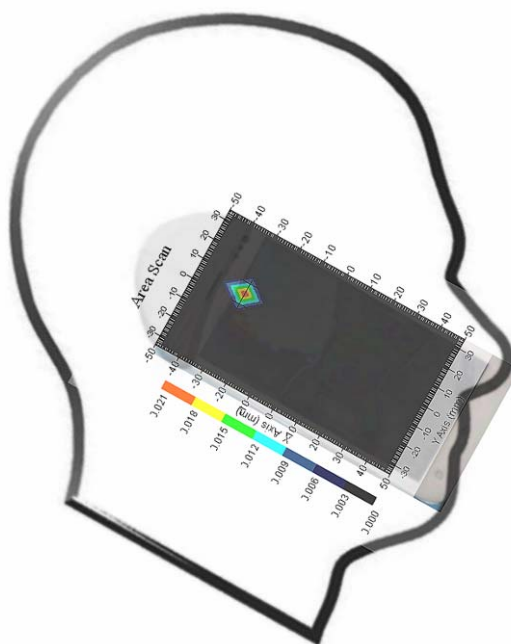
Type : Head  
 Frequency : 2412.0 MHz  
 Epsilon : 40.22 F/m  
 Sigma : 1.81 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

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

1 gram SAR value : 0.013 W/kg  
 10 gram SAR value : 0.005 W/kg  
 Area Scan Peak SAR : 0.021 W/kg  
 Zoom Scan Peak SAR : 0.100 W/kg

**Plot 21#**





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

**Left Head Tilt (2412 MHz Low Channel)**

Measurement Data

Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : -2.047

Tissue Data

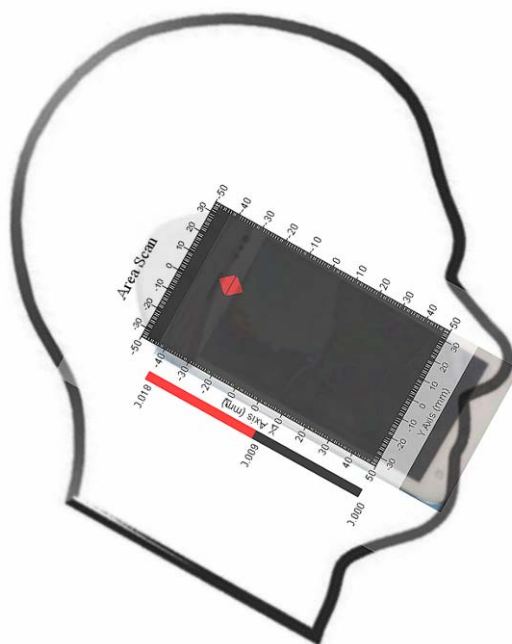
Type : Head  
 Frequency : 2412.0 MHz  
 Epsilon : 40.22 F/m  
 Sigma : 1.81 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

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

1 gram SAR value : 0.009 W/kg  
 10 gram SAR value : 0.003 W/kg  
 Area Scan Peak SAR : 0.011 W/kg  
 Zoom Scan Peak SAR : 0.070 W/kg

**Plot 22#**



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

**Right Head Cheek (2412 MHz Low Channel)**

Measurement Data

Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : -1.934

Tissue Data

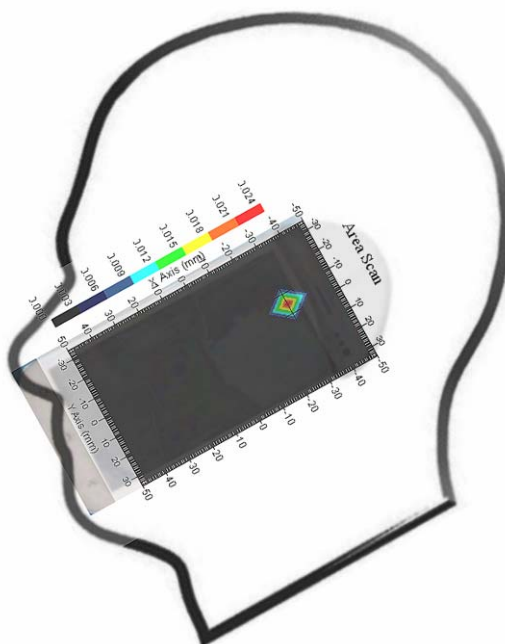
Type : Head  
 Frequency : 2412.0 MHz  
 Epsilon : 40.22 F/m  
 Sigma : 1.81 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

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

1 gram SAR value : 0.014 W/kg  
 10 gram SAR value : 0.006 W/kg  
 Area Scan Peak SAR : 0.022 W/kg  
 Zoom Scan Peak SAR : 0.137 W/kg

**Plot 23#**



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

**Right Head Tilt (2412 MHz Low Channel)**

Measurement Data

Crest Factor : 1  
 Scan Type : Complete  
 Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.001 W/kg  
 Power Drift-Finish : 0.001 W/kg  
 Power Drift (%) : 1.209

Tissue Data

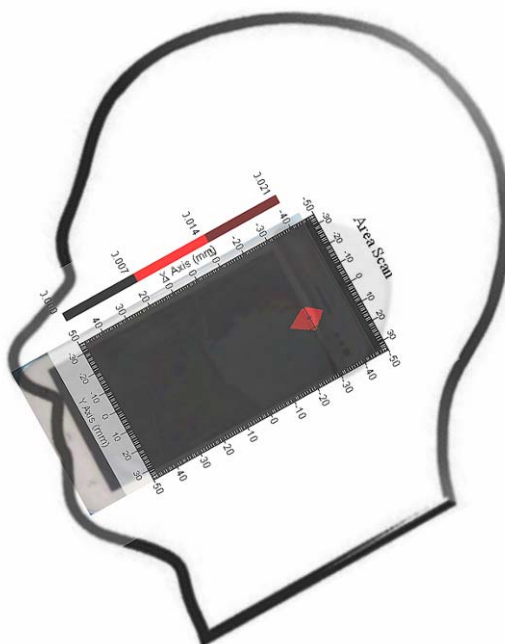
Type : Head  
 Frequency : 2412.0 MHz  
 Epsilon : 40.22 F/m  
 Sigma : 1.81 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

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

1 gram SAR value : 0.010 W/kg  
 10 gram SAR value : 0.003 W/kg  
 Area Scan Peak SAR : 0.017 W/kg  
 Zoom Scan Peak SAR : 0.040 W/kg

**Plot 24#**



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

**Hot Spot: Body-worn-Front (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.428 W/kg  
 Power Drift-Finish : 0.419 W/kg  
 Power Drift (%) : -1.893

Tissue Data

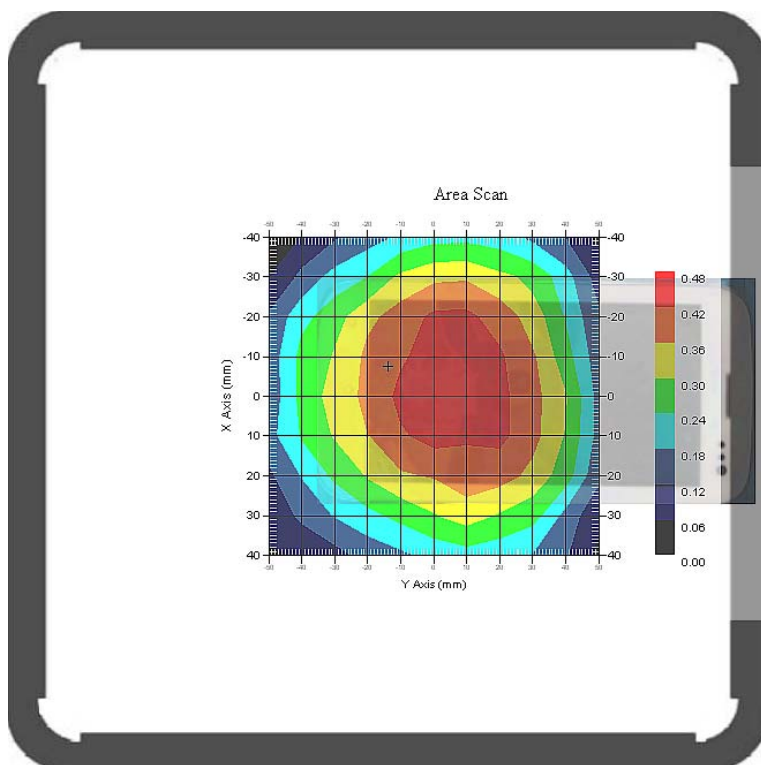
Type : Body  
 Frequency : 836.60 MHz  
 Epsilon : 55.81 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 2  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.460 W/kg  
 10 gram SAR value : 0.329 W/kg  
 Area Scan Peak SAR : 0.478 W/kg  
 Zoom Scan Peak SAR : 0.700 W/kg

**Plot 25#**



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

**Hot Spot: Body-worn-Back (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.550 W/kg  
 Power Drift-Finish : 0.537 W/kg  
 Power Drift (%) : -2.612

Tissue Data

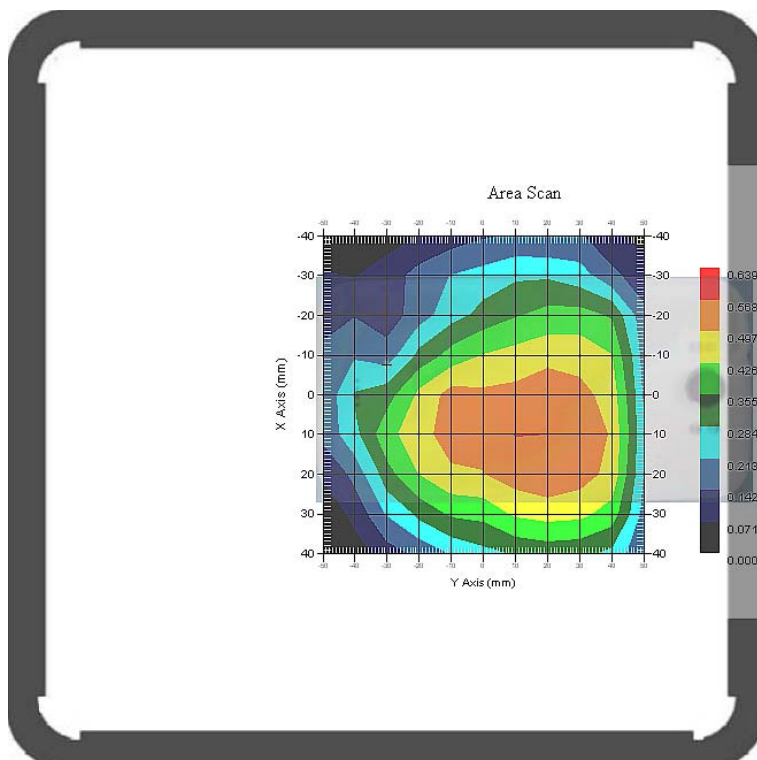
Type : Body  
 Frequency : 836.60 MHz  
 Epsilon : 55.81 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 2  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.554 W/kg  
 10 gram SAR value : 0.430 W/kg  
 Area Scan Peak SAR : 0.569 W/kg  
 Zoom Scan Peak SAR : 0.770 W/kg

**Plot 26#**



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

**Hot Spot: Body-worn-Left (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.452 W/kg  
 Power Drift-Finish : 0.446 W/kg  
 Power Drift (%) : -1.301

Tissue Data

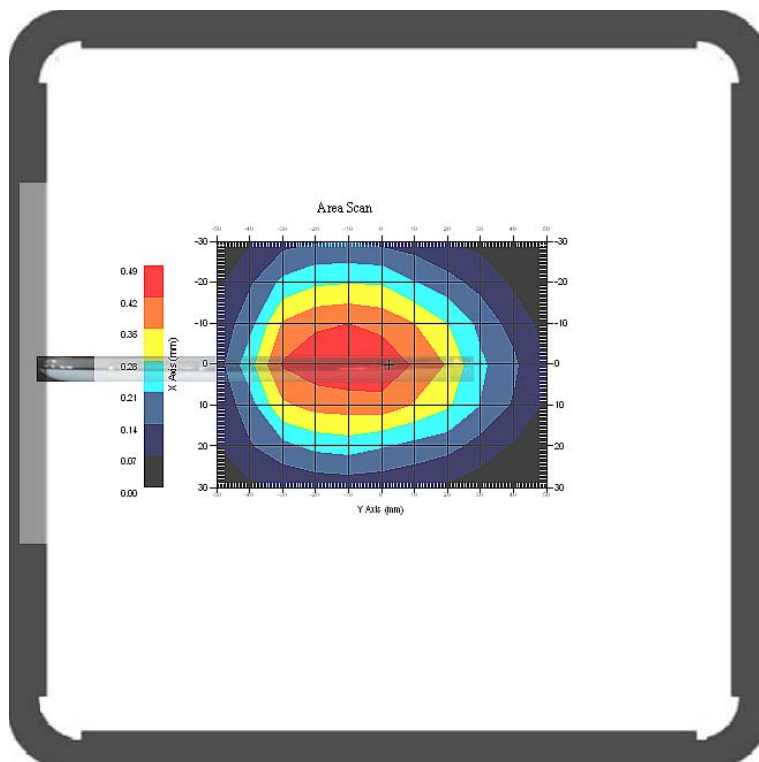
Type : Body  
 Frequency : 836.60 MHz  
 Epsilon : 55.81 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 835  
 Duty Cycle Factor : 2  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.481 W/kg  
 10 gram SAR value : 0.308 W/kg  
 Area Scan Peak SAR : 0.489 W/kg  
 Zoom Scan Peak SAR : 0.790 W/kg

**Plot 27#**



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

**Hot Spot: Body-worn-Right (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GPRS  
Crest Factor : 2  
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 : 0.311 W/kg  
Power Drift-Finish : 0.315 W/kg  
Power Drift (%) : 1.418

Tissue Data

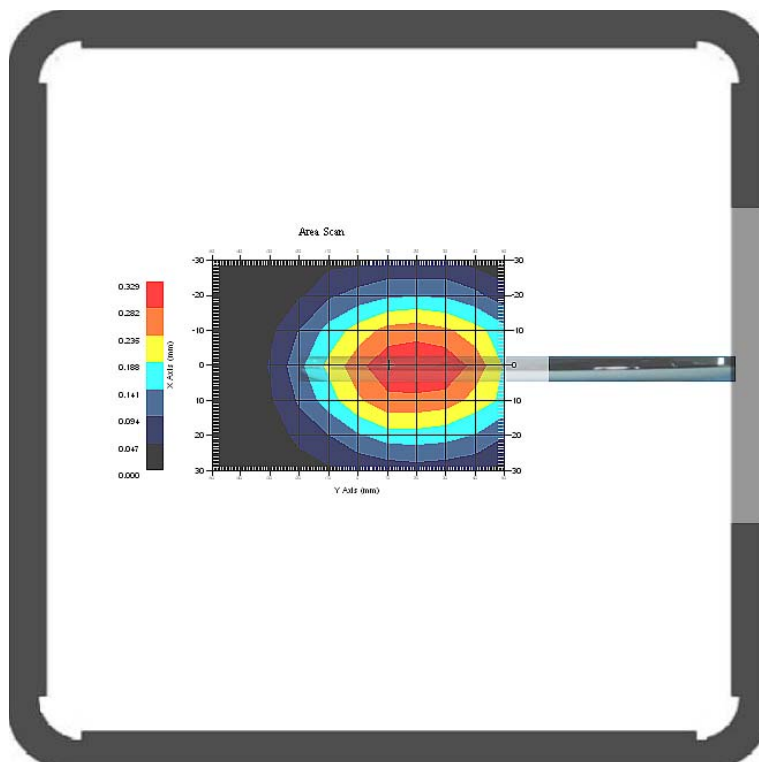
Type : Body  
Frequency : 836.60 MHz  
Epsilon : 55.81 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
Frequency Band : 835  
Duty Cycle Factor : 2  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.317 W/kg  
10 gram SAR value : 0.211 W/kg  
Area Scan Peak SAR : 0.327 W/kg  
Zoom Scan Peak SAR : 0.480 W/kg

**Plot 28#**



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

**Hot Spot: Body-worn-Bottom (836.6 MHz Middle Channel)**

Measurement Data

Test mode : GPRS  
Crest Factor : 2  
Scan Type : Complete  
Area Scan : 7x10x1 : Measurement x=10mm, y=10mm, z=4mm  
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
Power Drift-Start : 0.045 W/kg  
Power Drift-Finish : 0.045 W/kg  
Power Drift (%) : -0.719

Tissue Data

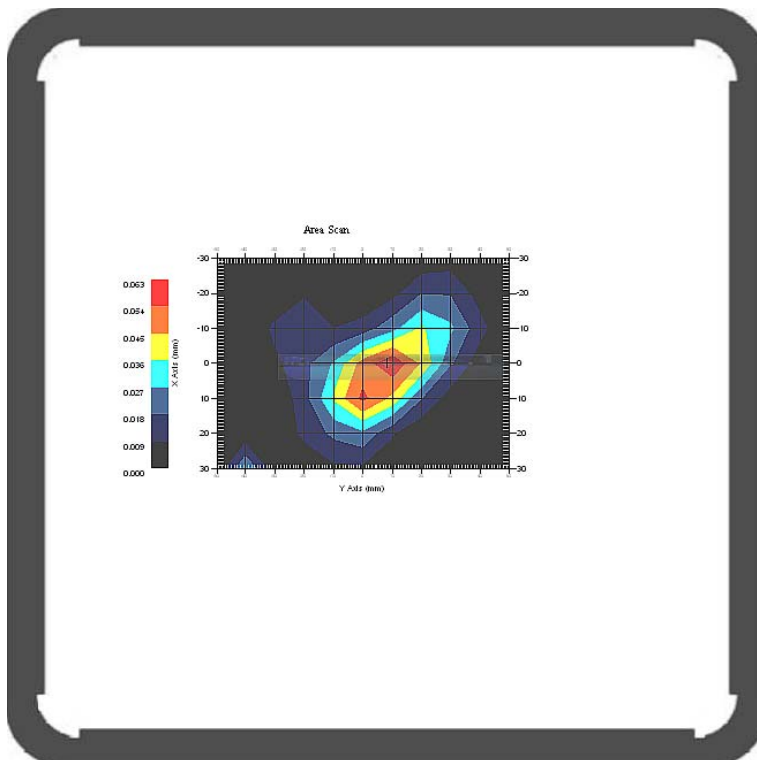
Type : Body  
Frequency : 836.60 MHz  
Epsilon : 55.81 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
Frequency Band : 835  
Duty Cycle Factor : 3  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V/m})^2$   
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.053 W/kg  
10 gram SAR value : 0.034 W/kg  
Area Scan Peak SAR : 0.061 W/kg  
Zoom Scan Peak SAR : 0.120 W/kg

**Plot 29#**





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

**Hot Spot: Body- worn Front (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.502 W/kg  
 Power Drift-Finish : 0.496 W/kg  
 Power Drift (%) : -1.198

Tissue Data

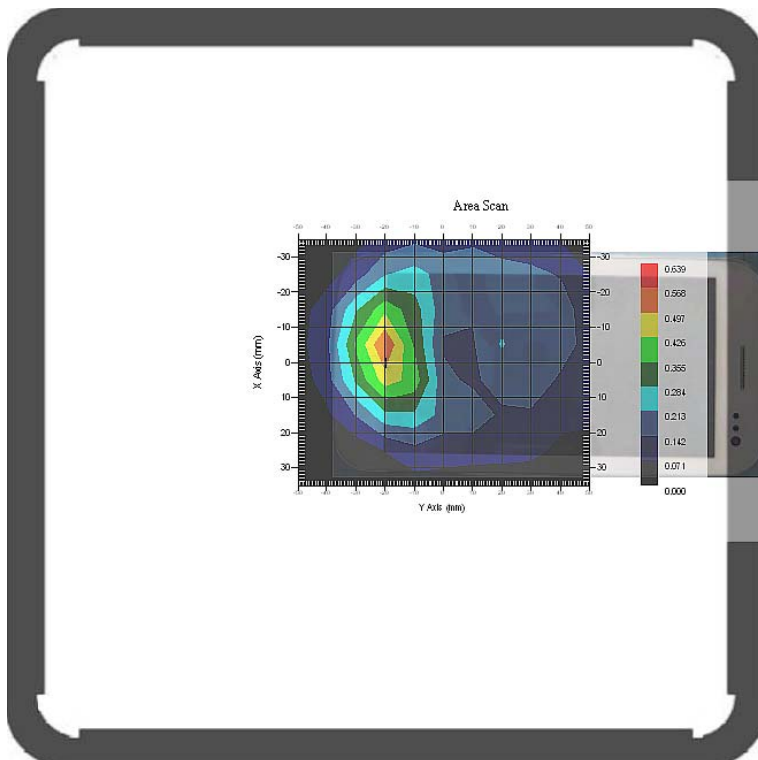
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 2  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.491 W/kg  
 10 gram SAR value : 0.268 W/kg  
 Area Scan Peak SAR : 0.570 W/kg  
 Zoom Scan Peak SAR : 0.820 W/kg

**Plot 30#**



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

**Hot Spot: Body- worn Back (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.685 W/kg  
 Power Drift-Finish : 0.671 W/kg  
 Power Drift (%) : -2.104

Tissue Data

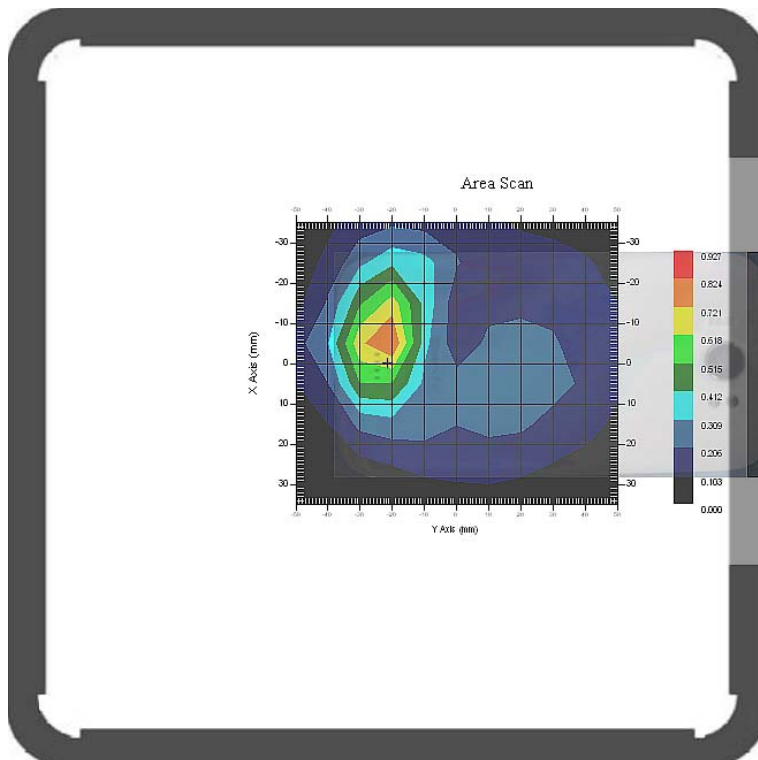
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 2  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.720 W/kg  
 10 gram SAR value : 0.361 W/kg  
 Area Scan Peak SAR : 0.825 W/kg  
 Zoom Scan Peak SAR : 1.461 W/kg

**Plot 31#**



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

**Hot Spot: Body- worn-Left (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.108 W/kg  
 Power Drift-Finish : 0.105 W/kg  
 Power Drift (%) : -2.911

Tissue Data

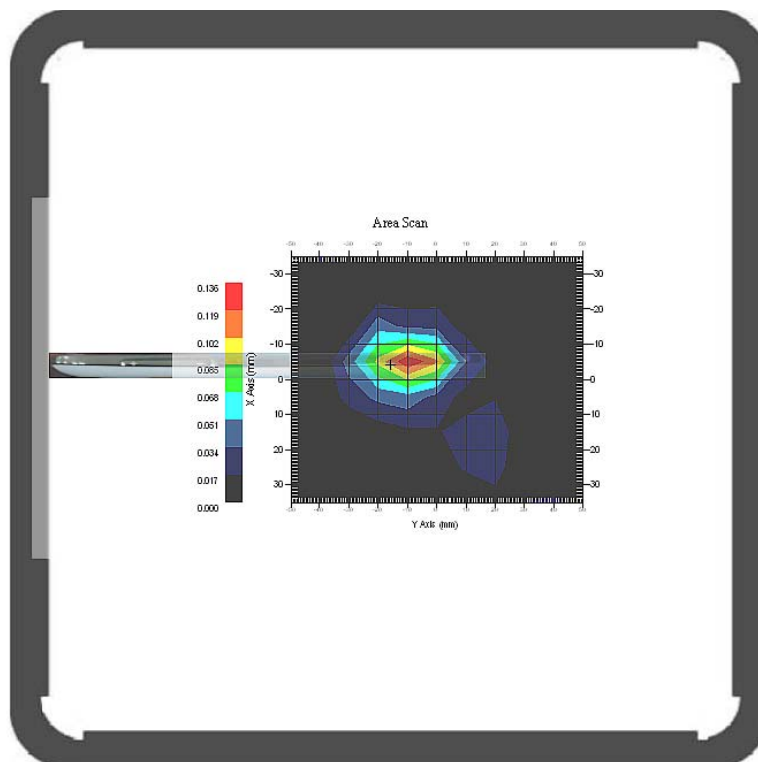
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 2  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.112 W/kg  
 10 gram SAR value : 0.043 W/kg  
 Area Scan Peak SAR : 0.133 W/kg  
 Zoom Scan Peak SAR : 0.360 W/kg

**Plot 32#**



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

**Hot Spot: Body- worn-Right (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 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 : 0.091 W/kg  
 Power Drift-Finish : 0.091 W/kg  
 Power Drift (%) : 0.327

Tissue Data

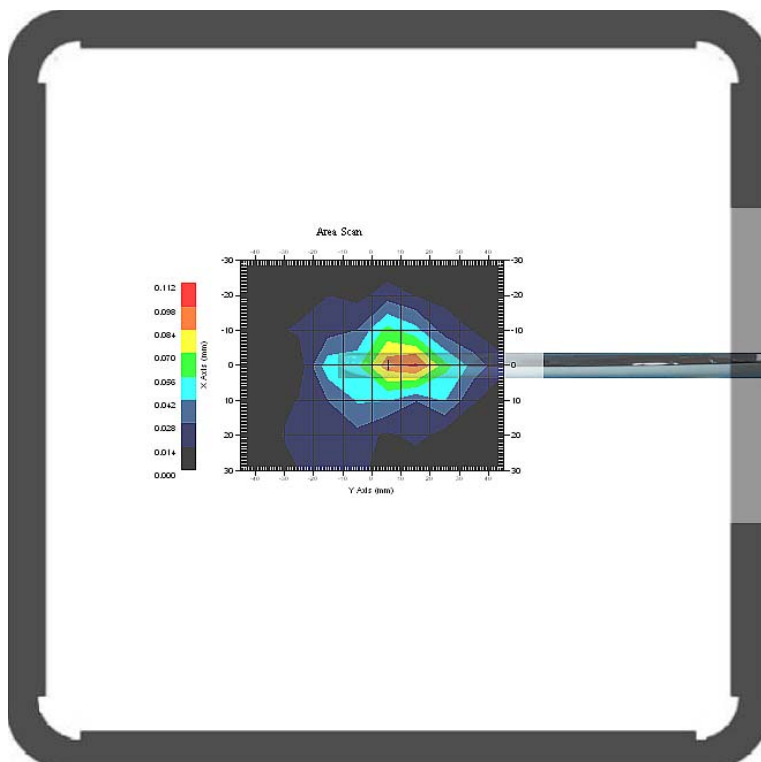
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 2  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.083 W/kg  
 10 gram SAR value : 0.032 W/kg  
 Area Scan Peak SAR : 0.100 W/kg  
 Zoom Scan Peak SAR : 0.230 W/kg

**Plot 33#**



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

**Hot Spot: Body- worn-Bottom (1850.2 MHz Low Channel)**

Measurement Data

Test mode : GPRS  
 Crest Factor : 2  
 Scan Type : Complete  
 Area Scan : 7x10x1 : Measurement x=10mm, y=10mm, z=4mm  
 Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm  
 Power Drift-Start : 0.631 W/kg  
 Power Drift-Finish : 0.622 W/kg  
 Power Drift (%) : -1.434

Tissue Data

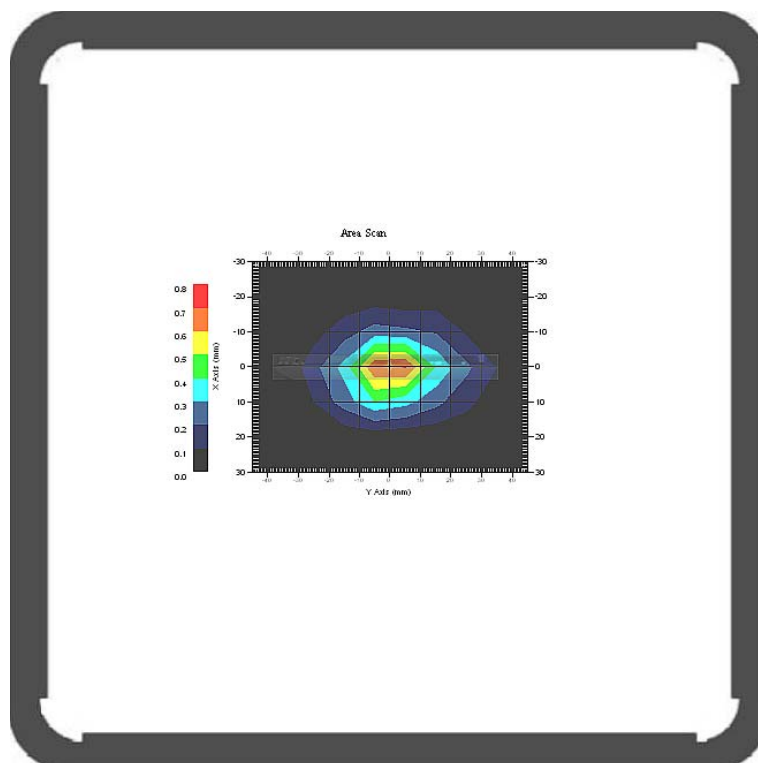
Type : Body  
 Frequency : 1850.20 MHz  
 Epsilon : 53.66 F/m  
 Sigma : 1.49 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 2  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.587 W/kg  
 10 gram SAR value : 0.250 W/kg  
 Area Scan Peak SAR : 0.701 W/kg  
 Zoom Scan Peak SAR : 1.090 W/kg

**Plot 34#**



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

**WCDMA850; Body-worn-Front (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 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 : 0.169 W/kg  
 Power Drift-Finish : 0.166 W/kg  
 Power Drift (%) : -1.722

Tissue Data

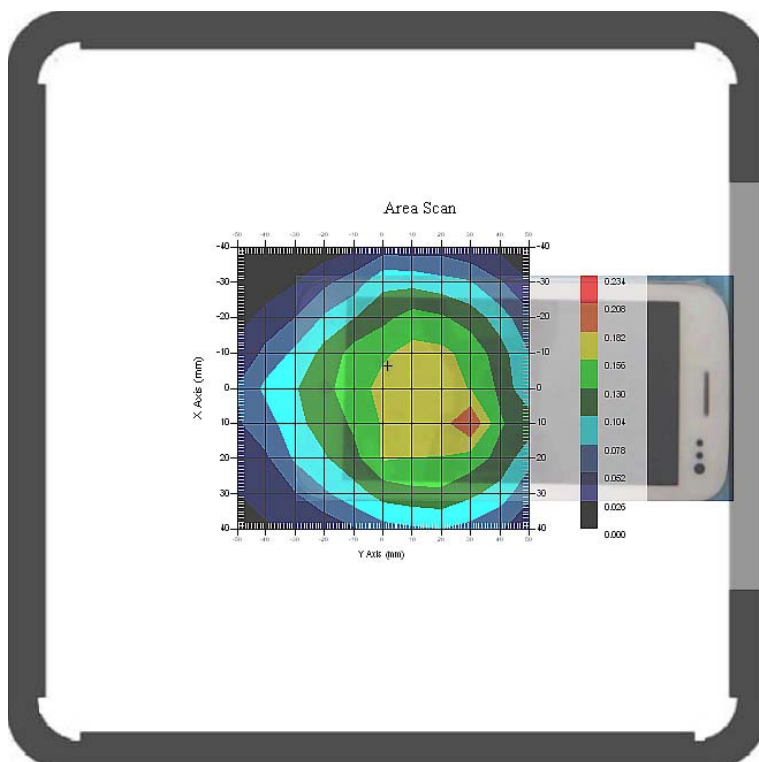
Type : Body  
 Frequency : 846.60 MHz  
 Epsilon : 55.90 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 850  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.178 W/kg  
 10 gram SAR value : 0.108 W/kg  
 Area Scan Peak SAR : 0.209 W/kg  
 Zoom Scan Peak SAR : 0.300 W/kg

**Plot 35#**



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

**WCDMA850; Body-worn-Back (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 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 : 0.192 W/kg  
 Power Drift-Finish : 0.195 W/kg  
 Power Drift (%) : 1.503

Tissue Data

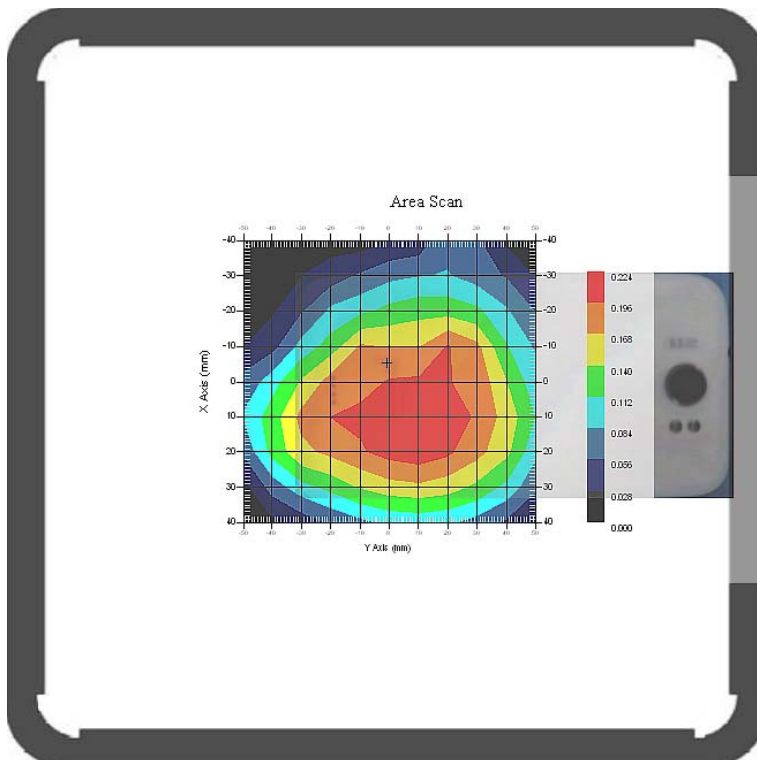
Type : Body  
 Frequency : 846.60 MHz  
 Epsilon : 55.90 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 850  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.218 W/kg  
 10 gram SAR value : 0.142 W/kg  
 Area Scan Peak SAR : 0.222 W/kg  
 Zoom Scan Peak SAR : 0.400 W/kg

**Plot 36#**



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

**WCDMA850; Body-worn-Left (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 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 : 0.121 W/kg  
 Power Drift-Finish : 0.119 W/kg  
 Power Drift (%) : -1.824

Tissue Data

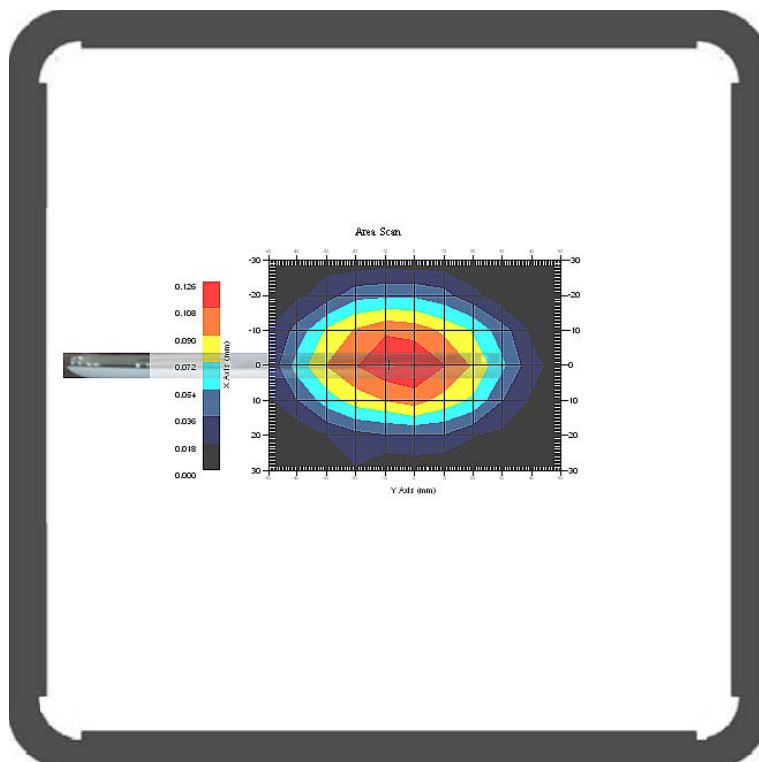
Type : Body  
 Frequency : 846.60 MHz  
 Epsilon : 55.90 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 850  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.116 W/kg  
 10 gram SAR value : 0.052 W/kg  
 Area Scan Peak SAR : 0.126 W/kg  
 Zoom Scan Peak SAR : 0.200 W/kg

**Plot 37#**





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

**WCDMA850; Body-worn-Right (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
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 : 0.084 W/kg  
Power Drift-Finish : 0.084W/kg  
Power Drift (%) : -0.633

Tissue Data

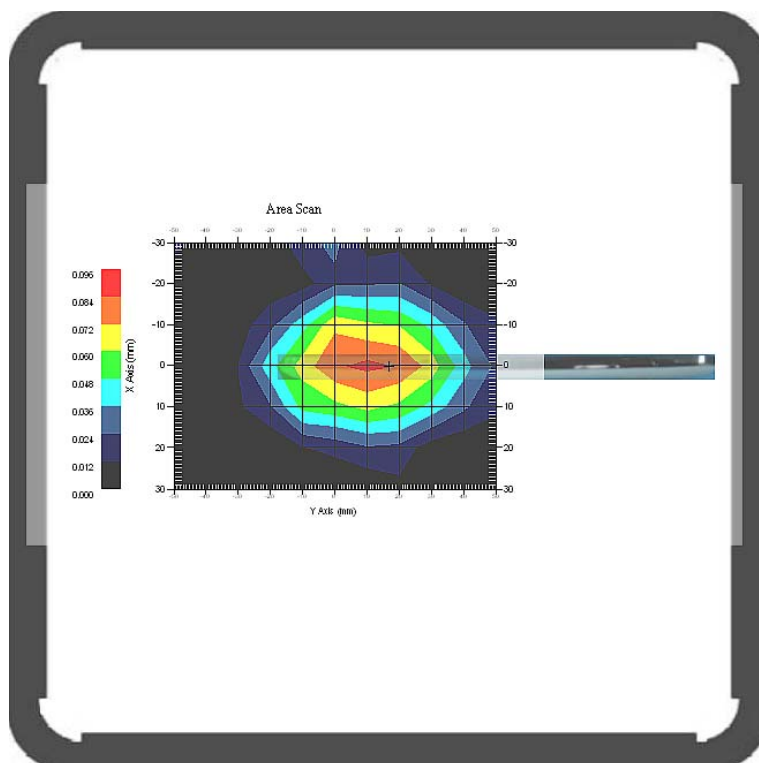
Type : Body  
Frequency : 846.60 MHz  
Epsilon : 55.90 F/m  
Sigma : 0.98 S/m  
Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
Frequency Band : 850  
Duty Cycle Factor : 1  
Conversion Factor : 6.6  
Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
Compression Point : 95.00 mV  
Offset : 1.56 mm

1 gram SAR value : 0.080 W/kg  
10 gram SAR value : 0.033 W/kg  
Area Scan Peak SAR : 0.087 W/kg  
Zoom Scan Peak SAR : 0.100 W/kg

**Plot 38#**



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

**WCDMA850; Body-worn-Bottom (846.6 MHz High Channel)**

Measurement Data

Test mode : WCDMA850  
 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 : 0.017 W/kg  
 Power Drift-Finish : 0.017 W/kg  
 Power Drift (%) : 2.293

Tissue Data

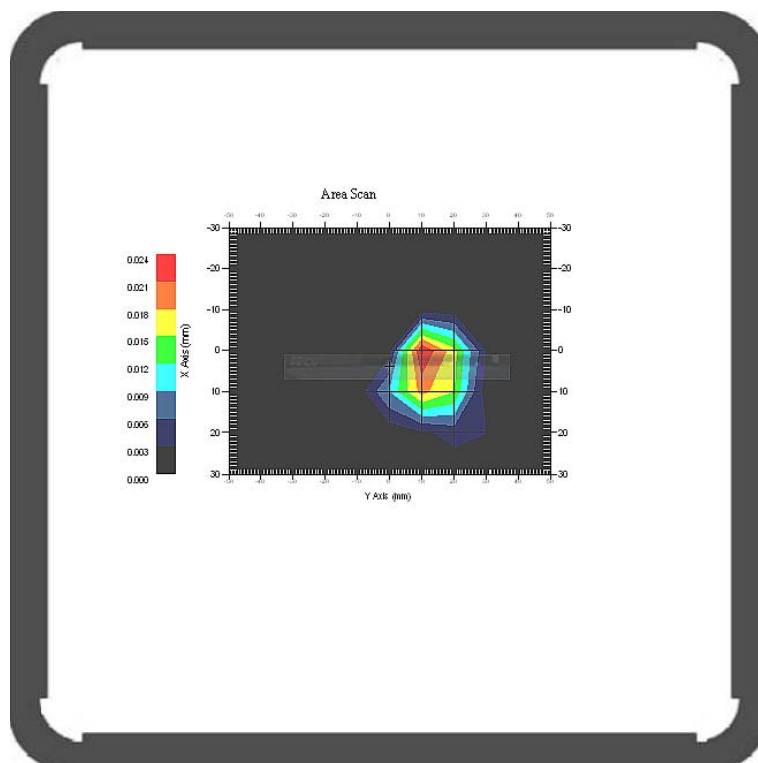
Type : Body  
 Frequency : 846.60 MHz  
 Epsilon : 55.90 F/m  
 Sigma : 0.98 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 850  
 Duty Cycle Factor : 1  
 Conversion Factor : 6.6  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.022 W/kg  
 10 gram SAR value : 0.010 W/kg  
 Area Scan Peak SAR : 0.024 W/kg  
 Zoom Scan Peak SAR : 0.058 W/kg

**Plot 39#**



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

**WCDMA1900; Body-worn-Front (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 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 : 0.495 W/kg  
 Power Drift-Finish : 0.502 W/kg  
 Power Drift (%) : 1.397

Tissue Data

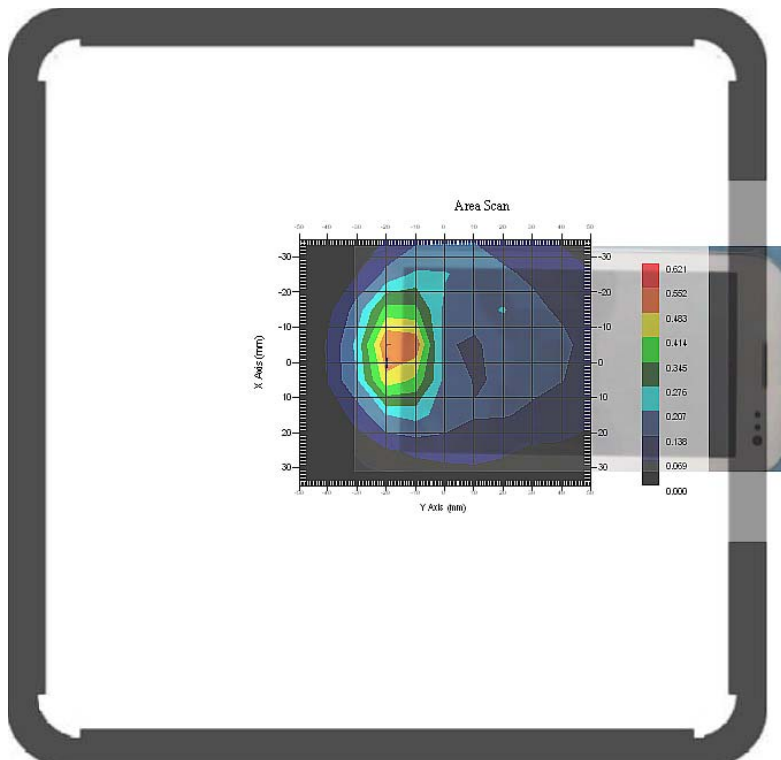
Type : Body  
 Frequency : 1880.0 MHz  
 Epsilon : 53.78 F/m  
 Sigma : 1.51 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.518 W/kg  
 10 gram SAR value : 0.259 W/kg  
 Area Scan Peak SAR : 0.555 W/kg  
 Zoom Scan Peak SAR : 1.050 W/kg

**Plot 40#**



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

**WCDMA1900; Body-worn-Back (1880.0 MHz Middle Channel)**

Measurement Data

Test mode : WCDMA1900  
 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 : 0.550 W/kg  
 Power Drift-Finish : 0.536 W/kg  
 Power Drift (%) : -2.317

Tissue Data

Type : Body  
 Frequency : 1880.0 MHz  
 Epsilon : 53.78 F/m  
 Sigma : 1.51 S/m  
 Density : 1000.00 kg/cu. m

Probe Data

Serial No. : 500-00283  
 Frequency Band : 1900  
 Duty Cycle Factor : 1  
 Conversion Factor : 5.0  
 Probe Sensitivity : 1.20 1.20 1.20  $\mu\text{V}/(\text{V}/\text{m})^2$   
 Compression Point : 95.00 mV  
 Offset : 1.56 mm

1 gram SAR value : 0.671 W/kg  
 10 gram SAR value : 0.366 W/kg  
 Area Scan Peak SAR : 0.686 W/kg  
 Zoom Scan Peak SAR : 1.151 W/kg

**Plot 41#**

