SAR EVALUATION REPORT

For

b mobile HK Limited

G/F. 144 UN CHAU STREET, SHAM SHUI PO, KOWLOON HONG KONG

FCC ID: ZSW-AX650-AX524

Report Type:	**Product Type:**
Original Report	Mobile Phone

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Report Number:	RSZ131125002-20
Report Date:	2013-12-04
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Attestation of Test Results			
EUT Information	**Company Name**	b mobile HK Limited	
	EUT Description	GSM/WCDMA Mobile Phone	
	FCC ID	ZSW-AX650-AX524	
	Model Number	AX650	
	Test Date	2013-11-29 to 2013-12-01	
Frequency	**Max. SAR Level(s) Reported**		**Limit(W/Kg)**
GSM 850	0.239 W/kg 1g Head SAR 1.033 W/kg 1g Body SAR		**1. 6**
PCS 1900	0.327 W/kg 1g Head SAR 0.693 W/kg 1g Body SAR		
WCDMA850	0.314 W/kg 1g Head SAR 0.484 W/kg 1g Body SAR		
WCDMA1900	0.592 W/kg 1g Head SAR 0.362 W/kg 1g Body SAR		
Simultaneous	0.924 W/kg 1g Head SAR 1.199 W/kg 1g Body SAR		
Applicable Standards	**ANSI/IEEE C95.1 : 2005** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fileds,3 kHz to 300 GHz.		
	ANSI/IEEE C95.3 : 2002 IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to SuchFields,100 kHz—300 GHz.		
	IEEE1528: 2003 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques		
	KDB Procedures KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies. KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets KDB 865664 D01 SAR Measurement Requirements for 100 MHz to 6 GHz KDB 941225 D01 SAR Measurement Procedures for 3G Devices-CDMA 2000/EV-Do WCDMA/HSDPA/HSUPA KDB 941225 D06 SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities.		

Note: 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 IEEE 1528-2003 and RF exposure KDB procedures.

The results and statements contained in this report pertain only to the device(s) evaluated.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
0	RSZ131125002-20	Original Report	2013-12-04

EUT DESCRIPTION

This report has been prepared on behalf of *b mobile HK Limited* and their product, FCC ID: ZSW-AX650-AX524, Model: *AX650* or the EUT (Equipment under Test) as referred to in the rest of this report. The EUT is a *Mobile Phone*.

Technical Specification

Product Type	Portable
Exposure Category:	Population/Uncontrolled
Antenna Type(s):	Internal Antennas
Body-Worn Accessories:	Headset
Face-Head Accessories:	None
Multi-slot Class:	Class 12
Operation Mode :	GSM Voice, GPRS Data, WCDMA, Wi-Fi and Bluetooth
Frequency Band:	GSM850 : 824-849 MHz (TX); 869-894 MHz (RX) PCS1900: 1850-1910 MHz (TX); 1930-1990 MHz (RX) WCDMA850: 824-849 MHz (TX); 869-894 MHz (RX) WCDMA1900: 1850-1910 MHz (TX); 1930-1990 MHz (RX) WiFi: 2412-2462 MHz/2422-2452 MHz (TX/RX) Bluetooth : 2402-2480 MHz (TX/RX) GPS:1574.52 MHz (RX)
Conducted RF Power:	GSM850 : 32.37 dBm PCS1900: 28.89 dBm WCDMA850: 22.06 dBm WCDMA1900: 22.62 dBm Wi-Fi: 8.95 dBm Bluetooth: 3.97 dBm
Dimensions (L*W*H):	125 mm (L) × 64.3 mm (W) × 11.6 mm (H)
Power Source:	3.7 V_{DC} mAh Rechargeable Battery
Normal Operation:	Head and Body-worn

REFERENCE, STANDARDS, AND GUILDELINES

FCC:

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

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

CE:

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

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

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

SAR Limits

FCC Limit (1g Tissue)

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

CE Limit (10g Tissue)

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

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

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

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

FACILITIES

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

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 10mm2 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/m3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1 g cube is 10mm,with the side length of the 10 g cube 21,5mm.

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

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

ALSAS-10U Interpolation and Extrapolation Uncertainty

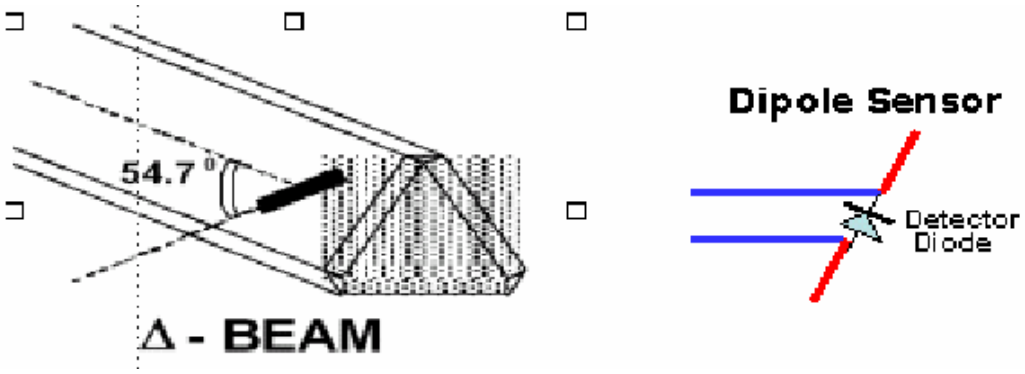
The overall uncertainty for the methodology and algorithms the used during the SAR calculation was evaluated using the data from IEEE 1528 based on the example f3 algorithm:

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

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

Calibration Method	Frequency Dependent Below 1 GHz Calibration in air performed in a TEM Cell Above 1 GHz Calibration in air performed in waveguide
Sensitivity	0.70 μV/(V/m)^2 to 0.85 μV/(V/m)^2
Dynamic Range	0.0005 W/kg to 100 W/kg
Isotropic Response	Better than 0.1 dB
Diode Compression Point (DCP)	Calibration for Specific Frequency
Probe Tip Diameter	< 2.9 mm
Sensor Offset	1.56 (+/- 0.02 mm)
Probe Length	289 mm
Video Bandwidth	@ 500 Hz: 1 dB @ 1.02 kHz: 3 dB
Boundary Effect	Less than 2.1% for distance greater than 0.58 mm
Spatial Resolution	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 5μV 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.

ADC	12 Bit
Amplifier Range	20 mV to 200 mV and 150 mV to 800 mV
Field Integration	Local Co-Processor utilizing proprietary integration algorithms
Number of Input Channels	4 in total 3 dedicated and 1 spare
Communication	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.

Robot/Controller Manufacturer	Thermo CRS
Number of Axis	Six independently controlled axis
Positioning Repeatability	0.05 mm
Controller Type	Single phase Pentium based C500C
Robot Reach	710 mm
Communication	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

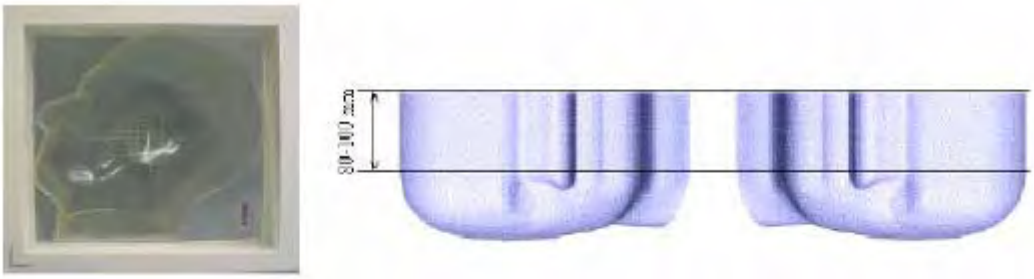
The universal device positioner allows complete freedom of movement of the EUT. Developed to hold a EUT in a free-space scenario any additional loading attributable to the material used in the construction of the positioner has been eliminated. Repeatability has been enhanced through the linear scales 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	
	εr	σ (S/m)	εr	σ (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

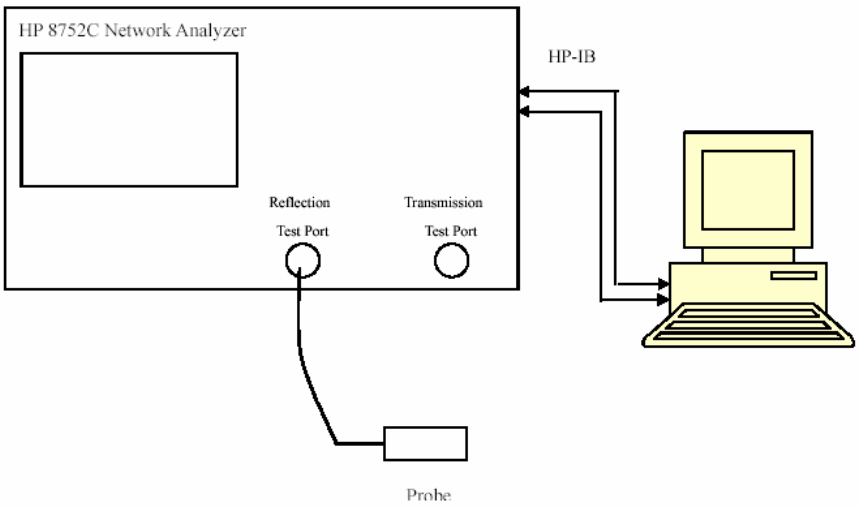
EQUIPMENT LIST AND CALIBRATION

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	2013-10-08	110-00212
Miniature E-Field Probe	ALS-E-020	2013-10-08	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 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
Power Amplifier	5S1G4	N/A	71377
Synthesized Sweeper	HP 8341B	2013-05-09	2624A00116
UNIVERSAL RADIO COMMUNICATION TESTER	CMU200	2013-11-23	106891
EMI Test Receiver	ESCI	2013-11-12	101120

SAR MEASUREMENT SYSTEM VERIFICATION

Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
824.2	Head	41.22	0.90	41.50	0.90	-0.678	0.000	±5
	Body	54.55	0.95	55.20	0.97	-1.183	-2.062	±5
826.4	Head	41.11	0.91	41.50	0.90	-0.949	1.111	±5
	Body	54.56	0.96	55.20	0.97	-1.155	-1.031	±5
836.6	Head	41.16	0.92	41.50	0.90	-0.812	2.222	±5
	Body	54.63	0.97	55.20	0.97	-1.041	0.000	±5
846.6	Head	41.02	0.93	41.50	0.90	-1.152	3.333	±5
	Body	54.69	0.99	55.20	0.97	-0.927	2.062	±5
848.8	Head	40.94	0.93	41.50	0.90	-1.340	3.333	±5
	Body	54.70	0.99	55.20	0.97	-0.899	2.062	±5
1850.2	Head	39.73	1.41	40.00	1.40	-0.681	0.714	±5
	Body	51.90	1.47	53.30	1.52	-2.621	-3.289	±5
1852.4	Head	39.73	1.40	40.00	1.40	-0.674	0.000	±5
	Body	51.85	1.47	53.30	1.52	-2.714	-3.289	±5
1880.0	Head	39.74	1.43	40.00	1.40	-0.660	2.143	±5
	Body	51.66	1.51	53.30	1.52	-3.085	-0.658	±5
1907.6	Head	39.74	1.44	40.00	1.40	-0.646	2.857	±5
	Body	51.62	1.53	53.30	1.52	-3.149	0.658	±5
1909.8	Head	39.74	1.45	40.00	1.40	-0.645	3.571	±5
	Body	51.73	1.52	53.30	1.52	-2.941	0.000	±5

**Liquid Verification was performed on 2013-11-29.*

Please refer to the following tables.

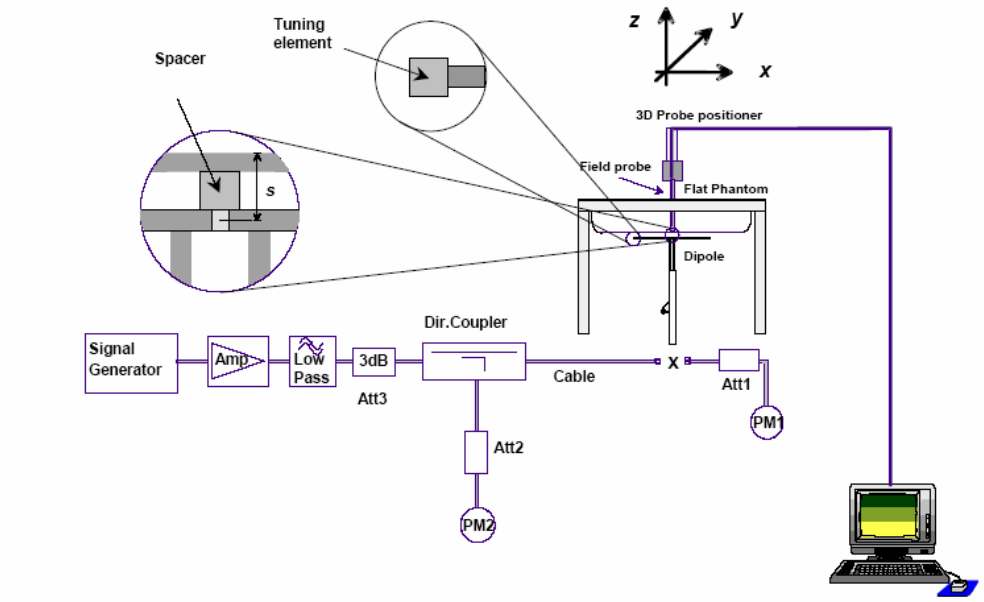
835 MHz Head				835 MHz Body		
Frequency (MHz)	e'	e''		Frequency (MHz)	e'	e''
824.0	41.2185	19.7379		824.0	54.5471	20.7966
824.5	41.1875	19.7384		824.5	54.5502	20.6961
825.0	41.1709	19.7390		825.0	54.5533	20.7086
825.5	41.0657	19.7395		825.5	54.5565	20.7210
826.0	41.0841	19.7401		826.0	54.5596	20.8561
826.5	41.1060	19.7406		826.5	54.5627	20.9198
827.0	41.0825	19.7412		827.0	54.5659	20.8343
827.5	41.1298	19.7417		827.5	54.5690	20.7125
828.0	41.1494	19.7423		828.0	54.5722	20.7470
828.5	41.1558	19.7428		828.5	54.5753	20.7045
829.0	41.2067	19.7434		829.0	54.5784	20.8086
829.5	41.1552	19.7439		829.5	54.5816	20.7514
830.0	41.1916	19.7445		830.0	54.5847	20.6293
830.5	41.1516	19.7451		830.5	54.5878	20.6937
831.0	41.1246	19.7456		831.0	54.5910	20.6789
831.5	41.1442	19.7462		831.5	54.5941	20.8863
832.0	41.1060	19.7467		832.0	54.5973	20.8640
832.5	41.0808	19.7473		832.5	54.6004	20.6407
833.0	41.1214	19.7478		833.0	54.6035	20.5741
833.5	41.1528	19.7484		833.5	54.6067	20.6855
834.0	41.1502	19.7489		834.0	54.6098	20.8374
834.5	41.1488	19.7495		834.5	54.6130	20.7303
835.0	41.1736	19.7500		835.0	54.6161	20.6738
835.5	41.1746	19.7509		835.5	54.6192	20.9215
836.0	41.1782	19.7518		836.0	54.6224	20.9284
836.5	41.1632	19.7526		836.5	54.6255	20.7862
837.0	41.1500	19.7535		837.0	54.6286	20.6133
837.5	41.1443	19.7543		837.5	54.6318	20.6496
838.0	41.1674	19.7552		838.0	54.6349	20.9339
838.5	41.1260	19.7560		838.5	54.6381	20.9491
839.0	41.1159	19.7569		839.0	54.6412	20.8711
839.5	41.1184	19.7577		839.5	54.6443	20.8060
840.0	41.1294	19.7586		840.0	54.6475	20.8732
840.5	41.1188	19.7594		840.5	54.6506	20.9185
841.0	41.1021	19.7603		841.0	54.6537	20.8737
841.5	41.1315	19.7612		841.5	54.6569	20.8104
842.0	41.1332	19.7620		842.0	54.6600	20.9863
842.5	41.1369	19.7629		842.5	54.6632	20.9548
843.0	41.1310	19.7537		843.0	54.6663	20.9152
843.5	41.0547	19.7545		843.5	54.6694	20.8707
844.0	41.1309	19.7554		844.0	54.6726	20.8883
844.5	41.0852	19.7563		844.5	54.6757	20.9142
845.0	41.0113	19.7571		845.0	54.6788	20.8237
845.5	41.0266	19.7580		845.5	54.6820	20.7700
846.0	40.9811	19.7789		846.0	54.6851	20.9430
846.5	41.0221	19.7797		846.5	54.6883	21.0044
847.0	41.0023	19.7806		847.0	54.6914	20.9533
847.5	41.0055	19.7815		847.5	54.6945	20.8736
848.0	40.9791	19.7823		848.0	54.6977	20.9638
848.5	40.9837	19.7832		848.5	54.7008	21.0418
849.0	40.9440	19.7840		849.0	54.7040	21.0420

1900 MHz Head				1900 MHz Body		
Frequency (MHz)	e'	e''		Frequency (MHz)	e'	e''
1850.0	39.7277	13.6858		1850.0	51.9029	14.2929
1851.2	39.7300	13.6558		1851.2	51.8348	14.2503
1852.4	39.7302	13.6231		1852.4	51.8537	14.2514
1853.6	39.7305	13.6465		1853.6	51.8303	14.2277
1854.8	39.7307	13.6404		1854.8	51.7331	14.2471
1856.0	39.7310	13.5645		1856.0	51.8361	14.2836
1857.2	39.7312	13.7044		1857.2	51.8293	14.3095
1858.4	39.7315	13.6006		1858.4	51.8113	14.2308
1859.6	39.7317	13.6545		1859.6	51.7930	14.2251
1860.8	39.7320	13.6559		1860.8	51.6888	14.2779
1862.0	39.7322	13.6724		1862.0	51.7164	14.1051
1863.2	39.7325	13.6948		1863.2	51.6624	14.1179
1864.4	39.7327	13.7298		1864.4	51.6972	14.1350
1865.6	39.7330	13.7244		1865.6	51.7036	14.1060
1866.8	39.7332	13.7132		1866.8	51.7787	14.0966
1868.0	39.7335	13.7317		1868.0	51.8471	14.1127
1869.2	39.7337	13.7925		1869.2	51.8562	14.1351
1870.4	39.7340	13.7852		1870.4	51.7697	14.1866
1871.6	39.7342	13.7591		1871.6	51.7120	14.1873
1872.8	39.7345	13.7892		1872.8	51.7505	14.2162
1874.0	39.7347	13.7319		1874.0	51.6769	14.2246
1875.2	39.7350	13.7659		1875.2	51.7401	14.2878
1876.4	39.7352	13.7639		1876.4	51.6432	14.2106
1877.6	39.7354	13.8284		1877.6	51.7455	14.2906
1878.8	39.7357	13.7240		1878.8	51.7733	14.4225
1880.0	39.7359	13.6692		1880.0	51.6556	14.4414
1881.2	39.7362	13.7180		1881.2	51.6138	14.4385
1882.4	39.7364	13.7406		1882.4	51.7094	14.4098
1883.6	39.7367	13.7093		1883.6	51.6749	14.3659
1884.8	39.7369	13.7099		1884.8	51.6998	14.3886
1886.0	39.7372	13.7092		1886.0	51.7350	14.3208
1887.2	39.7374	13.7044		1887.2	51.7158	14.2970
1888.4	39.7377	13.6995		1888.4	51.8055	14.3313
1889.6	39.7379	13.6947		1889.6	51.7360	14.3359
1890.8	39.7382	13.6898		1890.8	51.7817	14.3927
1892.0	39.7384	13.6850		1892.0	51.7697	14.1889
1893.2	39.7387	13.6801		1893.2	51.7421	14.1498
1894.4	39.7389	13.6753		1894.4	51.7148	14.1989
1895.6	39.7392	13.6704		1895.6	51.7076	14.5327
1896.8	39.7394	13.6656		1896.8	51.6975	14.5308
1898.0	39.7397	13.6607		1898.0	51.6978	14.5114
1899.2	39.7399	13.6559		1899.2	51.7748	14.5118
1900.4	39.7402	13.6511		1900.4	51.7398	14.4105
1901.6	39.7404	13.6462		1901.6	51.7432	14.4998
1902.8	39.7407	13.6414		1902.8	51.7123	14.4598
1904.0	39.7409	13.6365		1904.0	51.7940	14.4287
1905.2	39.7412	13.6317		1905.2	51.7058	14.3972
1906.4	39.7414	13.6268		1906.4	51.6957	14.3221
1907.6	39.7417	13.6220		1907.6	51.6214	14.4389
1908.8	39.7419	13.6171		1908.8	51.7057	14.3743
1910.0	39.7422	13.6123		1910.0	51.7322	14.3379

System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±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	2013-10-08	2014-10-07
APREL	Dipole antenna(850MHz)	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

System Accuracy Check Results

Date	Frequency Band	Liquid Type	Measured SAR (W/Kg)		Target Value (W/Kg)	Delta (%)	Tolerance (%)
2013-11-29	835	Head	1g	9.653	9.590	0.657	±10
		Body	1g	9.824	9.684	1.446	±10
	1900	Head	1g	40.548	39.648	2.270	±10
		Body	1g	41.019	39.769	3.143	±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 : 10.066 W/kg
Power Drift-Finish : 9.926 W/kg
Power Drift (%) : -1.391

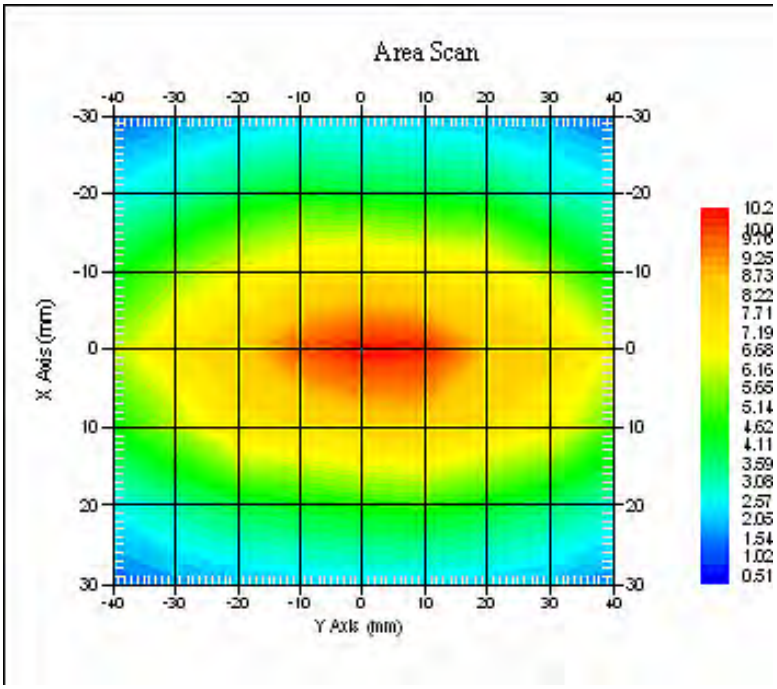
Phantom Data
Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : System Default
Location : Center
Description : Default
Phantom Data

Tissue Data
Type : Head
Serial No. : 270-01002
Frequency : 835.0 MHz
Last Calib. Date : 29-Nov-2013
Temperature : 20.00 °C
Ambient Temp. : 21.00 °C
Humidity : 56.00 RH%
Epsilon : 41.17 F/m
Sigma : 0.92 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 : 08-Oct-2013
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

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

1 gram SAR value : 9.653 W/kg
10 gram SAR value : 5.904 W/kg
Area Scan Peak SAR : 9.876 W/kg
Zoom Scan Peak SAR : 15.113 W/kg



835 MHz System Validation with Head Tissue

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

System Performance Check 835 MHz 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 : 9.948 W/kg
Power Drift-Finish : 9.973 W/kg
Power Drift (%) : -0.251

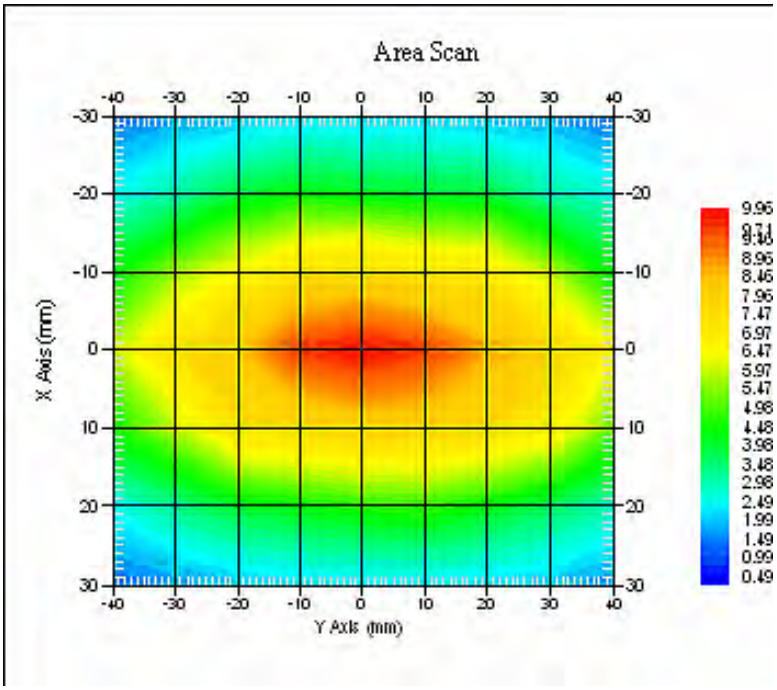
Phantom Data
Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : System Default
Location : Center
Description : Default
Phantom Data

Tissue Data
Type : Body
Serial No. : 270-02101
Frequency : 835.0 MHz
Last Calib. Date : 29-Nov-2013
Temperature : 20.00 °C
Ambient Temp. : 21.00 °C
Humidity : 56.00 RH%
Epsilon : 54.62 F/m
Sigma : 0.96 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 : 08-Oct-2013
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

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

1 gram SAR value : 9.824 W/kg
10 gram SAR value : 6.318 W/kg
Area Scan Peak SAR : 10.124 W/kg
Zoom Scan Peak SAR : 15.846 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 : 38.948 W/kg
Power Drift-Finish : 39.534 W/kg
Power Drift (%) : 1.505

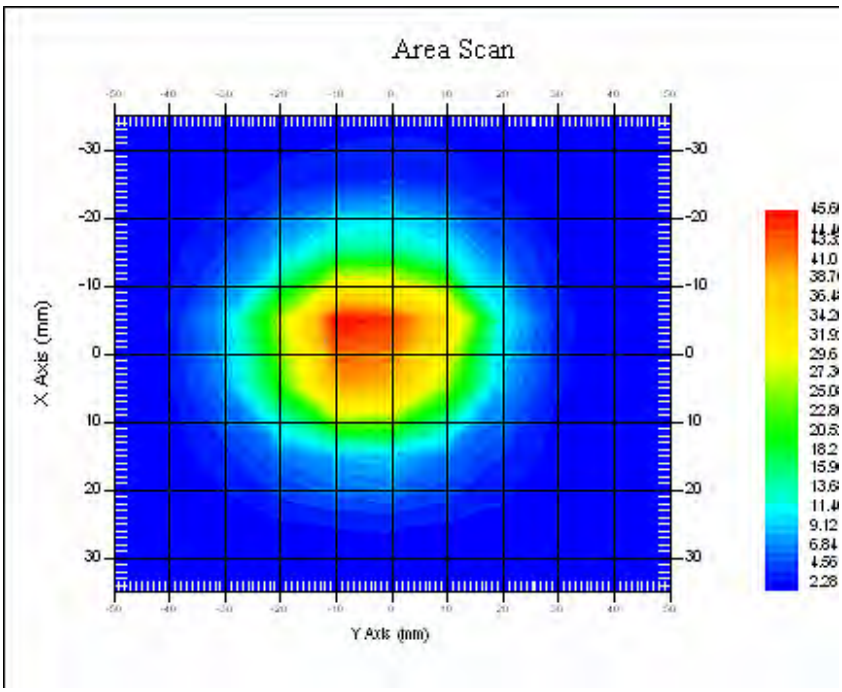
Phantom Data
Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : System Default
Location : Center
Description : Default

Tissue Data
Type : Head
Serial No. : 295-01103
Frequency : 1900.00 MHz
Last Calib. Date : 29-Nov-2013
Temperature : 20.00 °C
Ambient Temp. : 21.00 °C
Humidity : 56.00 RH%
Epsilon : 39.74 F/m
Sigma : 1.44 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 : 08-Oct-2013
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

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

1 gram SAR value : 40.548 W/kg
10 gram SAR value : 23.203 W/kg
Area Scan Peak SAR : 40.624 W/kg
Zoom Scan Peak SAR : 73.046 W/kg



1900 MHz System Validation with Head Tissue

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

System Performance Check 1900 MHz 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 : 41.234 W/kg
Power Drift-Finish : 41.462 W/kg
Power Drift (%) : 0.553

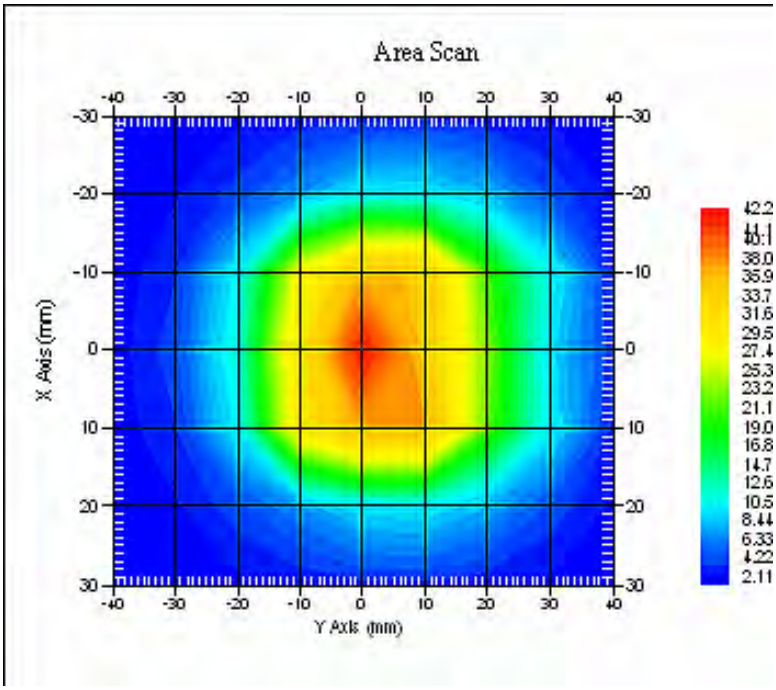
Phantom Data
Name : APREL-Uni
Type : Uni-Phantom
Size (mm) : 280 x 280 x 200
Serial No. : System Default
Location : Center
Description : Default

Tissue Data
Type : Body
Serial No. : 295-02102
Frequency : 1900.00 MHz
Last Calib. Date : 29-Nov-2013
Temperature : 20.00 °C
Ambient Temp. : 21.00 °C
Humidity : 56.00 RH%
Epsilon : 51.74 F/m
Sigma : 1.52 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 : 08-Oct-2013
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

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

1 gram SAR value : 41.019 W/kg
10 gram SAR value : 22.450 W/kg
Area Scan Peak SAR : 41.572 W/kg
Zoom Scan Peak SAR : 75.148 W/kg



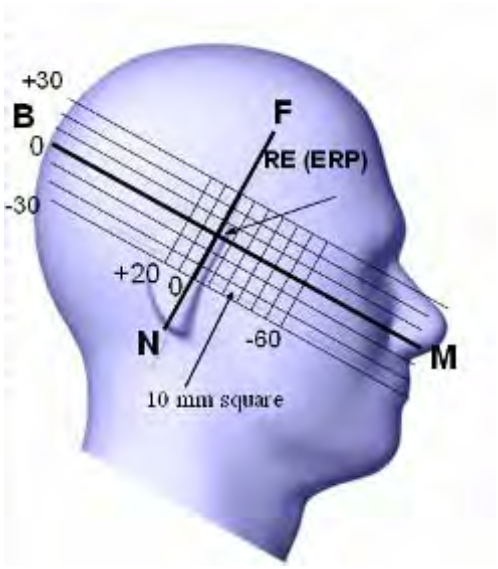
1900 MHz System Validation with Body Tissue

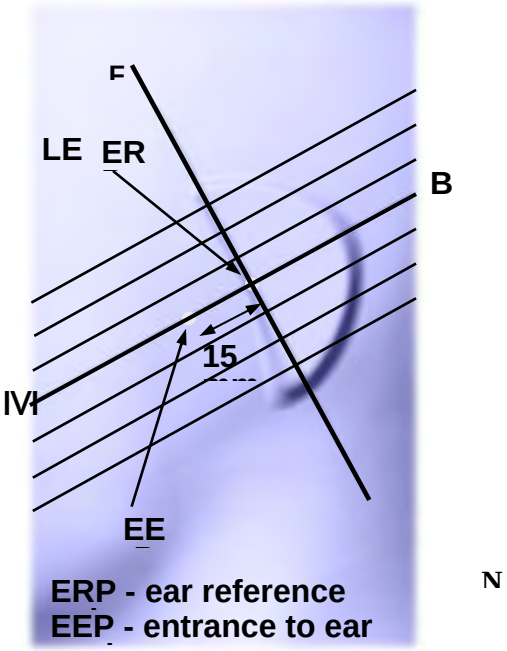
EUT TEST STRATEGY AND METHODOLOGY

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

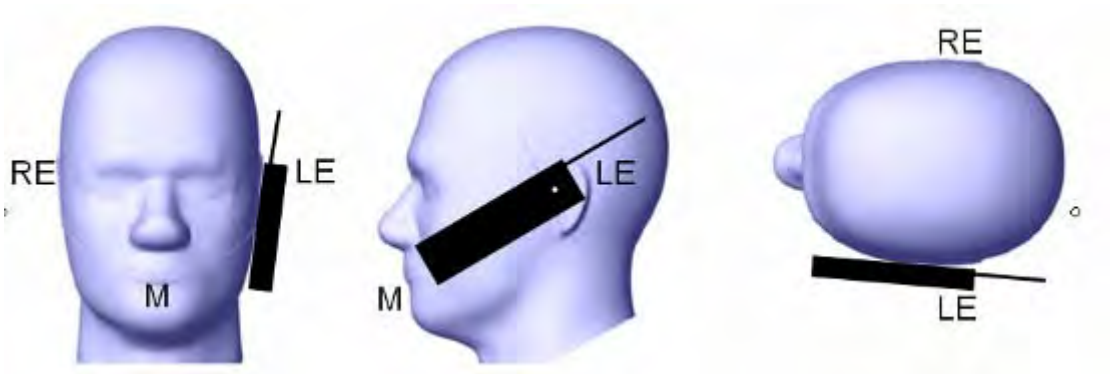
The device is brought toward the mouth of the head phantom by pivoting against the "ear reference point" or along the "N-F" line for the SCC-34/SC-2 head phantom.

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

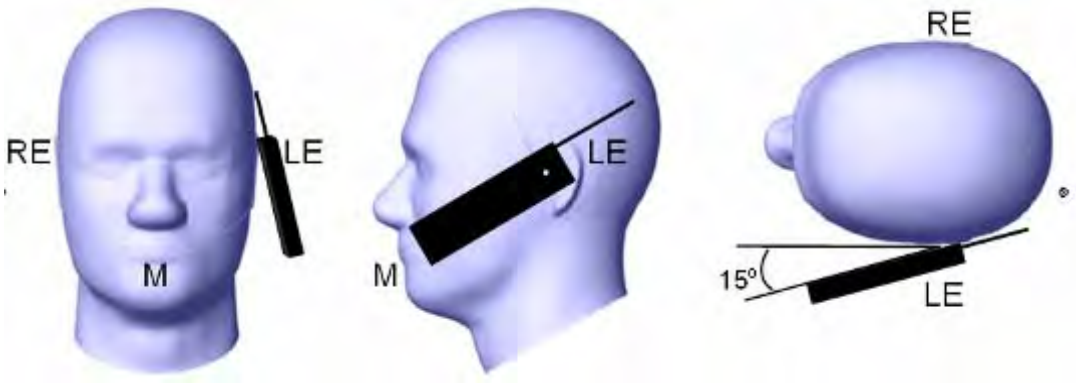
With the handset aligned in the "Cheek/Touch Position":

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 isby 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.

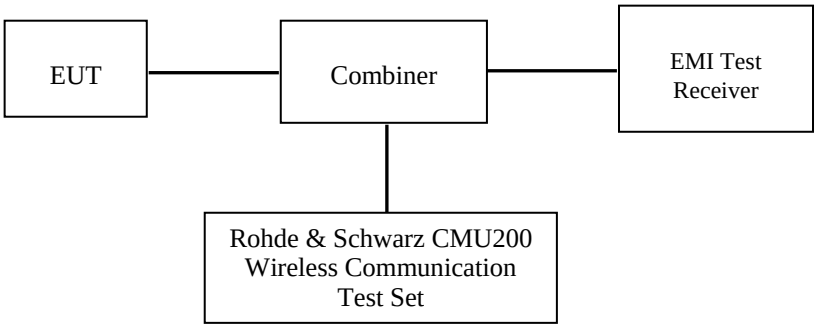
CONDUCTED OUTPUT POWER MEASUREMENT

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

Maximum Output Power among production units

Max Target Power for Production Unit (dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM 850	32.50	32.50	32.50
GPRS 1 slot	32.50	32.50	32.50
GPRS 2 slot	32.00	32.00	32.00
GPRS 3 slot	30.00	30.00	30.00
GPRS 4 slot	29.00	29.00	29.00
PCS 1900	29.00	29.00	29.00
GPRS 1 slot	29.00	29.00	29.00
GPRS 2 slot	28.50	28.50	28.50
GPRS 3 slot	26.50	26.50	26.50
GPRS 4 slot	25.50	25.50	25.50
WCDMA850	22.50	22.50	22.50
WCDMA1900	23.00	23.00	23.00
WiFi 802.11b	9.00	9.00	9.00
WiFi 802.11g	8.00	8.00	8.00
WiFi 802.11n-HT20	7.00	7.00	7.00
WiFi 802.11n-HT40	6.00	6.00	6.00
Bluetooth	4.00	4.00	4.00

Test Results:

GSM

Band	Frequency (MHz)	Conducted Peak Output Power	
		Meas. Power (dBm)	Meas. Power (W)
GSM 850	824.2	32.08	1.614
	836.6	32.25	1.679
	848.8	32.37	1.726
PCS 1900	1850.2	28.80	0.759
	1880.0	28.79	0.757
	1909.8	28.89	0.774

GPRS

Band	Channel No.	Frequency (MHz)	RF Peak Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	32.14	31.68	29.78	28.62
	190	836.6	32.33	31.85	29.86	28.76
	251	848.8	32.42	31.85	29.92	28.76
PCS 1900	512	1850.2	28.80	28.04	26.17	25.10
	661	1880.0	28.78	28.03	26.22	25.14
	810	1909.8	28.90	28.09	26.33	25.20

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

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

The time based average power for GPRS

Band	Channel No.	Frequency (MHz)	Time based average Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	23.14	25.68	25.53	25.62
	190	836.6	23.33	25.85	25.61	25.76
	251	848.8	23.42	25.85	25.67	25.76
PCS 1900	512	1850.2	19.80	22.04	21.92	22.10
	661	1880.0	19.78	22.03	21.97	22.14
	810	1909.8	19.90	22.09	22.08	22.20

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 timeslots has been activated separately with power level 5(850 MHz band) and 0(1900 MHz band).

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).

WCDMA General Settings	**Loopback Mode**	Test Mode 1
	Rel99 RMC	12.2 kbps RMC
	Power Control Algorithm	Algorithm2
	βc /βd	8/15

Results (12.2kbps RMC)

Band	**Frequency (MHz)**	**Channel NO.**	**Conducted Output Power**	
			(dBm)	**(Watt)**
WCDMA 850	826.4	4132	22.06	0.161
	836.6	4183	22.05	0.160
	846.6	4233	21.89	0.155
WCDMA 1900	1852.4	9262	22.62	0.183
	1880.0	9400	21.95	0.157
	1907.6	9538	21.47	0.140

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	12.2 kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	βc	2/15	12/15	15/15	15/15
	βd	15/15	15/15	8/15	4/15
	βd (SF)	64			
	βc/ βd	2/15	12/15	15/8	15/4
	βhs	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			
	Ahs= βhs/βc	30/15			

Results (HSDPA)

Band	Frequency (MHz)	Channel NO.	Conducted Output Power (dBm)			
			Subset 1	Subset 2	Subset 3	Subset 4
WCDMA 850	826.4	4132	21.98	21.99	21.87	21.85
	836.6	4183	21.96	22.01	21.97	21.78
	846.6	4233	21.87	21.86	20.80	21.88
WCDMA 1900	1852.4	9262	21.62	21.61	21.58	21.63
	1880.0	9400	20.83	20.82	20.69	20.84
	1907.6	9538	20.37	20.28	20.65	20.38

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	12.2 kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	βc	11/15	6/15	15/15	2/15	15/15
	βd	15/15	15/15	9/15	15/15	0
	βec	209/225	12/15	30/15	2/15	5/15
	βc/ βd	11/15	6/15	15/9	2/15	-
	βhs	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				
	Ahs= βhs/βc	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	

Results (HSUPA)

Band	Frequency (MHz)	Channel NO.	Conducted Output Power (dBm)				
			Subset 1	Subset 2	Subset 3	Subset 4	Subset 5
WCDMA 850	826.4	4132	21.78	21.76	21.70	22.73	21.72
	836.6	4183	21.82	21.83	21.87	22.80	21.86
	846.6	4233	21.87	21.86	21.93	21.90	21.88
WCDMA 1900	1852.4	9262	21.64	21.65	21.69	21.66	21.67
	1880.0	9400	20.76	20.73	20.55	20.78	20.74
	1907.6	9538	20.38	20.30	20.13	20.31	20.25

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.

Bluetooth

Mode	Channel frequency (MHz)	Reading power (dBm)	Power output (mw)	Limit (mw)
BDR(GFSK)	(Low)2402	3.14	2.061	1000
	(Middle)2441	3.89	2.449	1000
	(High)2480	3.89	2.449	1000
EDR(4-DQPSK)	(Low)2402	2.70	1.862	1000
	(Middle)2441	3.49	2.234	1000
	(High)2480	3.45	2.213	1000
EDR-8DPSK	(Low)2402	3.14	2.061	1000
	(Middle)2441	3.95	2.483	1000
	(High)2480	3.97	2.495	1000

Wi-Fi

Band	Frequency (MHz)	Conducted Output Power	
		(dBm)	(mw)
802.11b	2412	8.48	7.047
	2437	8.88	7.727
	2462	8.95	7.852
802.11g	2412	7.91	6.180
	2437	7.44	5.546
	2462	7.68	5.861
802.11n-HT20	2412	6.87	4.864
	2437	6.81	4.797
	2462	6.13	4.102
802.11n-HT40	2422	5.97	3.954
	2437	5.83	3.828
	2452	5.70	3.715

Note:

1. The output power was tested under data rate 1Mbps for 802.11b, 6Mbps for 802.11g, 6.5Mbps for 802.11n-HT20, 13.5Mbps for 802.11n-HT20
2. KDB248227-SAR is not required for 802.11g/802.11n channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

SAR Test Data

Environmental Conditions

Temperature:	21-24 ℃
Relative Humidity:	50-53 %
ATM Pressure:	1001-1002 mbar

** Testing was performed by Wilson Chen on 2013-11-29 to 2013-12-01*

GSM 850:

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Left Head Cheek	128(Low)	824.2	GSM	/	/	/	/	/	/
	190(Middle)	836.6	GSM	2.649	32.25	32.50	1.059	0.224	0.237
	251(High)	848.8	GSM	/	/	/	/	/	/
Left Head Tilt	128(Low)	824.2	GSM	/	/	/	/	/	/
	190(Middle)	836.6	GSM	1.339	32.25	32.50	1.059	0.122	0.129
	251(High)	848.8	GSM	/	/	/	/	/	/
Right Head Cheek	128(Low)	824.2	GSM	-0.136	32.08	32.50	1.102	0.203	0.224
	190(Middle)	836.6	GSM	0.712	32.25	32.50	1.059	0.226	**0.239**
	251(High)	848.8	GSM	1.328	32.37	32.50	1.030	0.191	0.197
Right Head Tilt	128(Low)	824.2	GSM	/	/	/	/	/	/
	190(Middle)	836.6	GSM	1.531	32.25	32.50	1.059	0.122	0.129
	251(High)	848.8	GSM	/	/	/	/	/	/
Body-Front-Headset (10 mm)	128(Low)	824.2	GSM	/	/	/	/	/	/
	190(Middle)	836.6	GSM	3.213	32.25	32.50	1.059	0.293	0.310
	251(High)	848.8	GSM	/	/	/	/	/	/
Body-Back-Headset (10 mm)	128(Low)	824.2	GSM	/	/	/	/	/	/
	190(Middle)	836.6	GSM	-1.660	32.25	32.50	1.059	0.647	0.685
	251(High)	848.8	GSM	/	/	/	/	/	/

PCS Band:

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Left Head Cheek	512(Low)	1850.2	GSM	0.783	28.80	29.00	1.047	0.272	0.285
	661(Middle)	1880.0	GSM	2.628	28.79	29.00	1.050	0.247	0.259
	810(High)	1909.8	GSM	2.085	28.89	29.00	1.026	0.319	**0.327**
Left Head Tilt	512(Low)	1850.2	GSM	/	/	/	/	/	/
	661(Middle)	1880.0	GSM	-1.066	28.79	29.00	1.050	0.059	0.062
	810(High)	1909.8	GSM	/	/	/	/	/	/
Right Head Cheek	512(Low)	1850.2	GSM	/	/	/	/	/	/
	661(Middle)	1880.0	GSM	0.024	28.79	29.00	1.050	0.238	0.250
	810(High)	1909.8	GSM	/	/	/	/	/	/
Right Head Tilt	512(Low)	1850.2	GSM	/	/	/	/	/	/
	661(Middle)	1880.0	GSM	1.278	28.79	29.00	1.050	0.060	0.063
	810(High)	1909.8	GSM	/	/	/	/	/	/
Body-Front-Headset (10 mm)	512(Low)	1850.2	GSM	/	/	/	/	/	/
	661(Middle)	1880.0	GSM	-0.576	28.79	29.00	1.050	0.150	0.157
	810(High)	1909.8	GSM	/	/	/	/	/	/
Body-Back-Headset (10 mm)	512(Low)	1850.2	GSM	/	/	/	/	/	/
	661(Middle)	1880.0	GSM	-0.813	28.79	29.00	1.050	0.308	0.323
	810(High)	1909.8	GSM	/	/	/	/	/	/

Note:
1. When the 1-g SAR is ≤ 0.8W/Kg, testing for other channels are optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

WCDMA 850

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Left Head Cheek	4132	826.4	WCDMA 850	-1.213	22.06	22.50	1.107	0.258	0.286
	4183	836.6	WCDMA 850	2.280	22.05	22.50	1.109	0.241	0.267
	4233	846.6	WCDMA 850	0.467	21.89	22.50	1.151	0.273	**0.314**
Left Head Tilt	4132	826.4	WCDMA 850	-0.444	22.06	22.50	1.107	0.096	0.106
	4183	836.6	WCDMA 850	/	/	/	/	/	/
	4233	846.6	WCDMA 850	/	/	/	/	/	/
Right Head Cheek	4132	826.4	WCDMA 850	2.074	22.06	22.50	1.107	0.226	0.250
	4183	836.6	WCDMA 850	/	/	/	/	/	/
	4233	846.6	WCDMA 850	/	/	/	/	/	/
Right Head Tilt	4132	826.4	WCDMA 850	-1.065	22.06	22.50	1.107	0.101	0.112
	4183	836.6	WCDMA 850	/	/	/	/	/	/
	4233	846.6	WCDMA 850	/	/	/	/	/	/

WCDMA1900

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Left Head Cheek	9262	1852.4	WCDMA1900	1.473	22.62	23.00	1.091	0.282	0.308
	9400	1880.0	WCDMA1900	-1.730	21.95	23.00	1.274	0.307	0.391
	9538	1907.6	WCDMA1900	-1.467	21.47	23.00	1.422	0.416	**0.592**
Left Head Tilt	9262	1852.4	WCDMA1900	2.155	22.62	23.00	1.091	0.118	0.129
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Right Head Cheek	9262	1852.4	WCDMA1900	-0.394	22.62	23.00	1.091	0.193	0.211
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Right Head Tilt	9262	1852.4	WCDMA1900	2.226	22.62	23.00	1.091	0.101	0.110
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/

Note:
1. When the 1-g SAR is ≤ 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 Model.
3. 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.
4. 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.

5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

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: 850 MHz)

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Body-Front (10 mm)	128(Low)	824.2	GPRS	/	/	/	/	/	/
	190(Middle)	836.6	GPRS	-1.869	31.85	32.00	1.035	0.594	0.615
	251(High)	848.8	GPRS	/	/	/	/	/	/
Body-Back (10 mm)	128(Low)	824.2	GPRS	-0.448	31.68	32.00	1.076	0.960	**1.033**
	190(Middle)	836.6	GPRS	-2.329	31.85	32.00	1.035	0.965	0.999
	251(High)	848.8	GPRS	-3.330	31.85	32.00	1.035	0.879	0.910
Body-Left (10 mm)	128(Low)	824.2	GPRS	/	/	/	/	/	/
	190(Middle)	836.6	GPRS	-2.246	31.85	32.00	1.035	0.395	0.409
	251(High)	848.8	GPRS	/	/	/	/	/	/
Body-Right (10 mm)	128(Low)	824.2	GPRS	/	/	/	/	/	/
	190(Middle)	836.6	GPRS	3.682	31.85	32.00	1.035	0.405	0.419
	251(High)	848.8	GPRS	/	/	/	/	/	/
Body-Bottom (10 mm)	128(Low)	824.2	GPRS	/	/	/	/	/	/
	190(Middle)	836.6	GPRS	2.295	31.85	32.00	1.035	0.155	0.160
	251(High)	848.8	GPRS	/	/	/	/	/	/

Note:
1 .When the 1-g SAR is ≤ 0.8W/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, 3DL+2UL is the worst case.
4. The EUT transmit and receive through the same GSM antenna while testing SAR.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

Hot spot-GPRS (Frequency Band: 1900 MHz)

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Body-Front (10 mm)	512(Low)	1850.2	GPRS	/	/	/	/	/	/
	661(Middle)	1880.0	GPRS	0.698	25.14	25.50	1.086	0.258	0.280
	810(High)	1909.8	GPRS	/	/	/	/	/	/
Body-Back (10 mm)	512(Low)	1850.2	GPRS	/	/	/	/	/	/
	661(Middle)	1880.0	GPRS	-4.467	25.14	25.50	1.086	0.638	**0.693**
	810(High)	1909.8	GPRS	/	/	/	/	/	/
Body-Left (10 mm)	512(Low)	1850.2	GPRS	/	/	/	/	/	/
	661(Middle)	1880.0	GPRS	-4.335	25.14	25.50	1.086	0.090	0.098
	810(High)	1909.8	GPRS	/	/	/	/	/	/
Body-Right (10 mm)	512(Low)	1850.2	GPRS	/	/	/	/	/	/
	661(Middle)	1880.0	GPRS	-1.949	25.14	25.50	1.086	0.024	0.026
	810(High)	1909.8	GPRS	/	/	/	/	/	/
Body-Bottom (10 mm)	512(Low)	1850.2	GPRS	/	/	/	/	/	/
	661(Middle)	1880.0	GPRS	0.271	25.14	25.50	1.086	0.026	0.028
	810(High)	1909.8	GPRS	/	/	/	/	/	/

Note:
1 .When the 1-g SAR is ≤ 0.8W/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 Class12 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 worst case.
4. The EUT transmit and receive through the same GSM antenna while testing SAR.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

Hot Spot-WCDMA850

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Body-Front (10 mm)	4132	826.4	WCDMA850	3.017	22.06	22.50	1.107	0.239	0.265
	4183	836.6	WCDMA850	/	/	/	/	/	/
	4233	846.6	WCDMA850	/	/	/	/	/	/
Body-Back (10 mm)	4132	826.4	WCDMA850	-1.654	22.06	22.50	1.107	0.437	**0.484**
	4183	836.6	WCDMA850	/	/	/	/	/	/
	4233	846.6	WCDMA850	/	/	/	/	/	
Body-Left (10 mm)	4132	826.4	WCDMA850	1.900	22.06	22.50	1.107	0.149	0.165
	4183	836.6	WCDMA850	/	/	/	/	/	/
	4233	846.6	WCDMA850	/	/	/	/	/	
Body-Right (10 mm)	4132	826.4	WCDMA850	-0.060	22.06	22.50	1.107	0.100	0.111
	4183	836.6	WCDMA850	/	/	/	/	/	/
	4233	846.6	WCDMA850	/	/	/	/	/	
Body-Bottom (10 mm)	9262	826.4	WCDMA850	1.041	22.06	22.50	1.107	0.030	0.033
	9400	836.6	WCDMA850	/	/	/	/	/	/
	9538	846.6	WCDMA850	/	/	/	/	/	/

Hot Spot-WCDMA1900

EUT Position	Frequency (MHz)		Test Mode	Power Drift (%)	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	FCC 1g SAR (W/Kg)		
	Channel	MHz					Scaled Factor	Meas. SAR	Scaled SAR
Body-Front (10 mm)	9262	1852.4	WCDMA1900	0.309	22.62	23.00	1.091	0.144	0.157
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Body-Back (10 mm)	9262	1852.4	WCDMA1900	3.560	22.62	23.00	1.091	0.332	**0.362**
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Body-Left (10 mm)	9262	1852.4	WCDMA1900	1.998	22.62	23.00	1.091	0.023	0.025
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Body-Right (10 mm)	9262	1852.4	WCDMA1900	-1.697	22.62	23.00	1.091	0.002	0.002
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/
Body-Bottom (10 mm)	9262	1852.4	WCDMA1900	0.000	22.62	23.00	1.091	0.013	0.014
	9400	1880.0	WCDMA1900	/	/	/	/	/	/
	9538	1907.6	WCDMA1900	/	/	/	/	/	/

Note:

1. When the 1-g SAR is ≤ 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 Model.
3. 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.
4. 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.

SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

KDB 447498D01 General RF Exposure Guidance v05

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

BT, WiFi, GSM and 3G Antenna Location:

Antenna Information:

Description of Simultaneous Transmit Capabilities			Antennas Distance (mm)
Transmitter Combination	Simultaneous?	Hotspot?	
GSM + GPRS	×	×	0
GSM + WCDMA	×	×	0
GSM + Bluetooth	√	×	109
GSM + Wi-Fi	√	√	109
GPRS + WCDMA	×	×	0
GPRS + Bluetooth	√	×	109
GPRS + Wi-Fi	√	√	109
WCDMA + Bluetooth	√	×	109
WCDMA + Wi-FI	√	√	109

Standalone SAR test exclusion considerations

Head Position:

Mode	Frequency (MHz)	P_{avg} (dBm)	P_{avg} (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
GSM850	850	23.37	217.270	0	40.1	3.0	No
PCS1900	1900	19.89	97.499	0	26.9	3.0	No
WCDMSA850	850	22.06	160.694	0	29.6	3.0	No
WCDMSA1900	1900	22.62	182.810	0	50.4	3.0	No
Bluetooth	2450	3.97	2.495	0	0.8	3.0	Yes
WiFi	2450	8.95	7.852	0	2.5	3.0	Yes

Body Position:

Mode	Frequency (MHz)	P_{avg} (dBm)	P_{avg} (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
GSM850	850	25.85	384.592	10	35.5	3.0	No
PCS1900	1900	22.20	165.959	10	22.9	3.0	No
WCDMSA850	850	22.06	160.694	10	14.8	3.0	No
WCDMSA1900	1900	22.62	182.810	10	25.2	3.0	No
Bluetooth	2450	3.97	2.495	10	0.4	3.0	Yes
WiFi	2450	8.95	7.852	10	1.2	3.0	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:
[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where
1. f(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.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

Simultaneous SAR test exclusion considerations:

GSM with BT:

Mode	Position	Reported SAR (W/kg)		ΣSAR
		GSM	BT	< 1.6W/kg
GSM850	Left Head Cheek	0.237	0.105	0.342
	Left Head Tile	0.129	0.105	0.234
	Right Head Cheek	0.239	0.105	0.344
	Right Head Tilt	0.129	0.105	0.234
	Body–Headset-Front	0.310	0.052	0.362
	Body–Headset-Back	0.685	0.052	0.737
PCS1900	Left Head Cheek	0.327	0.105	0.432
	Left Head Tile	0.062	0.105	0.167
	Right Head Cheek	0.250	0.105	0.355
	Right Head Tilt	0.063	0.105	0.168
	Body–Headset-Front	0.157	0.052	0.209
	Body–Headset-Back	0.323	0.052	0.375

WCDMA with BT:

Mode	Position	Reported SAR (W/kg)		ΣSAR
		WCDMA	BT	< 1.6W/kg
WCDMA 850	Left Head Cheek	0.314	0.105	0.419
	Left Head Tile	0.106	0.105	0.211
	Right Head Cheek	0.250	0.105	0.355
	Right Head Tilt	0.112	0.105	0.217
	Body–Headset-Front	0.265	0.052	0.317
	Body–Headset-Back	0.484	0.052	0.536
WCDMA 1900	Left Head Cheek	0.592	0.105	0.697
	Left Head Tile	0.129	0.105	0.234
	Right Head Cheek	0.211	0.105	0.316
	Right Head Tilt	0.110	0.105	0.215
	Body–Headset-Front	0.157	0.052	0.209
	Body–Headset-Back	0.362	0.052	0.414

GSM with Wi-Fi:

Mode	Position	Reported SAR (W/kg)		ΣSAR
		GSM	WiFi	< 1.6W/kg
GSM850	Left Head Cheek	0.237	0.332	0.569
	Left Head Tile	0.129	0.332	0.461
	Right Head Cheek	0.239	0.332	0.571
	Right Head Tilt	0.129	0.332	0.461
	Body–Headset-Front	0.310	0.166	0.476
	Body–Headset-Back	0.685	0.166	0.851
PCS1900	Left Head Cheek	0.327	0.332	0.659
	Left Head Tile	0.062	0.332	0.394
	Right Head Cheek	0.250	0.332	0.582
	Right Head Tilt	0.063	0.332	0.395
	Body–Headset-Front	0.157	0.166	0.323
	Body–Headset-Back	0.323	0.166	0.489

WCDMA with Wi-Fi:

Mode	Position	Reported SAR (W/kg)		ΣSAR
		WCDMA	WiFi	< 1.6W/kg
WCDMA 850	Left Head Cheek	0.314	0.332	0.646
	Left Head Tile	0.106	0.332	0.438
	Right Head Cheek	0.250	0.332	0.582
	Right Head Tilt	0.112	0.332	0.444
	Body–Headset-Front	0.265	0.166	0.431
	Body–Headset-Back	0.484	0.166	0.650
WCDMA 1900	Left Head Cheek	0.592	0.332	**0.924**
	Left Head Tile	0.129	0.332	0.461
	Right Head Cheek	0.211	0.332	0.543
	Right Head Tilt	0.110	0.332	0.442
	Body–Headset-Front	0.157	0.166	0.323
	Body–Headset-Back	0.362	0.166	0.528

Mode	Frequency (GHz)	Distance (mm)	P_{avg} (dBm)	P_{avg} (mW)	Estimated $_{1-g}$ (W/kg)
Bluetooth Head	2.45	0	4.0	2.512	0.105
Bluetooth Body	2.45	10	4.0	2.512	0.052
WiFi Head	2.45	0	9.0	7.943	0.332
WiFi Body	2.45	10	9.0	7.943	0.166

Note:
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:
[(*max. power of channel, including* ***tune-up tolerance****, mW*)/(*min. test separation distance,mm*)]·[√f(GHz)/*x*] W/kg for *test separation distances* ≤ 50 mm;
where *x* = 7.5 for 1-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion

Conclusion:
ΣSAR < 1.6 W/kg therefore simultaneous transmission SAR with Volume Scans is **not** required.

Hotspot:

Evaluations for Simultaneous SAR, Mobile Hot Spot Positions						
Test Position	Body-Front (1.0cm)	Body-Back (1.0cm)	Body-Left (1.0cm)	Body-Right (1.0cm)	Body-Bottom (1.0cm)	Body-Top (1.0cm)
Mode	Stand Alone 1-g SAR (W/Kg)					
GSM 850	0.615	1.033	0.409	0.419	0.160	/
PCS 1900	0.280	0.693	0.098	0.026	0.028	/
WCDMA850	0.265	0.484	0.165	0.111	0.033	/
WCDMA 1900	0.157	0.362	0.025	0.002	0.014	/
Wi-Fi	0.166	0.166	/	0.166	/	0.166
	∑ 1-g SAR(W/Kg)					
GSM850 + Wi-Fi	0.781	**1.199**	/	0.585	/	/
PCS 1900 + Wi-Fi	0.446	0.859	/	0.192	/	/
WCDMA850 + Wi-Fi	0.431	0.650	/	0.277	/	/
WCDMA 1900 + Wi-Fi	0.323	0.528	/	0.168	/	/

Note:
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.

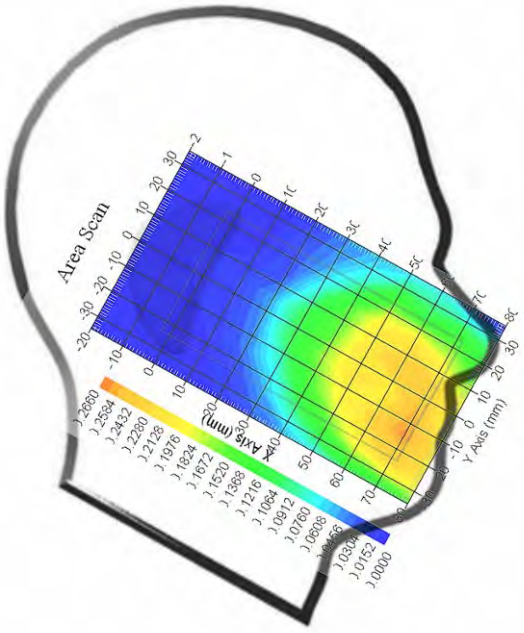
EUT SCAN RESULTS

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	: 0.001 W/kg
Power Drift-Finish	: 0.001 W/kg
Power Drift (%)	: 2.649
Tissue Data	
Type	: Head
Frequency	: 836.6 MHz
Epsilon	: 41.16 F/m
Sigma	: 0.92 S/m
Density	: 1000.00 kg/cu. m
Probe Data	
Serial No.	: 500-00283
Frequency Band	: 835
Duty Cycle Factor	: 8
Conversion Factor	: 5.9
Probe Sensitivity	: 1.20 1.20 1.20 µV/(V/m)2
Compression Point	: 95.00 mV
Offset	: 1.56 mm
1 gram SAR value	: 0.224 W/kg
10 gram SAR value	: 0.116 W/kg
Area Scan Peak SAR	: 0.262 W/kg
Zoom Scan Peak SAR	: 0.370 W/kg

Plot 1#



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

Left Head Tilt (836.6 MHz Middle Channel)

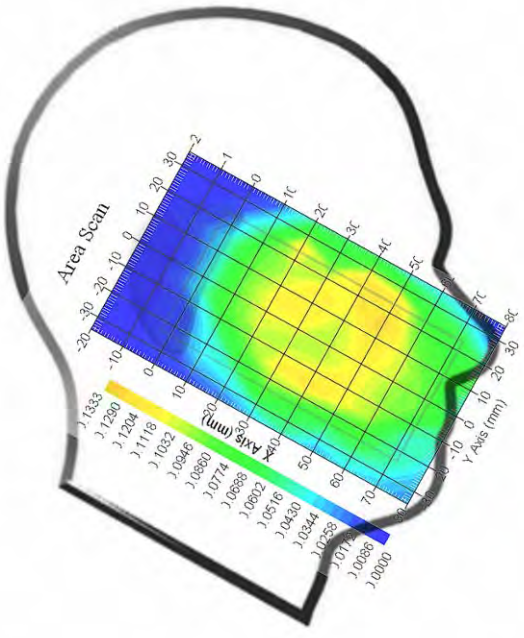
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.029 W/kg
Power Drift-Finish : 0.030 W/kg
Power Drift (%) : 1.339

Tissue Data
Type : Head
Frequency : 836.6 MHz
Epsilon : 41.16 F/m
Sigma : 0.92 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.122 W/kg
10 gram SAR value : 0.077 W/kg
Area Scan Peak SAR : 0.131 W/kg
Zoom Scan Peak SAR : 0.210 W/kg

Plot 2#



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

Right Head Cheek (824.2 MHz Low Channel)

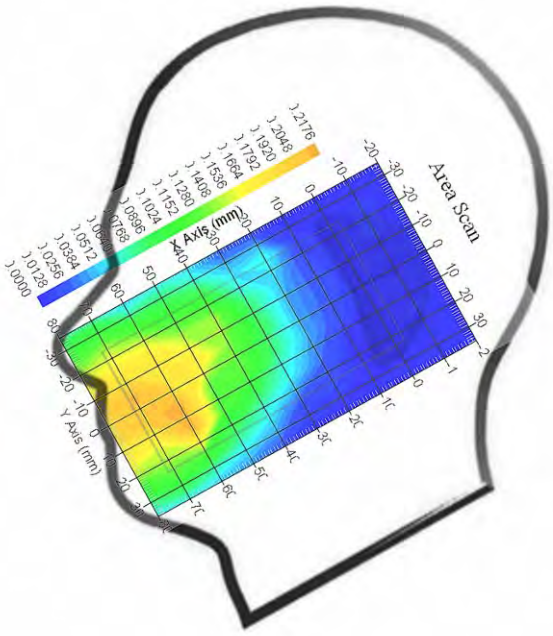
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.003 W/kg
Power Drift-Finish : 0.003 W/kg
Power Drift (%) : -0.136

Tissue Data
Type : Head
Frequency : 824.2 MHz
Epsilon : 41.22F/m
Sigma : 0.90 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.203 W/kg
10 gram SAR value : 0.130 W/kg
Area Scan Peak SAR : 0.216 W/kg
Zoom Scan Peak SAR : 0.360 W/kg

Plot 3#



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

Right Head Cheek (836.6 MHz Middle Channel)

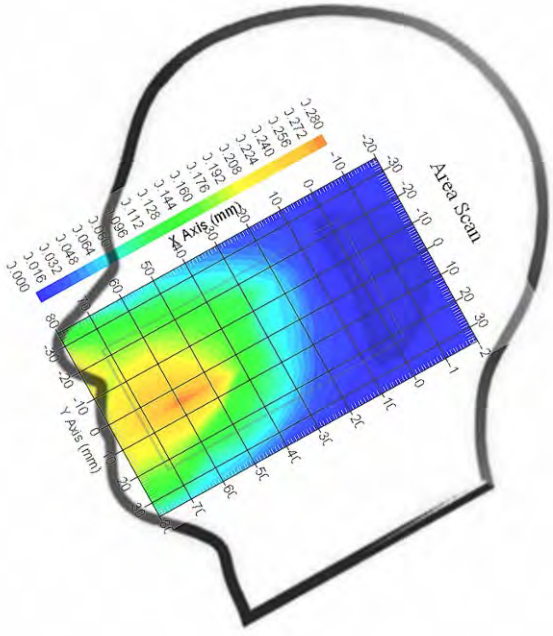
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 0.712

Tissue Data
Type : Head
Frequency : 836.6 MHz
Epsilon : 41.16 F/m
Sigma : 0.92 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.226 W/kg
10 gram SAR value : 0.128 W/kg
Area Scan Peak SAR : 0.250 W/kg
Zoom Scan Peak SAR : 0.390 W/kg

Plot 4#



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

Right Head Cheek (848.8 MHz High Channel)

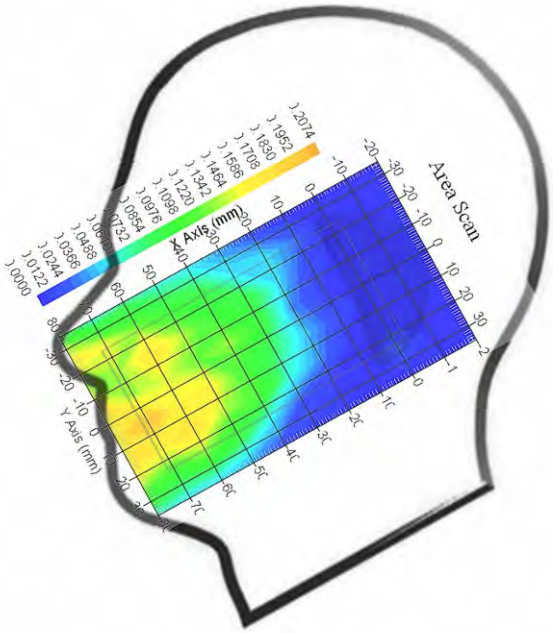
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.005 W/kg
Power Drift-Finish : 0.005 W/kg
Power Drift (%) : 1.328

Tissue Data
Type : Head
Frequency : 848.8 MHz
Epsilon : 40.94 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 : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.191 W/kg
10 gram SAR value : 0.129 W/kg
Area Scan Peak SAR : 0.203 W/kg
Zoom Scan Peak SAR : 0.300 W/kg

Plot 5#



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

Right Head Tilt (836.6 MHz Middle Channel)

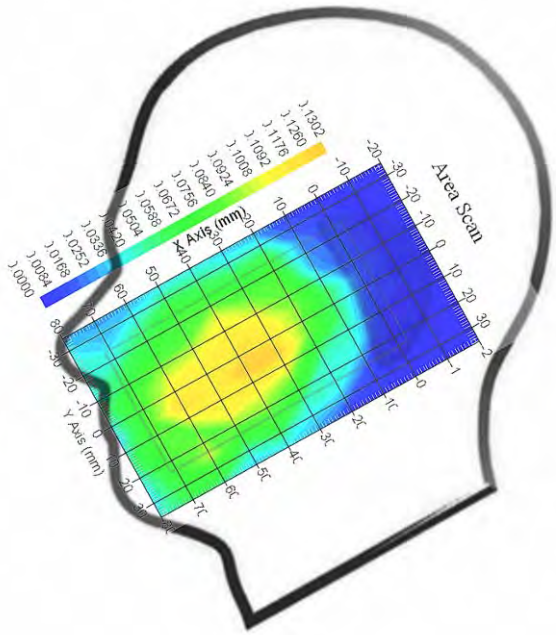
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.017 W/kg
Power Drift-Finish : 0.017 W/kg
Power Drift (%) : 1.531

Tissue Data
Type : Head
Frequency : 836.6 MHz
Epsilon : 41.16 F/m
Sigma : 0.92 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.122 W/kg
10 gram SAR value : 0.067 W/kg
Area Scan Peak SAR : 0.130 W/kg
Zoom Scan Peak SAR : 0.300 W/kg

Plot 6#



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

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

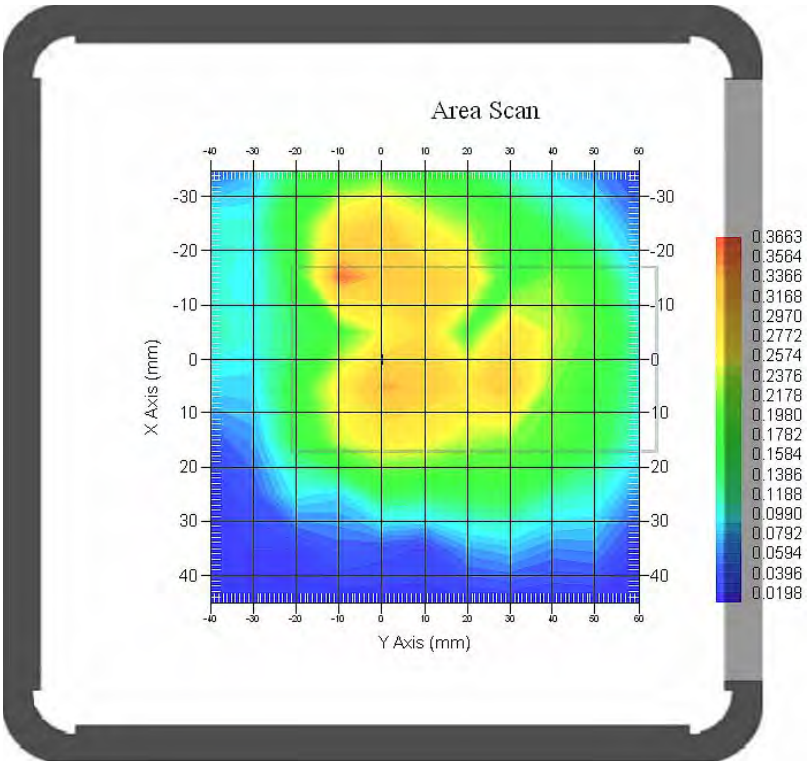
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type： : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.354 W/kg
Power Drift-Finish : 0.365 W/kg
Power Drift (%) : 3.213

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.293 W/kg
10 gram SAR value : 0.196 W/kg
Area Scan Peak SAR : 0.357 W/kg
Zoom Scan Peak SAR : 0.730 W/kg

Plot 7#



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

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

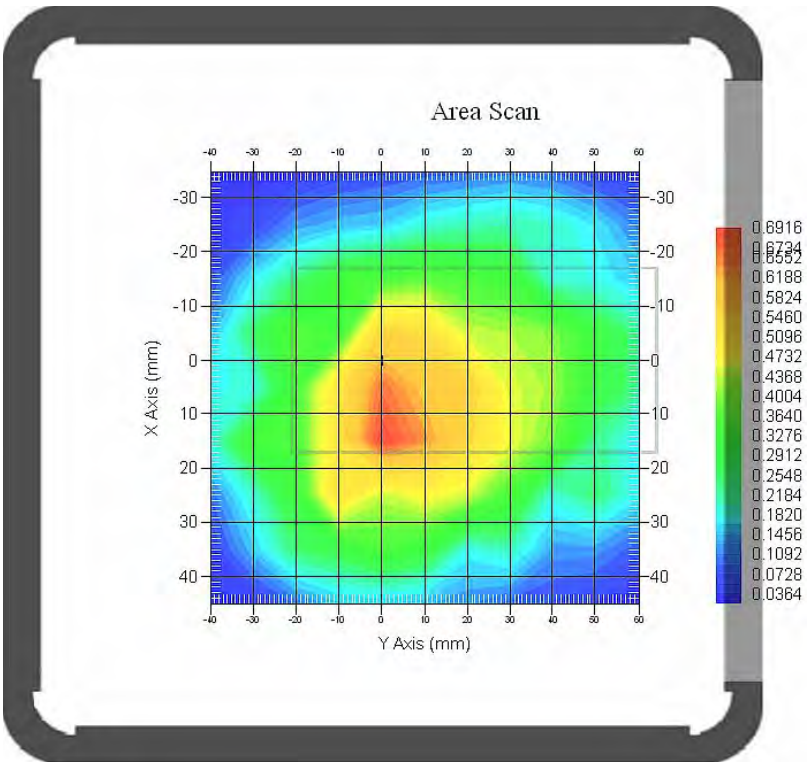
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type： : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.663 W/kg
Power Drift-Finish : 0.652 W/kg
Power Drift (%) : -1.660

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 8
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.647 W/kg
10 gram SAR value : 0.395 W/kg
Area Scan Peak SAR : 0.690 W/kg
Zoom Scan Peak SAR : 1.221 W/kg

Plot 8#



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

Left Head Cheek (1850.2 MHz Low Channel)

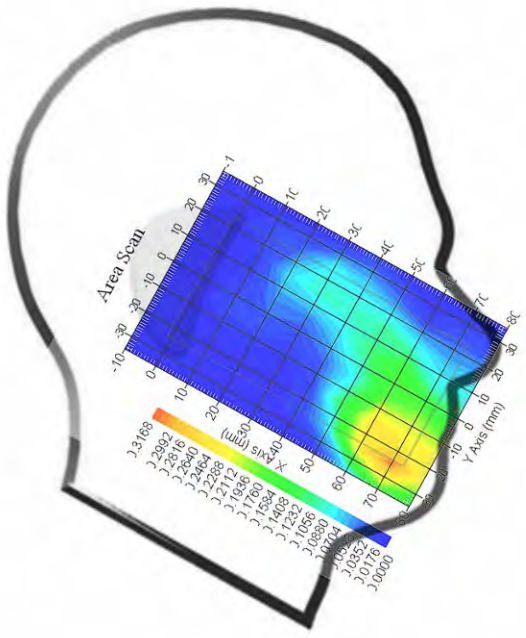
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 0.783

Tissue Data
Type : Head
Frequency : 1850.2 MHz
Epsilon : 39.73 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 : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.272 W/kg
10 gram SAR value : 0.154 W/kg
Area Scan Peak SAR : 0.312 W/kg
Zoom Scan Peak SAR : 0.490 W/kg

Plot 9#



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

Left Head Cheek (1880.0 MHz Middle Channel)

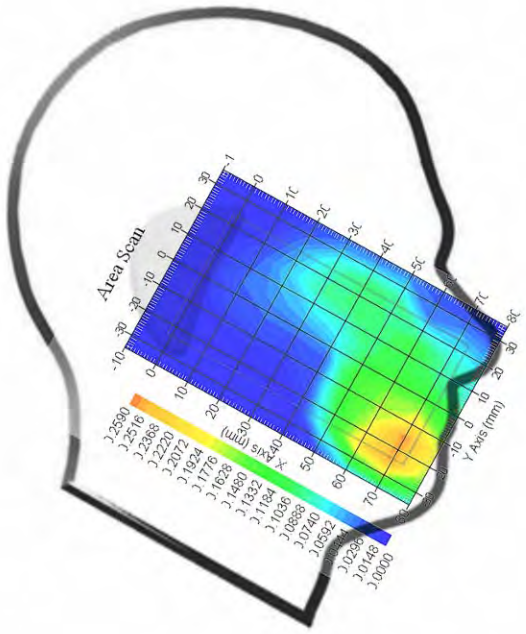
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.003 W/kg
Power Drift-Finish : 0.004 W/kg
Power Drift (%) : 2.628

Tissue Data
Type : Head
Frequency : 1880.0 MHz
Epsilon : 39.74 F/m
Sigma : 1.43 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.247 W/kg
10 gram SAR value : 0.130 W/kg
Area Scan Peak SAR : 0.257 W/kg
Zoom Scan Peak SAR : 0.540 W/kg

Plot 10#



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

Left Head Cheek (1909.8 MHz High Channel)

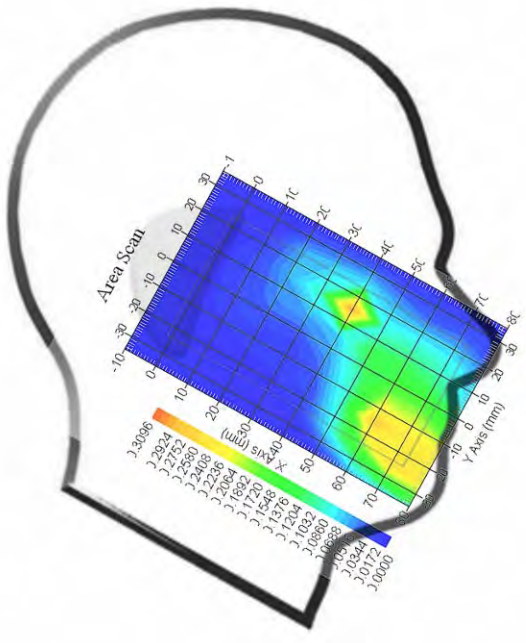
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.002 W/kg
Power Drift (%) : 2.085

Tissue Data
Type : Head
Frequency : 1909.8 MHz
Epsilon : 39.74 F/m
Sigma : 1.45 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.319 W/kg
10 gram SAR value : 0.201 W/kg
Area Scan Peak SAR : 0.303 W/kg
Zoom Scan Peak SAR : 0.730 W/kg

Plot 11#



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

Left Head Tilt (1880.0 MHz Middle Channel)

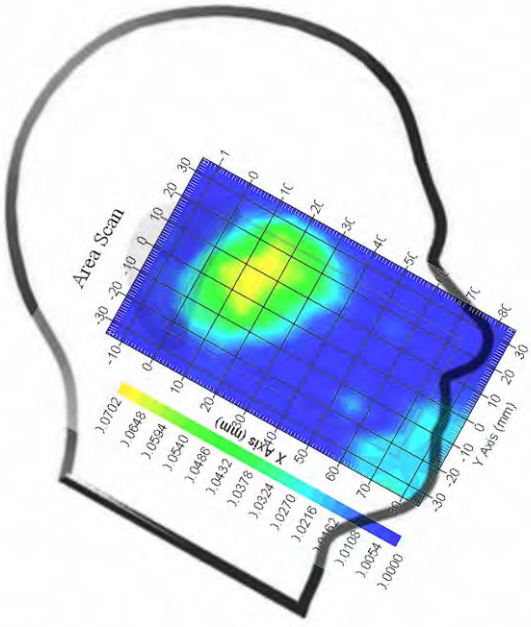
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.031 W/kg
Power Drift-Finish : 0.030 W/kg
Power Drift (%) : -1.066

Tissue Data
Type : Head
Frequency : 1880.0 MHz
Epsilon : 39.74 F/m
Sigma : 1.43 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.059 W/kg
10 gram SAR value : 0.025 W/kg
Area Scan Peak SAR : 0.068 W/kg
Zoom Scan Peak SAR : 0.200 W/kg

Plot 12#



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

Right Head Cheek (1880.0 MHz Middle Channel)

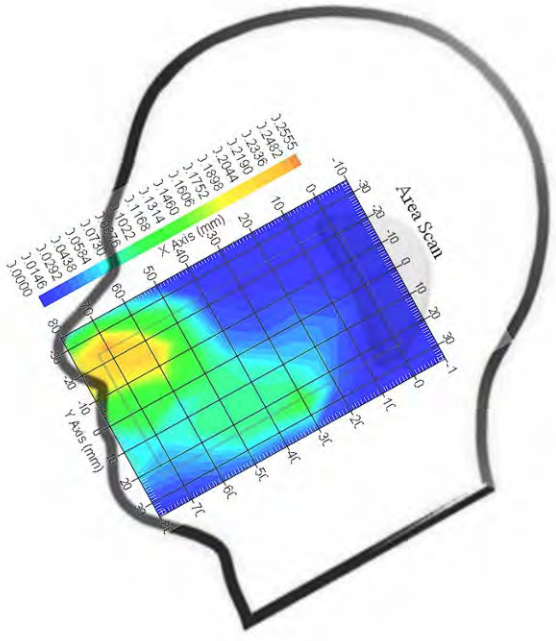
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 0.024

Tissue Data
Type : Head
Frequency : 1880.0 MHz
Epsilon : 39.74 F/m
Sigma : 1.43 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.238 W/kg
10 gram SAR value : 0.137 W/kg
Area Scan Peak SAR : 0.251 W/kg
Zoom Scan Peak SAR : 0.450 W/kg

Plot 13#



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

Right Head Tilt (1880.0 MHz Middle Channel)

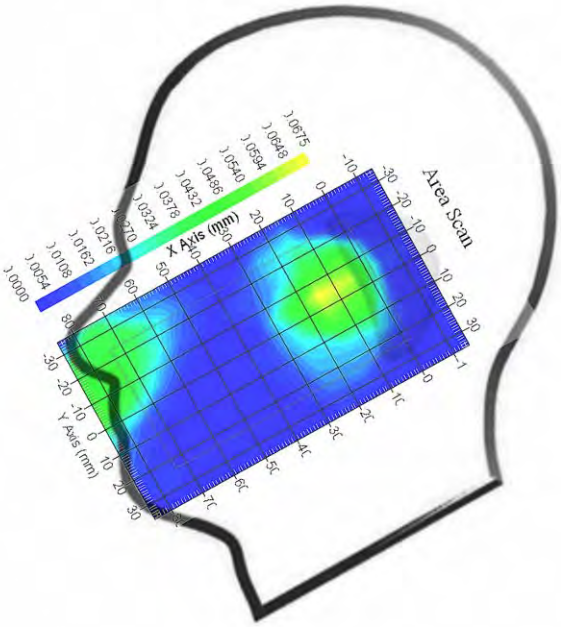
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 11x8x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.030 W/kg
Power Drift-Finish : 0.030 W/kg
Power Drift (%) : 1.278

Tissue Data
Type : Head
Frequency : 1880.0 MHz
Epsilon : 39.74 F/m
Sigma : 1.43 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 8
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.060 W/kg
10 gram SAR value : 0.025 W/kg
Area Scan Peak SAR : 0.067 W/kg
Zoom Scan Peak SAR : 0.160 W/kg

Plot 14#



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

Body-worn Front-Headset (1880.0 MHz Middle Channel)

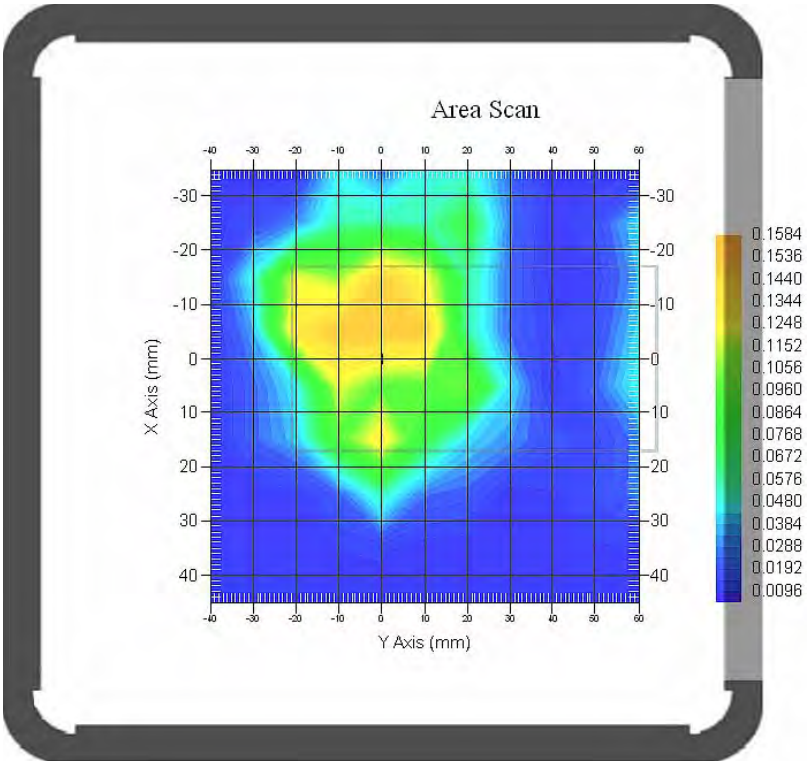
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.140 W/kg
Power Drift-Finish : 0.139 W/kg
Power Drift (%) : -0.576

Tissue Data
Type : Body
Frequency : 1880.0 MHz
Epsilon : 51.66 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 : 8
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.150 W/kg
10 gram SAR value : 0.076 W/kg
Area Scan Peak SAR : 0.154 W/kg
Zoom Scan Peak SAR : 0.540 W/kg

Plot 15#



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

Body-worn Back- Headset (1880.0 MHz Middle Channel)

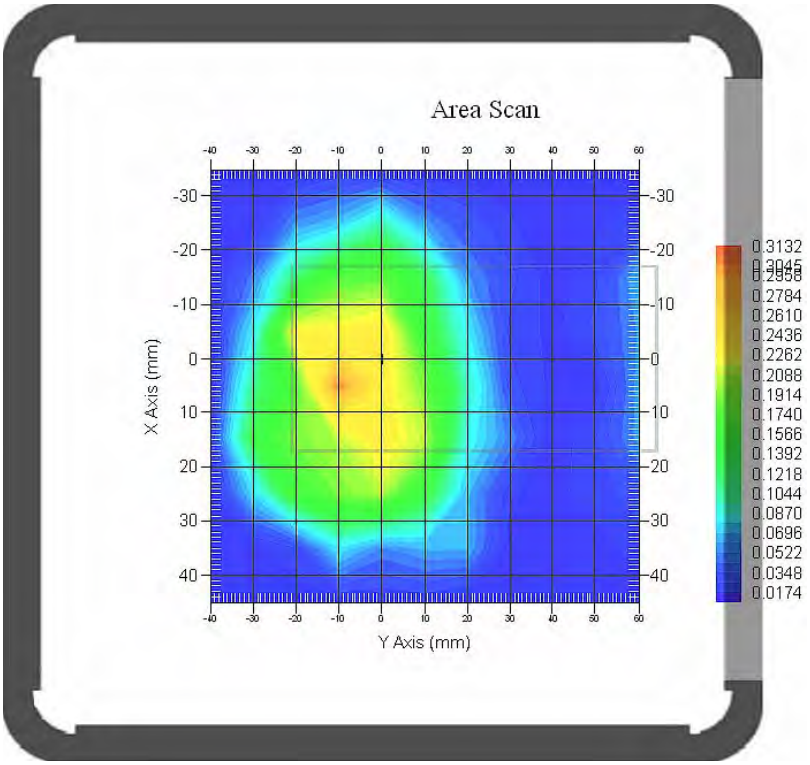
Measurement Data
Test mode : GSM
Crest Factor : 8
Scan Type : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.250 W/kg
Power Drift-Finish : 0.248 W/kg
Power Drift (%) : -0.813

Tissue Data
Type : Body
Frequency : 1880.0 MHz
Epsilon : 51.66 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 : 8
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.308 W/kg
10 gram SAR value : 0.147 W/kg
Area Scan Peak SAR : 0.307 W/kg
Zoom Scan Peak SAR : 0.800 W/kg

Plot 16#



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

WCDMA850; Left Head Cheek (826.4 MHz Low Channel)

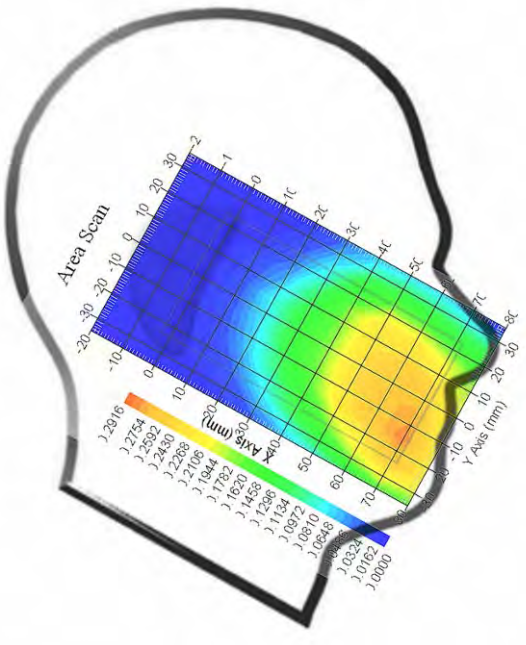
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.004 W/kg
Power Drift-Finish : 0.004 W/kg
Power Drift (%) : -1.213

Tissue Data
Type : Head
Frequency : 826.4 MHz
Epsilon : 41.11 F/m
Sigma : 0.91 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.258 W/kg
10 gram SAR value : 0.168 W/kg
Area Scan Peak SAR : 0.284 W/kg
Zoom Scan Peak SAR : 0.380 W/kg

Plot 17#



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

WCDMA850; Left Head Cheek (836.6 MHz Middle Channel)

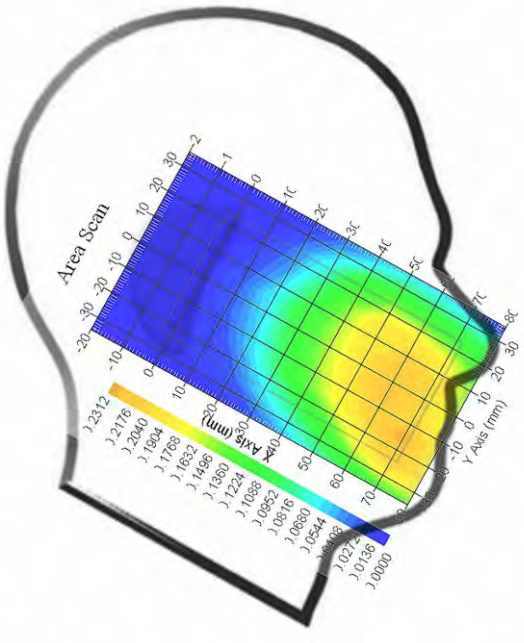
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.002 W/kg
Power Drift-Finish : 0.002 W/kg
Power Drift (%) : 2.280

Tissue Data
Type : Head
Frequency : 836.6 MHz
Epsilon : 41.16 F/m
Sigma : 0.92 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.241 W/kg
10 gram SAR value : 0.197 W/kg
Area Scan Peak SAR : 0.231 W/kg
Zoom Scan Peak SAR : 0.320 W/kg

Plot 18#



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

WCDMA850; Left Head Cheek (846.6 MHz High Channel)

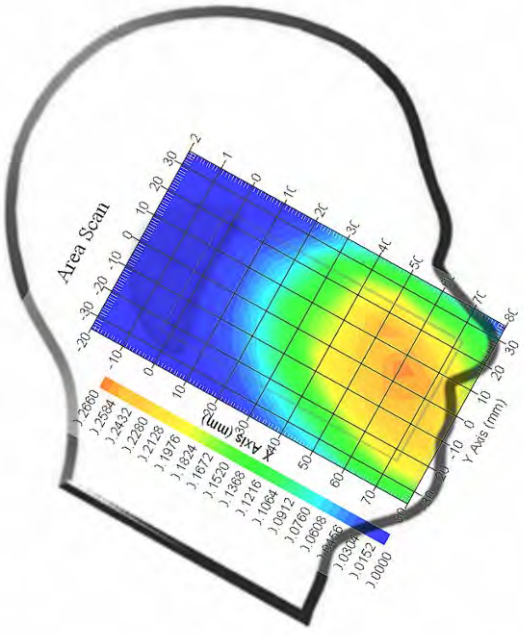
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.003 W/kg
Power Drift-Finish : 0.003 W/kg
Power Drift (%) : 0.467

Tissue Data
Type : Head
Frequency : 846.6 MHz
Epsilon : 41.02 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 : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.273 W/kg
10 gram SAR value : 0.202 W/kg
Area Scan Peak SAR : 0.263 W/kg
Zoom Scan Peak SAR : 0.340 W/kg

Plot 19#



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

WCDMA850; Left Head Tilt (826.4 MHz Low Channel)

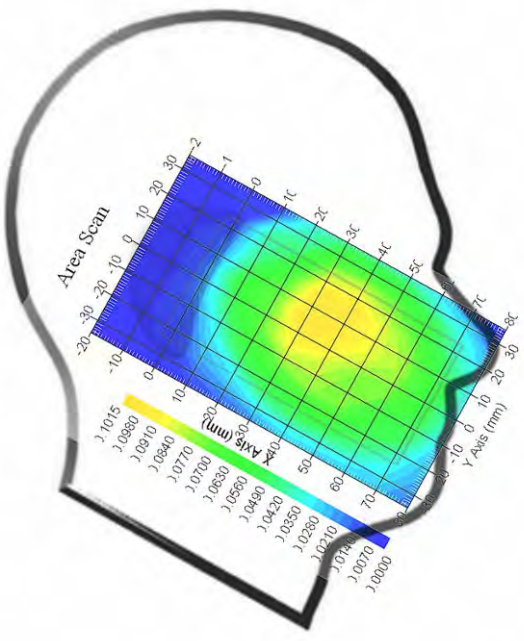
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.018 W/kg
Power Drift-Finish : 0.018 W/kg
Power Drift (%) : -0.444

Tissue Data
Type : Head
Frequency : 826.4 MHz
Epsilon : 41.11 F/m
Sigma : 0.91 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.096 W/kg
10 gram SAR value : 0.059 W/kg
Area Scan Peak SAR : 0.100 W/kg
Zoom Scan Peak SAR : 0.280 W/kg

Plot 20#



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

WCDMA850; Right Head Cheek (826.4 MHz Low Channel)

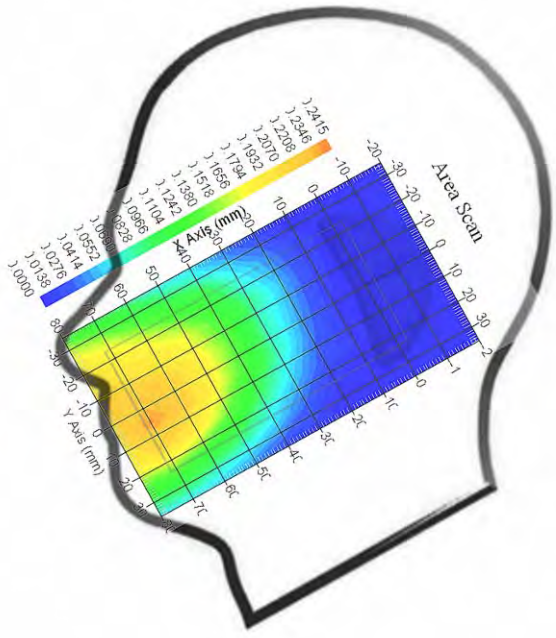
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 2.074

Tissue Data
Type : Head
Frequency : 826.4 MHz
Epsilon : 41.11 F/m
Sigma : 0.91 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.226 W/kg
10 gram SAR value : 0.169 W/kg
Area Scan Peak SAR : 0.237 W/kg
Zoom Scan Peak SAR : 0.290 W/kg

Plot 21#



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

WCDMA850; Right Head Tilt (826.4 MHz Low Channel)

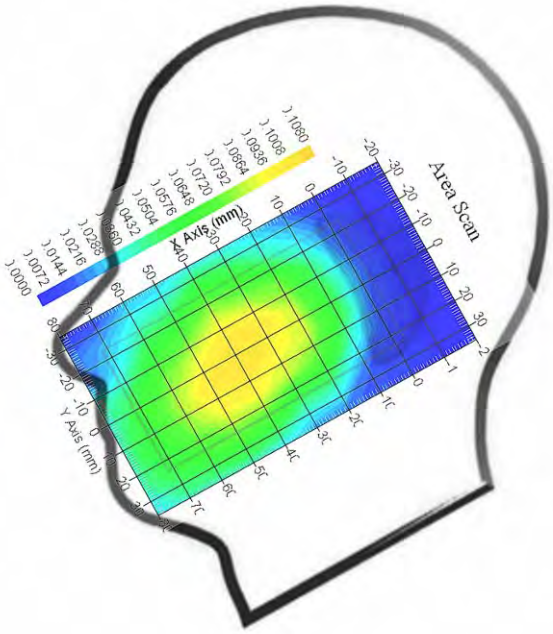
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x8x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.018 W/kg
Power Drift-Finish : 0.018 W/kg
Power Drift (%) : -1.065

Tissue Data
Type : Head
Frequency : 826.4 MHz
Epsilon : 41.11 F/m
Sigma : 0.91 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.101 W/kg
10 gram SAR value : 0.060 W/kg
Area Scan Peak SAR : 0.105 W/kg
Zoom Scan Peak SAR : 0.130 W/kg

Plot 22#



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

WCDMA1900; Left Head Cheek (1852.4 MHz Low Channel)

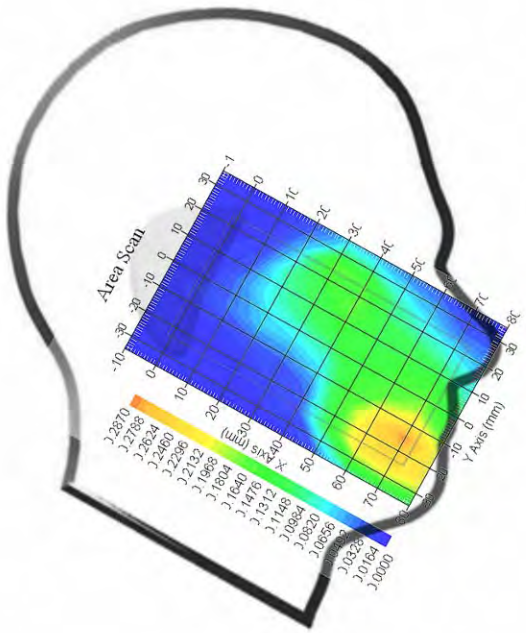
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 1.473

Tissue Data
Type : Head
Frequency : 1852.4 MHz
Epsilon : 39.73 F/m
Sigma : 1.40 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.282 W/kg
10 gram SAR value : 0.129 W/kg
Area Scan Peak SAR : 0.286 W/kg
Zoom Scan Peak SAR : 0.530 W/kg

Plot 23#



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

WCDMA1900; Left Head Cheek (1880.0 MHz Middle Channel)

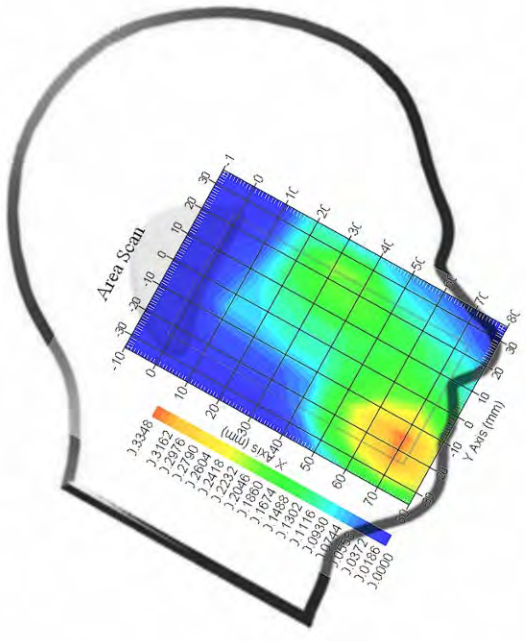
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.005 W/kg
Power Drift-Finish : 0.005 W/kg
Power Drift (%) : -1.730

Tissue Data
Type : Head
Frequency : 1880.0 MHz
Epsilon : 39.74 F/m
Sigma : 1.43 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.307 W/kg
10 gram SAR value : 0.176 W/kg
Area Scan Peak SAR : 0.334 W/kg
Zoom Scan Peak SAR : 0.630 W/kg

Plot 24#



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

WCDMA1900; Left Head Cheek (1907.6 MHz High Channel)

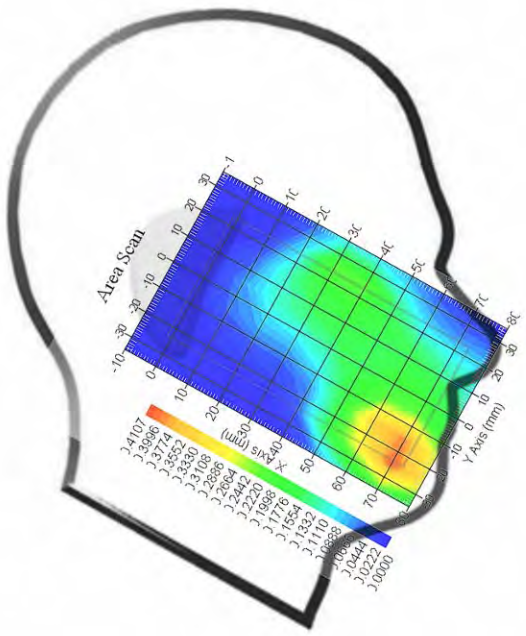
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.003 W/kg
Power Drift-Finish : 0.002 W/kg
Power Drift (%) : -1.467

Tissue Data
Type : Head
Frequency : 1907.6 MHz
Epsilon : 39.74 F/m
Sigma : 1.44 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.416 W/kg
10 gram SAR value : 0.209 W/kg
Area Scan Peak SAR : 0.404 W/kg
Zoom Scan Peak SAR : 0.800 W/kg

Plot 25#



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

WCDMA1900; Left Head Tilt (1852.4MHz Low Channel)

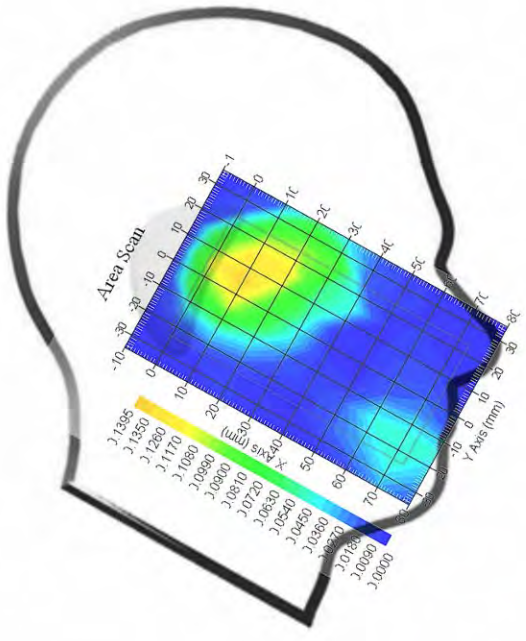
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.090 W/kg
Power Drift-Finish : 0.091 W/kg
Power Drift (%) : 2.155

Tissue Data
Type : Head
Frequency : 1852.4 MHz
Epsilon : 39.73 F/m
Sigma : 1.40 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.118 W/kg
10 gram SAR value : 0.075 W/kg
Area Scan Peak SAR : 0.139 W/kg
Zoom Scan Peak SAR : 0.190 W/kg

Plot 26#



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

WCDMA1900; Right Head Cheek (1852.4 MHz Low Channel)

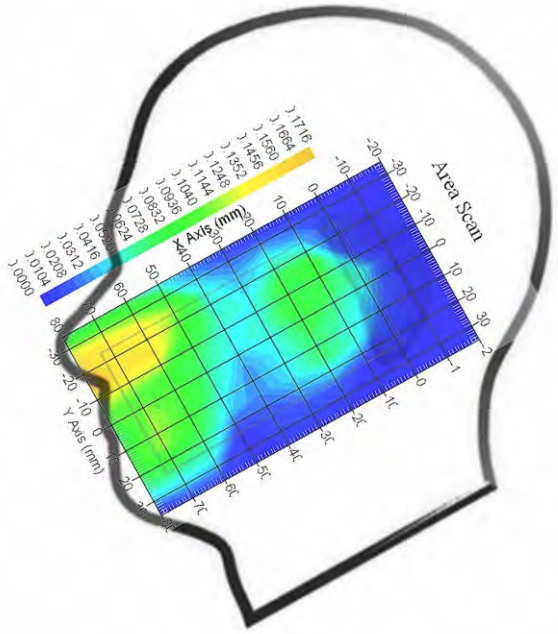
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.080 W/kg
Power Drift-Finish : 0.079 W/kg
Power Drift (%) : -0.394

Tissue Data
Type : Head
Frequency : 1852.4 MHz
Epsilon : 39.73 F/m
Sigma : 1.40 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.193 W/kg
10 gram SAR value : 0.124 W/kg
Area Scan Peak SAR : 0.169 W/kg
Zoom Scan Peak SAR : 0.320 W/kg

Plot 27#



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

WCDMA1900; Right Head Tilt (1852.4 MHz Low Channel)

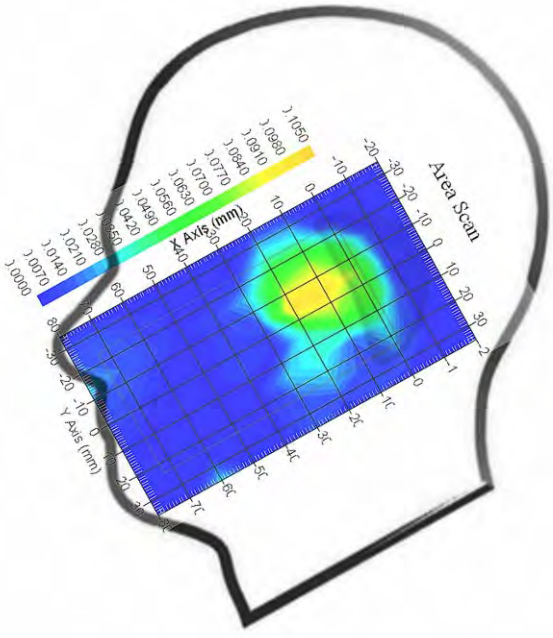
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 11x9x1: Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7: Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.050 W/kg
Power Drift-Finish : 0.052 W/kg
Power Drift (%) : 2.226

Tissue Data
Type : Head
Frequency : 1852.4 MHz
Epsilon : 39.73 F/m
Sigma : 1.40 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.8
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.101 W/kg
10 gram SAR value : 0.081 W/kg
Area Scan Peak SAR : 0.102 W/kg
Zoom Scan Peak SAR : 0.190 W/kg

Plot 28#



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

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

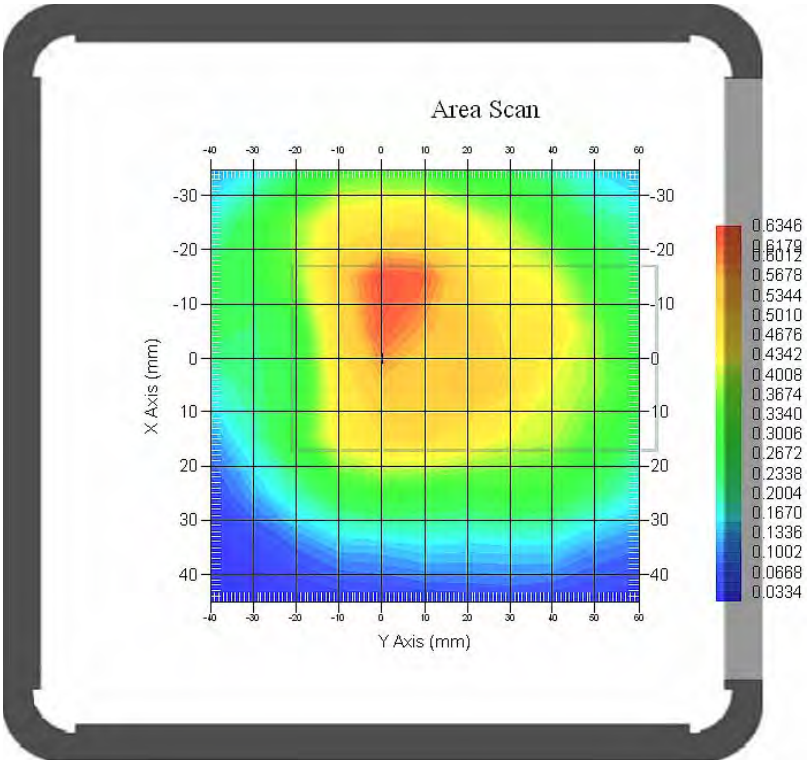
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.573 W/kg
Power Drift-Finish : 0.564 W/kg
Power Drift (%) : -1.869

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.594 W/kg
10 gram SAR value : 0.410 W/kg
Area Scan Peak SAR : 0.629 W/kg
Zoom Scan Peak SAR : 0.880 W/kg

Plot 29#



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

Hot Spot: Body-Back (824.2 MHz Low Channel)

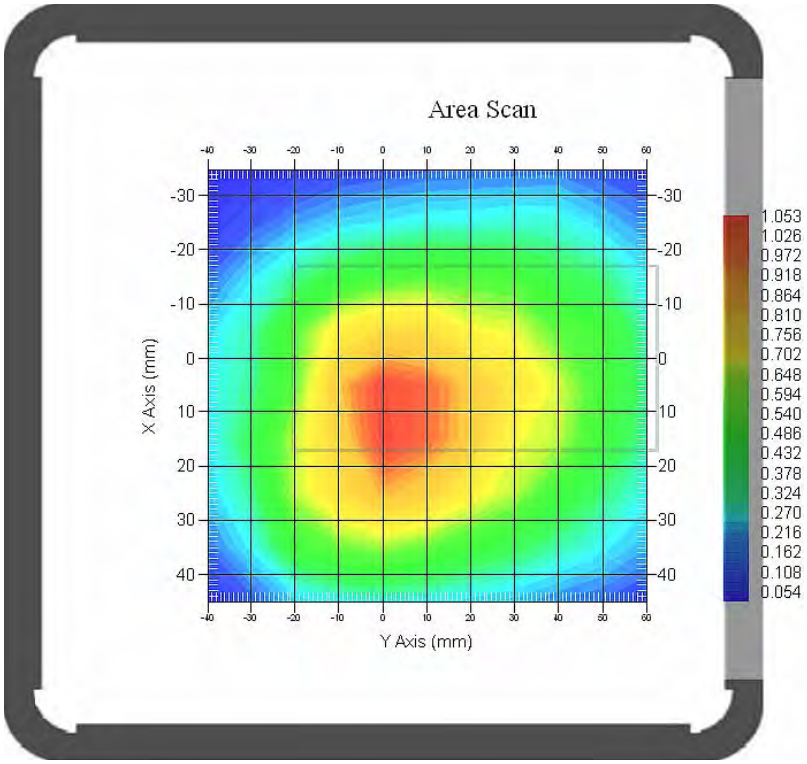
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.868 W/kg
Power Drift-Finish : 0.865 W/kg
Power Drift (%) : -0.448

Tissue Data
Type : Body
Frequency : 824.2 MHz
Epsilon : 54.55 F/m
Sigma : 0.95 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.960 W/kg
10 gram SAR value : 0.617 W/kg
Area Scan Peak SAR : 1.041 W/kg
Zoom Scan Peak SAR : 1.451 W/kg

Plot 30#



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

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

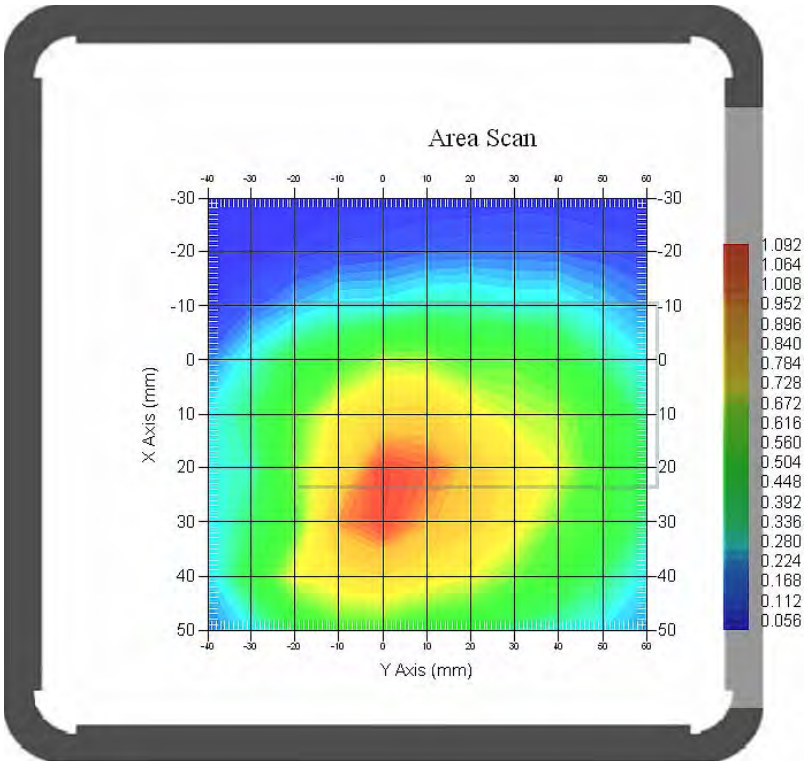
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.604 W/kg
Power Drift-Finish : 0.590 W/kg
Power Drift (%) : -2.329

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.965 W/kg
10 gram SAR value : 0.898 W/kg
Area Scan Peak SAR : 1.073 W/kg
Zoom Scan Peak SAR : 1.471 W/kg

Plot 31#



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

Hot Spot: Body-Back (848.8 MHz High Channel)

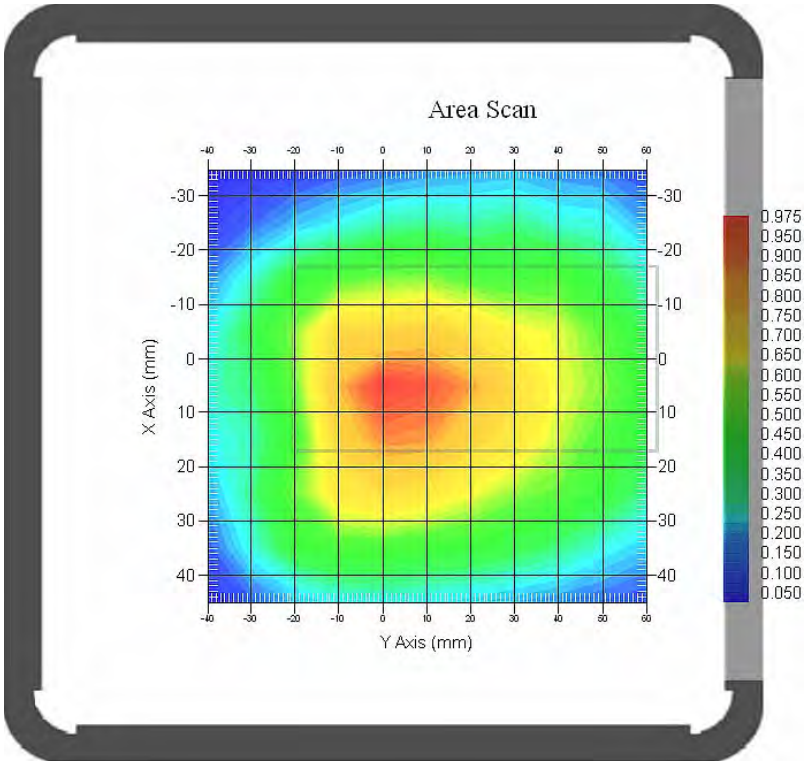
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.913 W/kg
Power Drift-Finish : 0.885 W/kg
Power Drift (%) : -3.330

Tissue Data
Type : Body
Frequency : 848.8 MHz
Epsilon : 54.70 F/m
Sigma : 0.99 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.879 W/kg
10 gram SAR value : 0.503 W/kg
Area Scan Peak SAR : 0.968 W/kg
Zoom Scan Peak SAR : 1.311 W/kg

Plot 32#



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

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

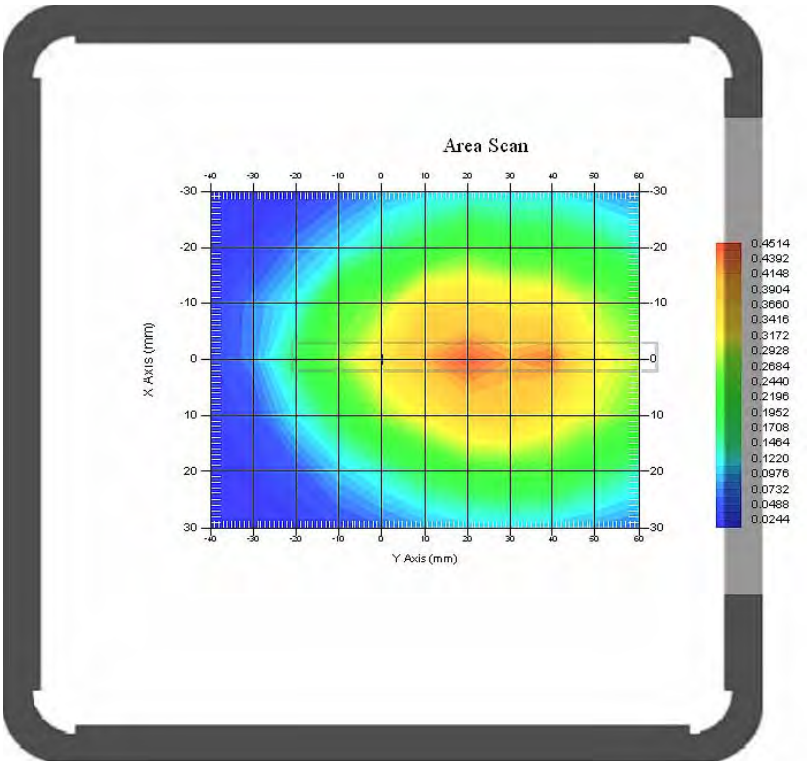
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type： : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.333 W/kg
Power Drift-Finish : 0.326 W/kg
Power Drift (%) : -2.246

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.395 W/kg
10 gram SAR value : 0.296 W/kg
Area Scan Peak SAR : 0.449 W/kg
Zoom Scan Peak SAR : 0.670 W/kg

Plot 33#



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

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

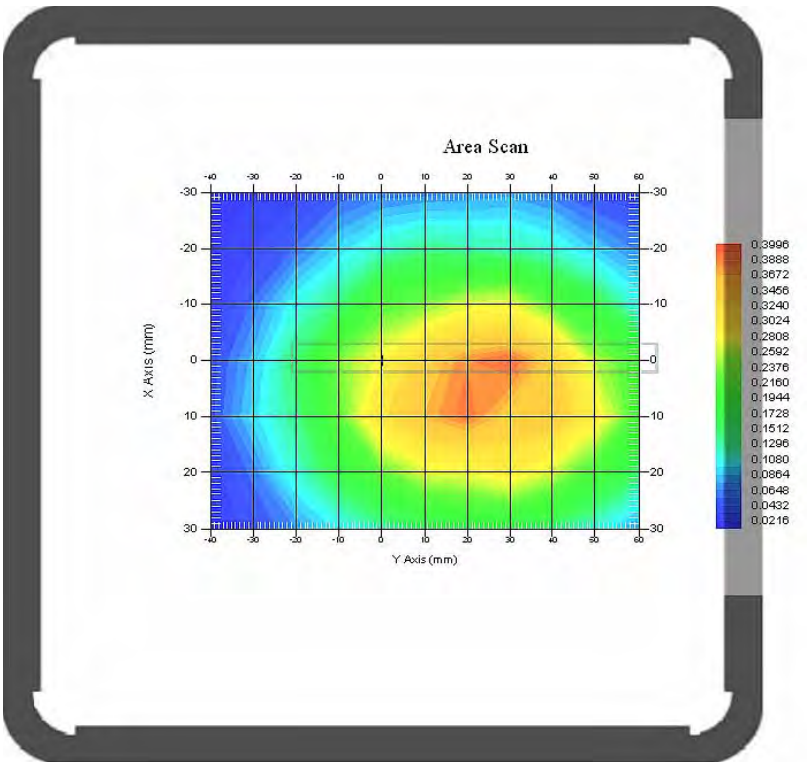
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type： : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.297 W/kg
Power Drift-Finish : 0.304 W/kg
Power Drift (%) : 3.682

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.405 W/kg
10 gram SAR value : 0.250 W/kg
Area Scan Peak SAR : 0.391 W/kg
Zoom Scan Peak SAR : 0.620 W/kg

Plot 34#



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

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

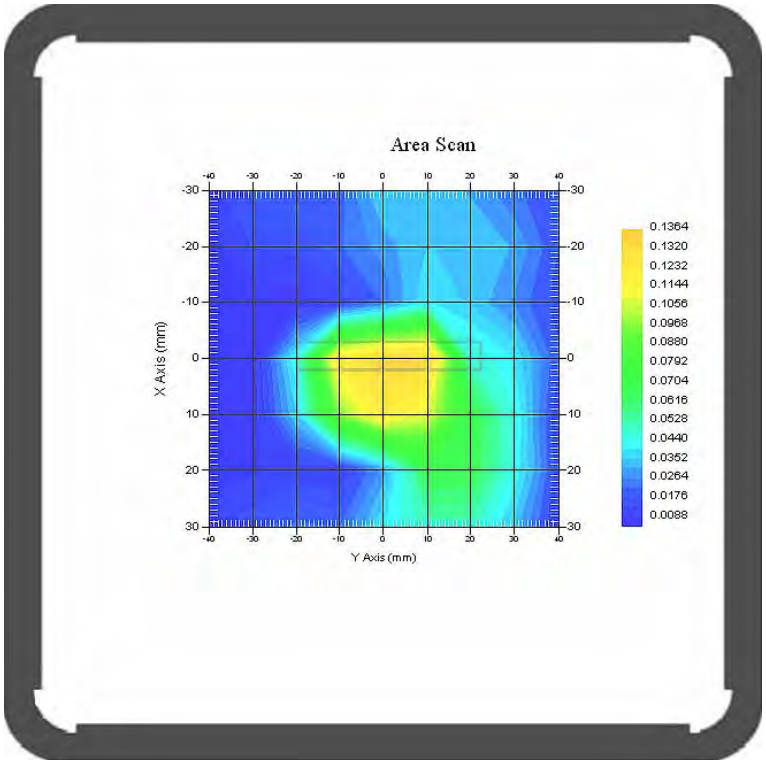
Measurement Data
Test mode : GPRS
Crest Factor : 4
Scan Type： : Complete
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.158 W/kg
Power Drift-Finish : 0.162 W/kg
Power Drift (%) : 2.295

Tissue Data
Type : Body
Frequency : 836.6 MHz
Epsilon : 54.63 F/m
Sigma : 0.97 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency Band : 835
Duty Cycle Factor : 4
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 μV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.155 W/kg
10 gram SAR value : 0.057 W/kg
Area Scan Peak SAR : 0.134 W/kg
Zoom Scan Peak SAR : 0.330 W/kg

Plot 35#



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

Hot Spot: Body-Front (1880.0 MHz Middle Channel)

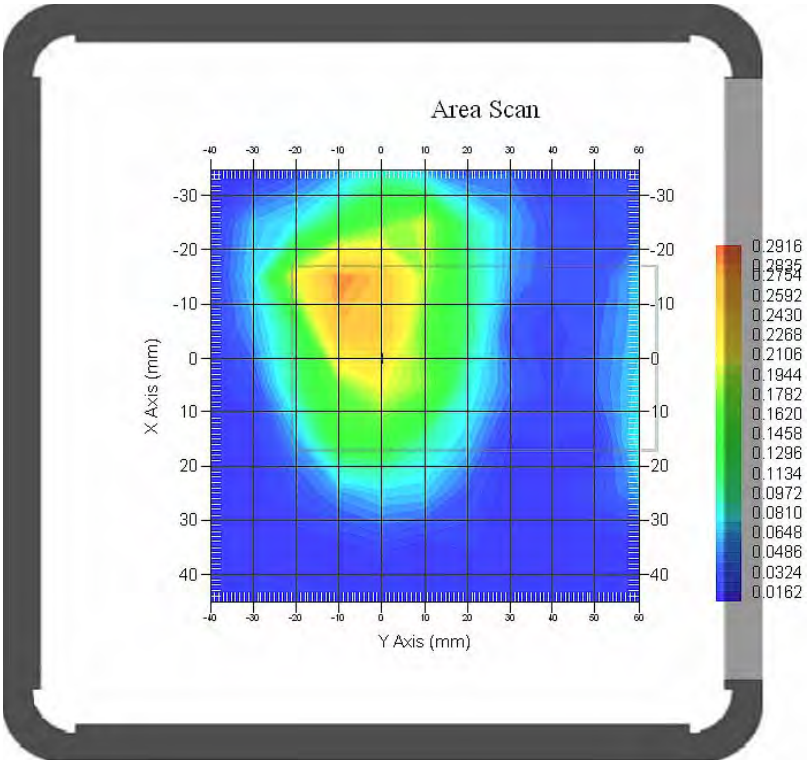
Measurement Data
Test mode : GPRS
Crest Factor : 2
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.240 W/kg
Power Drift-Finish : 0.242 W/kg
Power Drift (%) : 0.698

Tissue Data
Type : Body
Frequency : 1880.00 MHz
Epsilon : 51.66 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 : 2
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.258 W/kg
10 gram SAR value : 0.092 W/kg
Area Scan Peak SAR : 0.284 W/kg
Zoom Scan Peak SAR : 0.540 W/kg

Plot 36#



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

Hot Spot: Body-Back (1880.0 MHz Middle Channel)

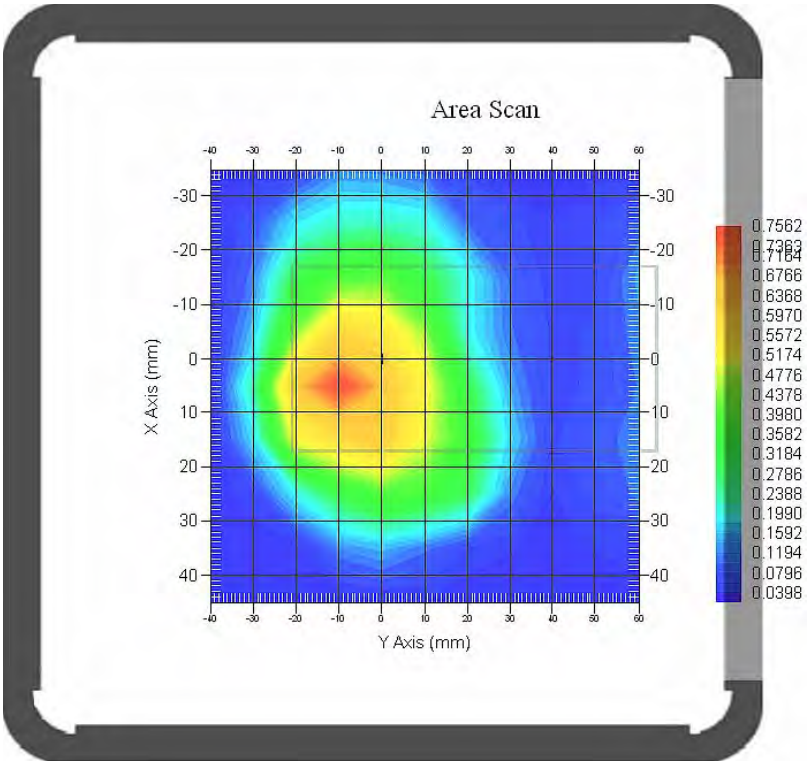
Measurement Data
Test mode : GPRS
Crest Factor : 2
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.623 W/kg
Power Drift-Finish : 0.595 W/kg
Power Drift (%) : -4.467

Tissue Data
Type : Body
Frequency : 1880.00 MHz
Epsilon : 51.66 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 : 2
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.638 W/kg
10 gram SAR value : 0.287 W/kg
Area Scan Peak SAR : 0.755 W/kg
Zoom Scan Peak SAR : 1.251 W/kg

Plot 37#



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

Hot Spot: Body-Left (1880.0 MHz Middle Channel)

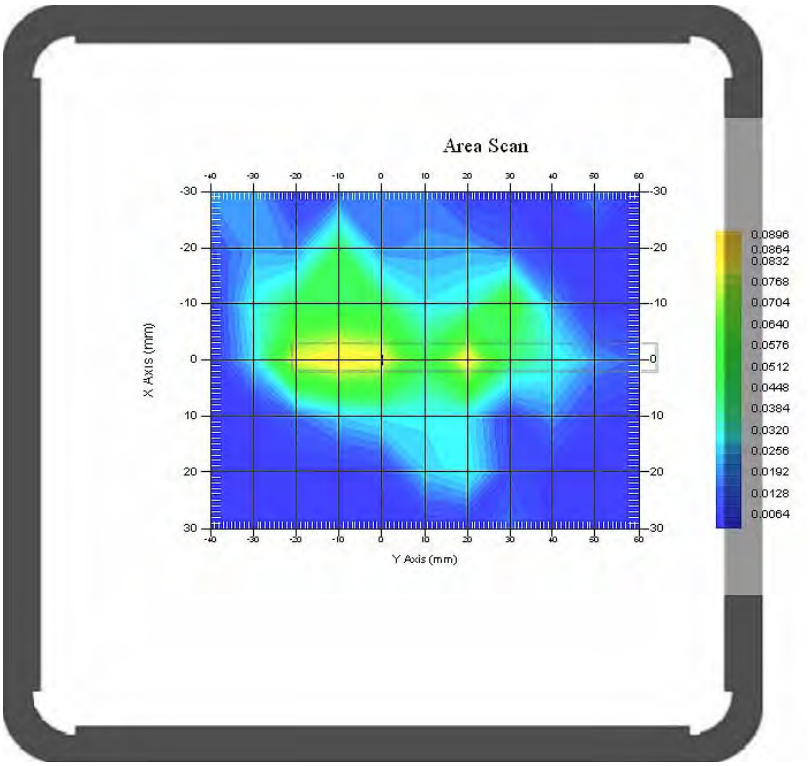
Measurement Data
Test mode : GPRS
Crest Factor : 2
Scan Type : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.077 W/kg
Power Drift-Finish : 0.075 W/kg
Power Drift (%) : -4.335

Tissue Data
Type : Body
Frequency : 1880.00 MHz
Epsilon : 51.66 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 : 2
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.090 W/kg
10 gram SAR value : 0.032 W/kg
Area Scan Peak SAR : 0.087 W/kg
Zoom Scan Peak SAR : 0.320 W/kg

Plot 38#



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

Hot Spot: Body-Right (1880.0 MHz Middle Channel)

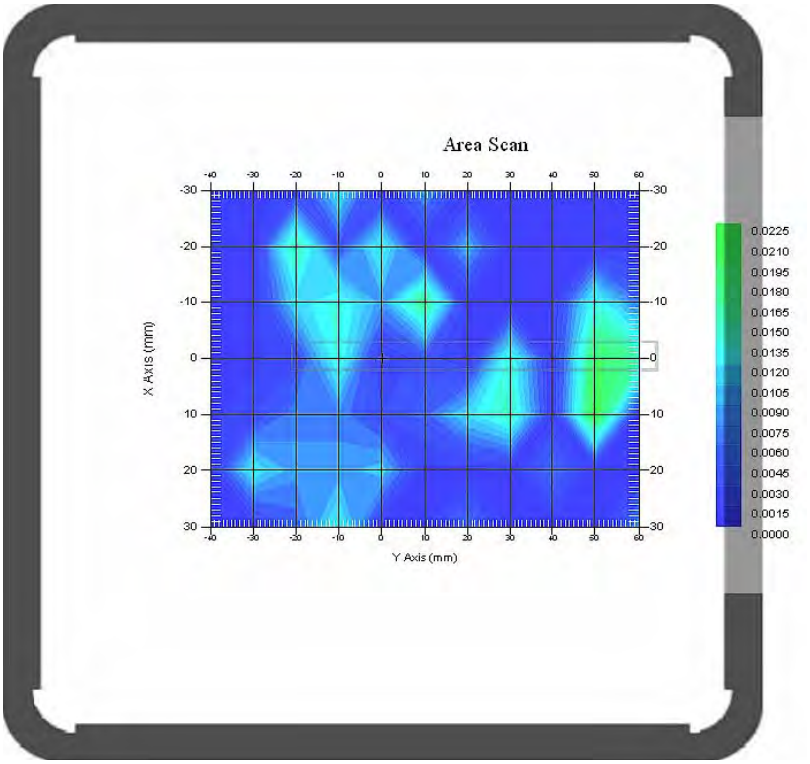
Measurement Data
Test mode : GPRS
Crest Factor : 2
Scan Type : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.011 W/kg
Power Drift-Finish : 0.011 W/kg
Power Drift (%) : -1.949

Tissue Data
Type : Body
Frequency : 1880.00 MHz
Epsilon : 51.66 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 : 2
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.024 W/kg
10 gram SAR value : 0.009 W/kg
Area Scan Peak SAR : 0.022 W/kg
Zoom Scan Peak SAR : 0.120 W/kg

Plot 39#



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

Hot Spot: Body-Bottom (1880.0 MHz Middle Channel)

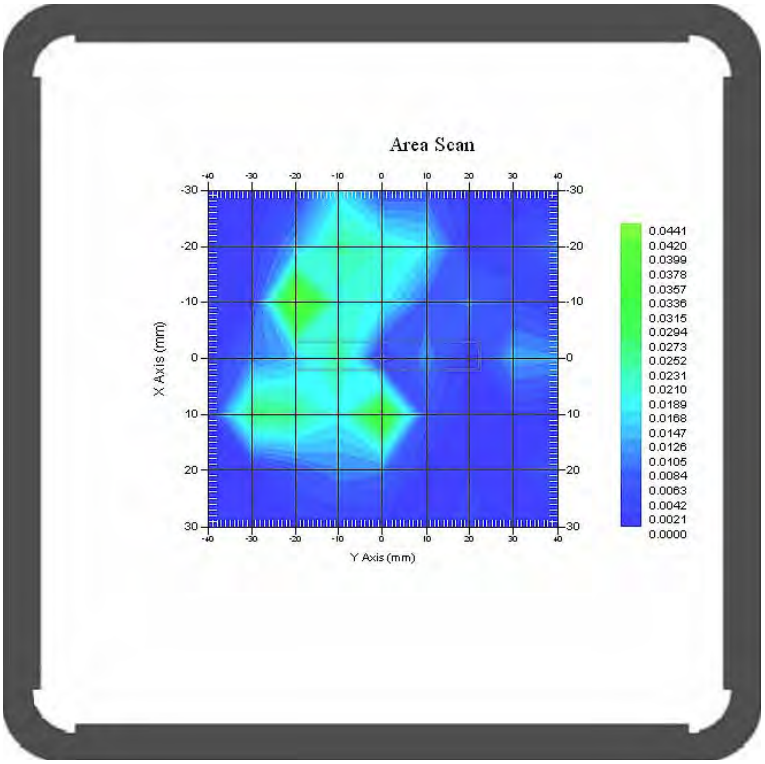
Measurement Data
Test mode : GPRS
Crest Factor : 2
Scan Type : Complete
Area Scan : 8x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.001 W/kg
Power Drift (%) : 0.271

Tissue Data
Type : Body
Frequency : 1880.00 MHz
Epsilon : 51.66 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 : 2
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.026 W/kg
10 gram SAR value : 0.015 W/kg
Area Scan Peak SAR : 0.043 W/kg
Zoom Scan Peak SAR : 0.080 W/kg

Plot 40#



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

Hot Spot: WCDMA850; Body-Front (826.4 MHz Low Channel)

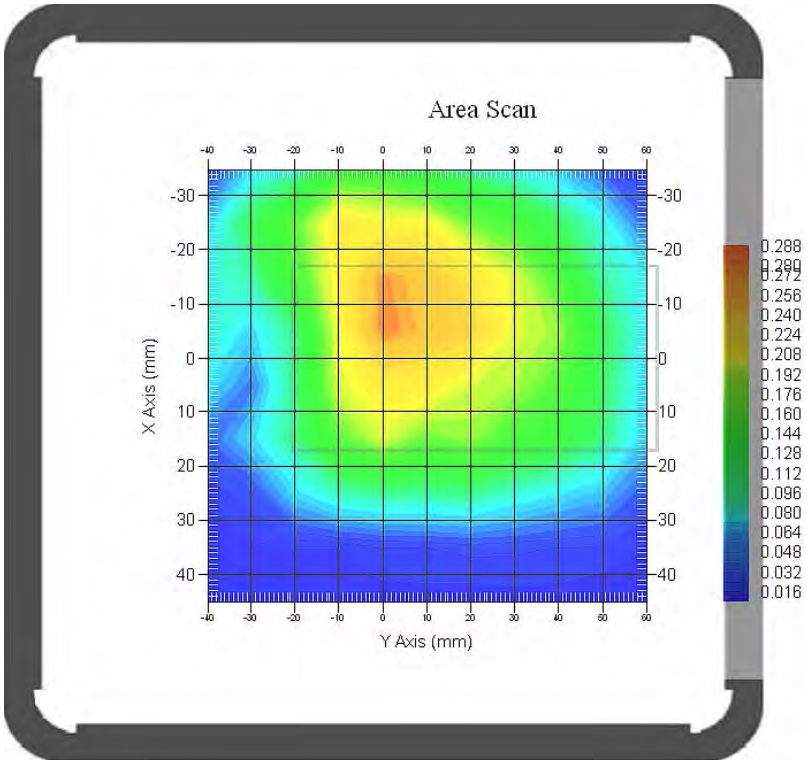
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.232 W/kg
Power Drift-Finish : 0.239 W/kg
Power Drift (%) : 3.017

Tissue Data
Type : Body
Frequency : 826.4 MHz
Epsilon : 54.56 F/m
Sigma : 0.96 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.239 W/kg
10 gram SAR value : 0.139 W/kg
Area Scan Peak SAR : 0.281 W/kg
Zoom Scan Peak SAR : 0.300 W/kg

Plot 41#



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

Hot Spot: WCDMA850; Body-Back (826.4 MHz Low Channel)

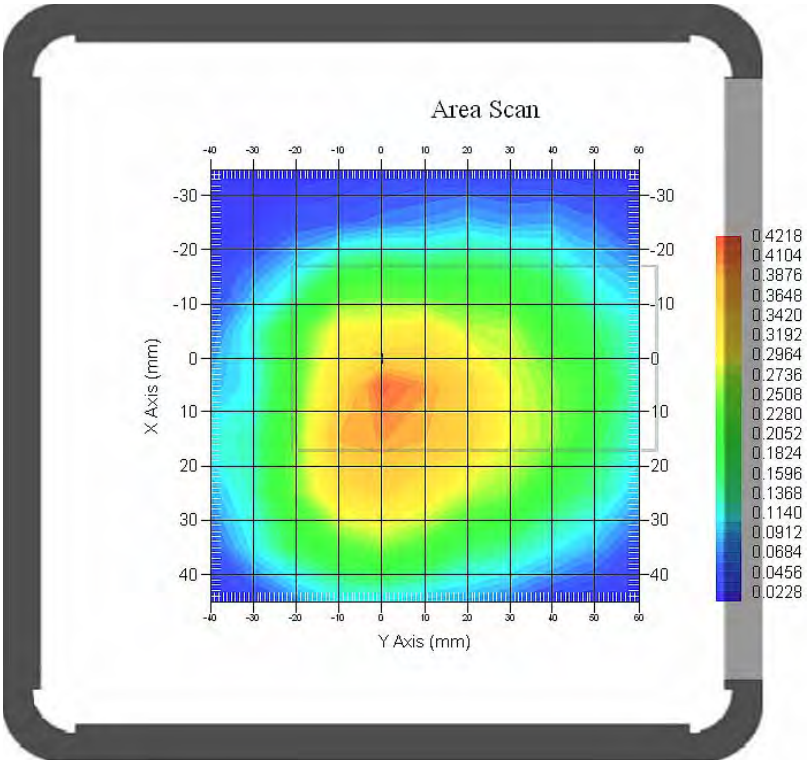
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.376 W/kg
Power Drift-Finish : 0.367 W/kg
Power Drift (%) : -1.654

Tissue Data
Type : Body
Frequency : 826.4 MHz
Epsilon : 54.56 F/m
Sigma : 0.96 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.437 W/kg
10 gram SAR value : 0.346 W/kg
Area Scan Peak SAR : 0.416 W/kg
Zoom Scan Peak SAR : 0.610 W/kg

Plot 42#



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

Hot Spot: WCDMA850; Body-Left (826.4 MHz Low Channel)

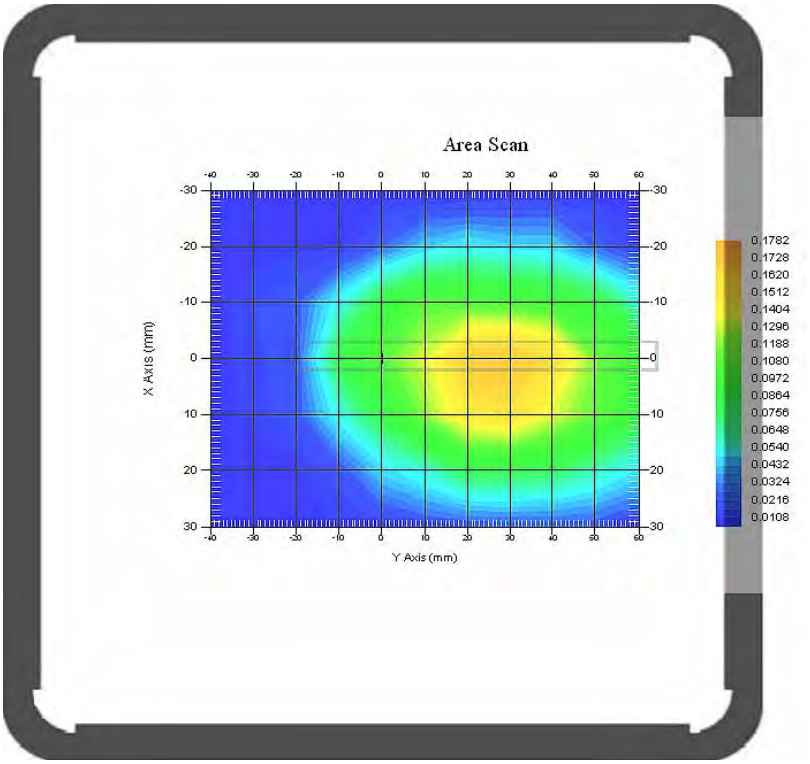
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.101 W/kg
Power Drift-Finish : 0.107 W/kg
Power Drift (%) : 1.900

Tissue Data
Type : Body
Frequency : 826.4 MHz
Epsilon : 54.56 F/m
Sigma : 0.96 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.149 W/kg
10 gram SAR value : 0.090 W/kg
Area Scan Peak SAR : 0.175 W/kg
Zoom Scan Peak SAR : 0.240 W/kg

Plot 43#



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

Hot Spot: WCDMA850; Body-Right (826.4 MHz Low Channel)

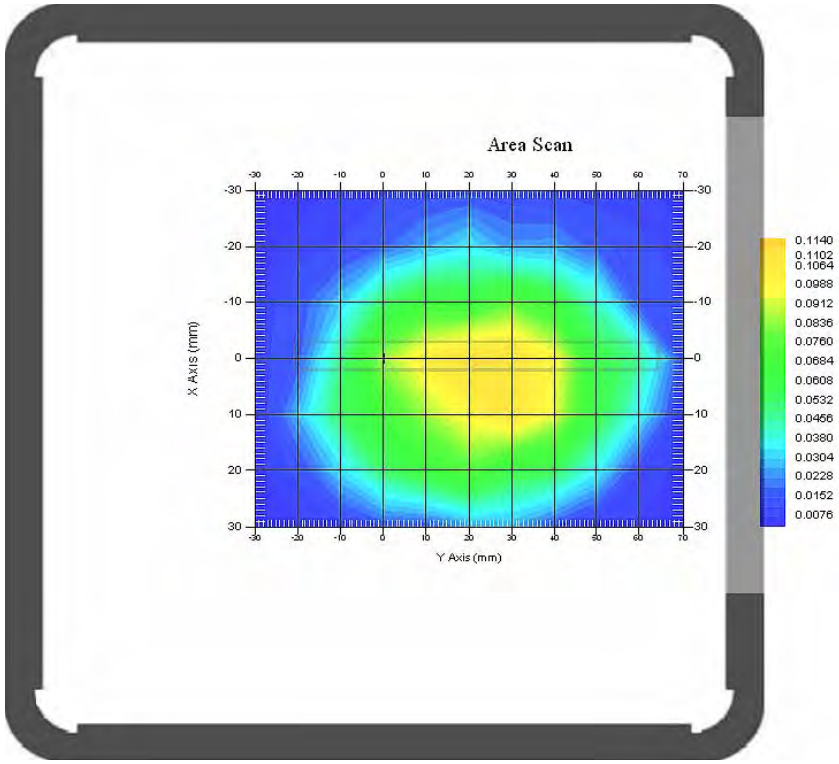
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.076 W/kg
Power Drift-Finish : 0.076 W/kg
Power Drift (%) : -0.060

Tissue Data
Type : Body
Frequency : 826.4 MHz
Epsilon : 54.56 F/m
Sigma : 0.96 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.100 W/kg
10 gram SAR value : 0.050 W/kg
Area Scan Peak SAR : 0.113 W/kg
Zoom Scan Peak SAR : 0.170 W/kg

Plot 44#



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

Hot Spot: WCDMA850; Body-Bottom (826.4 MHz Low Channel)

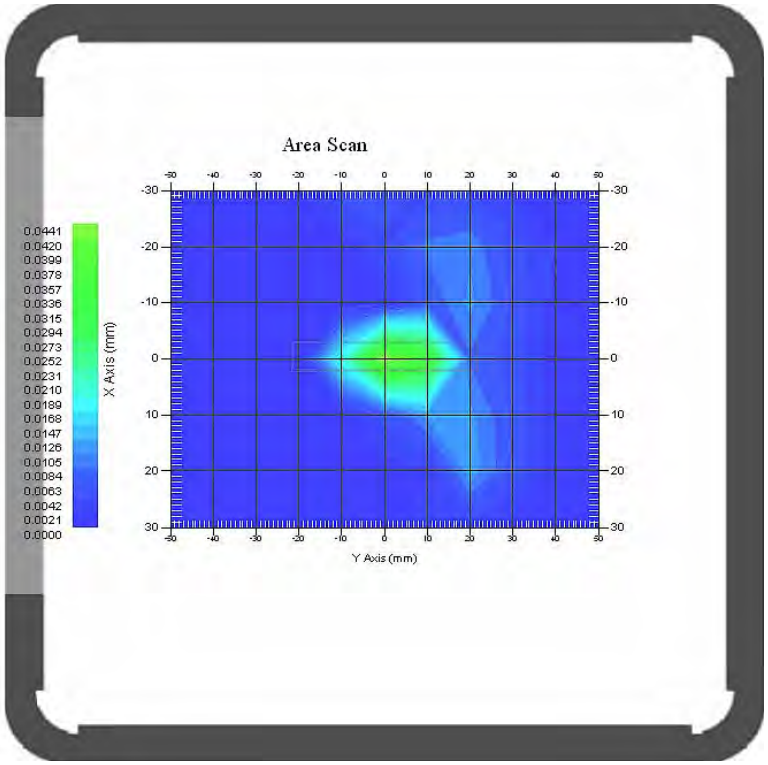
Measurement Data
Test mode : WCDMA850
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.030 W/kg
Power Drift-Finish : 0.031 W/kg
Power Drift (%) : 1.041

Tissue Data
Type : Body
Frequency : 826.4 MHz
Epsilon : 54.56 F/m
Sigma : 0.96 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 835
Duty Cycle Factor : 1
Conversion Factor : 5.9
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.030 W/kg
10 gram SAR value : 0.010 W/kg
Area Scan Peak SAR : 0.043 W/kg
Zoom Scan Peak SAR : 0.100 W/kg

Plot 45#



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

Hot Spot: WCDMA1900; Body-Front (1852.4 MHz Low Channel)

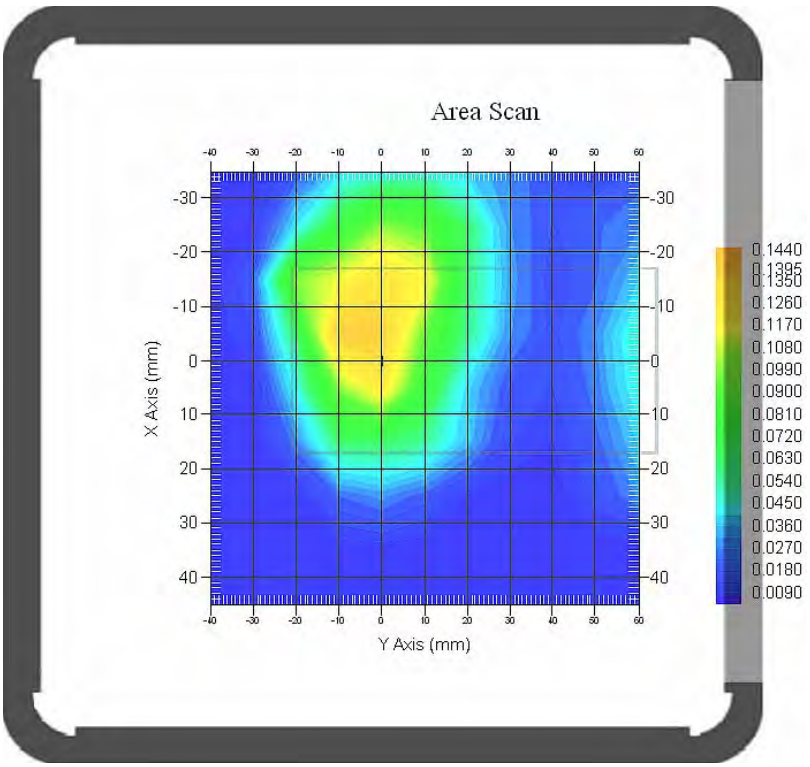
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.109 W/kg
Power Drift-Finish : 0.109 W/kg
Power Drift (%) : 0.309

Tissue Data
Type : Body
Frequency : 1852.4 MHz
Epsilon : 51.85 F/m
Sigma : 1.47 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.144 W/kg
10 gram SAR value : 0.085 W/kg
Area Scan Peak SAR : 0.141 W/kg
Zoom Scan Peak SAR : 0.300 W/kg

Plot 46#



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

Hot Spot: WCDMA1900; Body-Back (1852.4 MHz Low Channel)

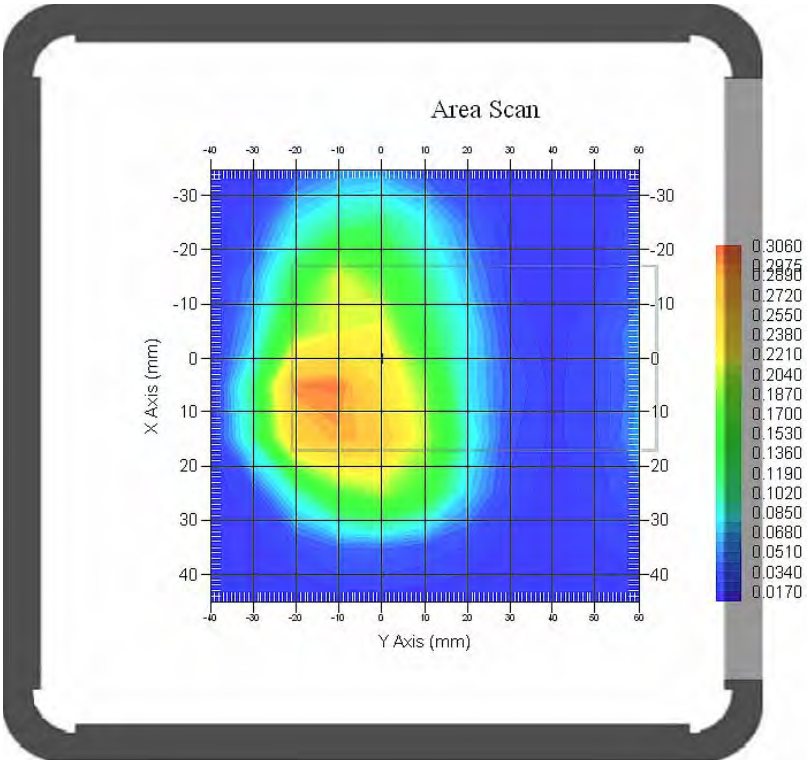
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 9x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.202 W/kg
Power Drift-Finish : 0.208 W/kg
Power Drift (%) : 3.560

Tissue Data
Type : Body
Frequency : 1852.4 MHz
Epsilon : 51.85 F/m
Sigma : 1.47 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.332 W/kg
10 gram SAR value : 0.180 W/kg
Area Scan Peak SAR : 0.300 W/kg
Zoom Scan Peak SAR : 0.660 W/kg

Plot 47#



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

Hot Spot: WCDMA1900; Body-Left (1852.4 MHz Low Channel)

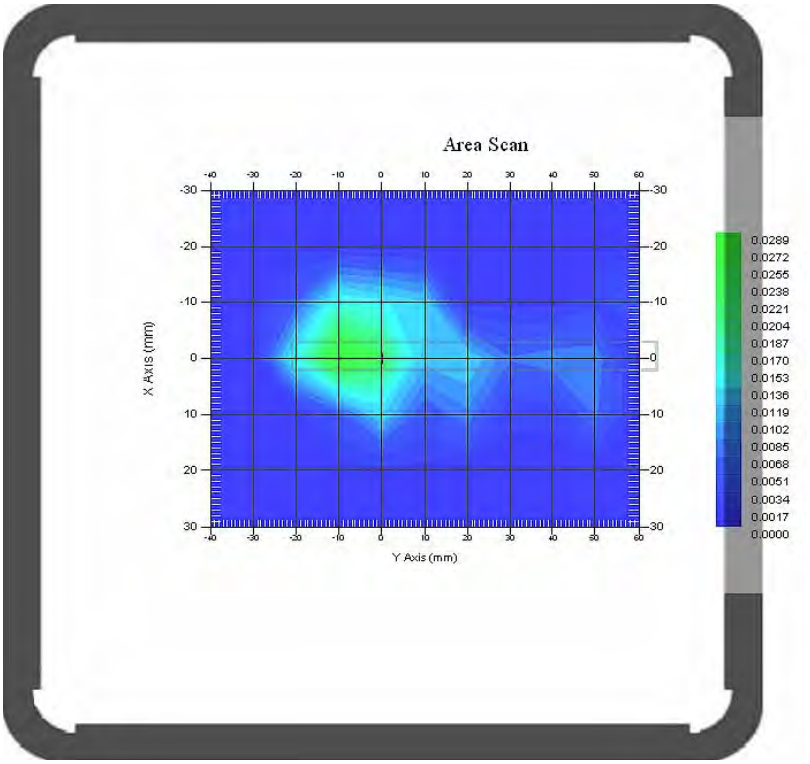
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.023 W/kg
Power Drift-Finish : 0.024 W/kg
Power Drift (%) : 1.998

Tissue Data
Type : Body
Frequency : 1852.4 MHz
Epsilon : 51.85 F/m
Sigma : 1.47 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.023 W/kg
10 gram SAR value : 0.010 W/kg
Area Scan Peak SAR : 0.028 W/kg
Zoom Scan Peak SAR : 0.050 W/kg

Plot 48#



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

Hot Spot: WCDMA1900; Body-Right (1852.4 MHz Low Channel)

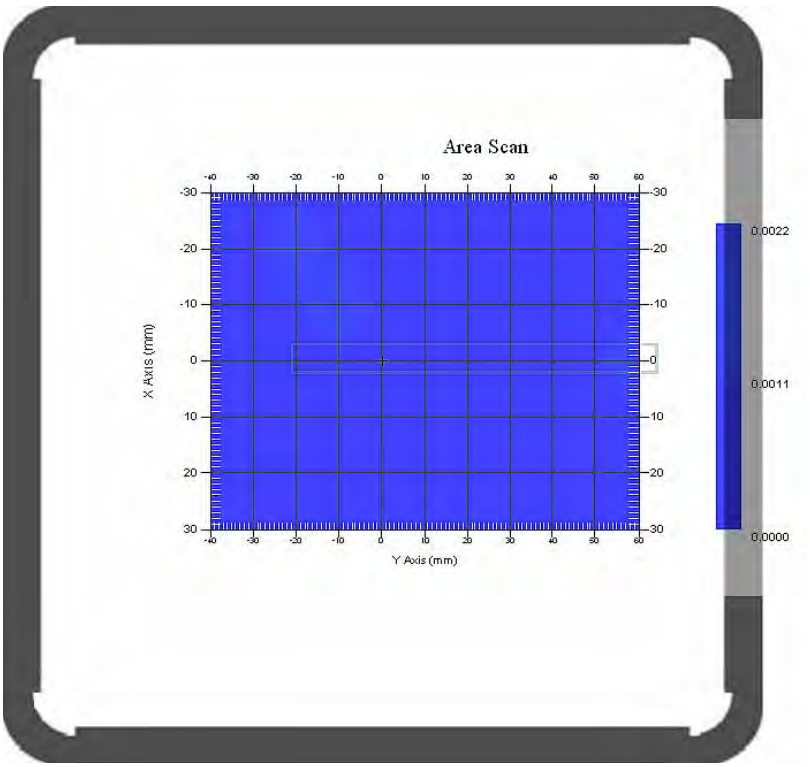
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x11x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.000 W/kg
Power Drift (%) : -1.697

Tissue Data
Type : Body
Frequency : 1852.4 MHz
Epsilon : 51.85 F/m
Sigma : 1.47 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/m)2
Compression Point : 95.00 mV
Offset : 1.56 mm

1 gram SAR value : 0.002 W/kg
10 gram SAR value : 0.002 W/kg
Area Scan Peak SAR : 0.002 W/kg
Zoom Scan Peak SAR : 0.000 W/kg

Plot 49#



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

Hot Spot: WCDMA1900; Body-Bottom (1852.4 MHz Low Channel)

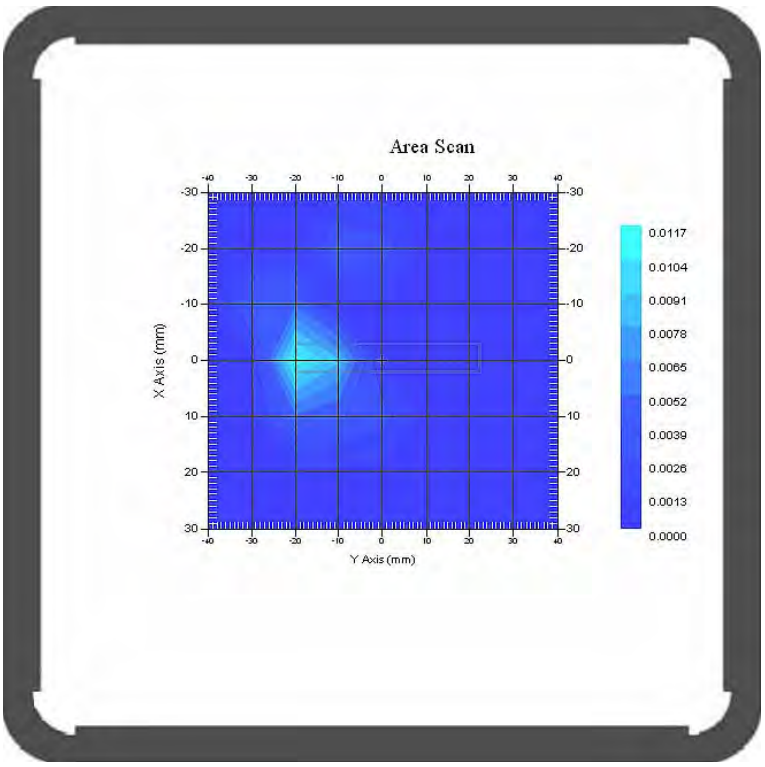
Measurement Data
Test mode : WCDMA1900
Crest Factor : 1
Scan Type : Complete
Area Scan : 7x9x1 : Measurement x=10mm, y=10mm, z=4mm
Zoom Scan : 7x7x7 : Measurement x=5mm, y=5mm, z=5mm
Power Drift-Start : 0.001 W/kg
Power Drift-Finish : 0.000 W/kg
Power Drift (%) : 0.000

Tissue Data
Type : Body
Frequency : 1852.4 MHz
Epsilon : 51.85 F/m
Sigma : 1.47 S/m
Density : 1000.00 kg/cu. m

Probe Data
Serial No. : 500-00283
Frequency : 1900
Duty Cycle Factor : 1
Conversion Factor : 4.5
Probe Sensitivity : 1.20 1.20 1.20 µV/(V/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 : 0.011 W/kg
Zoom Scan Peak SAR : 0.030 W/kg

Plot 50#



APPENDIX A MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement Uncertainty for 300MHz to 3GHz

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	c_i^1 (1-g)	c_i^1 (10-g)	Standard Uncertainty (1-g) %	Standard Uncertainty (10-g) %
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	$\sqrt{3}$	$(1\text{-cp})^{1/2}$	$(1\text{-cp})^{1}_{/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	$\sqrt{3}$	$\sqrt{cp}$	$\sqrt{cp}$	4.4	4.4
Boundary Effect	1.0	rectangular	$\sqrt{3}$	1	1	0.6	0.6
Linearity	4.7	rectangular	$\sqrt{3}$	1	1	2.7	2.7
Detection Limit	1.0	rectangular	$\sqrt{3}$	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	$\sqrt{3}$	1	1	0.5	0.5
Integration Time	1.7	rectangular	$\sqrt{3}$	1	1	1.0	1.0
RF Ambient Condition -Noise	0.006	rectangular	$\sqrt{3}$	1	1	0.003	0.003
RF Ambient Condition - Reflections	3.0	rectangular	$\sqrt{3}$	1	1	1.7	1.7
Probe Positioner Mech. Restrictions	0.4	rectangular	$\sqrt{3}$	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	$\sqrt{3}$	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	$\sqrt{3}$	1	1	2.1	2.1
Test Sample Positioning	0.023	normal	1	1	1	0.023	0.023
Device Holder Uncertainty	6.215	normal	1	1	1	6.215	6.215
Drift of Output Power	4.627	rectangular	$\sqrt{3}$	1	1	2.67	2.67
Phantom and Setup							
Phantom Uncertainty(shape & thickness tolerance)	3.4	rectangular	$\sqrt{3}$	1	1	2.0	2.0
Liquid Conductivity(target)	5.0	rectangular	$\sqrt{3}$	0.7	0.5	2.0	1.4
Liquid Conductivity(meas.)	1.938	normal	1	0.7	0.5	1.36	0.97
Liquid Permittivity(target)	5.0	rectangular	$\sqrt{3}$	0.6	0.5	1.7	1.4
Liquid Permittivity(meas.)	3.093	normal	1	0.6	0.5	1.86	1.55
Combined Uncertainty		RSS				10.78	10.55
Expanded uncertainty (coverage factor=2)		Normal(k=2)				21.56	21.10

APPENDIX B – PROBE CALIBRATION CERTIFICATES

NCL CALIBRATION LABORATORIES

Calibration File No.: PC-1537

Task No: BACL-5745

CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

Equipment: Miniature Isotropic RF Probe
Record of Calibration
Head and Body
Manufacturer: APREL Laboratories
Model No.: E-020
Serial No.: 500-00283

Calibration Procedure: D01-032-E020-V2, D22-012-Tissue, D28-002-Dipole
Project No: BACL-5745

Calibrated: 8th October 2013
Released on: 8th October 2013

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: _____

Art Brennan, Quality Manager

NCL CALIBRATION LABORATORIES
Suite 102, 303 Terry Fox Dr, OTTAWA, ONTARIO CANADA K2K 3J1
Division of APREL Lab.
TEL: (613) 435-8300
FAX: (613) 435-8306

NCL Calibration Laboratories

Division of APREL Inc.

Introduction

This Calibration Report reproduces the results of the calibration performed in line with the references listed below. Calibration is performed using accepted methodologies as per the references listed below. Probes are calibrated for air, and tissue and the values reported are the results from the physical quantification of the probe through meteorgical practices.

Calibration Method

Probes are calibrated using the following methods.

<1000MHz
TEM Cell for sensitivity in air
Standard phantom using temperature transfer method for sensitivity in tissue

>1000MHz
Waveguide* method to determine sensitivity in air and tissue
*Waveguide is numerically (simulation) assessed to determine the field distribution and power

The boundary effect for the probe is assessed using a standard flat phantom where the probe output is compared against a numerically simulated series of data points

References

- IEEE Standard 1528
  IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
- EN 62209-1
  Human Exposure to RF Fields from hand-held and body-mounted wireless communication devices - Human models. instrumentation, and procedures-Part 1: Procedure to measure the Specific Absorption Rate (SAR) for hand-held mobile wireless devices
- IEC 62209-2
  Human exposure to RF fields from hand-held and body-mounted wireless devices - Human models, instrumentation, and procedures - Part 2: specific absorption rate (SAR) for wireless communication devices (30 MHz - 6 GHz)
- TP-D01-032-E020-V2 E-Field probe calibration procedure
- D22-012-Tissue dielectric tissue calibration procedure
- D28-002-Dipole procedure for validation of SAR system using a dipole
- IEEE 1309 Standard for Calibration of Electromagnetic Field Sensors and Probes, Excluding Antennas, from 9kHz to 40GHz

This page has been reviewed for content and attested to on Page 2 of this document.

NCL Calibration Laboratories
Division of APREL Inc.

Conditions

Probe 500-00283 was a recalibration.

Ambient Temperature of the Laboratory:	22 °C +/- 1.5°C
Temperature of the Tissue:	21 °C +/- 1.5°C
Relative Humidity:	< 60%

Primary Measurement Standards

Instrument	Serial Number	Cal due date
Tektronix USB Power Meter	11C940	May 14, 2015
Signal Generator HP 83640B	3844A00689	Feb 12, 2015

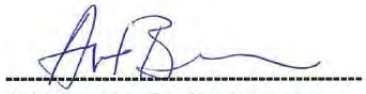
Secondary Measurement Standards

Network Analyzer Anritsu 37347C	002106	Feb. 20, 2015

Attestation

The below named signatories have conducted the calibration and review of the data which is presented in this calibration report.

We the undersigned attest that to the best of our knowledge the calibration of this subject has been accurately conducted and that all information contained within the results pages have been reviewed for accuracy.



Art Brennan, Quality Manager

Dan Brooks, Test Engineer

NCL Calibration Laboratories
Division of APREL Inc.

Probe Summary

Probe Type:	E-Field Probe E020
Serial Number:	500-00283
Frequency:	As presented on page 5
Sensor Offset:	1.56
Sensor Length:	2.5
Tip Enclosure:	Composite*
Tip Diameter:	< 2.9 mm
Tip Length:	55 mm
Total Length:	289 mm

*Resistive to recommended tissue recipes per IEEE-1528

Sensitivity in Air

Channel X:	1.2 $\mu V/(V/m)^2$
Channel Y:	1.2 $\mu V/(V/m)^2$
Channel Z:	1.2 $\mu V/(V/m)^2$
Diode Compression Point:	95 mV

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Calibration for Tissue (Head H, Body B)

Frequency	Tissue Type	Measured Epsilon	Measured Sigma	Standard Uncertainty (%)	Calibration Frequency Range (MHz)	Conversion Factor
450 H	Head	44.29	0.86	3.5	±50	5.7
450 B	Body	56.6	0.94	3.5	±50	5.8
750 H	Head	42.7	0.85	3.5	±50	5.6
750 B	Body	56.6	0.94	3.5	±50	5.5
835 H	Head	42.35	0.938	3.5	±50	5.9
835 B	Body	56.65	1.018	3.5	±50	5.9
900 H	Head	X	X	X	X	X
900 B	Body	X	X	X	X	X
1450 H	Head	X	X	X	X	X
1450 B	Body	X	X	X	X	X
1500 H	Head	X	X	X	X	X
1500 B	Body	X	X	X	X	X
1640 H	Head	X	X	X	X	X
1640 B	Body	X	X	X	X	X
1750 H	Head	38.51	1.36	3.5	±75	5.4
1750 B	Body	51.79	1.53	3.5	±75	5.3
1800 H	Head	38.26	1.41	3.5	±75	5.0
1800 B	Body	51.61	1.58	3.5	±75	5.0
1900 H	Head	38.03	1.36	3.5	±75	4.8
1900 B	Body	53.13	1.58	3.5	±75	4.5
2000 H	Head	X	X	X	X	X
2000 B	Body	X	X	X	X	X
2100 H	Head	X	X	X	X	X
2100 B	Body	X	X	X	X	X
2300 H	Head	X	X	X	X	X
2300 B	Body	X	X	X	X	X
2450 H	Head	37.64	1.88	3.5	±75	4.9
2450B	Body	50.7	2.03	3.5	±75	4.3
2600 H	Head	X	X	X	X	X
2600 B	Body	X	X	X	X	X
3000 H	Head	X	X	X	X	X
3000 B	Body	X	X	X	X	X
3600 H	Head	X	X	X	X	X
3600 B	Body	X	X	X	X	X
5250 H	Head	34.65	4.8	3.5	±100	2.7
5250 B	Body	47.6	5.3	3.5	±100	2.6
5600 H	Head	33.2	5.15	3.5	±100	2.5
5600 B	Body	45.21	5.57	3.5	±100	2.2
5800 H	Head	32.72	5.38	3.5	±100	3.2
5800 B	Body	44.28	6.04	3.5	±100	2.5

Boundary Effect:

Uncertainty resulting from the boundary effect is less than 2.1% for the distance between the tip of the probe and the tissue boundary, when less than 0.58mm.

Spatial Resolution:

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.

DAQ-PAQ Contribution

To minimize the uncertainty calculation all tissue sensitivity values were calculated using a load impedance of 5 MΩ.

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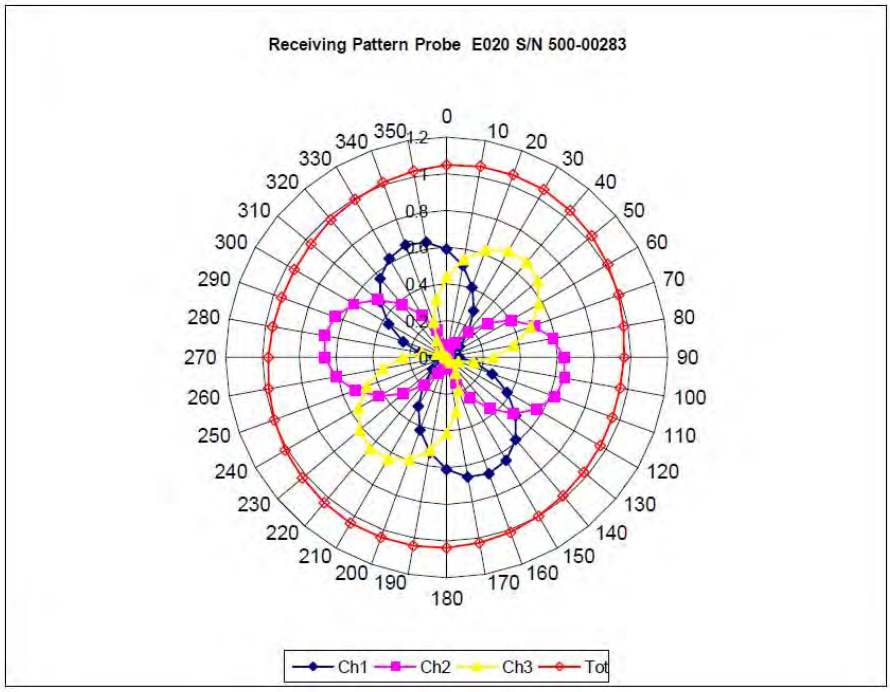
Receiving Pattern Air



Page 7 of 10
This page has been reviewed for content and attested to on Page 2 of this document.

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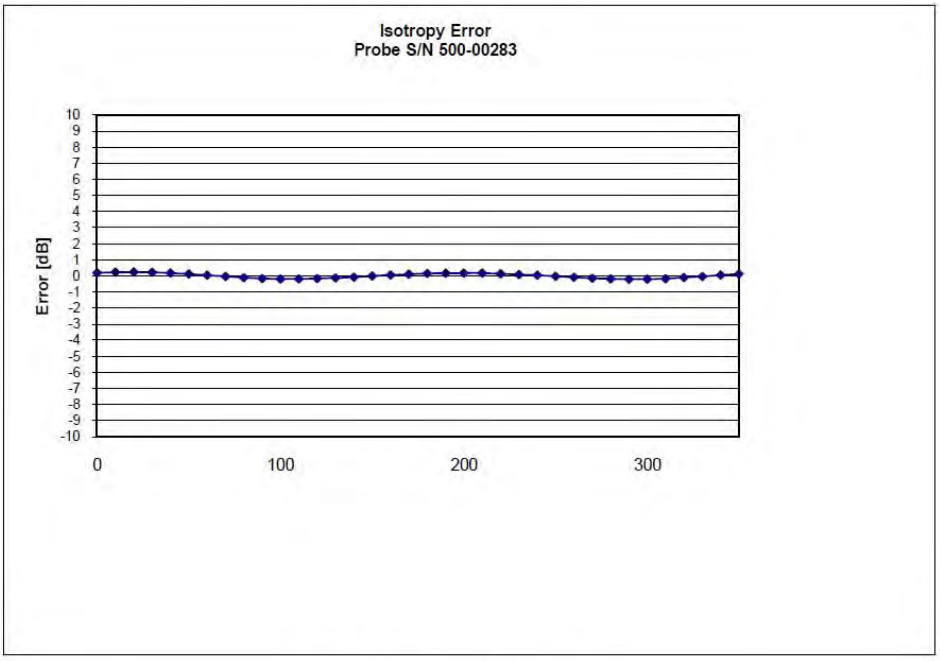
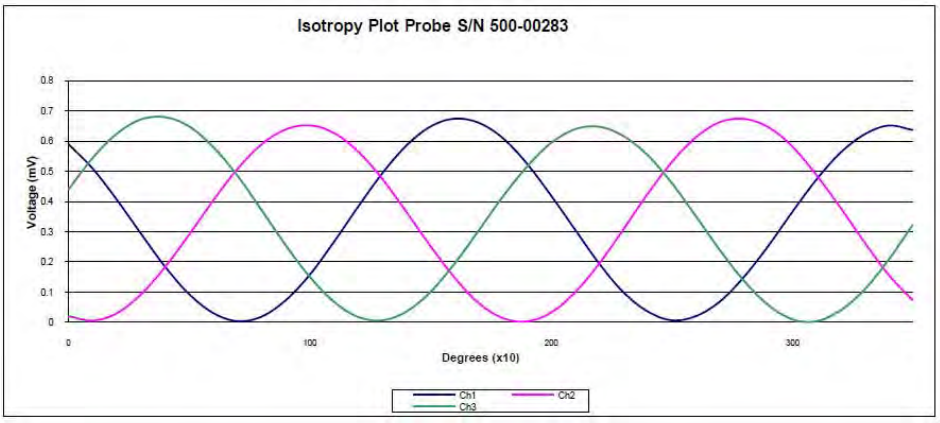
Isotropy Error Air





Isotropicity Tissue: 0.10 dB

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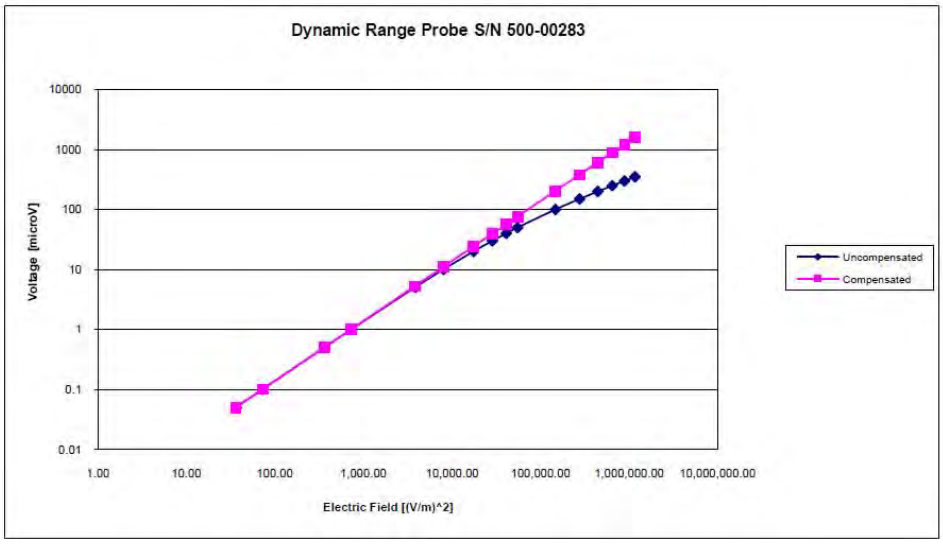
Dynamic Range



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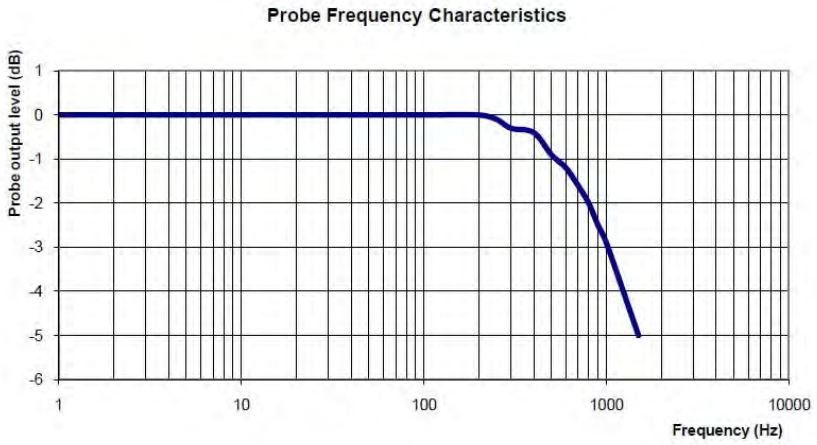
Video Bandwidth



Video Bandwidth at 500 Hz	1 dB
Video Bandwidth at 1.02 KHz:	3 dB

Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List May 2013.

APPENDIX C DIPOLE CALIBRATION CERTIFICATES

NCL CALIBRATION LABORATORIES

Calibration File No: DC-1327
Project Number: BAC-dipole-cal-5618

CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

Validation Dipole(Head and Body)

Manufacturer: APREL Laboratories
Part number: ALS-D-835-S-2
Frequency: 835 MHz
Serial No: 180-00558

Customer: Bay Area Compliance Laboratory

Calibrated: 25th August 2011
Released on: 25th August 2011

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: _____

NCL CALIBRATION LABORATORIES
Suite 102, 303 Terry Fox Dr. Division of APREL Lab.
Kanata, ONTARIO TEL: (613) 435-8300
CANADA K2K 3J1 FAX: (613)435-8306

NCL Calibration Laboratories
Division of APREL Laboratories.

Conditions

Dipole 180-00558 was received in good condition and a re-calibration.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 21 °C +/- 0.5°C

We the undersigned attest that to the best of our knowledge the calibration of this device has been accurately conducted and that all information contained within this report has been reviewed for accuracy.

Stuart Nicol

C. Teodorian

Primary Measurement Standards		
Instrument	**Serial Number**	**Cal due date**
Power meter Anritsu MA2408A	245025437	Nov.4, 2011
Power Sensor Anritsu MA2481D	103555	Nov 4, 2011
Attenuator HP 8495A (70dB) 1	944A10711	Aug.8, 2012
Network Analyzer Agilent E5071C	1334746J	Feb. 8, 2012
Secondary Measurement Standards		
Signal Generator Agilent E4438C	-506 MY55182336	June 7, 2012

This page has been reviewed for content and attested to by signature within this document.

NCL Calibration Laboratories
Division of APREL Laboratories.

Calibration Results Summary

The following results relate the Calibrated Dipole and should be used as a quick reference for the user.

Mechanical Dimensions

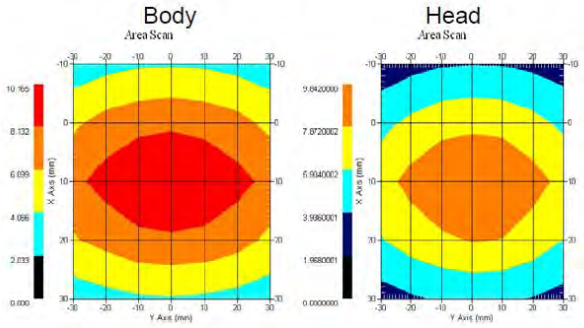
Length: 162.2 mm
Height: 89.4 mm

Electrical Specification

Tissue	Frequency	SWR:	Return Loss	Impedance
Head	835 MHz	1.0417 U	-35.395dB	49.020 Ω
Body	835 MHz	1.1177 U	-25.424dB	55.435 Ω

System Validation Results

Tissue	Frequency	1 Gram	10 Gram	Peak
Head	835 MHz	9.590	6.003	15.013
Body	835 MHz	9.684	6.263	14.23



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NCL Calibration Laboratories
Division of APREL Laboratories.

Introduction

This Calibration Report has been produced in line with the SSI Dipole Calibration Procedure SSI-TP-018-ALSAS. The results contained within this report are for Validation Dipole 180-00558. The calibration routine consisted of a three-step process. Step 1 was a mechanical verification of the dipole to ensure that it meets the mechanical specifications. Step 2 was an Electrical Calibration for the Validation Dipole, where the SWR, Impedance, and the Return loss were assessed. Step 3 involved a System Validation using the ALSAS-10U, along with APREL E-020 130 MHz to 26 GHz E-Field Probe Serial Number 212.

References

SSI-TP-018-ALSAS Dipole Calibration Procedure
SSI-TP-016 Tissue Calibration Procedure
IEEE 1528 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques"

Conditions

Dipole 180-00558 was new taken from stock.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 20 °C +/- 0.5°C

Dipole Calibration uncertainty

The calibration uncertainty for the dipole is made up of various parameters presented below.

Mechanical	1%
Positioning Error	1.22%
Electrical	1.7%
Tissue	2.2%
Dipole Validation	2.2%
TOTAL	**8.32% (16.64% K=2)**

This page has been reviewed for content and attested to by signature within this document.

NCL Calibration Laboratories
Division of APREL Laboratories.

Dipole Calibration Results

Mechanical Verification

APREL Length	APREL Height	Measured Length	Measured Height
161.0 mm	89.8 mm	162.2 mm	89.4 mm

Tissue Type	Return Loss:	SWR:	Impedance:
Head	-35.395 dB	1.0417 U	49.020Ω
Body	-25.454 dB	1.1177 U	55.435Ω

Tissue Validation

	Dielectric constant, ε_r	Conductivity, σ [S/m]
Head Tissue 835MHz	41.78	0.92
Body Tissue 835MHz	56.37	0.95

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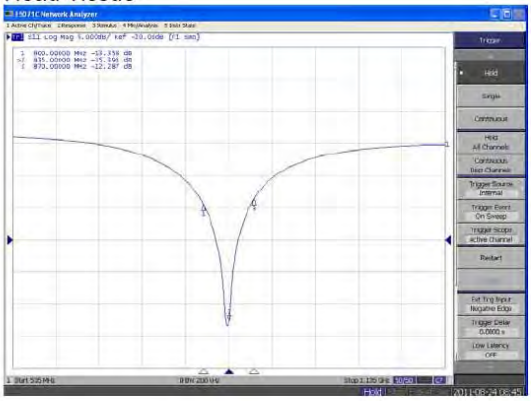
NCL Calibration Laboratories
Division of APREL Laboratories.

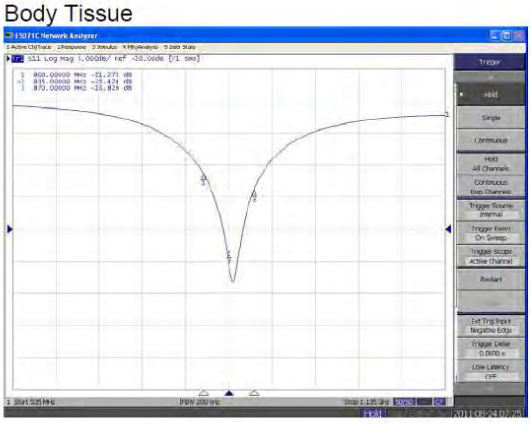
The Following Graphs are the results as displayed on the Vector Network Analyzer.

S11 Parameter Return Loss

Head Tissue



Body Tissue



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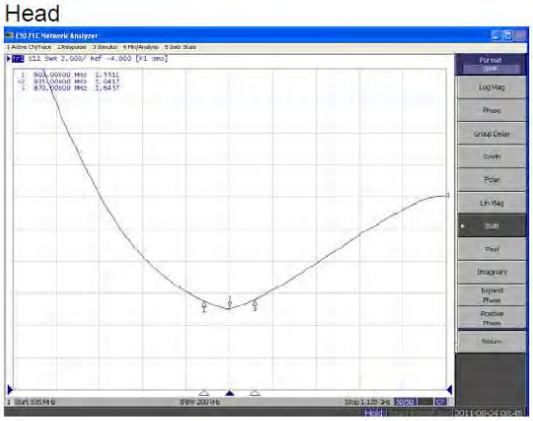
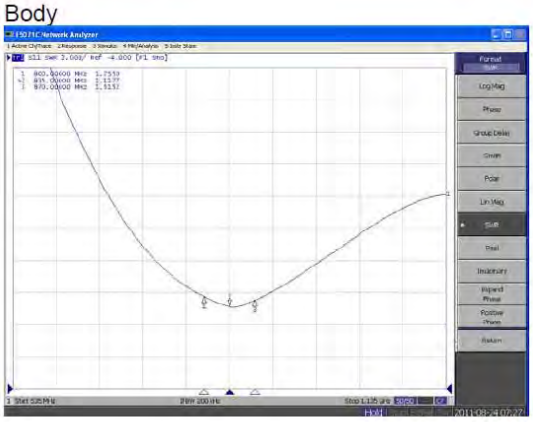
NCL Calibration Laboratories
Division of APREL Laboratories.

SWR

Head



Body



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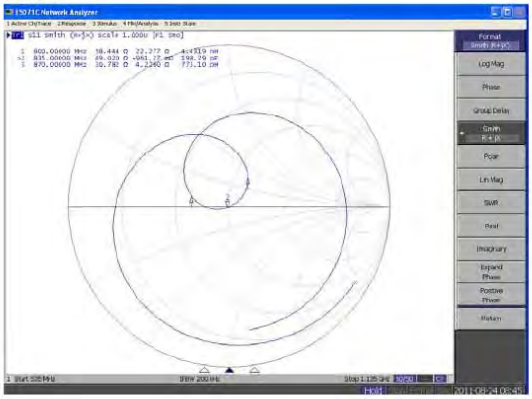
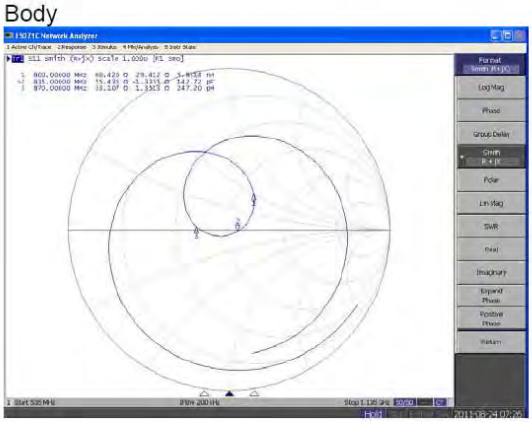
NCL Calibration Laboratories
Division of APREL Laboratories.

Smith Chart Dipole Impedance

Head



Body



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NCL Calibration Laboratories
Division of APREL Laboratories.

Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List 2011.

This page has been reviewed for content and attested to by signature within this document.

835MHz Dipole Calibration By BACL at 2012-12-12

Mechanical Verification

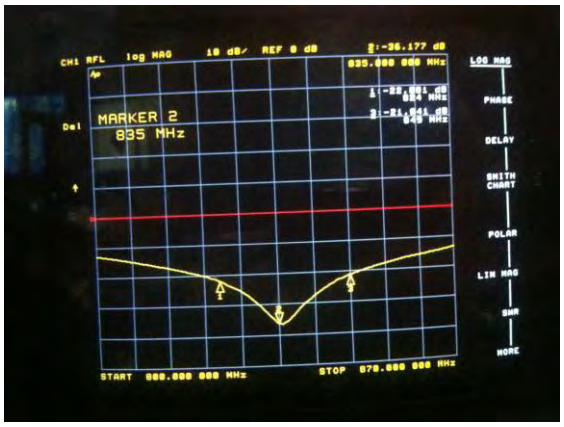
APREL Length	APREL Height	Measured Length	Measured Height
161.0 mm	89.8 mm	161.2 mm	89.5 mm

Tissue Type	Measured Return Loss	Measured Impedance
Head	-36.177 dB	50.207 Ω
Body	-24.964 dB	49.594 Ω

Test Graphs：

Head Tissue

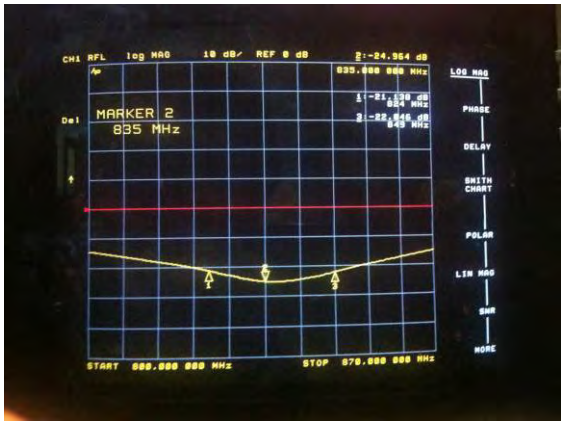
Return Loss :



Impedance :

Body Tissue

Return Loss :



Impedance :

NCL CALIBRATION LABORATORIES

Calibration File No: DC-1331
Project Number: BAC-dipole –cal-5615

CERTIFICATE OF CALIBRATION

It is certified that the equipment identified below has been calibrated in the **NCL CALIBRATION LABORATORIES** by qualified personnel following recognized procedures and using transfer standards traceable to NRC/NIST.

Validation Dipole (Head & Body)

Manufacturer: APREL Laboratories
Part number: ALS-D-1900-S-2
Frequency: 1900 MHz
Serial No: 210-00710

Customer: Bay Area Compliance Laboratory

Calibrated: 25th August, 2011
Released on: 25th August, 2011

This Calibration Certificate is Incomplete Unless Accompanied with the Calibration Results Summary

Released By: _____

NCL CALIBRATION LABORATORIES
Suite 102, 303 Terry Fox Dr.
Kanata, ONTARIO
CANADA K2K 3J1
Division of APREL Lab.
TEL: (613) 435-8300
FAX: (613)435-8306

NCL Calibration Laboratories
Division of APREL Laboratories.

Conditions

Dipole 210-00710 was received in good condition and was a re-calibration.

Ambient Temperature of the Laboratory: 22 °C +/- 0.5°C
Temperature of the Tissue: 21 °C +/- 0.5°C

We the undersigned attest that to the best of our knowledge the calibration of this device has been accurately conducted and that all information contained within this report has been reviewed for accuracy.

Stuart Nicol

C. Teodorian

Primary Measurement Standards		
Instrument	**Serial Number**	**Cal due date**
Power meter Anritsu MA2408A	245025437	Nov.4, 2011
Power Sensor Anritsu MA2481D	103555	Nov 4, 2011
Attenuator HP 8495A (70dB) 1	944A10711	Aug.8, 2012
Network Analyzer Agilent E5071C	1334746J	Feb. 8, 2012
Secondary Measurement Standards		
Signal Generator Agilent E4438C	-506 MY55182336	June 7, 2012

This page has been reviewed for content and attested to by signature within this document.

NCL Calibration Laboratories
Division of APREL Laboratories.

Calibration Results Summary

The following results relate the Calibrated Dipole and should be used as a quick reference for the user.

Mechanical Dimensions

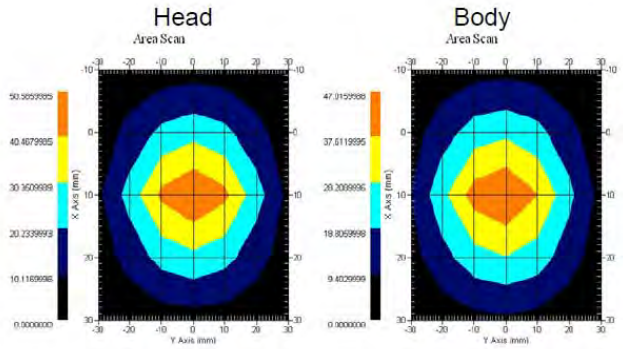
Length: 67.1 mm
Height: 38.9 mm

Electrical Specification

Tissue	Frequency	SWR:	Return Loss	Impedance
Head	1900MHz	1.0417 U	-35.395dB	49.020 Ω
Body	1900MHz	1.1177 U	-25.424dB	55.435 Ω

System Validation Results

Tissue	Frequency	1 Gram	10 Gram	Peak
Head	1900 MHz	39.648	20.311	73.365
Body	1900 MHz	39.769	20.176	75.866



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NCL Calibration Laboratories
Division of APREL Laboratories.

Introduction

This Calibration Report has been produced in line with the SSI Dipole Calibration Procedure SSI-TP-018-ALSAS. The results contained within this report are for Validation Dipole 210-00710. The calibration routine consisted of a three-step process. Step 1 was a mechanical verification of the dipole to ensure that it meets the mechanical specifications. Step 2 was an Electrical Calibration for the Validation Dipole, where the SWR, Impedance, and the Return loss were assessed. Step 3 involved a System Validation using the ALSAS-10U, along with APREL E-020 130 MHz to 26 GHz E-Field Probe Serial Number 212.

References

SSI-TP-018-ALSAS Dipole Calibration Procedure
SSI-TP-016 Tissue Calibration Procedure
IEEE 1528 "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques"

Conditions

Dipole 210-00710 was new taken from stock.

Ambient Temperature of the Laboratory:	22 °C +/- 0.5°C
Temperature of the Tissue:	20 °C +/- 0.5°C

Dipole Calibration uncertainty

The calibration uncertainty for the dipole is made up of various parameters presented below.

Mechanical	1%
Positioning Error	1.22%
Electrical	1.7%
Tissue	2.2%
Dipole Validation	2.2%
TOTAL	**8.32% (16.64% K=2)**

4

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NCL Calibration Laboratories
Division of APREL Laboratories.

Dipole Calibration Results

Mechanical Verification

APREL Length	APREL Height	Measured Length	Measured Height
68.0 mm	39.5 mm	67.1mm	38.9 mm

Electrical Validation

Tissue Type	Return Loss:	SWR:	Impedance:
Head	-29.360 dB	1.0732 U	47.869 Ω
Body	-22.799 dB	1.1566 U	48.022 Ω

Tissue Validation

	Dielectric constant, ε_r	Conductivity, σ [S/m]
Head Tissue 1900MHz	38.4	1.43
Body Tissue 1900MHz	51.87	1.59

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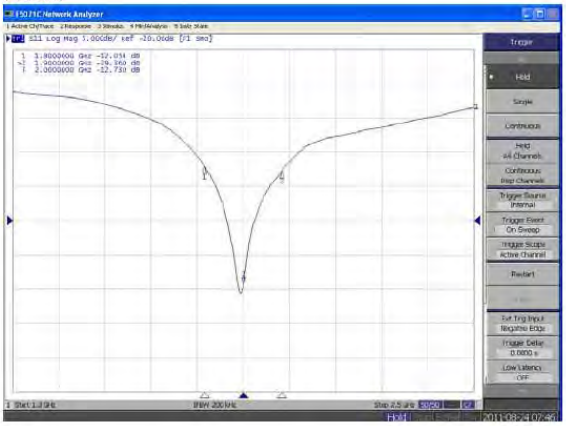
NCL Calibration Laboratories
Division of APREL Laboratories.

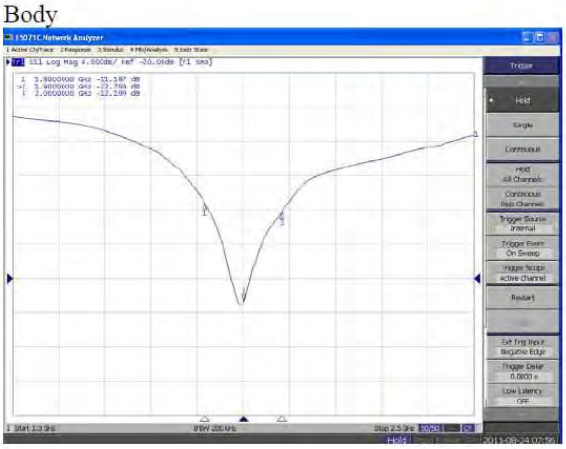
The Following Graphs are the results as displayed on the Vector Network Analyzer.

S11 Parameter Return Loss

Head



Body



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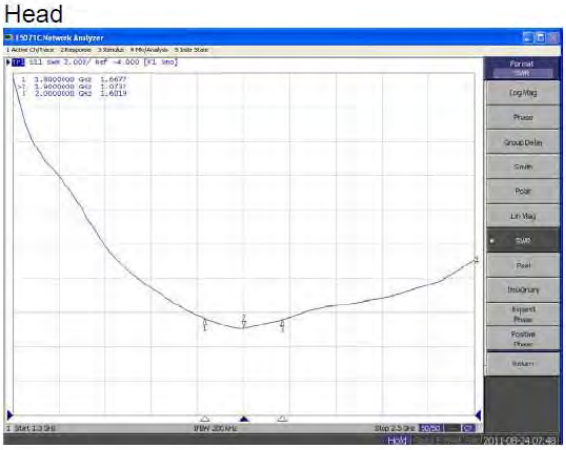
NCL Calibration Laboratories

Division of APREL Laboratories.

SWR

Head



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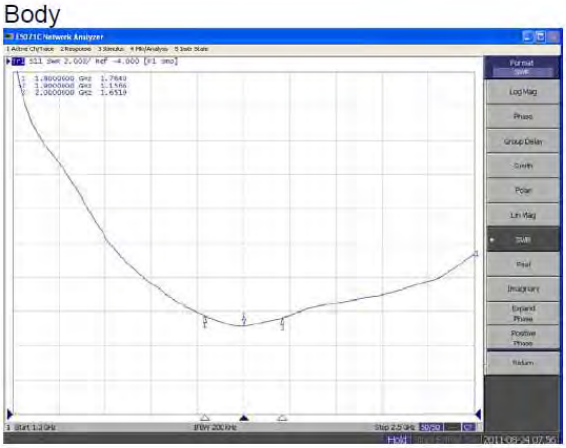

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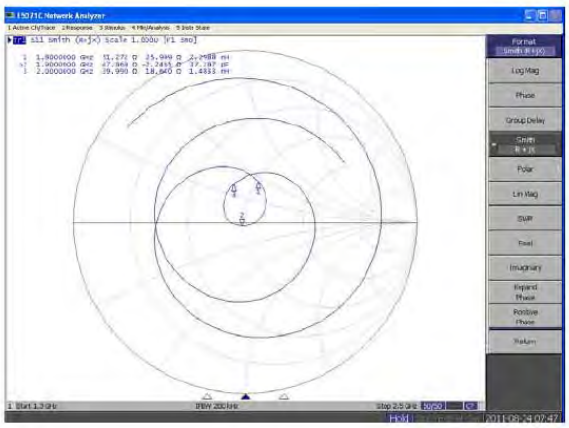
NCL Calibration Laboratories

Division of APREL Laboratories.

Smith Chart Dipole Impedance

Head



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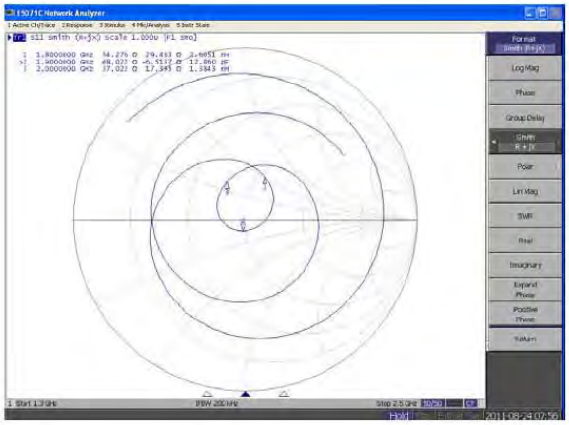


8

This page has been reviewed for content and attested to by signature within this document.

NCL Calibration Laboratories
Division of APREL Laboratories.

Test Equipment

The test equipment used during Probe Calibration, manufacturer, model number and, current calibration status are listed and located on the main APREL server R:\NCL\Calibration Equipment\Instrument List 2011

This page has been reviewed for content and attested to by signature within this document.

1900MHz Dipole Calibration By BACL at 2012-12-12

Mechanical Verification

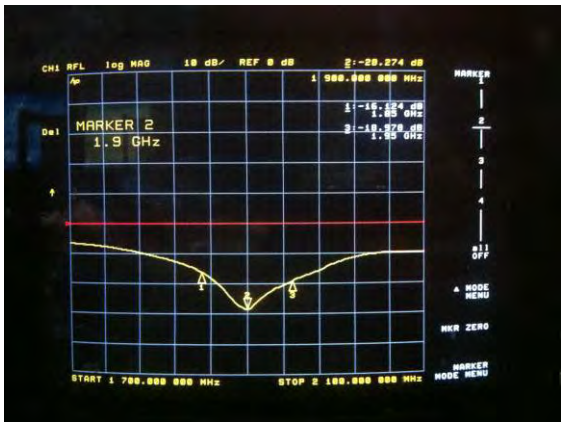
APREL Length	APREL Height	Measured Length	Measured Height
68.0 mm	39.5 mm	68.2 mm	39.2 mm

Tissue Type	Measured Return Loss	Measured Impedance
Head	-28.284 dB	49.471 Ω
Body	-22.445 dB	51.588 Ω

Test Graphs：

Head Tissue

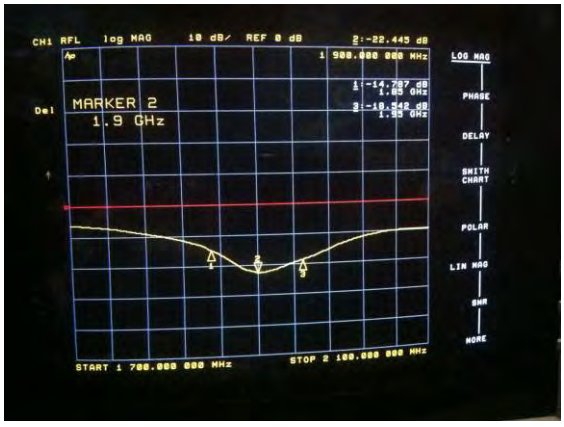
Return Loss :



Impedance :

Body Tissue

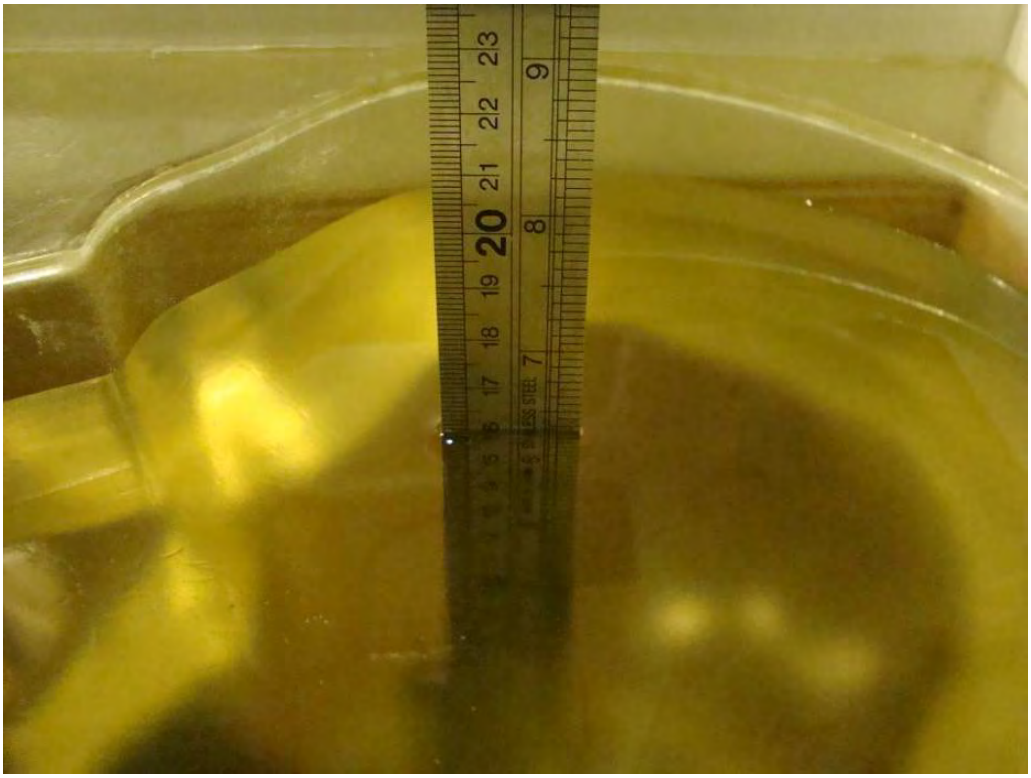
Return Loss :



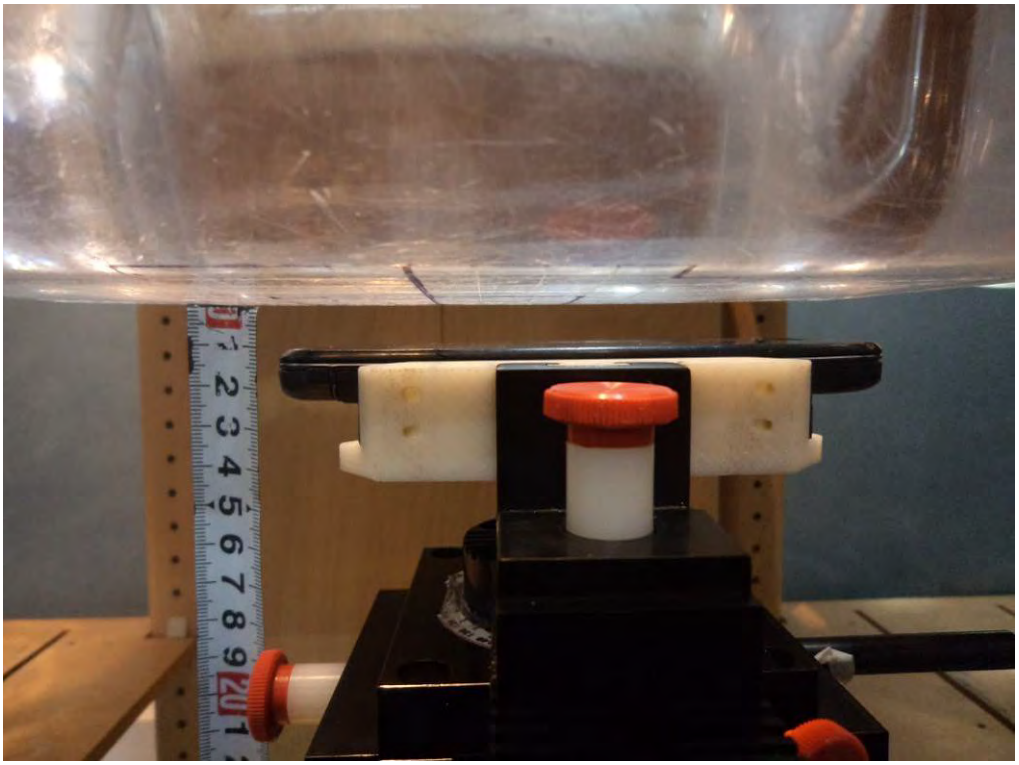
Impedance :

APPENDIX D EUT TEST POSITION PHOTOS

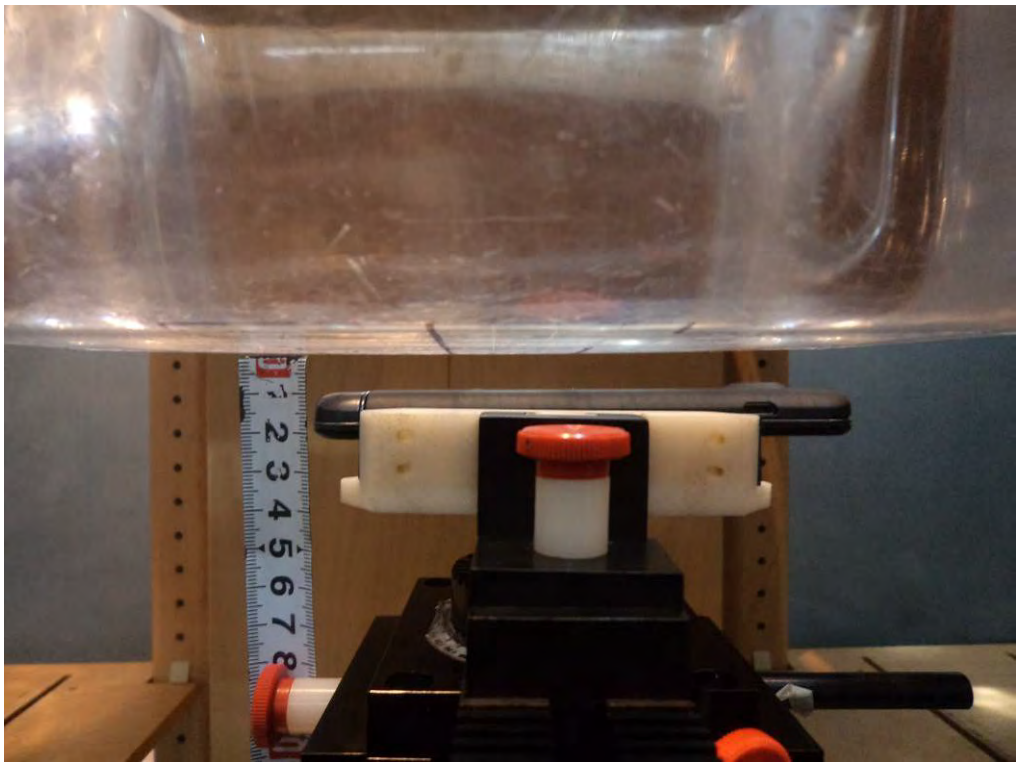
Liquid depth ≥ 15cm



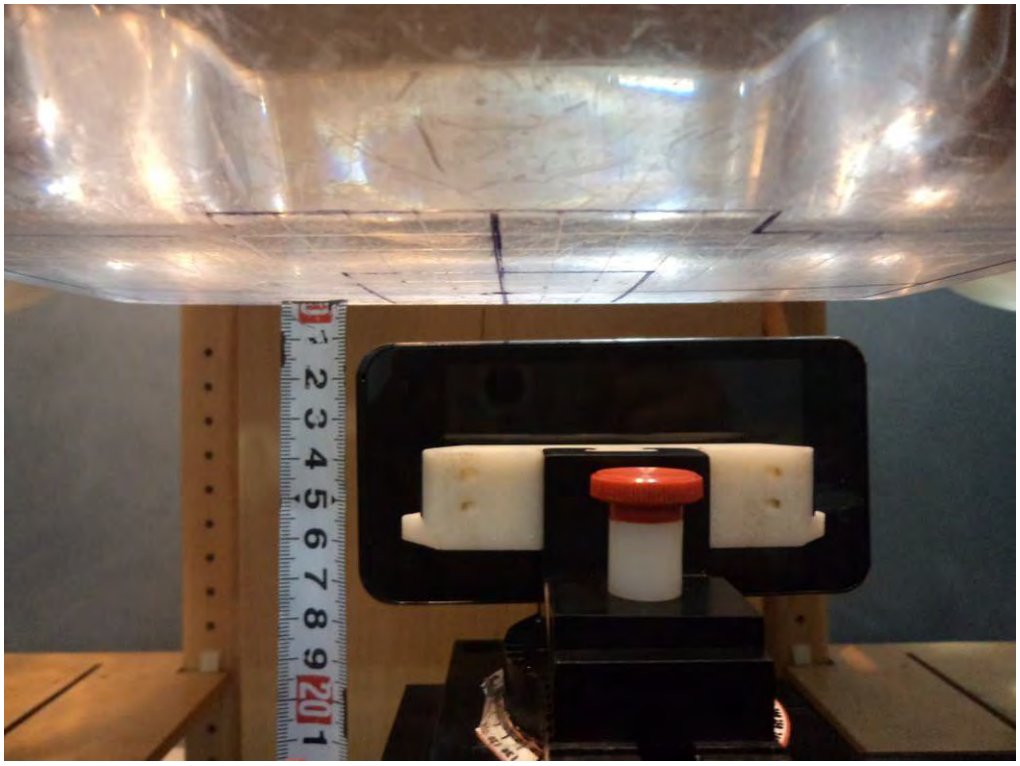
Body-worn Front Setup Photo



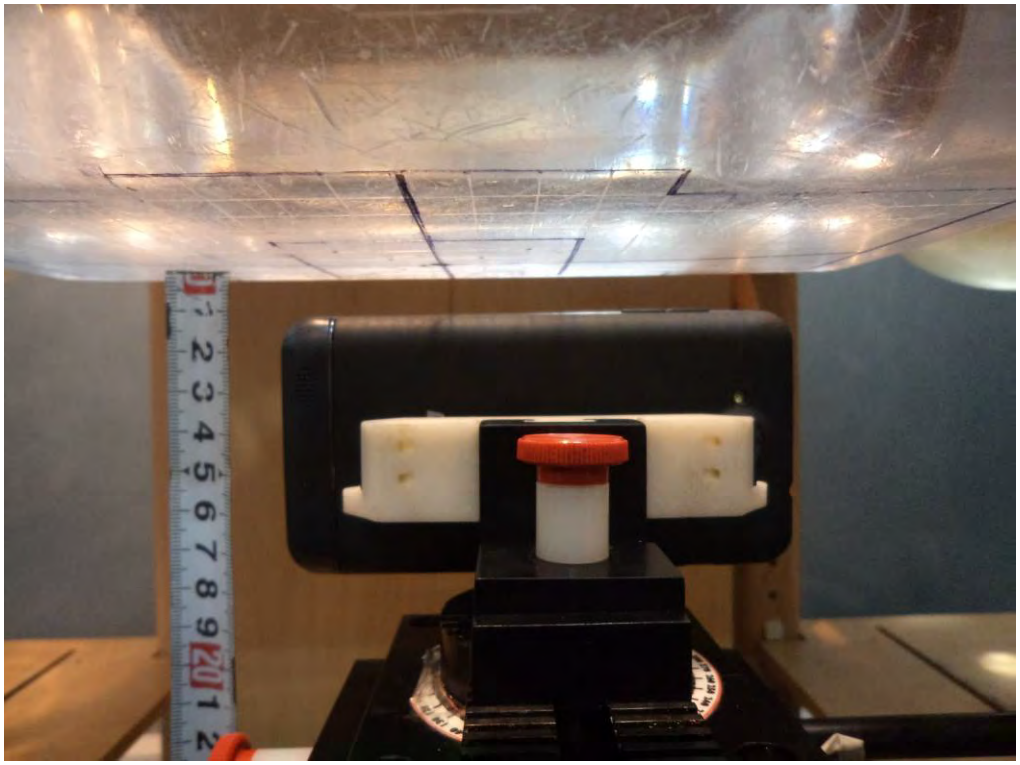
Body-worn Back Setup Photo



Body-worn Left Setup Photo

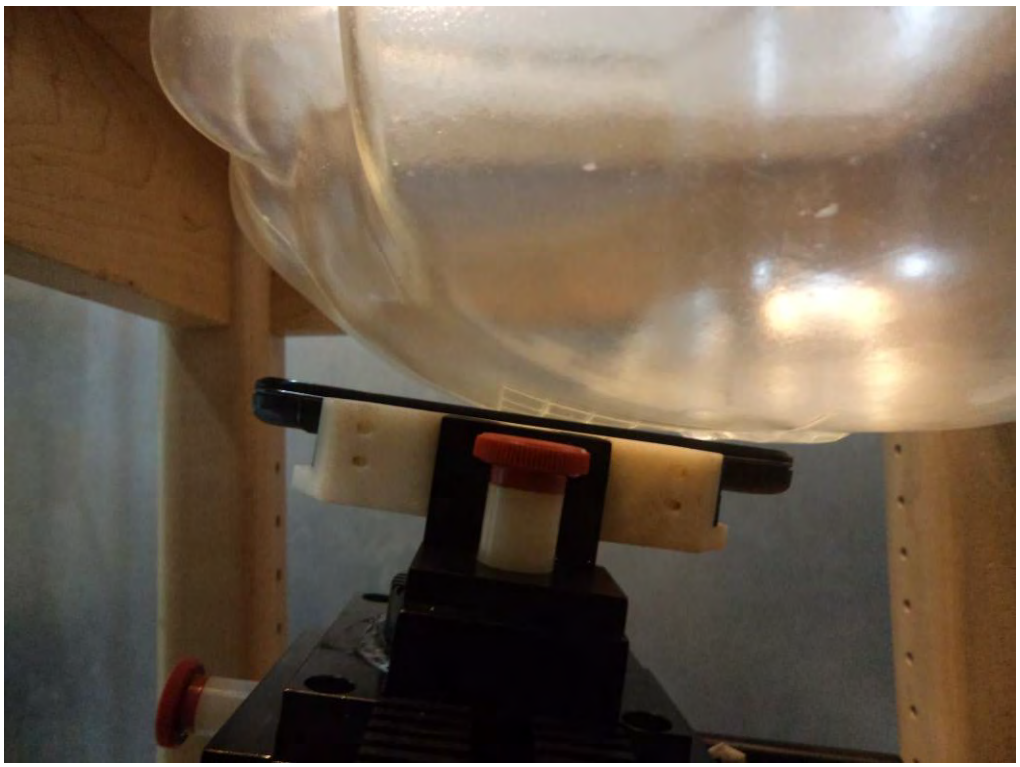


Body-worn Right Setup Photo

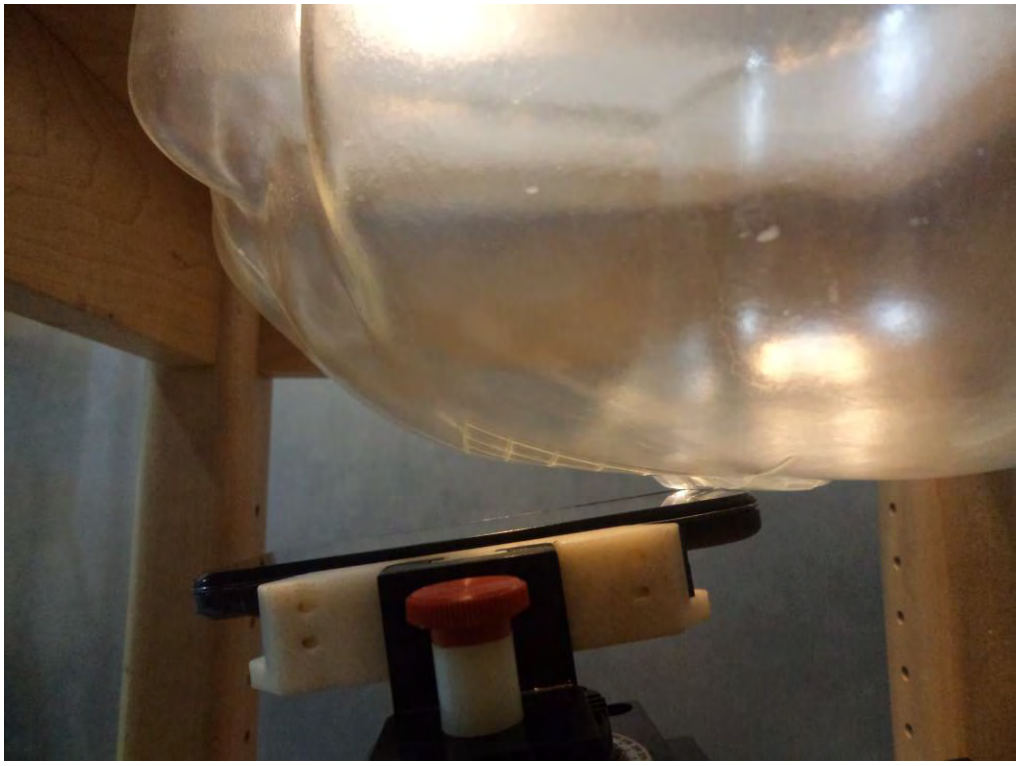


Body-worn Bottom Setup Photo

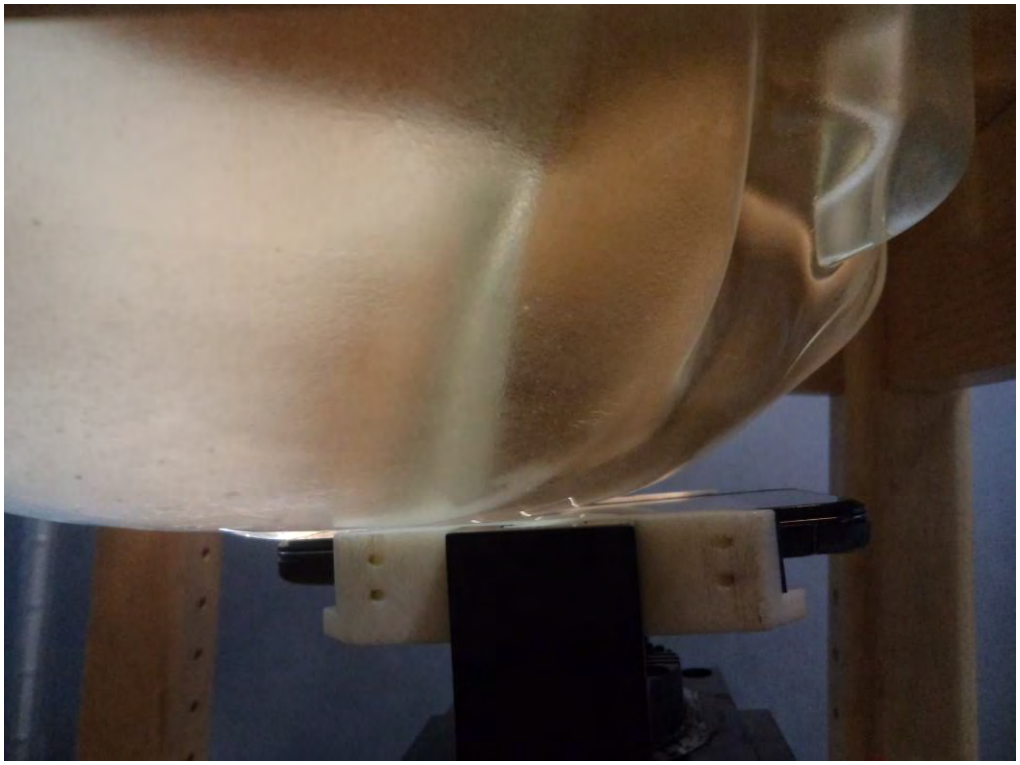
Left Head Touch Setup Photo



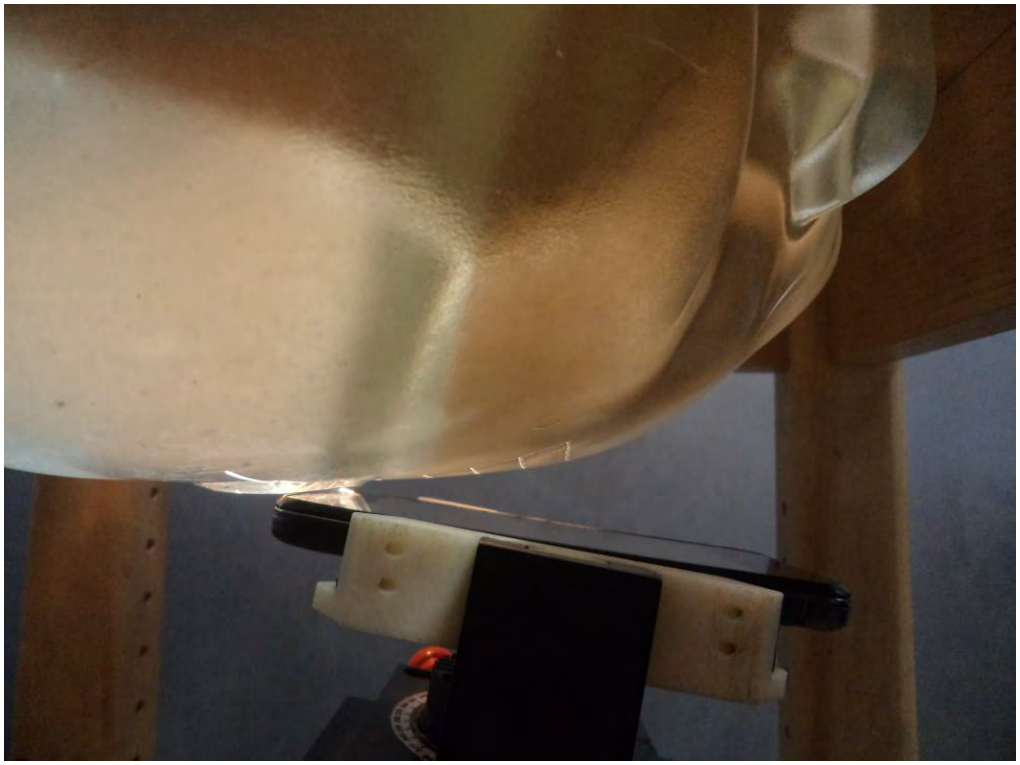
Left Head Tilt Setup Photo



Right Head Touch Setup Photo



Right Head Tilt Setup Photo



APPENDIX E EUT PHOTOS

EUT – Front View

EUT – Rear View

EUT – Top View

EUT – Bottom View

EUT – Left View

EUT – Right View

EUT – Cover off View

APPENDIX F INFORMATIVE REFERENCES

[1] Federal Communications Commission, \Report and order: Guidelines for evaluating the environmental effects of radiofrequency radiation", Tech. Rep. FCC 96-326, FCC, Washington, D.C. 20554, 1996.

[2] David L. Means Kwok Chan, Robert F. Cleveland, \Evaluating compliance with FCC guidelines for human exposure to radiofrequency electromagnetic fields", Tech. Rep., Federal Communication Commission, O_ce of Engineering & Technology, Washington, DC, 1997.

[3] Thomas Schmid, Oliver Egger, and Niels Kuster, \Automated E-_eld scanning system for dosimetricPage 143 of 143
assessments", IEEE Transactions on Microwave Theory and Techniques, vol. 44, pp. 105{113, Jan. 1996.

[4] Niels Kuster, Ralph K.astle, and Thomas Schmid, \Dosimetric evaluation of mobile communications equipment with known precision", IEICE Transactions on Communications, vol. E80-B, no. 5, pp. 645{652, May 1997.

[5] CENELEC, \Considerations for evaluating of human exposure to electromagnetic fields (EMFs) from mobile telecommunication equipment (MTE) in the frequency range 30MHz - 6GHz", Tech. Rep., CENELEC, European Committee for Electrotechnical Standardization, Brussels, 1997.

[6] ANSI, ANSI/IEEE C95.1-1992: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz, The Institute of Electrical and Electronics Engineers, Inc., New York, NY 10017, 1992.

[7] Katja Pokovic, Thomas Schmid, and Niels Kuster, \Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequencies", in ICECOM _ 97, Dubrovnik, October 15{17, 1997, pp. 120-24.

[8] Katja Pokovic, Thomas Schmid, and Niels Kuster, \E-field probe with improved isotropy in brain simulating liquids", in Proceedings of the ELMAR, Zadar, Croatia, 23{25 June, 1996, pp. 172-175.

[9] Volker Hombach, Klaus Meier, Michael Burkhardt, Eberhard K. uhn, and Niels Kuster, \The depen-dence of EM energy absorption upon human head modeling at 900 MHz", IEEE Transactions on Microwave Theory and Techniques, vol. 44, no. 10, pp. 1865-1873, Oct. 1996.

[10] Klaus Meier, Ralf Kastle, Volker Hombach, Roger Tay, and Niels Kuster, \The dependence of EM energy absorption upon human head modeling at 1800 MHz", IEEE Transactions on Microwave Theory and Techniques, Oct. 1997, in press.

[11] W. Gander, Computermathematik, Birkhaeuser, Basel, 1992.

[12] W. H. Press, S. A. Teukolsky,W. T. Vetterling, and B. P. Flannery, Numerical Recepies in C, The Art of Scientific Computing, Second Edition, Cambridge University Press, 1992.Dosimetric Evaluation of Sample device, month 1998 9

[13] NIS81 NAMAS, \The treatment of uncertainity in EMC measurement", Tech. Rep., NAMAS Executive, National Physical Laboratory, Teddington, Middlesex, England, 1994.

[14] Barry N. Taylor and Christ E. Kuyatt, \Guidelines for evaluating and expressing the uncertainty of NIST measurement results", Tech. Rep., National Institute of Standards and Technology, 1994. Dosimetric Evaluation of Sample device, month 1998 10.

******* END OF REPORT *******