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SAR Compliace Test Report

APPLICANT NAME & ADDRESS :
Mobile Compia Co., Ltd.
DongWon B/D, 725-30, Yeoksam-dong
Gangnam-gu, Seoul, 135-080, Korea

DATA & LOCATION OF TESTING
Dates of testing : 2008 -03-13 ~ 2008-07-18
Test Site : ESTECH Co., Ltd. Korea

Test Device :

Models : MC-7500S

FCC ID : U7XMC-7500S

TYPE : Portable Data Collection Terminal (Prototype)

Test report no :	ESTSAR0805-002	Number of page :	28
Contact person :	Sung Su Kim	Responsible test Engineer :	I.K.Hong
Testing has been Carried out in Accordance with :	IEEE 1528(Dec.2003) Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Body Due to Wireless Communications Device : Experimental Techniques		
Applicant Type :	Certification		
FCC CLASSIFICATION :	Licensed Non-Broadcast Transmitter Held to Ear (TNE) Licensed Portable Transmitter Held to Ear (PCE) Digital Transmission System (DTS)		
FCC Rule Part(s)	§2.1093; FCC/OET Bulletin 65 Supplement C (July 2001)		
Test results :	The Tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced recept in full, without written approval of the laboratory.		

Date and Signatures : 2008-07-18
Report Prepared By : Engineer/ I.K.Hong
(Signature)
Engineering Manager/ Eun-young Son
(Signature)

Table of Contents

1. SUMMARY FOR TEST REPORT

FCC ID	U7XMC-7500S
Date of test	2008 -03-13 ~ 2008-07-18
Responsible test engineer	Eun-young Son
Measurement performed by	I.K.Hong
EUT Type	Portable Data Collection Terminal (Prototype)
Max. RF Output Power	GSM850 (33.00dBm) , PCS1900 (30.00dBm) , 11b(11.20dBm),11g(5.90dBm),BT(4.60dBm)

1.1 Head Configuration

Max. SAR Measurement

FREQUENCY		Mod	Conducted Power(dBm)		Device test position	BT	WLAN	SAR (W/kg)
MHz	Ch		Begin	End				
896.60	190	GSM	32.16	32.06	Left Tilt	OFF	OFF	0.466
1880.00	661	GSM	29.96	29.92	Left Tilt	OFF	OFF	0.353
2462.00	11	DSSS	11.20	11.30	Right Touch	OFF	ON	0.099

1.2 Body Worn Configuration

Max. SAR Measurement

FREQUENCY		Mod	Conducted Power(dBm)		Device test position	BT	WLAN	SAR (W/kg)
MHz	Ch		dBm	Battery				
836.60	190	GPRS	32.61	32.88	1.5[w/o Holster]Rear	OFF	OFF	0.483
1880.00	661	GPRS	28.69	28.60	1.5[w/o Holster]Rear	OFF	OFF	0.381
2462.00	11	DSSS	11.20	11.14	1.5[w/o Holster]REAR	OFF	ON	0.069

1.3 Measurement Uncertainty

Combine Standard Uncertainty	± 11.00 (k=1)
Extended Standard Uncertainty	± 22.00 (k=2, 95% CONFIDENCE LEVEL)

2. INTRODUCATION

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential azards of RF emissions due to FCC-regulated portable device.[1]

The safety limits used for the environmental evaluation measurements arethe criteria published by the based on American National Standards Institute (ANSI) For localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for safety Levels with Respect to Human Exposure to Radio Frequency Electronic Fields, 3 kHz to 300 GHz. (c) 1992 by the institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.[2] The measurement procedure described in IEEE/ANSIC95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave[3] is used for guidance in measuring SAR due to the RF radiationexposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (IC NIRP) in Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields," IC NIRP Report No. 86 (c) IC NIRP, 1986, Bethesda, MD20814.[6] SAR is ameasure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative (rate) of the incremental energy (dU) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dV) of a given density (ρ). it is also defined as the rate of rf energy absorption per unit mass at a point in an absorbing body (see Fig. 2.1.).

$$SAR = \frac{d}{dt}\left(\frac{dU}{dm}\right) = \frac{d}{dt}\left(\frac{dU}{\rho\, dv}\right)$$

Figure 2.1 SAR Mathematical Equation

SAR is expressed in units of Watts per Kilogram (W/kg).

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

Where:

σ = conductivity of the tissue-simulant material (S/m)
E = mass density of the tissue-simulant material (kg/㎥)
ρ = Total RMS electric field strength (V/m)

3. DESCRIPTION OF THE DEVICE UNDER TEST

The FCC rules for evaluating portable devices for RF exposure compliance are contained in 47 CFR §2.1093. For purposes of RF exposure evaluation, a portable device is defined as a transmitting device designed to be used with any part of its radiating structure in direct contact with the user's body or within 20 centimeters of the body of a user or bystanders under normal operating conditions. This category of devices would include hand-held cellular and PCS telephones that incorporate the radiating antenna into the hand-piece and wireless transmitters that are carried next to the body. Portable sevices are evaluated with respect to SAR limits for RF exposure. The applicable SAR limit for portable transmitters used by consumers is 1.6 watts/kg, which is averaged over any one gram of tissue defined as a tissue volume in the shape of a cube.

2.1 Antenna Description

Type	Internal Antenna
Location	the Top of the device
Radiator Material	Copper

2.2 Device Description

FCC ID	FCC ID : U7XMC-7500S
Serial numbers	-
Exposure environment	Uncontrolled exposure
Device category	Portable device
Mode(s) of Operation	GSM / GPRS / BT / WLAN
Modulation Mode(s)	GMSK / GFSK / DSSS OFDM
Duty Cycle	8.3 / 4.15 / 1 / 1
Transmitting FreQuency Range(s)	GSM/GPRS :824.2~848.8MHz , 1850.2~1909.8MHz BT:2402.0 ~ 2480.0 MHz WLAN:2412.0 ~ 2462.0 MHz
test signal method	■ Base station simulator □ Internal test code

2.3 Battery Options

There is only one battery option available for tested device,

4. TEST CONDITIONS

4.1 Ambient Conditions

Ambient Temperature (˚C)	24
Tissue simulating liquid temperature (˚C)	24
Humidity (%)	49

4.2 RF Characteristics of The Test Site

Tests were performed in a fully enclosed RF Shielded environment

4.3 Test Signal, Frequencies, And Output Power

The device was put into operation by using a call tester except for testing WLAN2450 where control software was used. Communication between the device and the call tester was established by air link
In all operation bands the measurements were performed on lowest, middle and highest channels.

The phone was set to maximum power level during the all tests and at the beginning of the each test the battery was fully charged.

DASY4 system measures power drift during SAR testing by comparing e-field in the same location at the beginning and at the end of measurement. These records were used to monitor stability of power output.

Fig. 4.1 SAR Measurement System

5. DESCRIPTION OF THE TEST EQUIPMENT

An SAR measurement system usually consists of a small diameter isotropic electric field probe, a multiple axis probe positioning system, a test device holder, one or more phantom models, the field probe instrumentation, a computer and other electronic equipment for controlling the probe and making the measurements. Other supporting equipment, such as a network analyzer, power meters and RF signal generators, are also required to measure the dielectric parameters of the simulated tissue media and to verify the measurement accuracy of the SAR system.

5.1 Test System Specifications

Test Equipment	Model	Serial Number	Cal.Due Date
DAE	DAE4	551	2009-04-28
E-Field Probe	ET3DV3	3123	2008-12-18
Dipole validation kit	D1900V2	5d058	2008-09-27
	D835V2	475	2008-09-26
Network analyzer	8753ES	MY40000609	2008-10-12
Signal generator	E4432B	GB40050840	2009-03-02
RF Power meter	EPM-442A	GB37170412	2008-10-15
Power Sensor	8481A	3318A90368	2008-10-15
RF Power meter	E4418A	GB38272722	2009-03-02
Power Sensor	8481A	3318A90368	2009-03-02
Dielectric Probe	85070D	US01440154	-
Power Amplifier	BBS3Q7ECK	NONE	2009-02-18
LP Filter	LA-15N	NONE	2008-11-01
	LA-30N	NONE	2008-11-01
Attenuator	8491B	21828	2009-02-28
Dual Directional Coupler	778D	17575	2009-03-02
Wireless Communications Test Set	E5515C	GB42230119	2009-02-12

5.2 SAR Measurement Setup

Measurement are performed using the DASY4 dosimetric assessment system. The DASY4 is made by Schmid & Partner Engineering AG(SPEAG) in Zurich, Switzerland and consists of high precision robotics system (Staubli), robot controller, Pentium IV computer, near-field probe, probe alignment sensor, and the SAM twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field(EMF) (see Fig. 5.1) A cell controller system contains the power supply, robot controller, teach pendant(Joystick), and a remote control used to drive the robot motors. The pc consists of the Intel Pentium IV 2.4 GHz computer with WindowsXP system and SAR measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot data acquisition electronic (DAE) circuit that performs the signal amplification, signal multiplexing,
AD-conversion, offset measurements, mechanical surface detection, collision detection, etc.

5. DESCRIPTION OF THE TEST EQUIPMENT(continued)

Is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

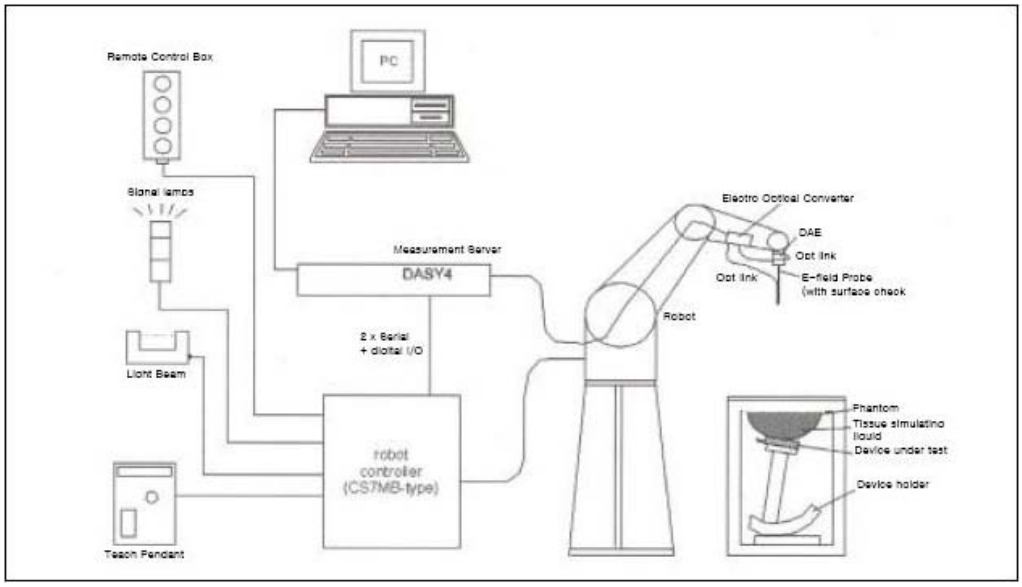


Fig. 5.1 SAR Measurement System Setup

The DAE4 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gainswitching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the Ethernet Card is accomplished through an optical downlink for data and status
information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in [7].

5.3 DASY4 E-Field Probe System

The SAR measurements were conducted with the dosimetric probe ET3DV6, designed in the classical triangular configuration [7] (see Fig.5.2) and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multifiber line ending at the front of the probe tip. It is connected to the EOC box in the robot arm and provides an automatic detection transmitter, the other half to a synchronized receiver.

5. DESCRIPTION OF THE TEST EQUIPMENT(continued)

As the probe approach the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches coupling is zero. The distance of the coupling maximum to the surface is probe angle. The DASY4 software reads the reflection during a software approach and looks for the maximum using a 2nd order fitting (see Fig. 5.2). The approach is stopped at reaching the maximum.

Isotropic E-Field Probe

Isotropic E-Field Probe for Dosimetric Measurements	
Construction	Symmetrical design with triangular core Interleafed sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycol)
Calibration	In air from 10 MHz to 3 GHz In brain and muscle simulating tissue at frequencies of 450 MHz, 900 MHz and 1.8 GHz (accuracy ± 8%) Calibration for other liquids and frequencies upon request
Frequency	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Directivity	± 0.2 dB in brain tissue (rotation around probe axis) ± 0.3 dB in brain tissue (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.7 mm

Fig. 5.2 Probe Specifications

5. DESCRIPTION OF THE TEST EQUIPMENT(continued)

5.4 Phantom & Equivalent Tissues

SAM Phantom

The SAM Twin Phantom V4.0 is constructed of the fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users [11][12]. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Head & Muscle simulation Mixture Characterization

The brain and muscle mixtures consist of a viscous gel using hydroxethlcellullose(HEC) gelling agent and saline solution (see Fig 5.3). Preservation with a bactericide is added and visual inspection is made to make sure air bubbles are not trapped during the mixing process. The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the desired tissue. The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 have been specified in 1528(Dec.2003) are derived from the issue dielectric parameters computed from
the 4-Cole-Cole equations The mixture characterizations used for the brain and muscle tissue simulation liquids are according to the data by C. Gabriel and G. Hartagrove [13]. (see Fig. 5.3)

Frequency	Head		Body	
(MHz)	εr	σ (S/m)	εr	σ (S/m)
150	52.3	0.76	61.9	0.8
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.9	55.2	0.97
900	41.5	0.97	55	1.05
915	41.5	0.98	55	1.06
1450	40.5	1.2	54	1.3
1610	40.3	1.29	53.8	1.4
1800-2000	40	1.4	53.3	1.52
2450	39.2	1.8	52.7	1.95
3000	38.5	2.4	52	2.73
5800	35.3	5.27	48.2	6

Fig.5.3 Head and body tissue parameters by the IEEE SCC-34/SC-2 in P1528

5. DESCRIPTION OF THE TEST EQUIPMENT(continued)

835MHz			1900MHz		
	Head	Body		Head	Body
Sugar	47.31%	34.31%	DGBE(diethyene Glycol buty Ether)	44.91%	29.96%
Deionized water	51.07%	65.45%	Deionized water	54.88%	69.91%
Salt	1.15%	0.62%	Salt	0.21%	0.13%
HEC (hydroxyethy cellulose)	0.24%				
Preventol	0.24%	0.10%			
ε	41.0±5%	55.2±5%	ε	40.0±5%	53.3±5%
σ	0.89±10%	0.97±10%	σ	1.45±10%	1.52±10%

Fig. 5.4 Composition of the Tissue Equivalent Matter

Device Holder for Transmitters

In combination with the SAM Twin Phantom V4.0, the Mounting Device enables the rotation of the accurately, and repeatably be positioned according to the FCC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Note : A simulating human hand is not used due to the complex anatomical and geometrical structure of the hand that may produce infinite number of configurations [12]. To produce the worst-case condition (the hand absorbs antenna output power), the hand is omitted during the tests.

6. DESCRIPTION OF THE TEST PROCEDURE

6.1 Definition of Reference Point

EAR Reference point

The point "M" is the reference point for the center of the mouth, "ERP" is the ear reference point. The ERP are 15mm posterior to the entrance to the ear canal(EEC) along the B-M line (Back-Mouth), as shown is figure 6.1. The plane passing through the two ear canals and M is defined as the Reference Plane. The line N-F (Neck-Front) is perpendicular to the reference plane and passing through the ERP is called the Reference Pivoting Line (see Figure 6.1) B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning [5].

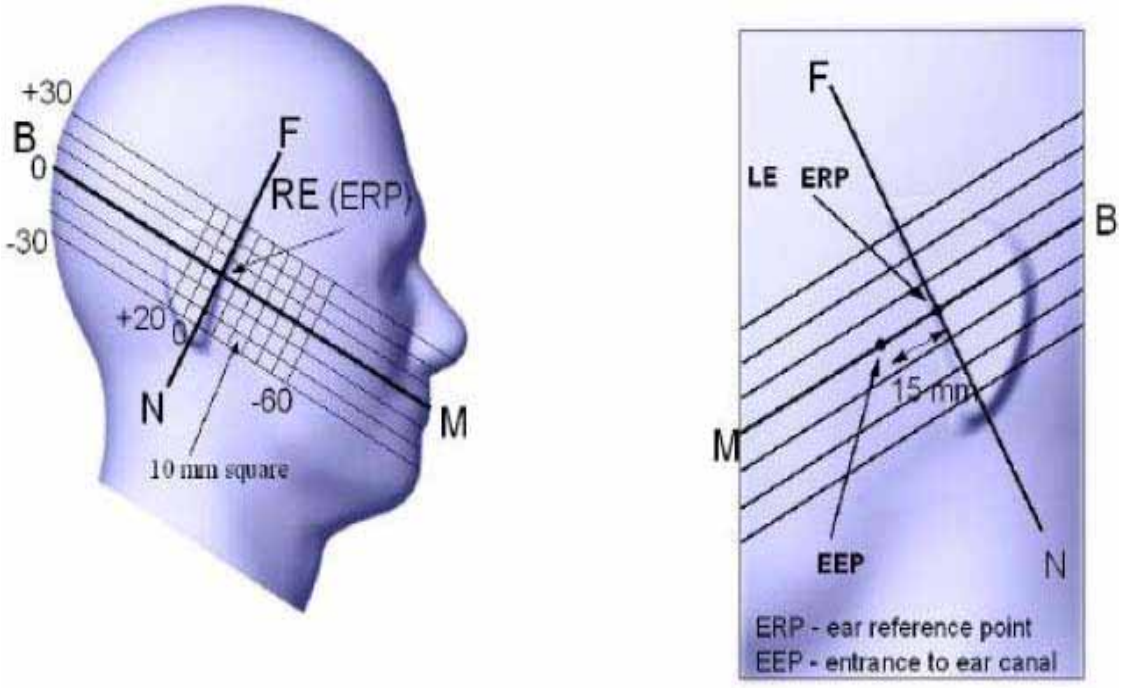


Figure 6.1 Close-up side view of ERP

Handset Reference Points

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The test device was placed 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" (see Fig. 6.2). The "test device reference point" was than located at the same level as the center of the ear reference point. The test device was positioned so that the "vertical centerline" was bisecting the front surface of the handset at it's top and bottom edges, positioning the "ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point" on the outer surface of the both the left and right head phantoms on the ear reference point.

6. DESCRIPTION OF THE TEST PROCEDURE(continued)

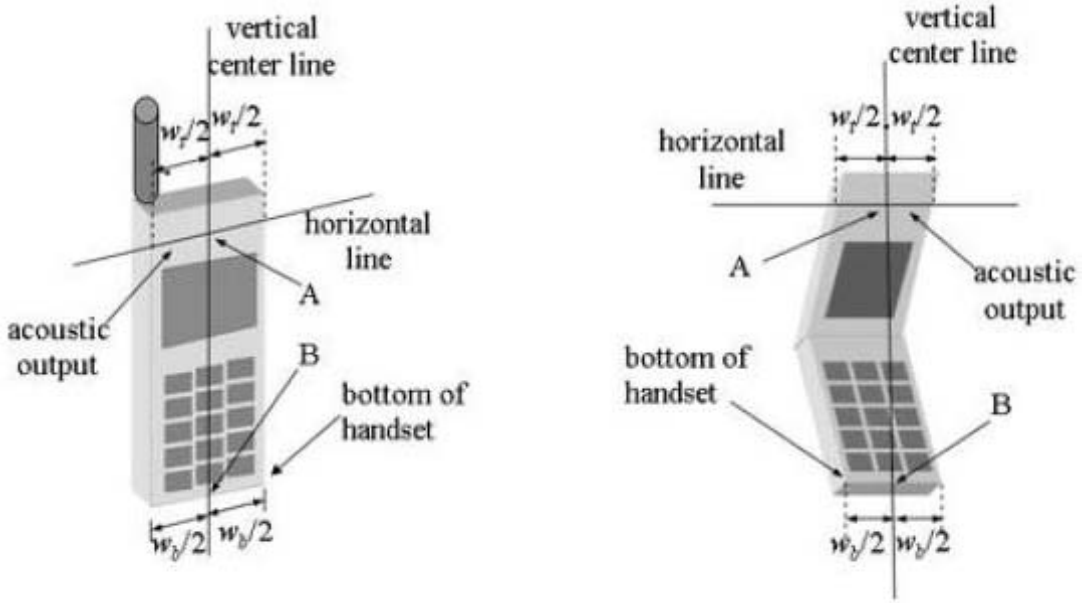


Figure 6.2 Handset Vertical Center & Horizontal Line Reference Points

6.2 Test Configuration Positions
Positioning for Cheek/Touch

1) Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece, open the cover . (If the phone can also be used with the cover closed ,both configurations must be tested.)
2) Define two imaginary lines on the handset: the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset: the midpoint of the width wt of the handset at the level of the acoustic output (point A on Figures 6.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 6.2). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output. However, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not ecessarily parallel to the front face of the handset (see Figure 6.2), especially for clamshell handsets, handsets with lip pieces, and other irregularly-shaped handsets.
3) Position the handset close to the surface of the phantom touch that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 6.3), such that the plane defined by the vertical center line and the horizontal line of the phone is approximately parallel to the sagittal plane of the phantom.

6. DESCRIPTION OF THE TEST PROCEDURE(continued)

4) Translate the handset towards the phantom along the line passing through RE and LE until the handset touches the ear.
5) While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to MB-NF including the line MB (called the reference plane).
6) Rotate the phone around the vertical centerline until the phone (horizontal line) is symmetrical with respect to the line NF.
7) While maintaining the vertical centerline in the reference plane, keeping point A on the line passing through RE and LE, and maintaining the phone contact with the ear, rotate the handset about the line NF until any point on the handset is in contact with a phantom point

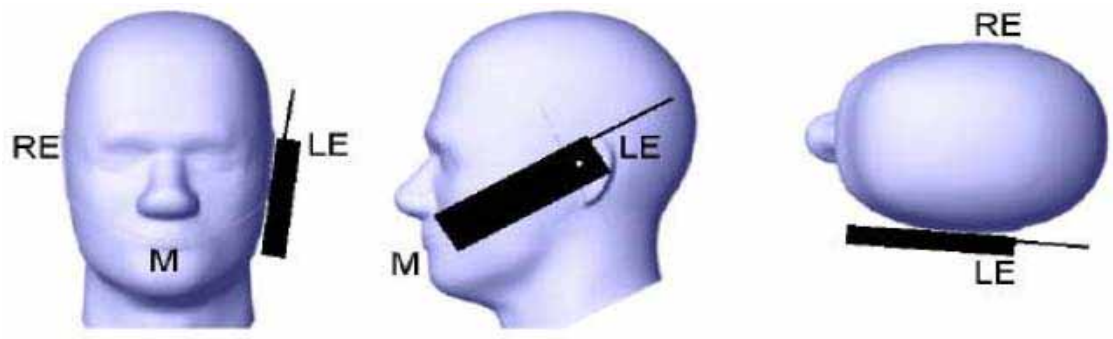


Figure 6.3 "Cheek" or "Touch" Position.

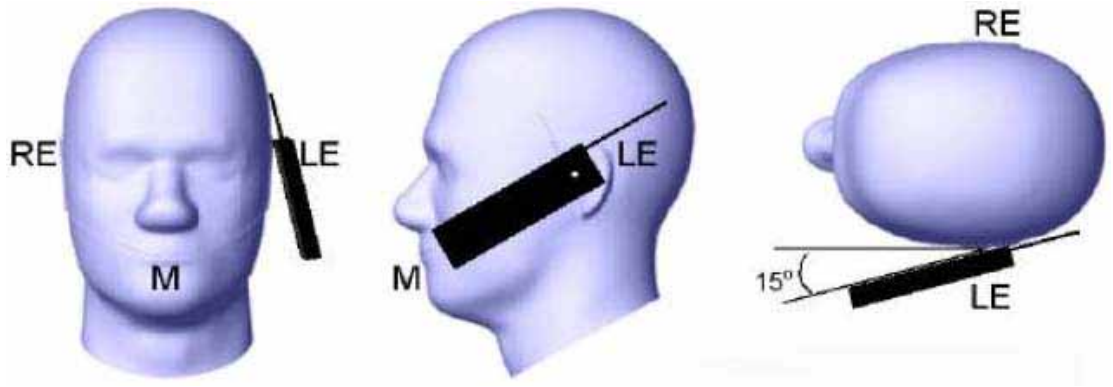


Figure 6.4 "Tilted" Position.

6. DESCRIPTION OF THE TEST PROCEDURE(continued)

Positioning for Ear / 15° Tilted

1) Repeat steps 1 to 7 of 6.2(Positioning for Cheek/Touch) to place the device in the "cheek position."
2) While maintaining the orientation of the phone retract the phone parallel to the reference plane far enough to enable a rotation of the phone by 15 degree.
3) Rotate the phone around the horizontal line by 15 degree.
4) While maintaining the orientation of the phone, move the phone parallel to the reference plane until any part of the phone touches the head. (In this position, point A will be located on the line RE-LE). The tilted position is obtained when the contact is on the pinna. If the contact is at any location other than the pinna, the angle of the phone shall be reduced. The tilted position is obtained if any part of the phone is in contact of the ear as well as a second part of the phone is contact with the head.

Body Holder / Belt Clip Configurations

Body-worn operation configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. A device with a headset output is tested with a headset connected to the device. Body dielectric parameters are used.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are supplied with the device, the device is tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied of available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration where a separation distance between the back of the device and the flat phantom is used. All test position spacings are documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance is tested with the accessory(ies), including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration. In all case SAR measurements are performed to investigate the worst case positioning. Worst-case positioning is then documented and used to perform Body SAR testing.

In order for users to be aware of the body-worn operation requirements for meeting RF exposure compliance, operation instructing instructions and cautions statements are included in the user's manual.

6. DESCRIPTION OF THE TEST PROCEDURE(continued)

6.3 Scan Procedures

First coarse scans are used for quick determination of the field distribution. Nest cube scan, 5x5x7 points; spacing between each point 5x5x5 mm, is performed around the highest E-field value to determine the averaged SAR-distribution over 1g.

6.4 SAR Averaging Methods

The maximum SAR value is averaged over its volume using interpolation and extrapolation.
The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the “Not a Knot” ?condition [W.Gander, Computermathematik, p. 141-150](x, y and z directions) [Numerical Recipes in C, Second Edition, p 123].
The extrapolation is based on least square algorithm [W.Gander, Computermathematik, p. 168-180]. Through the points in the first 30 mm in all z-axis, polynomials of order four are calculated₩. This polynomial is then used to evaluate the points between the surface and the probe tip. The points calculated from the surface, have a distance of 1mm from one another.

7. MEASUREMENT UNCERTAINTY

According to CENELEC [17], typical worst-case uncertainty of field measurements is 5 dB.
For well-defined modulation characteristics the uncertainty can be reduced to 3 dB.

ERROR Description	Uncertainty value ±%	Probability Distribution	Divisor	ci 1g	Standard unc. (1g)	vi or Veff
MEASUREMENT SYSTEM						
Probe Calibration	± 11.7 %	normal	1	1	± 4.8 %	∞
Axial Isotropy	± 4.7	rectangular	√3	$(1\text{-cp})^{1/2}$	± 1.9%	∞
Hemispherical Isotropy	± 9.6	rectangular	√3	$(cp)^{1/2}$	± 3.9%	∞
Boundary Effects	± 1.0	rectangular	√3	1	± 0.6%	∞
Linearity	± 4.7	rectangular	√3	1	± 2.7%	∞
System Detection Limits	± 1.0	rectangular	√3	1	± 0.6%	∞
Readout Electronics	± 1.0	normal	1	1	± 1.0%	∞
Response time	± 0.8	rectangular	√3	1	± 0.5%	∞
Integration time	± 2.6	rectangular	√3	1	± 1.5%	∞
RF Amnient Conditions	± 3.0	rectangular	√3	1	± 1.7%	∞
Probe Positioner Mechanical Tolerance	± 0.4	rectangular	√3	1	± 0.2%	∞
Probe Positioning with respect to Phantom Shell	± 2.9	rectangular	√3	1	± 1.7%	∞
Extrapolation, Interpolation and Integration Algorithms for Max. SAR Evaluation	± 1.0	rectangular	√3	1	± 0.6%	∞
Test Sample Related						
Test Sample Positioning	± 2.9	normal	1	1	± 2.97%	145
Device Holder Uncertainty	± 3.6	normal	0.84	1	± 3.69%	5
Output Power Validation - SAR drift measurement	± 5.0	rectangular	√3	1	± 2.9%	∞
Phantom and Tissue Parameters						
Phantom Uncertainty (shape and thickness tolerances)	± 4.0	rectangular	√3	1	± 2.3%	∞
Liquid conductivity Target - tolerance	± 5.0	rectangular	√3	0.64	± 1.8%	∞
Liquid Conductivity - measurement uncertainty	± 5.0	normal	1	0.64	± 3.2%	∞
Liquid permittivity Target - tolerance	± 5.0	rectangular	√3	0.6	± 1.7%	∞
Liquid Permittivity - measurement uncertainty	± 5.0	normal	1	0.6	± 3.0%	∞
Combined Standard Uncertainty					±11.00 %	330
Coverage Factor for 95%				K = 2		
Expanded Standard Uncertainty					± 22.00 %	

8. SYSTEM VERIFICATION

Tissue Verification

Table 8.1 Simulated Tissue Verification [5]

MEASURED TISSUE PARAMETERS(1)										
Liquid Temperature (°C)			24		Liquid Depth(mm)		150			
Date	2008-07-18		2008-07-18		2008-07-18		2008-07-18			
Tissue	1900MHz Brain		1900MHz Muscle		835MHz Brain		835MHz Muscle			
	Target	Measured	Target	Measured	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε	40	39.4	53.3	54.1	41.5	40.2	55.2	53.2		
Conductivity: σ	1.4	1.4	1.52	1.53	0.9	0.886	0.97	0.938		
Deviation (%)	ε : -1.5% σ : 0%		ε : 1.50% σ : 0.658%		ε : -3.13% σ : -1.56%		ε : -3.62% σ : -3.30%			

MEASURED TISSUE PARAMETERS(2)										
Liquid Temperature (°C)			24		Liquid Depth(mm)		150			
Date	2008-07-03		2008-07-03							
Tissue	2450MHz Brain		2450MHz Muscle		835MHz Brain		835MHz Muscle			
	Target	Measured	Target	Measured	Target	Measured	Target	Measured	Target	Measured
Dielectric Constant: ε	39	40.3	52.7	52.1						
Conductivity: σ	1.8	1.9	1.95	1.9						
Deviation (%)	ε : -0.13% σ : 0.56%		ε : -0.11% σ : -0.26%							

Figure 12.1 Dipole Validation Test Setup

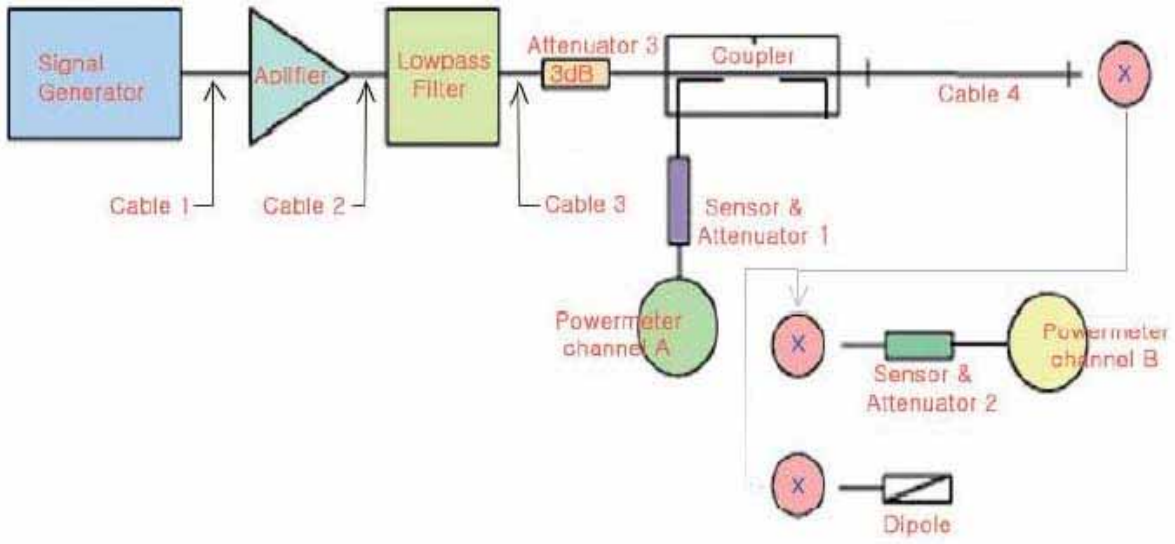
8. SYSTEM VERIFICATION

Test System Validation

- Prior to assessment, the system is verified to the ±10% of the specifications at 835MHz,1900MHz (Graphic Plots Attached)
- The results are nominalized to 1W input power

Table 8.2 System Validation [5]

SYSTEM DIPOLE VALIDATION TARGET & MEASURED						
Tissue	System Validation Kit:	Forward Power (W)	Targeted SAR1g (mW/g)	Measured SAR1g (mW/g)	Deviation (%)	Test Date
1900MHz Brain	D1900V2(S/N :5d058)	1.0	9.03	9.30	2.99%	2008-07-18
835MHz Brain	D835V2(S/N:475)	1.0	2.29	2.22	3.05%	2008-07-18
2450MHz Brain	D2450V2(S/N:741)	1.0	54.4	55.6	2.21%	2008-07-03



9. FCC MULTI-TX AND ANTENNA SAR CONSIDERATIONS

9.1 Introduction

the following procedure adopted from "FCC SAR Considerations for Cell Phones with Mutiple Transmitter" from February 2008 are applicable to handsets with built-in unlicensed transmitters such as 802.11b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

9.2 FCC Power Tables & Conditions

	2.45	5.15 - 5.35	5.47 - 5.85	GHz
P_{Ref}	12	6	5	mW
Device output power should be rounded to the nearest mW to compare with values specified in this table.				

Output Power Thresholds for Unlicensed Transmitters

	Individual Transmitter	Simultaneous Transmission
Licensed Transmitters	Routine evaluation required	SAR not required: Unlicensed only ○ when stand-alone 1-g SAR is not required and antenna is ≥ 5 cm from other antennas Licensed & Unlicensed ○ when the sum of the 1-g SAR is < 1.6 W/kg for all simultaneous transmitting antennas ○ when SAR to antenna separation ratio of simultaneous transmitting antenna pair is < 0.3
Unlicensed Transmitters	When there is no simultaneous transmission – ○ output ≤ 60/f: SAR not required ○ output > 60/f: stand-alone SAR required When there is simultaneous transmission – Stand-alone SAR not required when ○ output ≤ 2·P_{Ref} and antenna is ≥ 5.0 cm from other antennas ○ output ≤ P_{Ref} and antenna is ≥ 2.5 cm from other antennas ○ output ≤ P_{Ref} and antenna is < 2.5 cm from other antennas, each with either output power ≤ P_{Ref} or 1-g SAR < 1.2 W/kg Otherwise stand-alone SAR is required When stand-alone SAR is required ○ test SAR on highest output channel for each wireless mode and exposure condition ○ if SAR for highest output channel is > 50% of SAR limit, evaluate all channels according to normal procedures	SAR required: Licensed & Unlicensed antenna pairs with SAR to antenna separation ratio ≥ 0.3; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply

SAR Evaluation Requirements for Multiple Transmitter Handsets

9.3 Multiple Antenna/Transmission Information for 7500S

For **FCC ID : U7XMC-7500S**

Separation Distance of Antenna is 12.5cm

RF Conducted Power of Secondary Tx[WLAN] is 11.2dBm

9.4 Conclusion

Based on the output and antenna separation distance, a stand-alone BT SAR test is not required however a standardalone WLAN SAR test is required. The summation of WLAN SAR and Licensed Transmitter SAR is 0.086 + 0.483 = 0.569 , which is less than 1.6W/Kg therefore, a simultaneous SAR evaluation is not required

9.5 Power Table

		RF Conducted Power Table				
		Voice	GPRS Data		EDGE DATA	
Band	Channel	GSM [dBm]	GPRS[dBm]1 Tx Slot	GPRS[dBm]2 Tx Slot	GPRS[dBm]1 Tx Slot	GPRS[dBm]2 Tx Slot
Cellular	128	33.12	32.58	30.75	30.11	30.05
	190	33.19	32.61	30.98	30.15	30.01
	251	33.18	32.59	30.44	30.44	30.22
PCS	512	29.83	28.76	27.01	26.52	26.23
	661	29.96	28.69	26.92	26.77	26.34
	810	29.92	28.77	27.06	26.79	26.35

IEEE802.11b

Channel	Power [dBm]
1	11.2
6	10.6
11	11.2

IEEE802.11g

Channel	Power [dBm]
1	5.9
6	5.1
11	4.3

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 25.0
Relative HUMIDITY (%) : 48
Mixture Type : 835MHz Brain
Dielectric Constant : 40.2
Conductivity: 0.886

Measurement Results (GSM Head SAR)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Brain 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Head SAR)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
836.60	190	GSM	33.19	33.10	Standrd	Left Touch	OFF	OFF	Fixed	0.339
836.60	190	GSM	33.19	33.11	Standrd	Right Touch	OFF	OFF	Fixed	0.272
836.60	190	GSM	33.19	33.18	Standrd	Left Tilt	OFF	OFF	Fixed	0.372
836.60	190	GSM	33.19	33.17	Standrd	Right Tilt	OFF	OFF	Fixed	0.238
836.60	190	GPRS	32.16	32.03	Standrd	Left Tilt	OFF	OFF	Fixed	0.466

NOTES:
1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear, extended and retracted)is at least 3.0dB lower than the SAR limit, testing at the hiah and low channels is optional for such test configration(s).
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Head GPRS mode function enable, Class 10 (multi slot mode)

Engineer I.K.Hong (Signature)

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 25.0
Relative HUMIDITY (%) : 48
Mixture Type : 835MHz Body
Dielectric Constant : 53.2
Conductivity: 0.938

Measurement Results (GSM BODY SAR without Holster)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Brain 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Body SAR Without Holster)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
836.60	190	GSM	33.19	33.05	Standard	1.5[w/o Holster]Rear	OFF	OFF	Fixed	0.380

MEASUREMENT RESULTS (GSM Body SAR Without Holster - GPRS)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
836.60	190	GPRS	32.61	32.49	Standard	1.5[w/o Holster]Rear	ON	ON	Fixed	0.483

NOTES:
1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear, extended and retracted)is at least 3.0dB lower than the SAR limit, testing at the hiah and low channels is optional for such test configration(s).
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Body, GPRS mode function enable, Class 10 (multi slot mode)

Engineer I.K.Hong (Signature)

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 24.0
Relative HUMIDITY (%) : 49
Mixture Type : 1900MHz Brain
Dielectric Constant : 39.4
Conductivity: 1.40

Measurement Results (GSM Head SAR)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Brain 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Head SAR)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
1880.00	661	GSM	29.96	29.90	Standard	Left Touch	OFF	OFF	Fixed	0.280
1880.00	661	GSM	29.96	30.01	Standard	Right Touch	OFF	OFF	Fixed	0.183
1880.00	661	GSM	29.96	29.92	Standard	Left Tilt	OFF	OFF	Fixed	0.353
1880.00	661	GSM	29.96	29.94	Standard	Right Tilt	OFF	OFF	Fixed	0.224
1880.00	661	GPRS	28.77	28.70	Standard	Left Tilt	OFF	OFF	Fixed	0.274

NOTES:
1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear, extended and retracted)is at least 3.0dB lower than the SAR limit, testing at the hiah and low channels is optional for such test configration(s).
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Head GPRS mode function enable, Class 10 (multi slot mode)

Engineer I.K.Hong (Signature)

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 24.0
Relative HUMIDITY (%) : 49
Mixture Type : 1900MHz Body
Dielectric Constant : 54.1
Conductivity: 1.53

Measurement Results (GSM BODY SAR without Holster)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Body 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Body SAR Without Holster)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
1880.00	661	GSM	30.00	29.87	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.279

MEASUREMENT RESULTS (GSM Body SAR Without Holster - GPRS)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	LAN	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
1880.00	661	GPRS	30.00	29.96	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.381

NOTES:
1. The test data were reported the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear, extended and retracted)is at least 3.0dB lower than the SAR limit, testing at the hiah and low channels is optional for such test configration(s).
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Body, GPRS mode function enable, Class 10 (multi slot mode)

Engineer I.K.Hong

(Signature)

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 24.0
Relative HUMIDITY (%) : 49
Mixture Type : 2450MHz Brain
Dielectric Constant : 40.3
Conductivity: 1.90

Measurement Results (WLAN Head SAR)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Brain 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Head SAR)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	GSM	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
2412.00	1	11b	11.20	11.20	Standard	Right Touch	OFF	OFF	Fixed	0.053
2437.00	6	11b	11.20	11.13	Standard	Right Touch	OFF	OFF	Fixed	0.047
2462.00	11	11b	11.20	11.30	Standard	Right Touch	OFF	OFF	Fixed	0.099
2462.00	11	11b	11.20	11.12	Standard	Right Tilt	OFF	OFF	Fixed	0.034
2462.00	11	11b	11.20	11.31	Standard	Left Touch	OFF	OFF	Fixed	0.059
2462.00	11	11b	11.20	11.34	Standard	Left Tilt	OFF	OFF	Fixed	0.058
2412.00	1	11g	5.90	5.80	Standard	Right touch	OFF	OFF	Fixed	0.045
2437.00	6	11g	5.90	6.00	Standard	Right touch	OFF	OFF	Fixed	0.085
2462.00	11	11g	5.90	5.85	Standard	Right touch	OFF	OFF	Fixed	0.086

NOTES:
1. The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear, extended and retracted)is at least 3.0dB lower than the SAR limit, testing at the hiah and low channels is optional for such test configration(s).
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Head

Engineer I.K.Hong (Signature)

10. RESULTS(continued)

Ambient TEMPERATURE (C) : 24.0
Relative HUMIDITY (%) : 49
Mixture Type : 2450MHz Brain
Dielectric Constant : 52.0
Conductivity: 1.93

Measurement Results (WLAN BODY SAR without Holster)

ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	Body 1.6 W/kg (mW/g) averaged over 1 gram

MEASUREMENT RESULTS (GSM Body SAR Without Holster)

Frequency		Mod	Conducted Power(dBm)		battery	Device Test position	GSM	BT	Antenna Position	SAR (W/kg)
MHz	Ch.		Begin	End						
2412.00	1	11b	11.20	11.14	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.059
2437.00	6	11b	11.20	11.21	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.054
2462.00	11	11b	11.20	11.14	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.069
2437.00	6	11g	5.90	5.87	Standard	1.5[w/o Holster]REAR	OFF	OFF	Fixed	0.047

NOTES:
1. The test data were reported the worst-case SAR value with the antenna-head position set in a typical configuration.
2. All modes of operation were investigated and the worst-case are reported.
3. Battery Type : Standard
Justification for reduced test configuration: Per FCC/OET Bulletin 65 Supplement C[July 2001], if the SAR measured at the middle channel for each test configuration (left,light,cheek/touch,tilt/ear,
4. Power Measured : Conducted
5. SAR Measurement System : SPEAG
6. SAR Configuration : Body, GPRS mode function enable, Class 10 (multi slot mode)

Engineer I.K.Hong

(Signature)

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APPENDIX A : Validation Test Data of Tissue

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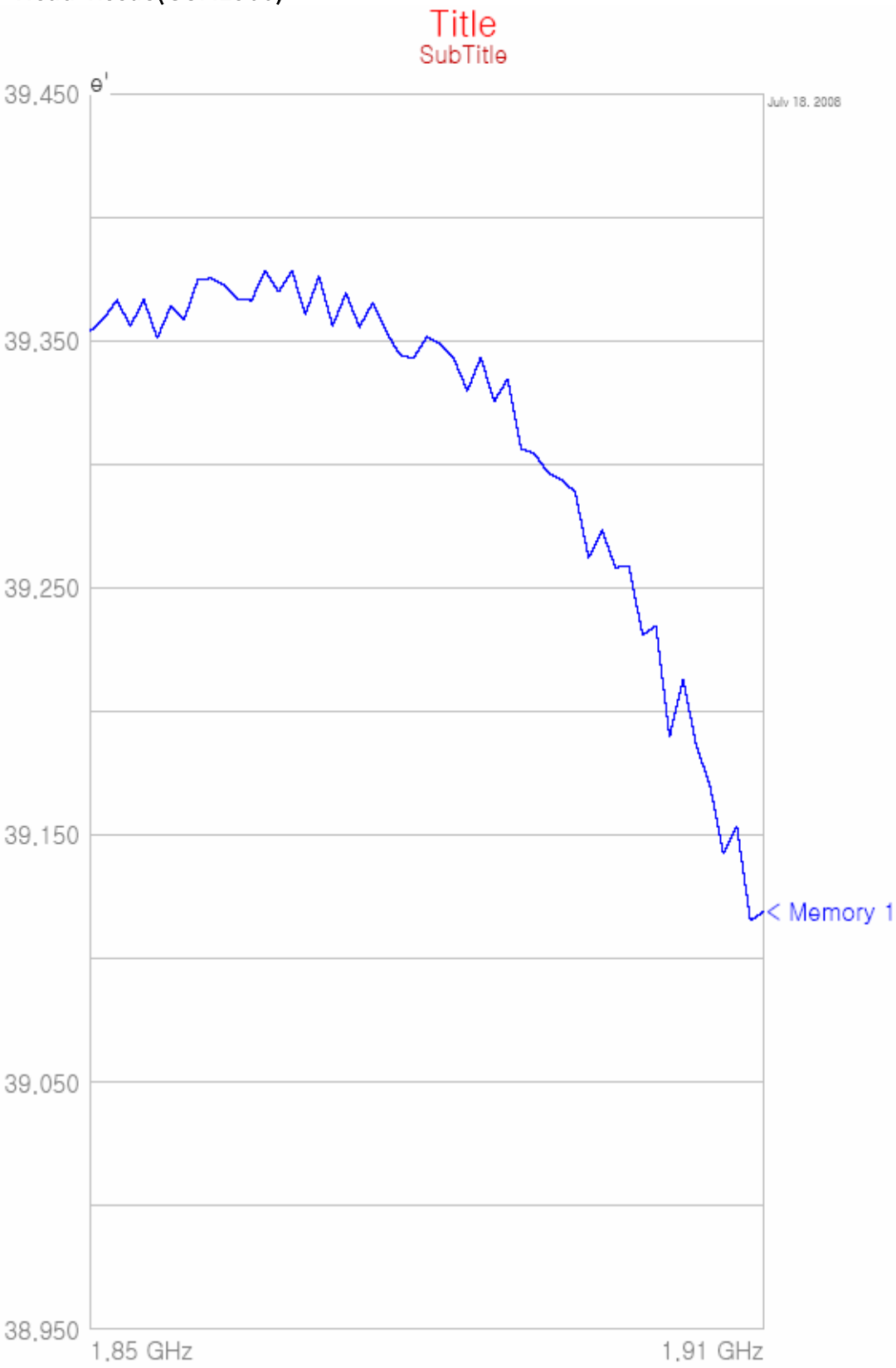
- Head Tissue(GSM1900)



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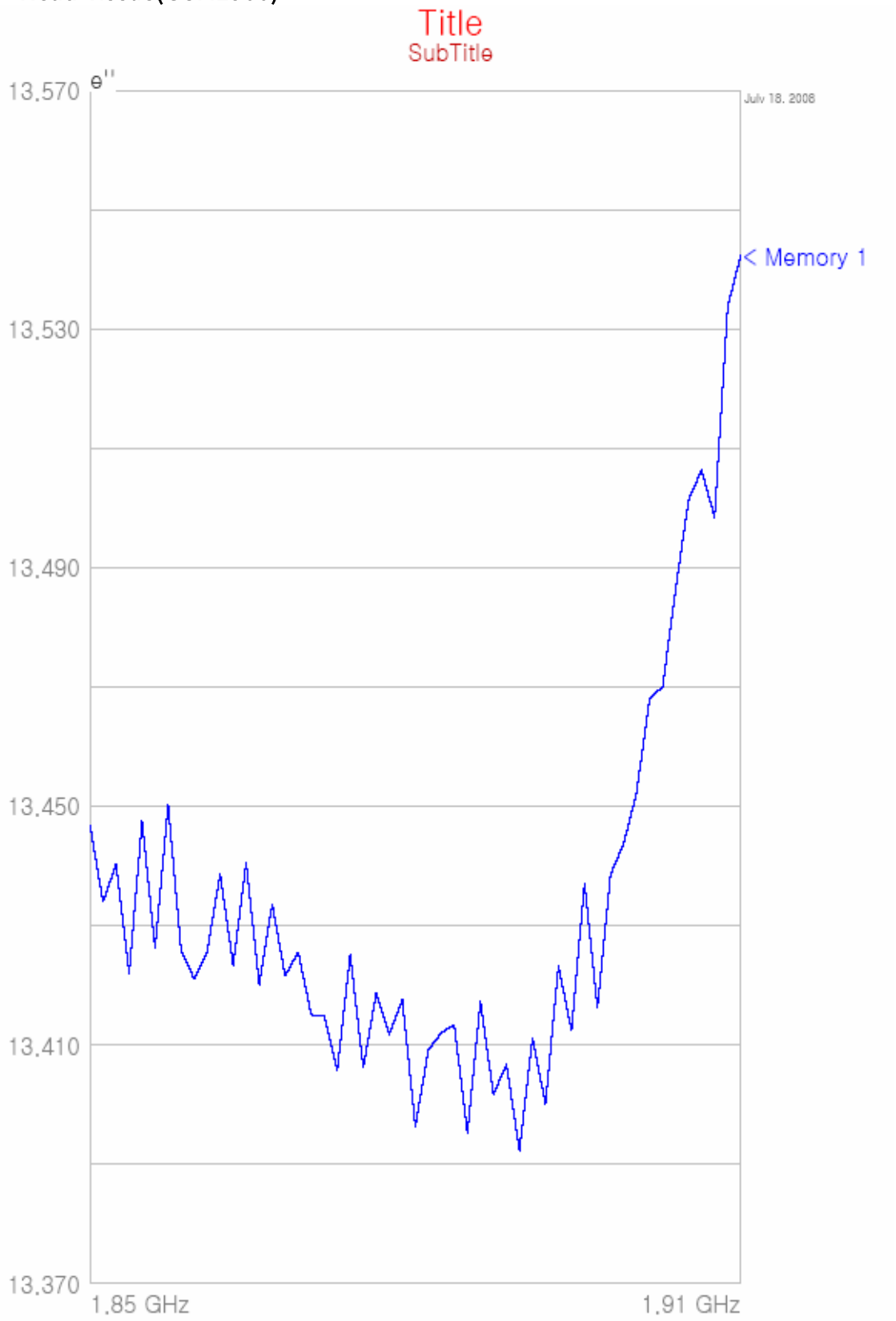
- Head Tissue(GSM1900)



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Title

SubTitle

July 18, 2008

Frequency	ε'	ε''
1.850000000 GHz	39.3540	13.4469
1.851182838 GHz	39.3589	13.4340
1.852365676 GHz	39.3666	13.4403
1.853548514 GHz	39.3561	13.4220
1.854731352 GHz	39.3667	13.4475
1.855914190 GHz	39.3513	13.4262
1.857100809 GHz	39.3642	13.4503
1.858287429 GHz	39.3588	13.4259
1.859474048 GHz	39.3747	13.4211
1.860660667 GHz	39.3755	13.4257
1.861847287 GHz	39.3724	13.4387
1.863037699 GHz	39.3668	13.4234
1.864228112 GHz	39.3665	13.4406
1.865418525 GHz	39.3786	13.4202
1.866608938 GHz	39.3700	13.4337
1.867799351 GHz	39.3783	13.4216
1.868993569 GHz	39.3609	13.4256
1.870187787 GHz	39.3762	13.4151
1.871382006 GHz	39.3561	13.4149
1.872576224 GHz	39.3693	13.4057
1.873770442 GHz	39.3557	13.4253
1.874968479 GHz	39.3656	13.4062
1.876166515 GHz	39.3537	13.4188
1.877364551 GHz	39.3444	13.4118
1.878562587 GHz	39.3431	13.4176
1.879760623 GHz	39.3517	13.3964
1.880962489 GHz	39.3489	13.4092
1.882164355 GHz	39.3429	13.4121
1.883366221 GHz	39.3299	13.4134
1.884568087 GHz	39.3433	13.3952
1.885769953 GHz	39.3257	13.4173
1.886975662 GHz	39.3348	13.4017
1.888181370 GHz	39.3064	13.4068
1.889387078 GHz	39.3044	13.3923
1.890592787 GHz	39.2967	13.4112
1.891798495 GHz	39.2939	13.4002
1.893008058 GHz	39.2889	13.4233
1.894217620 GHz	39.2624	13.4124
1.895427183 GHz	39.2734	13.4372
1.896636746 GHz	39.2584	13.4162
1.897846309 GHz	39.2590	13.4386
1.899059738 GHz	39.2309	13.4437
1.900273168 GHz	39.2347	13.4523
1.901486597 GHz	39.1897	13.4681
1.902700027 GHz	39.2131	13.4701
1.903913456 GHz	39.1862	13.4863
1.905130765 GHz	39.1704	13.5014
1.906348074 GHz	39.1425	13.5064
1.907565383 GHz	39.1536	13.4985
1.908782691 GHz	39.1154	13.5338
1.910000000 GHz	39.1192	13.5423

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- GSM1900 Body Tissue

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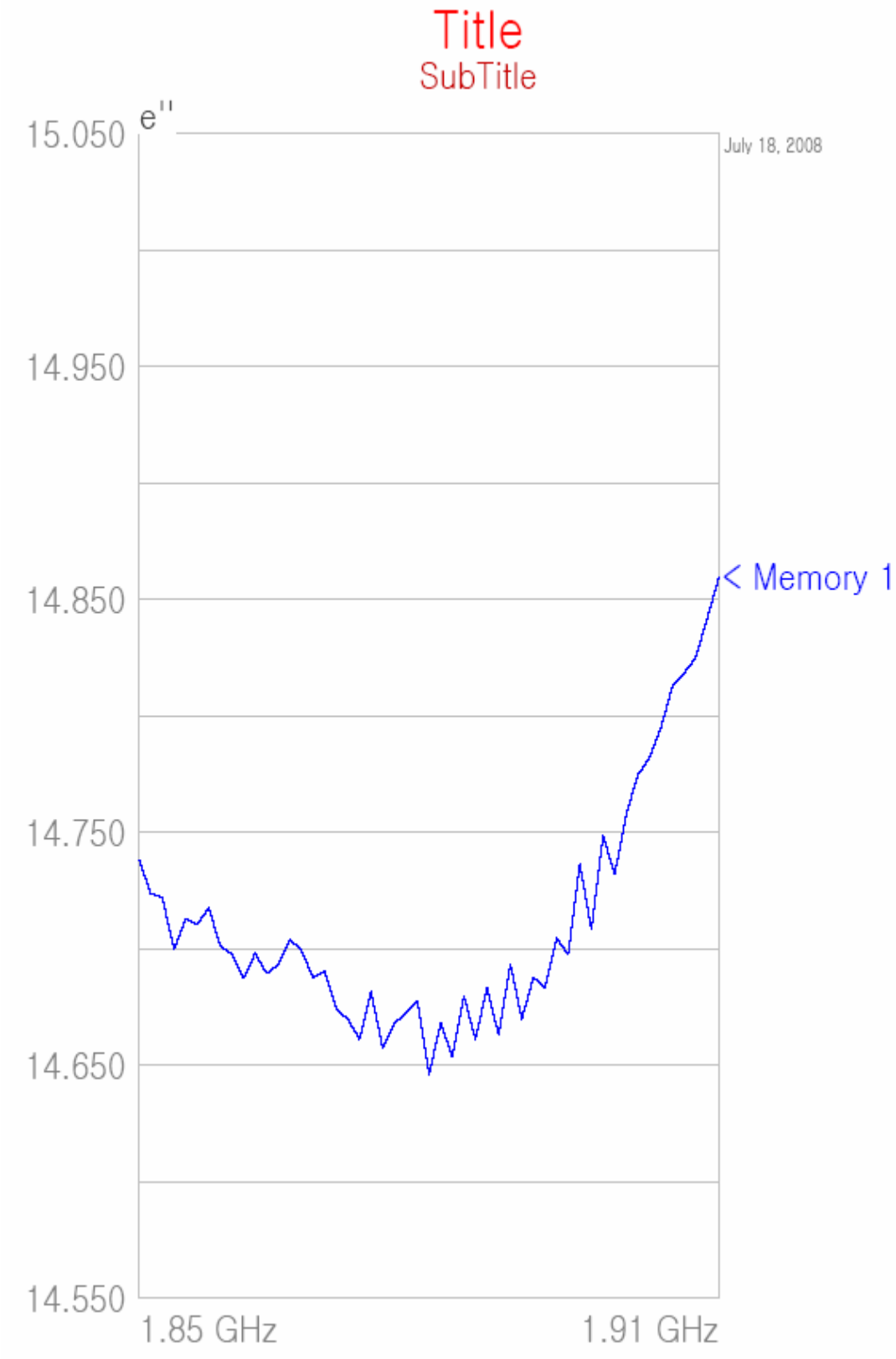

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FAX: 82-2-867-3204

Title

SubTitle

July 18, 2008

Frequency	ε'	ε''
1.850000000 GHz	54.1193	14.7361
1.851182838 GHz	54.1170	14.7238
1.852365676 GHz	54.1336	14.7220
1.853548514 GHz	54.1278	14.6998
1.854731352 GHz	54.1321	14.7130
1.855914190 GHz	54.1293	14.7103
1.857100809 GHz	54.1358	14.7177
1.858287429 GHz	54.1239	14.7011
1.859474048 GHz	54.1503	14.6976
1.860660667 GHz	54.1517	14.6874
1.861847287 GHz	54.1465	14.6961
1.863037699 GHz	54.1421	14.6895
1.864228112 GHz	54.1565	14.6932
1.865418525 GHz	54.1552	14.7040
1.866608938 GHz	54.1545	14.6994
1.867799351 GHz	54.1696	14.6876
1.868993569 GHz	54.1610	14.6904
1.870187787 GHz	54.1569	14.6741
1.871382006 GHz	54.1640	14.6697
1.872576224 GHz	54.1673	14.6613
1.873770442 GHz	54.1639	14.6816
1.874968479 GHz	54.1601	14.6575
1.876166515 GHz	54.1513	14.6679
1.877364551 GHz	54.1446	14.6726
1.878562587 GHz	54.1532	14.6778
1.879760623 GHz	54.1459	14.6459
1.880962489 GHz	54.1522	14.6683
1.882164355 GHz	54.1423	14.6537
1.883366221 GHz	54.1485	14.6798
1.884568087 GHz	54.1311	14.6611
1.885769953 GHz	54.1336	14.6833
1.886975662 GHz	54.1259	14.6629
1.888181370 GHz	54.0955	14.6936
1.889387078 GHz	54.1033	14.6699
1.890592787 GHz	54.0984	14.6879
1.891798495 GHz	54.0979	14.6831
1.893008058 GHz	54.0852	14.7047
1.894217620 GHz	54.0753	14.6976
1.895427183 GHz	54.0679	14.7366
1.896636746 GHz	54.0528	14.7063
1.897846309 GHz	54.0359	14.7488
1.899059738 GHz	54.0168	14.7319
1.900273168 GHz	54.0156	14.7576
1.901486597 GHz	53.9841	14.7747
1.902700027 GHz	54.0102	14.7820
1.903913456 GHz	53.9751	14.7952
1.905130765 GHz	53.9665	14.8129
1.906348074 GHz	53.9317	14.8184
1.907565383 GHz	53.9426	14.8252
1.908782691 GHz	53.9113	14.8423
1.910000000 GHz	53.9029	14.8599

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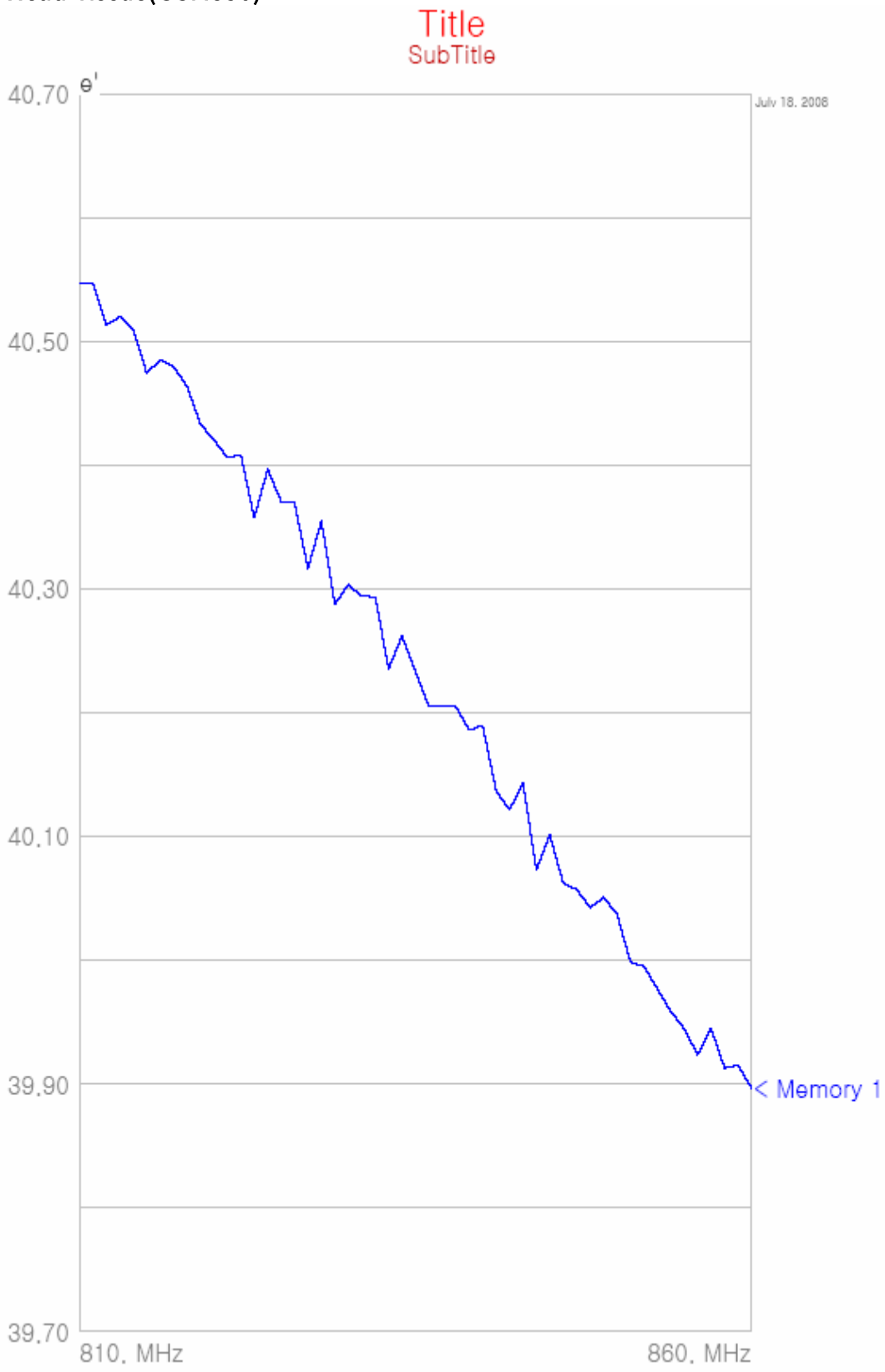
- Head Tissue(GSM850)



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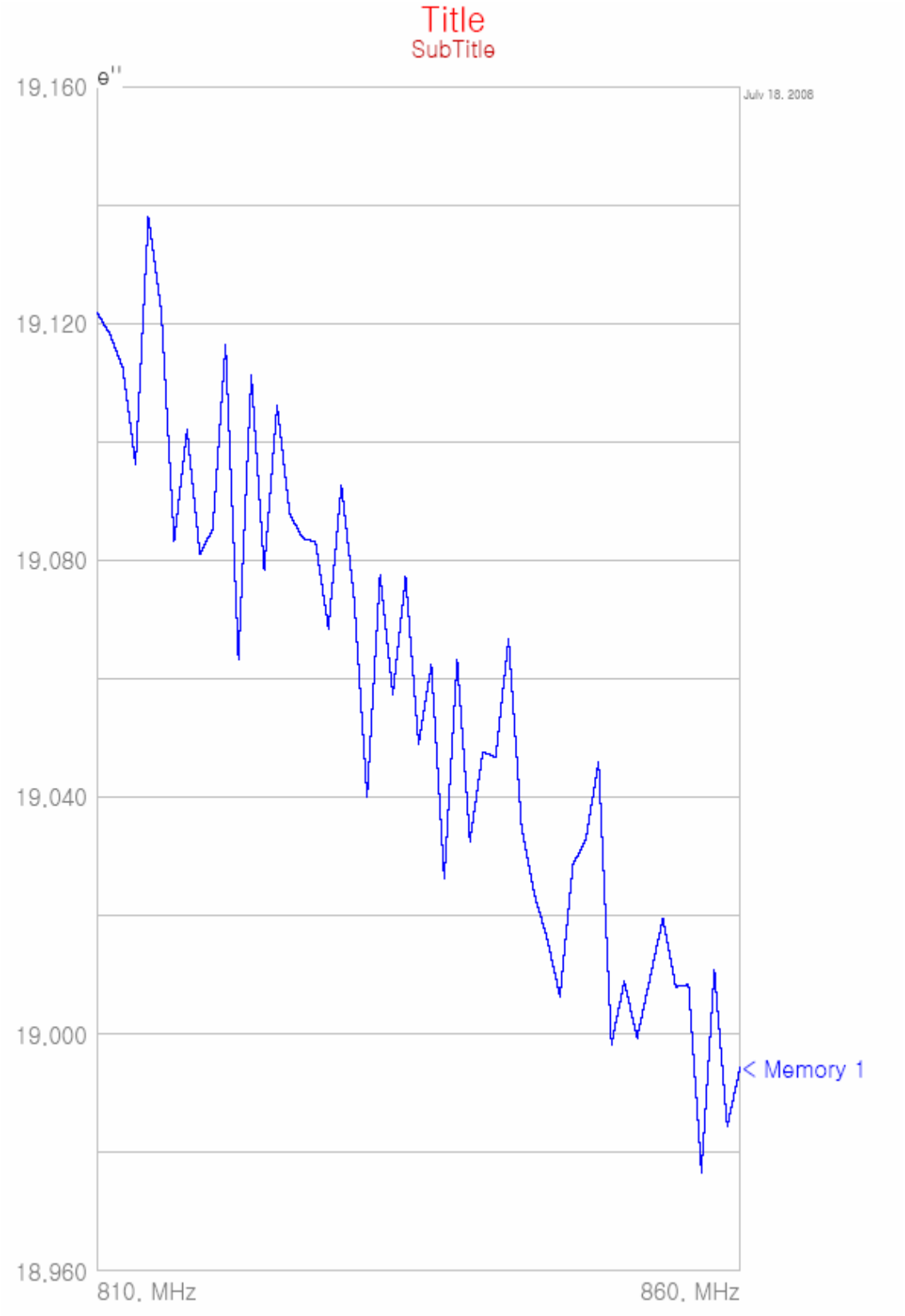

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Title

SubTitle

July 19, 2008

Frequency	e'	e''
810.000000 MHz	40.5476	19.1219
810.973262 MHz	40.5469	19.1183
811.946524 MHz	40.5135	19.1126
812.919785 MHz	40.5202	19.0963
813.893047 MHz	40.5102	19.1380
814.866309 MHz	40.4744	19.1223
815.845418 MHz	40.4855	19.0833
816.824527 MHz	40.4800	19.1021
817.803636 MHz	40.4639	19.0811
818.782745 MHz	40.4333	19.0853
819.761854 MHz	40.4207	19.1166
820.746845 MHz	40.4064	19.0632
821.731836 MHz	40.4087	19.1114
822.716828 MHz	40.3576	19.0785
823.701819 MHz	40.3969	19.1062
824.686810 MHz	40.3710	19.0878
825.677719 MHz	40.3698	19.0838
826.668628 MHz	40.3168	19.0831
827.659537 MHz	40.3550	19.0665
828.650446 MHz	40.2878	19.0928
829.641354 MHz	40.3037	19.0736
830.638216 MHz	40.2944	19.0400
831.635078 MHz	40.2939	19.0777
832.631941 MHz	40.2358	19.0574
833.628803 MHz	40.2620	19.0772
834.625665 MHz	40.2334	19.0490
835.628516 MHz	40.2053	19.0624
836.631367 MHz	40.2057	19.0262
837.634218 MHz	40.2051	19.0634
838.637068 MHz	40.1861	19.0326
839.639919 MHz	40.1900	19.0477
840.648795 MHz	40.1372	19.0468
841.657671 MHz	40.1216	19.0669
842.666547 MHz	40.1438	19.0352
843.675423 MHz	40.0729	19.0237
844.684299 MHz	40.1016	19.0162
845.699236 MHz	40.0622	19.0064
846.714173 MHz	40.0574	19.0266
847.729110 MHz	40.0426	19.0328
848.744047 MHz	40.0510	19.0461
849.758984 MHz	40.0375	18.9983
850.780018 MHz	39.9986	19.0089
851.801053 MHz	39.9954	18.9994
852.822087 MHz	39.9771	19.0095
853.843122 MHz	39.9588	19.0196
854.864157 MHz	39.9449	19.0060
855.891325 MHz	39.9238	19.0084
856.918494 MHz	39.9451	18.9767
857.945663 MHz	39.9130	19.0109
858.972831 MHz	39.9152	18.9844
860.000000 MHz	39.8970	18.9943

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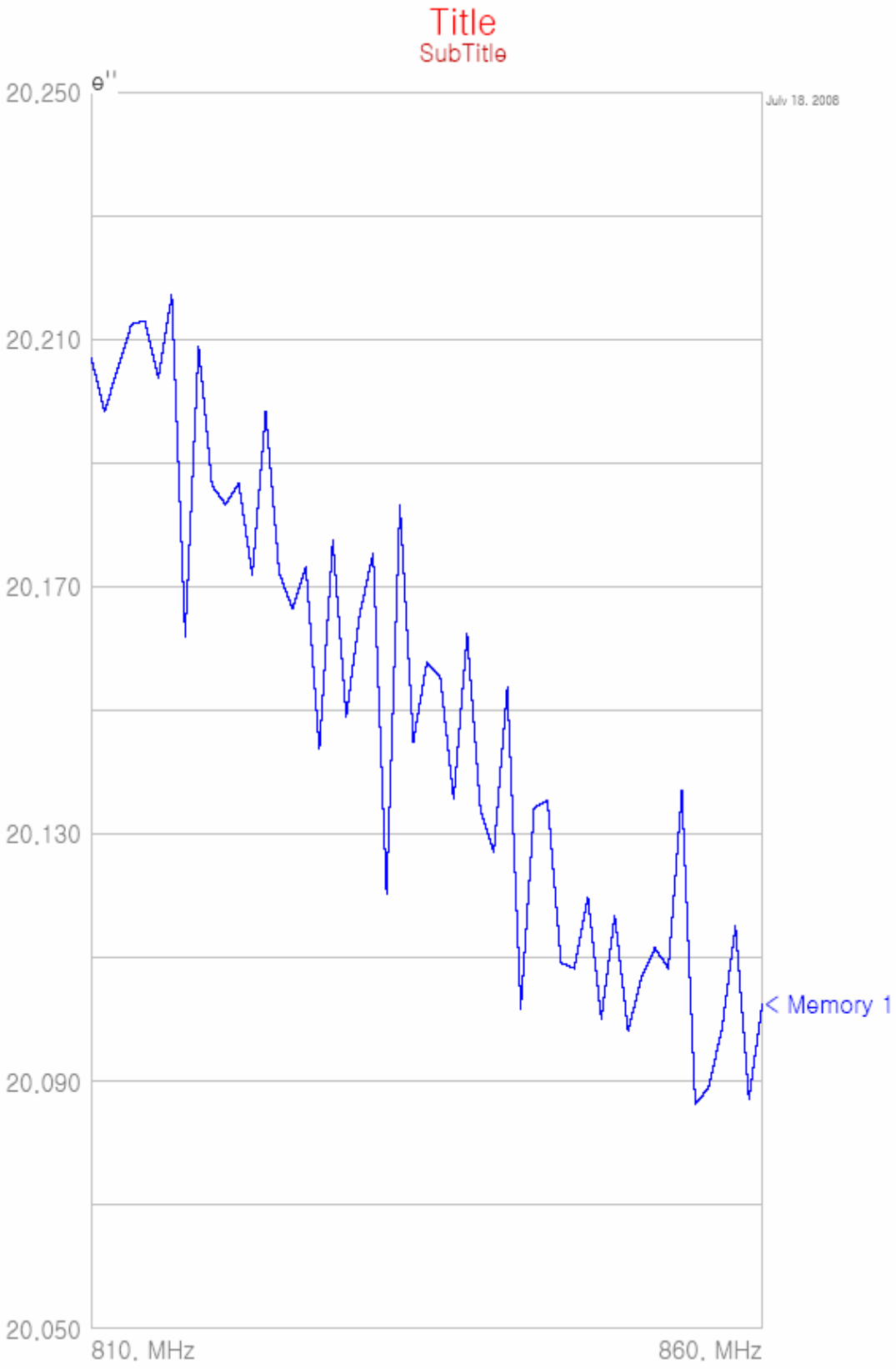
- GSM850 Body Tissue



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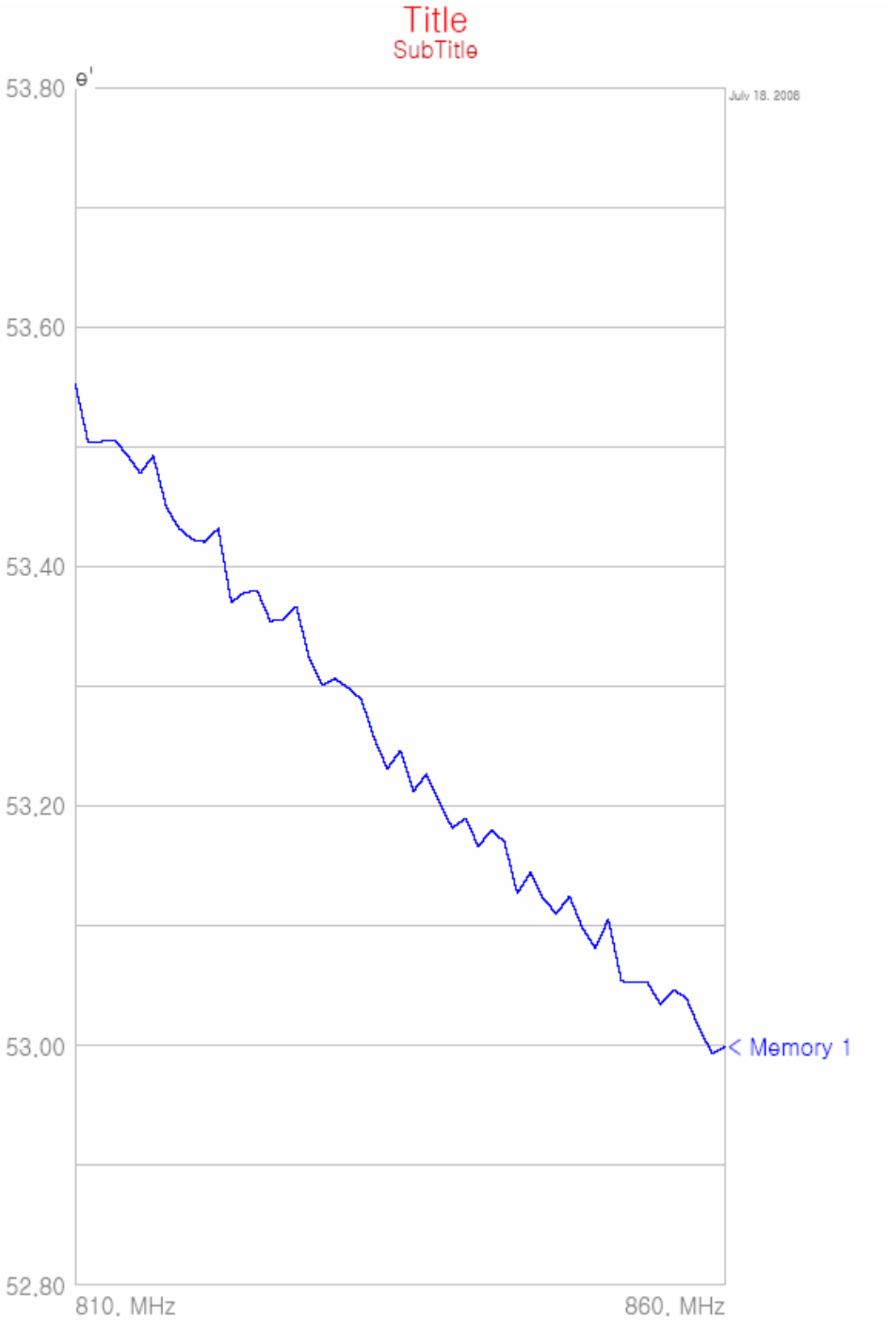

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Title

SubTitle

July 19, 2008

Frequency	e'	e''
810.000000 MHz	53.5528	20.2071
810.973262 MHz	53.5036	20.1984
811.946524 MHz	53.5047	20.2055
812.919785 MHz	53.5059	20.2125
813.893047 MHz	53.4937	20.2131
814.866309 MHz	53.4780	20.2038
815.845418 MHz	53.4927	20.2172
816.824527 MHz	53.4497	20.1620
817.803636 MHz	53.4319	20.2090
818.782745 MHz	53.4228	20.1864
819.761854 MHz	53.4207	20.1834
820.746845 MHz	53.4320	20.1868
821.731836 MHz	53.3703	20.1719
822.716828 MHz	53.3789	20.1964
823.701819 MHz	53.3797	20.1723
824.686810 MHz	53.3547	20.1665
825.677719 MHz	53.3563	20.1733
826.668628 MHz	53.3670	20.1437
827.659537 MHz	53.3234	20.1777
828.650446 MHz	53.3014	20.1490
829.641354 MHz	53.3066	20.1654
830.638216 MHz	53.2987	20.1755
831.635078 MHz	53.2892	20.1204
832.631941 MHz	53.2566	20.1834
833.628803 MHz	53.2313	20.1450
834.625665 MHz	53.2464	20.1578
835.628516 MHz	53.2124	20.1555
836.631367 MHz	53.2267	20.1357
837.634218 MHz	53.2033	20.1624
838.637068 MHz	53.1817	20.1338
839.639919 MHz	53.1900	20.1272
840.648795 MHz	53.1667	20.1538
841.657671 MHz	53.1802	20.1017
842.666547 MHz	53.1702	20.1343
843.675423 MHz	53.1271	20.1355
844.684299 MHz	53.1445	20.1092
845.699236 MHz	53.1225	20.1083
846.714173 MHz	53.1104	20.1199
847.729110 MHz	53.1248	20.1001
848.744047 MHz	53.0986	20.1169
849.758984 MHz	53.0810	20.0981
850.780018 MHz	53.1060	20.1069
851.801053 MHz	53.0539	20.1116
852.822087 MHz	53.0529	20.1083
853.843122 MHz	53.0530	20.1370
854.864157 MHz	53.0346	20.0863
855.891325 MHz	53.0466	20.0890
856.918494 MHz	53.0398	20.0966
857.945663 MHz	53.0141	20.1152
858.972831 MHz	52.9934	20.0871
860.000000 MHz	52.9995	20.1026

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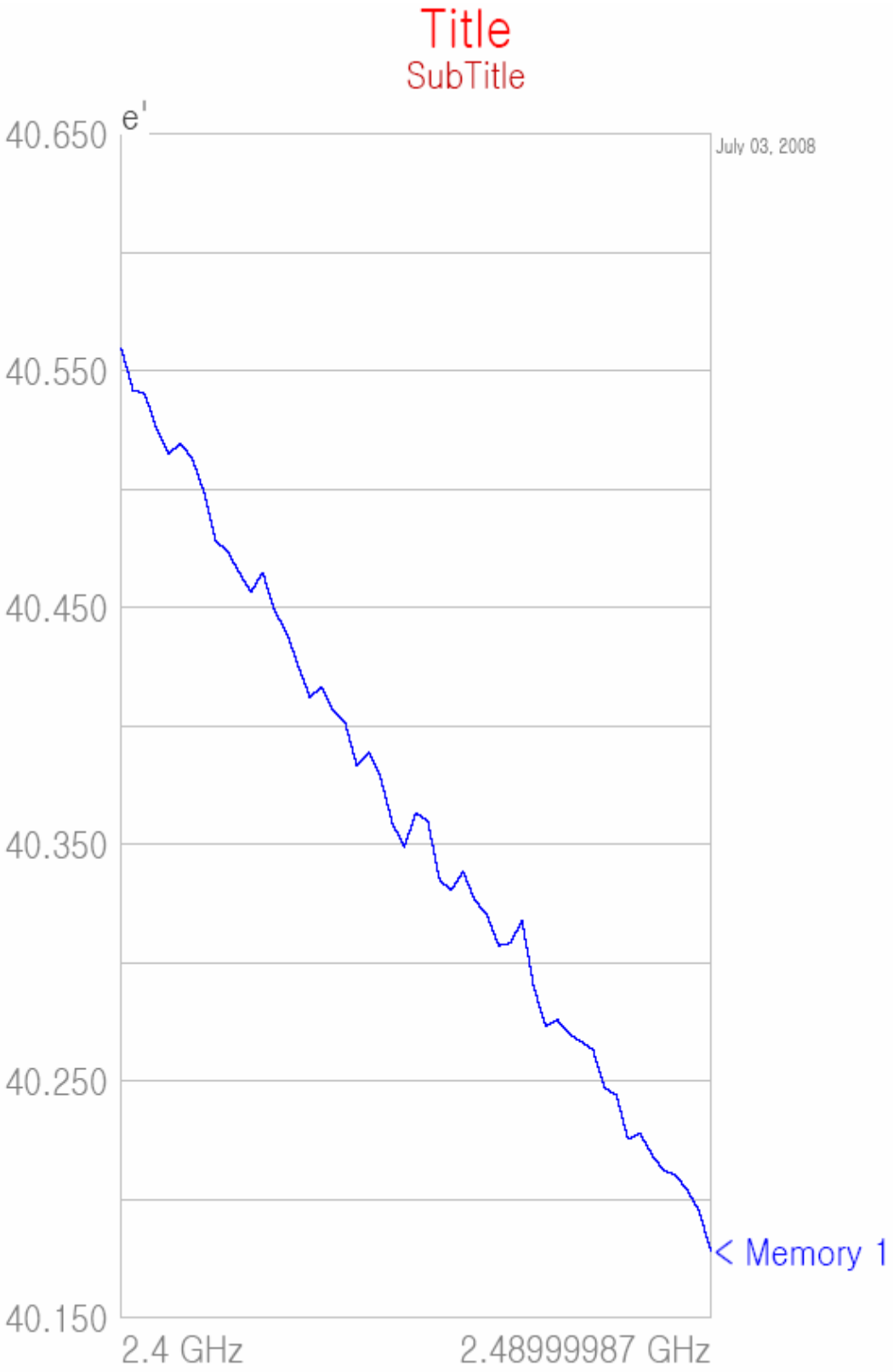
- WLAN HEAD Tissue



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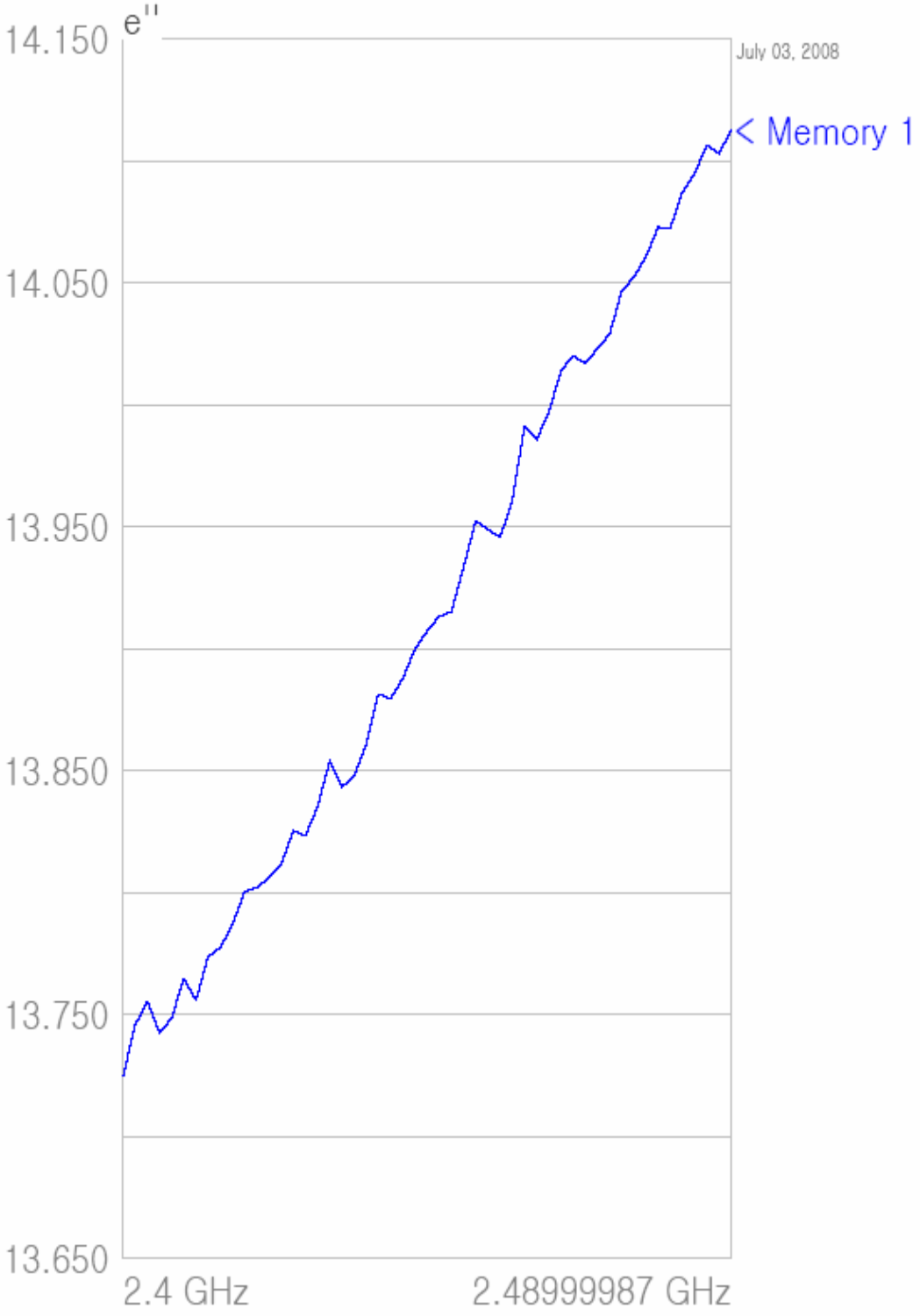
Title

SubTitle



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Title

SubTitle

July 03, 2008

Frequency	e'	e''
2.400000000 GHz	40.5595	13.7247
2.401770325 GHz	40.5419	13.7457
2.403540650 GHz	40.5405	13.7554
2.405310975 GHz	40.5253	13.7426
2.407081299 GHz	40.5150	13.7486
2.408851624 GHz	40.5194	13.7649
2.410628479 GHz	40.5133	13.7558
2.412405333 GHz	40.4991	13.7738
2.414182187 GHz	40.4783	13.7775
2.415959041 GHz	40.4740	13.7869
2.417735895 GHz	40.4649	13.8006
2.419519303 GHz	40.4566	13.8021
2.421302710 GHz	40.4650	13.8062
2.423086118 GHz	40.4488	13.8117
2.424869525 GHz	40.4398	13.8254
2.426652933 GHz	40.4257	13.8234
2.428442918 GHz	40.4122	13.8352
2.430232903 GHz	40.4167	13.8542
2.432022888 GHz	40.4063	13.8433
2.433812873 GHz	40.4011	13.8479
2.435602858 GHz	40.3831	13.8609
2.437399444 GHz	40.3891	13.8815
2.439196031 GHz	40.3782	13.8796
2.440992618 GHz	40.3590	13.8879
2.442789205 GHz	40.3489	13.8998
2.444585792 GHz	40.3634	13.9072
2.446389005 GHz	40.3598	13.9134
2.448192218 GHz	40.3350	13.9152
2.449995430 GHz	40.3307	13.9335
2.451798643 GHz	40.3385	13.9525
2.453601856 GHz	40.3264	13.9490
2.455411720 GHz	40.3203	13.9458
2.457221583 GHz	40.3072	13.9604
2.459031447 GHz	40.3083	13.9912
2.460841310 GHz	40.3177	13.9859
2.462651174 GHz	40.2896	13.9966
2.464467712 GHz	40.2733	14.0140
2.466284251 GHz	40.2759	14.0204
2.468100790 GHz	40.2701	14.0171
2.469917328 GHz	40.2667	14.0231
2.471733867 GHz	40.2634	14.0291
2.473557105 GHz	40.2473	14.0466
2.475380343 GHz	40.2440	14.0525
2.477203582 GHz	40.2254	14.0607
2.479026820 GHz	40.2279	14.0730
2.480850058 GHz	40.2190	14.0726
2.482680021 GHz	40.2122	14.0874
2.484509984 GHz	40.2105	14.0949
2.486339947 GHz	40.2040	14.1067
2.488169909 GHz	40.1953	14.1032
2.489999872 GHz	40.1784	14.1128

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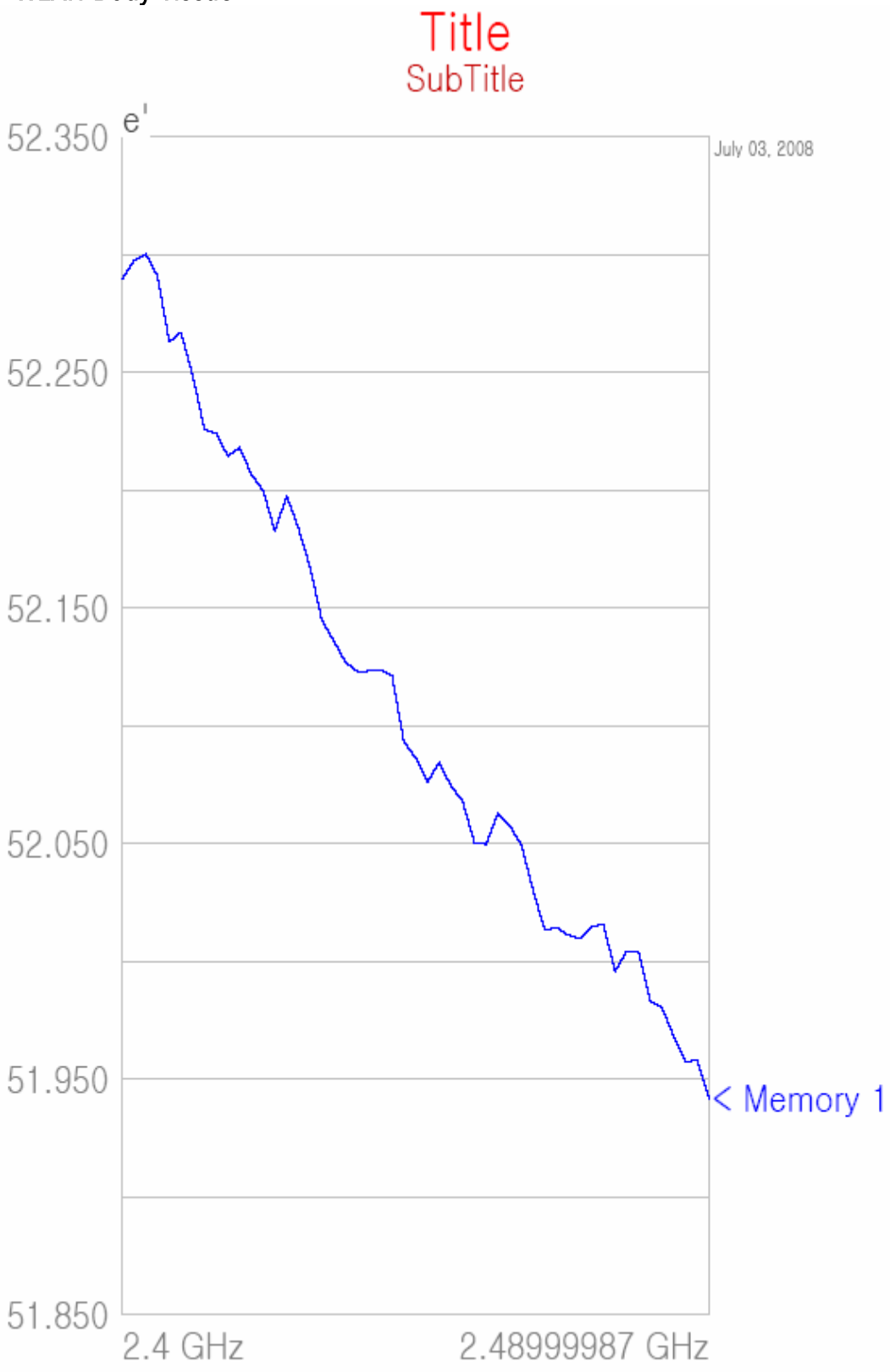
- WLAN Body Tissue



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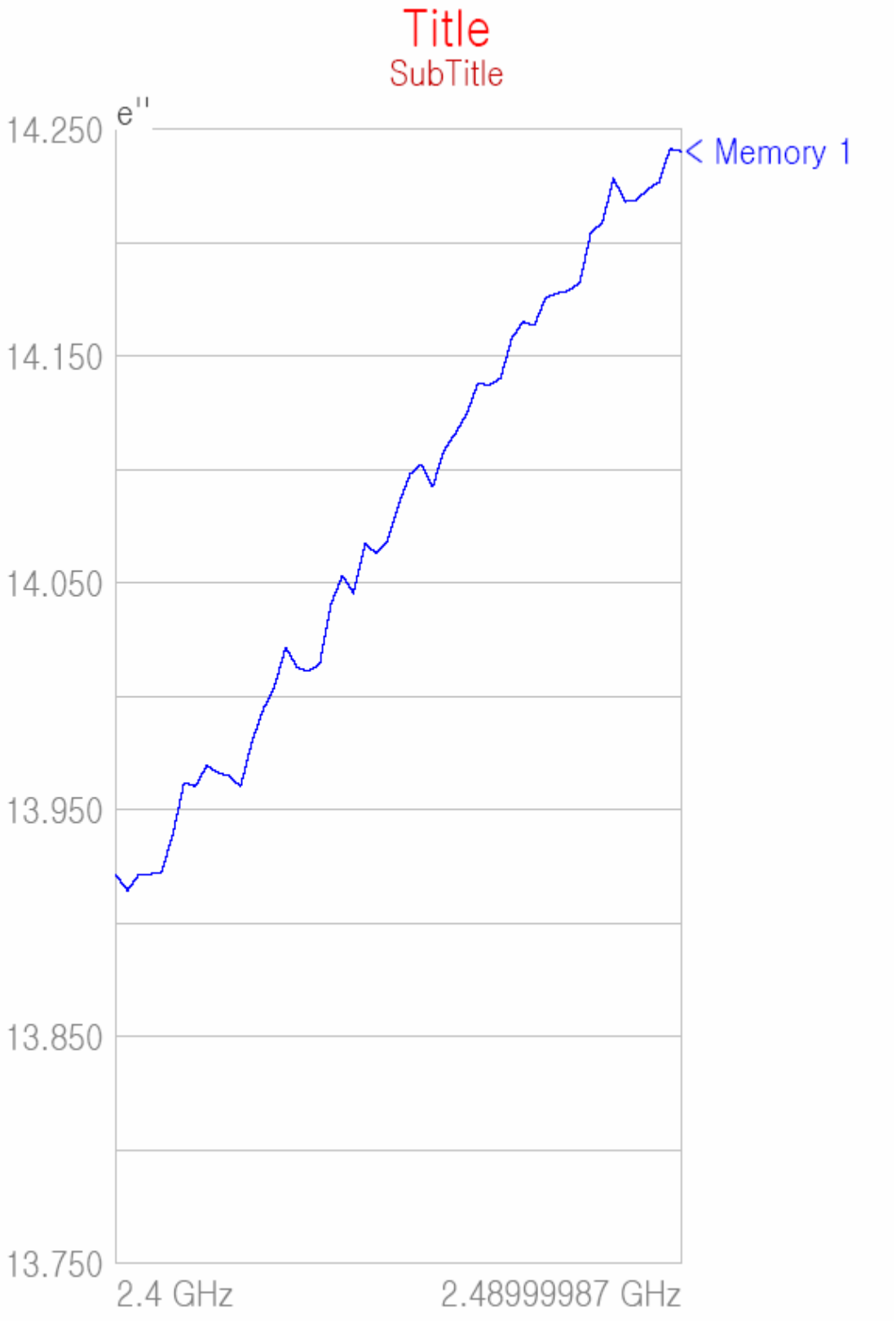

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Title

SubTitle

July 30, 2008

Frequency	e'	e''
2.400000000 GHz	52.2897	13.9211
2.401770325 GHz	52.2975	13.9144
2.403540650 GHz	52.3004	13.9215
2.405310975 GHz	52.2909	13.9217
2.407081299 GHz	52.2631	13.9224
2.408851624 GHz	52.2672	13.9392
2.410628479 GHz	52.2488	13.9620
2.412405333 GHz	52.2259	13.9604
2.414182187 GHz	52.2242	13.9696
2.415959041 GHz	52.2145	13.9664
2.417735895 GHz	52.2183	13.9649
2.419519303 GHz	52.2068	13.9603
2.421302710 GHz	52.2000	13.9800
2.423086118 GHz	52.1826	13.9943
2.424869525 GHz	52.1978	14.0046
2.426652933 GHz	52.1842	14.0218
2.428442918 GHz	52.1674	14.0128
2.430232903 GHz	52.1449	14.0111
2.432022888 GHz	52.1363	14.0143
2.433812873 GHz	52.1273	14.0407
2.435602858 GHz	52.1232	14.0533
2.437399444 GHz	52.1233	14.0455
2.439196031 GHz	52.1238	14.0674
2.440992618 GHz	52.1211	14.0632
2.442789205 GHz	52.0932	14.0688
2.444585792 GHz	52.0865	14.0849
2.446389005 GHz	52.0761	14.0982
2.448192218 GHz	52.0845	14.1024
2.449995430 GHz	52.0746	14.0925
2.451798643 GHz	52.0681	14.1085
2.453601856 GHz	52.0506	14.1160
2.455411720 GHz	52.0498	14.1247
2.457221583 GHz	52.0629	14.1361
2.459031447 GHz	52.0577	14.1374
2.460841310 GHz	52.0497	14.1404
2.462651174 GHz	52.0304	14.1579
2.464467712 GHz	52.0132	14.1653
2.466284251 GHz	52.0145	14.1637
2.468100790 GHz	52.0112	14.1759
2.469917328 GHz	52.0098	14.1779
2.471733867 GHz	52.0150	14.1790
2.473557105 GHz	52.0156	14.1823
2.475380343 GHz	51.9957	14.2049
2.477203582 GHz	52.0045	14.2087
2.479026820 GHz	52.0041	14.2286
2.480850058 GHz	51.9832	14.2183
2.482680021 GHz	51.9803	14.2187
2.484509984 GHz	51.9681	14.2237
2.486339947 GHz	51.9573	14.2268
2.488169909 GHz	51.9581	14.2415
2.489999872 GHz	51.9419	14.2405

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APPENDIX B : Validation Test Data

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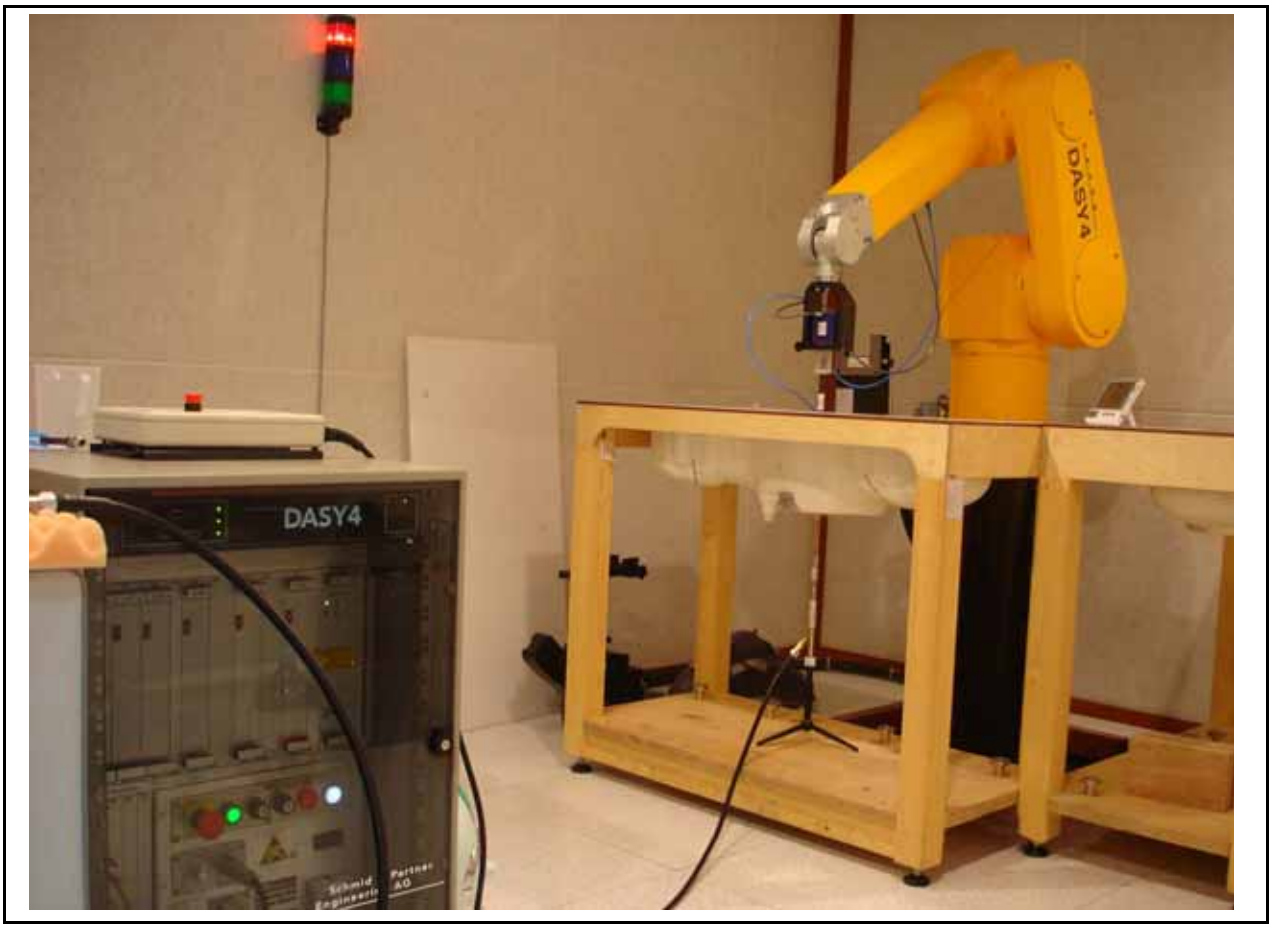
Dipole Validation



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- GSM850 Validation

Date: 2008-07-18

Test Laboratory: ESTECH

VALIDATION

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:xxx

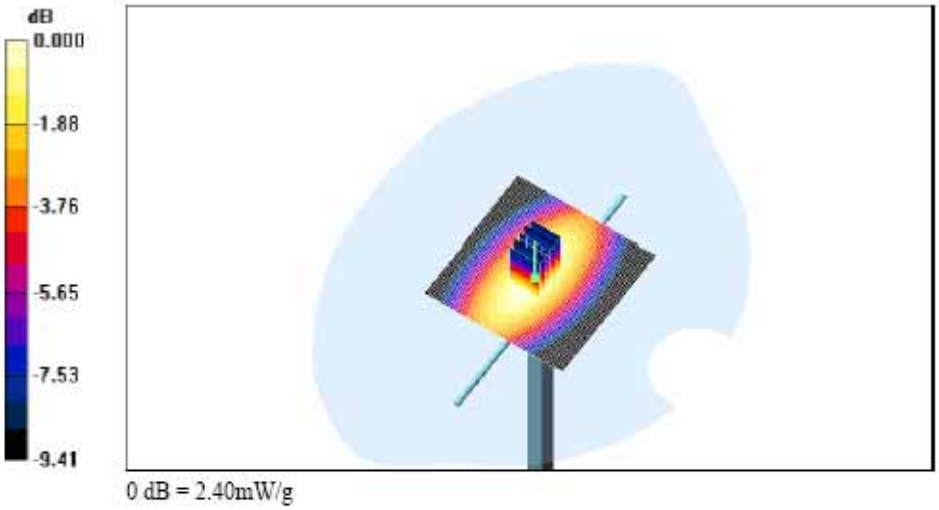
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 835 MHz; σ = 0.885 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.42, 6.42, 6.42); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.40 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.7 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 3.23 W/kg
SAR(1 g) = 2.22 mW/g
Maximum value of SAR (measured) = 2.40 mW/g



0 dB = 2.40mW/g

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- PCS1900 Validation

Date: 2008-07-18

Test Laboratory: ESTECH

VALIDATION

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:xxx

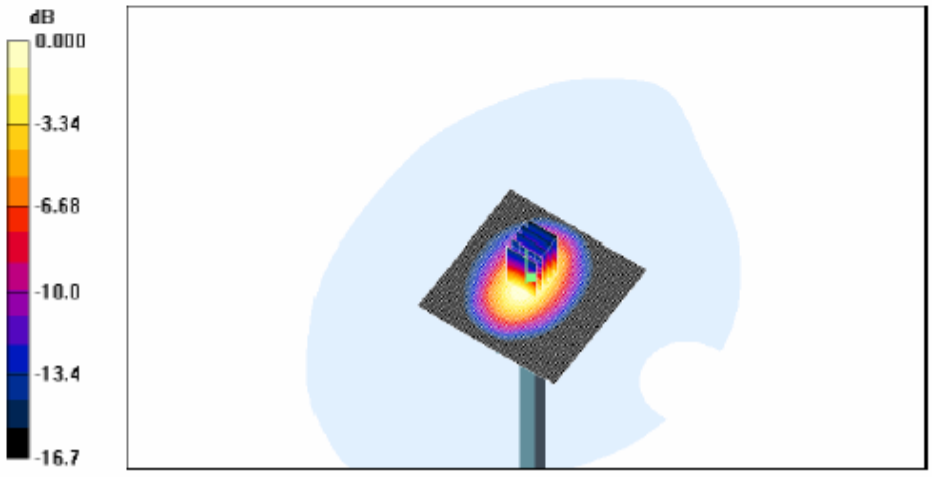
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900.4 MHz; σ = 1.42 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.08, 5.08, 5.08); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.2 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 81.4 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.3 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

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- WLAN Validation

Date: 2008-07-03

Test Laboratory: ESTECH

validation

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:xxx

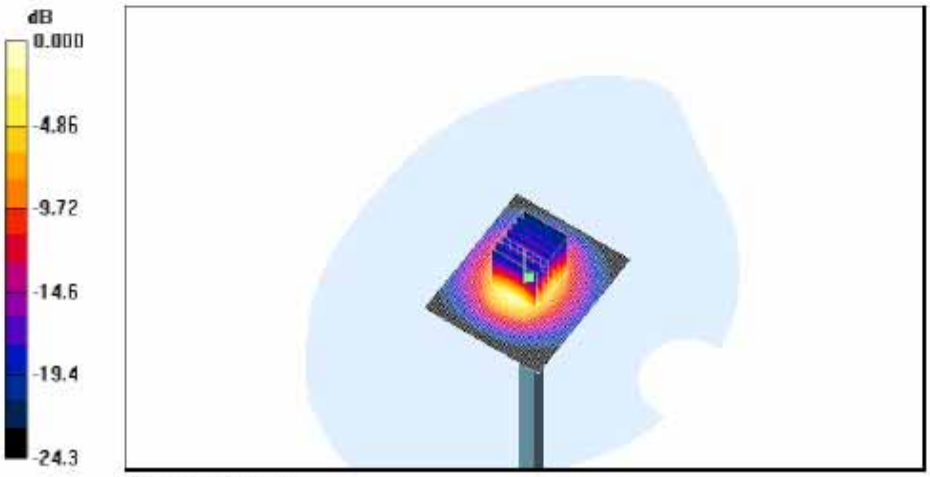
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450.4 MHz; σ = 1.9 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 18.1 mW/g

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.5 V/m; Power Drift = -0.086 dB
Peak SAR (extrapolated) = 31.2 W/kg
SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.31 mW/g
Maximum value of SAR (measured) = 15.5 mW/g



0 dB = 15.5mW/g

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APPENDIX C : SAR Test Data

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- GSM1900

Date: 2008-08-18

Test Laboratory: ESTECH

LEFT TOUCH 661

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

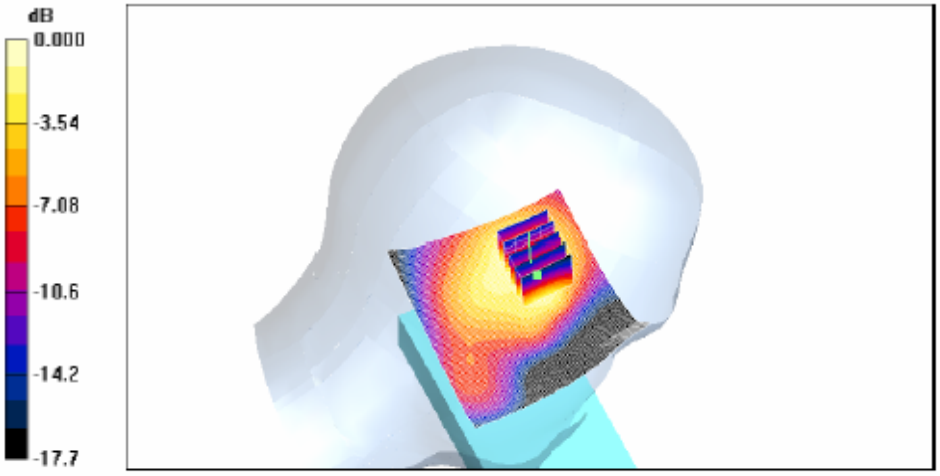
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.04, 5.04, 5.04); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.490 W/kg
SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.160 mW/g
Maximum value of SAR (measured) = 0.307 mW/g



0 dB = 0.307mW/g

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FAX: 82-2-867-3204

Date: 2008-07-18

Test Laboratory: ESTECH

RIGHT TOUCH 661

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

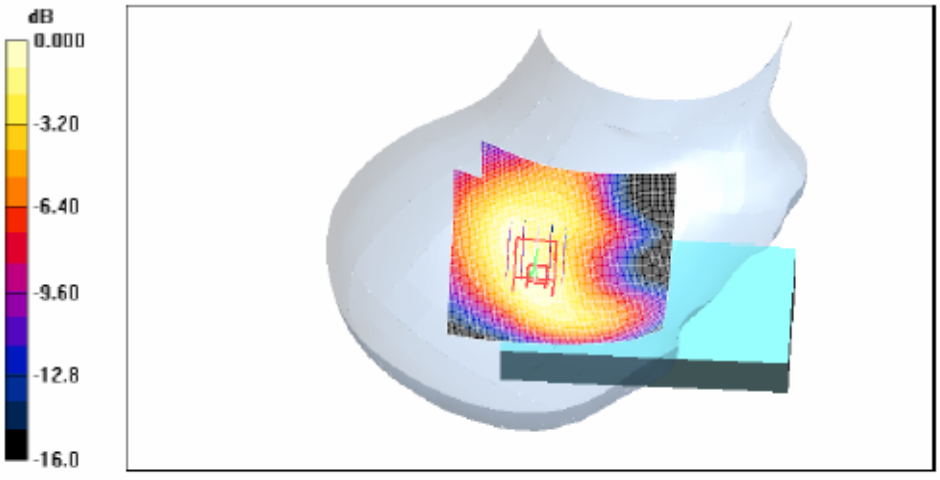
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.04, 5.04, 5.04); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.197 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 0.283 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.113 mW/g
Maximum value of SAR (measured) = 0.198 mW/g



0 dB = 0.198mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

LEFT TILT 661

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

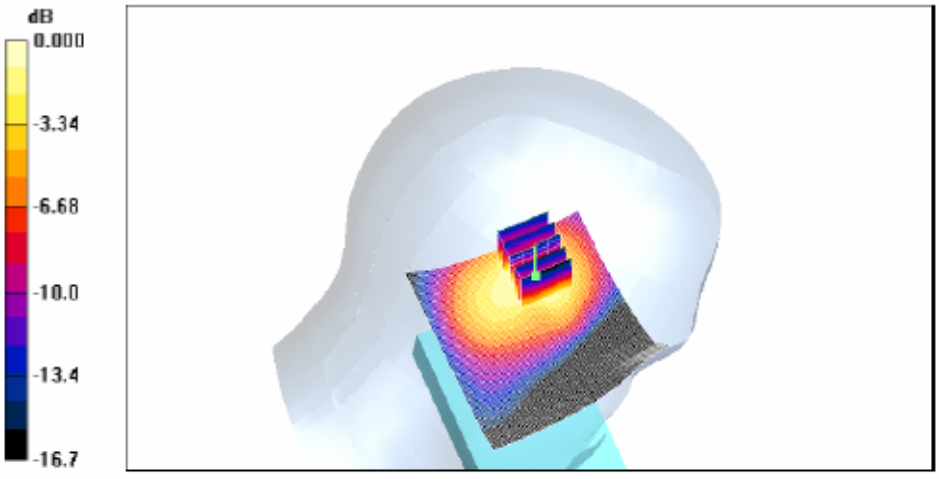
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.04, 5.04, 5.04); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.372 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.614 W/kg
SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.390 mW/g



0 dB = 0.390mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

RIGHT TILT 661

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

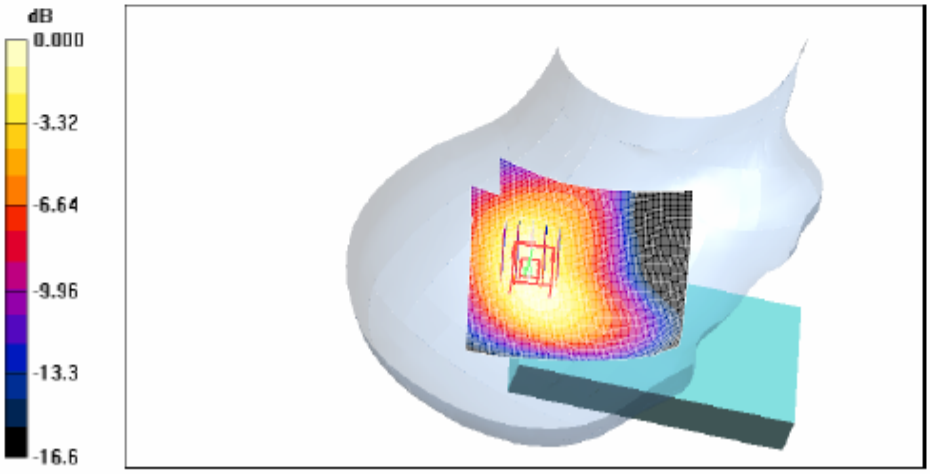
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.04, 5.04, 5.04); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.246 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.244 mW/g



0 dB = 0.244mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

LEFT TILT 661 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

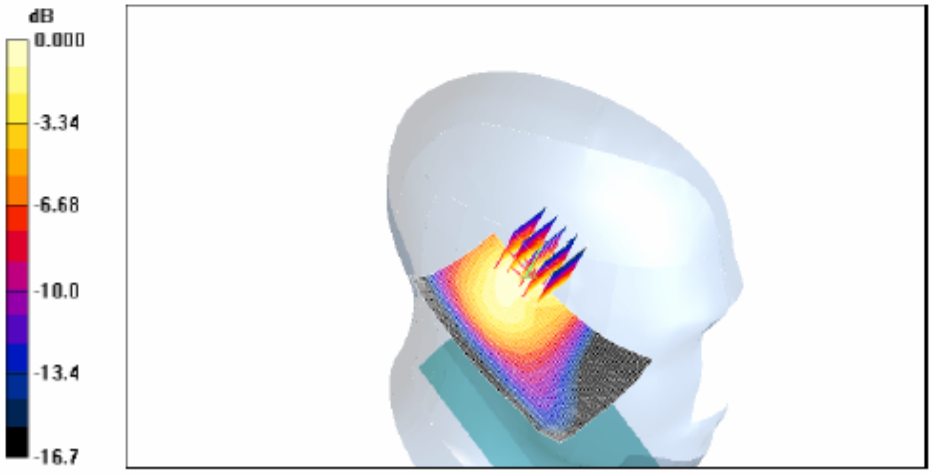
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.08, 5.08, 5.08); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.288 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.463 W/kg
SAR(1 g) = 0.274 mW/g; SAR(10 g) = 0.157 mW/g
Maximum value of SAR (measured) = 0.288 mW/g



0 dB = 0.288mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

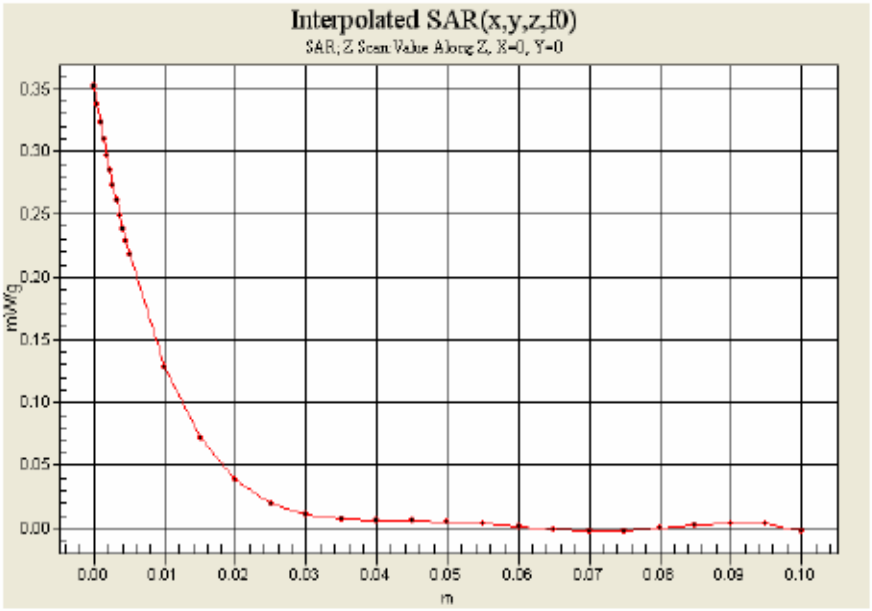
LEFT TILT 661-Z

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.04, 5.04, 5.04); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161



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Date: 2008-07-18

Test Laboratory: ESTECH

BODY REAR 661

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

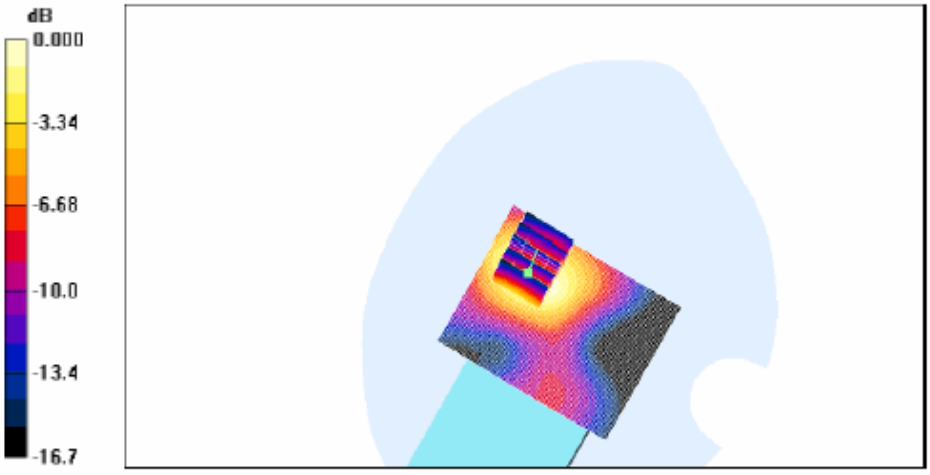
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.65, 4.65, 4.65); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.304 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.22 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 0.468 W/kg
SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.162 mW/g
Maximum value of SAR (measured) = 0.304 mW/g



0 dB = 0.304mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

BODY REAR 661 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

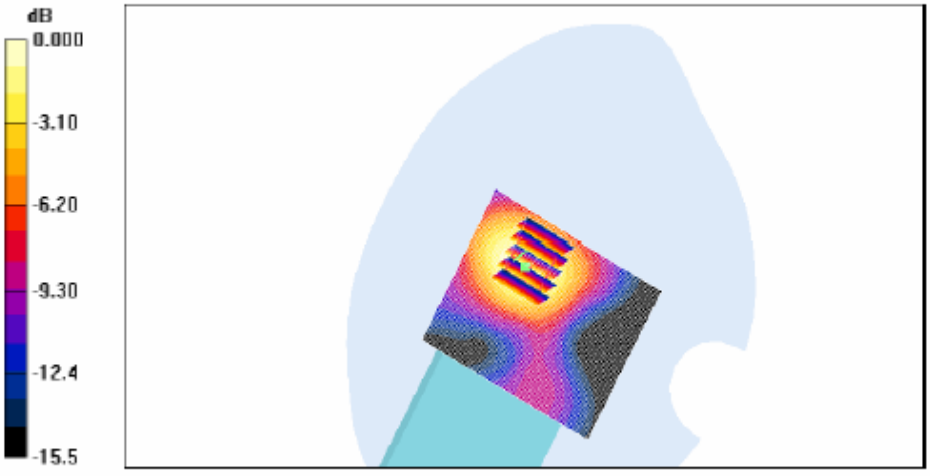
Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.65, 4.65, 4.65); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 0.632 W/kg
SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.408 mW/g



0 dB = 0.408mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

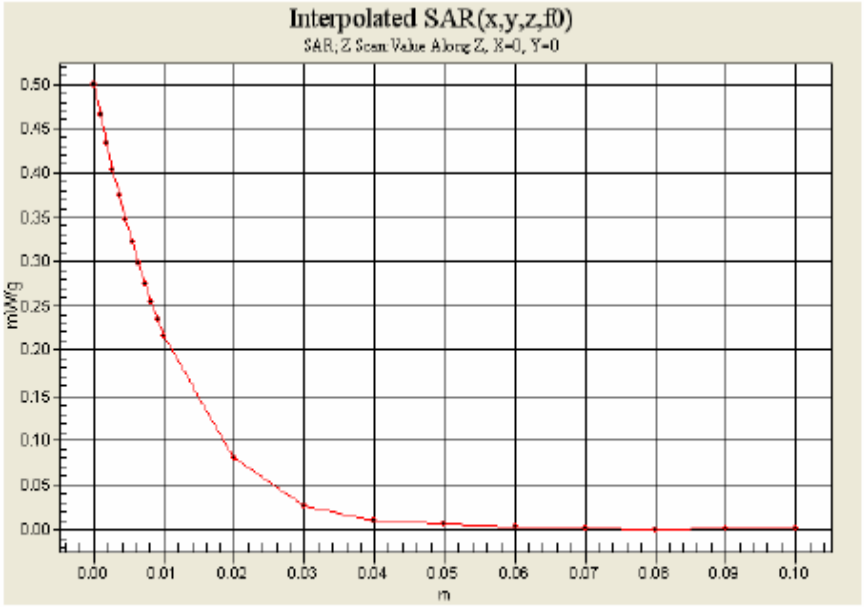
BODY REAR 661 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.65, 4.65, 4.65); Calibrated: 2006-10-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161



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GSM-850 Head

Date: 2008-07-18

Test Laboratory: ESTECH

LEFT TOUCH 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

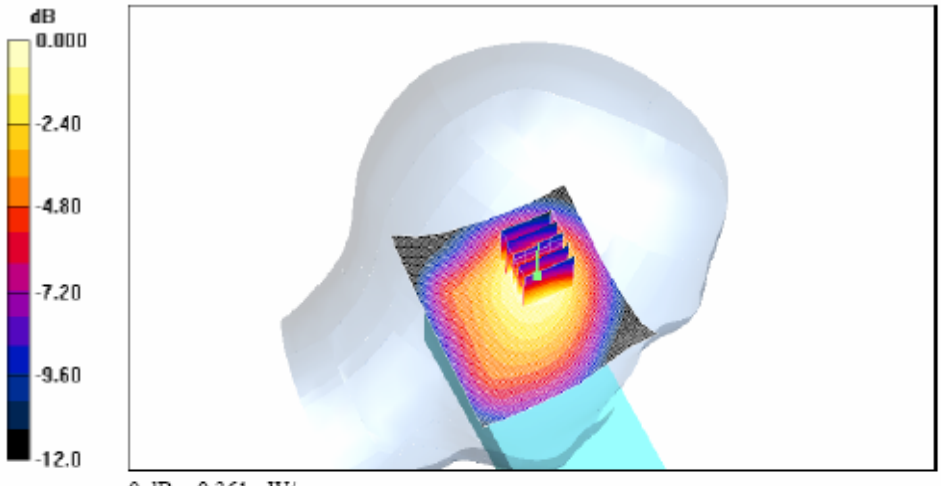
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.372 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.091 dB
Peak SAR (extrapolated) = 0.490 W/kg
SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.230 mW/g
Maximum value of SAR (measured) = 0.361 mW/g



0 dB = 0.361mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

RIGHT TOUCH 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

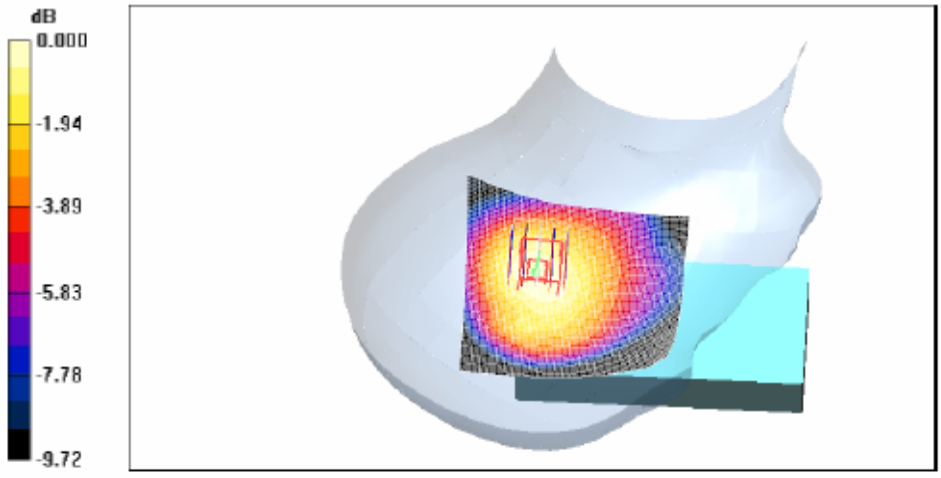
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.298 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.9 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.289 mW/g



0 dB = 0.289mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

LEFT TILT 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

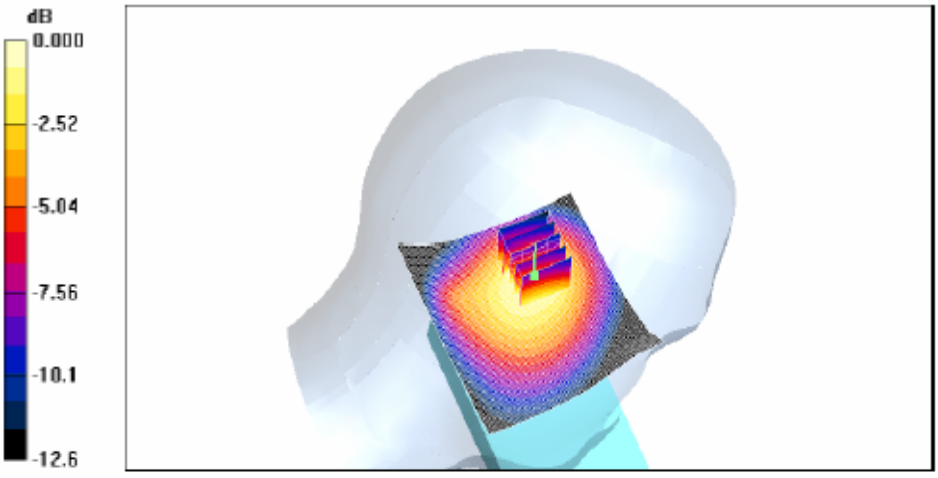
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.405 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.3 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.550 W/kg
SAR(1 g) = 0.372 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404mW/g

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Date: 2008-07-18

Test Laboratory: ESTECH

RIGHT TILT 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

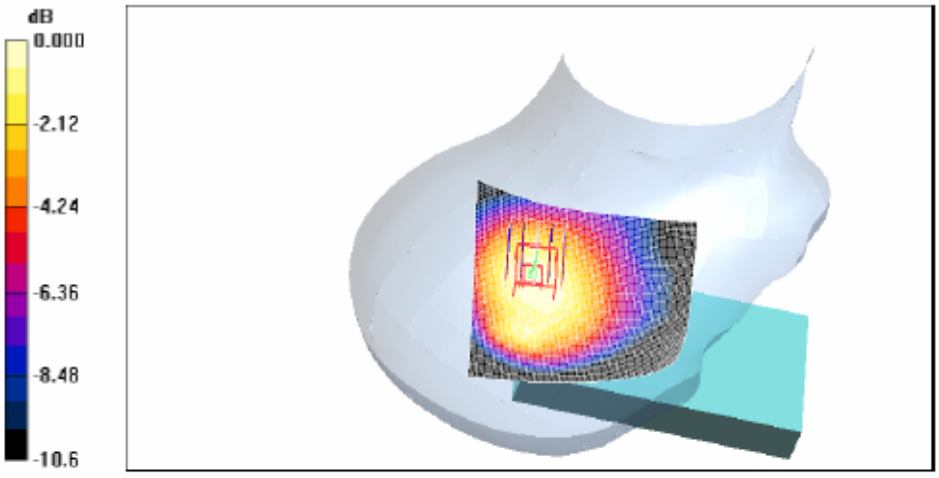
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.257 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.0 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.251 mW/g



0 dB = 0.251mW/g

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Test Laboratory: ESTECH

LEFT TILT 190 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

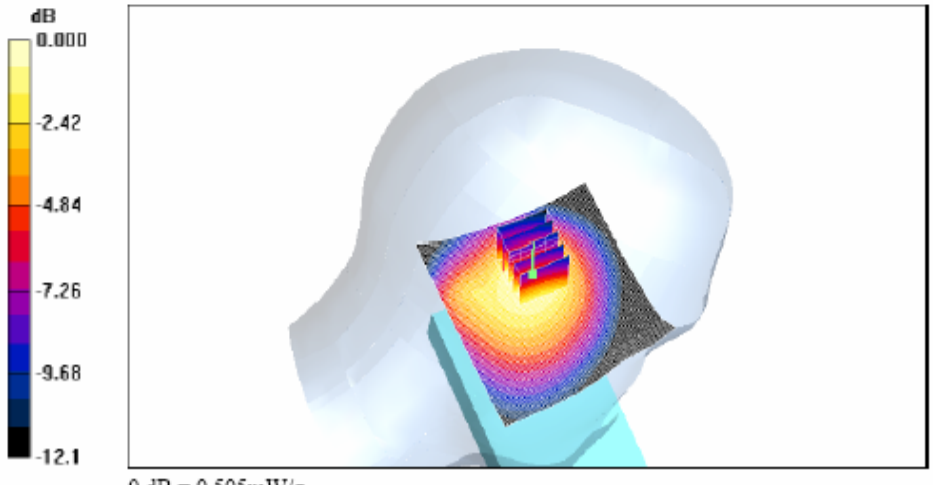
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.520 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = -0.072 dB
Peak SAR (extrapolated) = 0.690 W/kg
SAR(1 g) = 0.466 mW/g; SAR(10 g) = 0.311 mW/g
Maximum value of SAR (measured) = 0.505 mW/g



0 dB = 0.505mW/g

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Test Laboratory: ESTECH

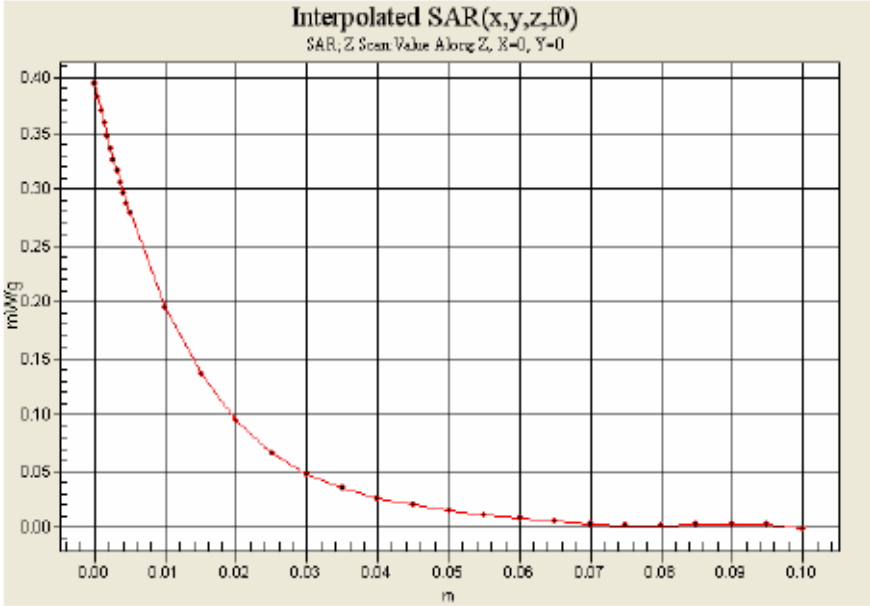
LEFT TILT 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.631 MHz; σ = 0.886 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(6.26, 6.26, 6.26); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161



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Date: 2008-07-18

Test Laboratory: ESTECH

BODY REAR 190

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

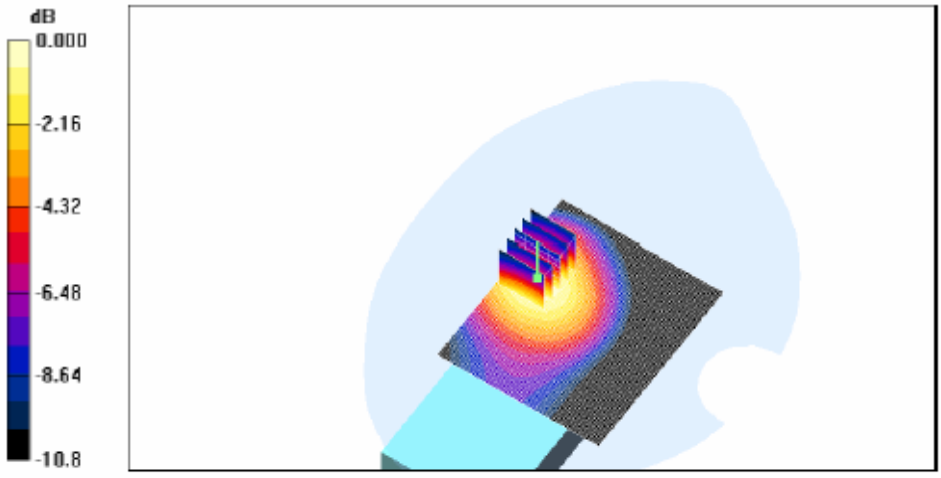
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.938 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.99, 5.99, 5.99); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.411 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.537 W/kg
SAR(1 g) = 0.379 mW/g; SAR(10 g) = 0.258 mW/g
Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404mW/g

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BODY REAR 190 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

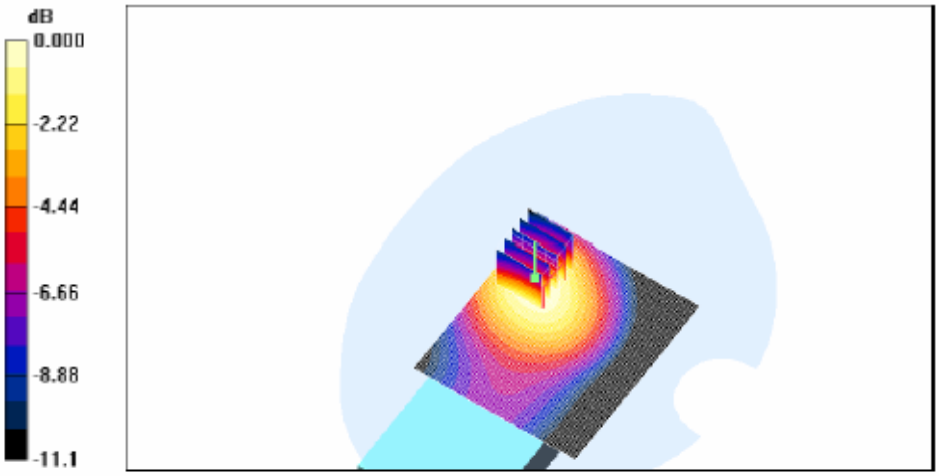
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 837 MHz; σ = 0.938 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.99, 5.99, 5.99); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Area Scan (71x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.380 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.5 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.478 W/kg
SAR(1 g) = 0.348 mW/g; SAR(10 g) = 0.242 mW/g
Maximum value of SAR (measured) = 0.369 mW/g



0 dB = 0.369mW/g

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GSM1900 Body

Date: 2008-07-18

Test Laboratory: ESTECH

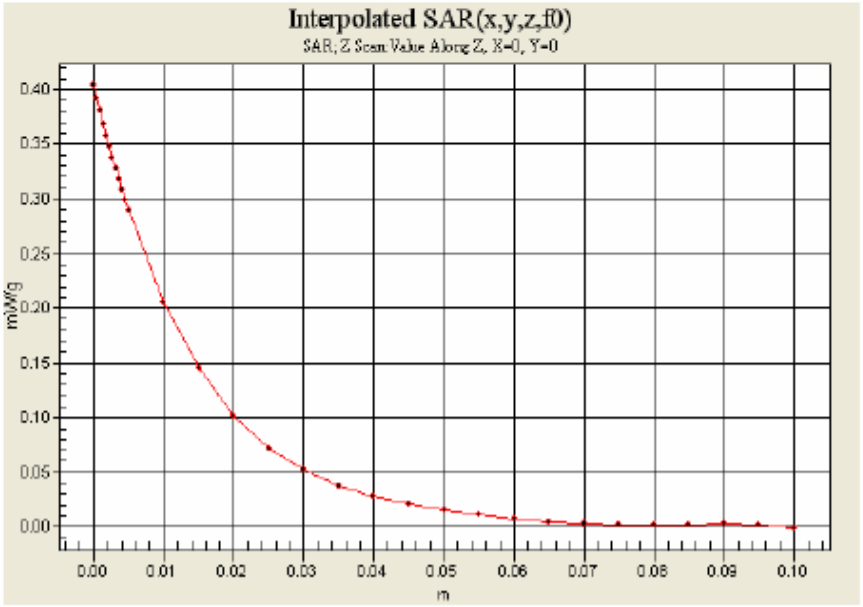
BODY REAR 190 2SLOT

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 837 MHz; σ = 0.938 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(5.99, 5.99, 5.99); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM 835MHz; Type: SAM 835MHz; Serial: TP-1262
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161



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Test Laboratory: ESTECH

LEFT TILT 11 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

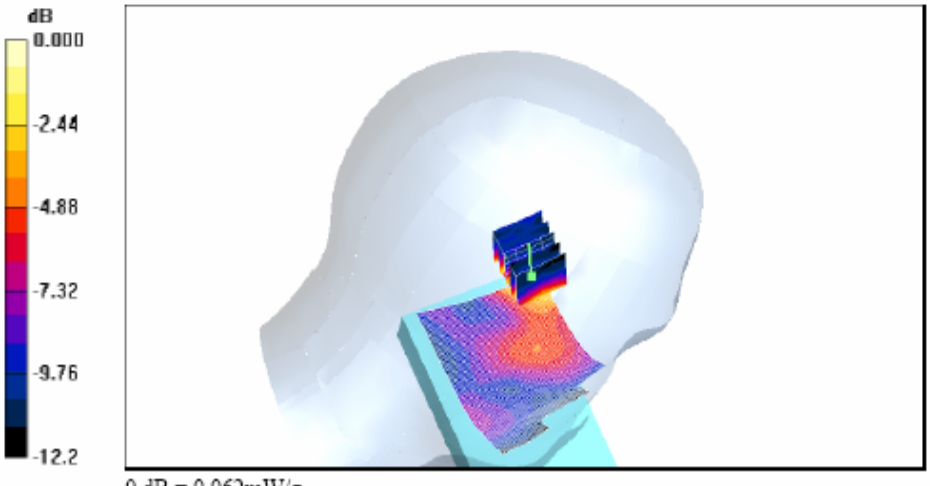
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.061 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 1.92 V/m; Power Drift = 0.135 dB
Peak SAR (extrapolated) = 0.117 W/kg
SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.062 mW/g



0 dB = 0.062mW/g

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Test Laboratory: ESTECH

LEFT TOUCH 11 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

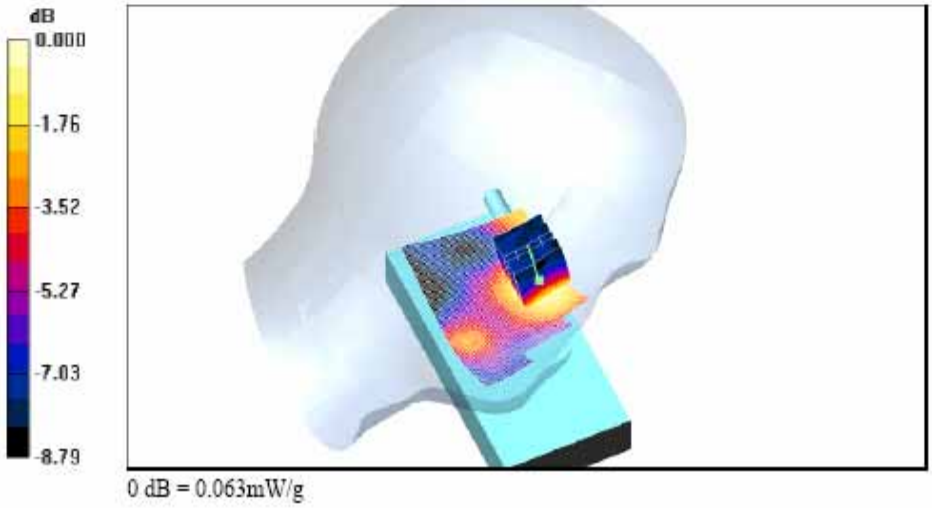
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.065 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.53 V/m; Power Drift = 0.099 dB
Peak SAR (extrapolated) = 0.112 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.035 mW/g
Maximum value of SAR (measured) = 0.063 mW/g



0 dB = 0.063mW/g

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Test Laboratory: ESTECH

RIGHT TILT 11 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

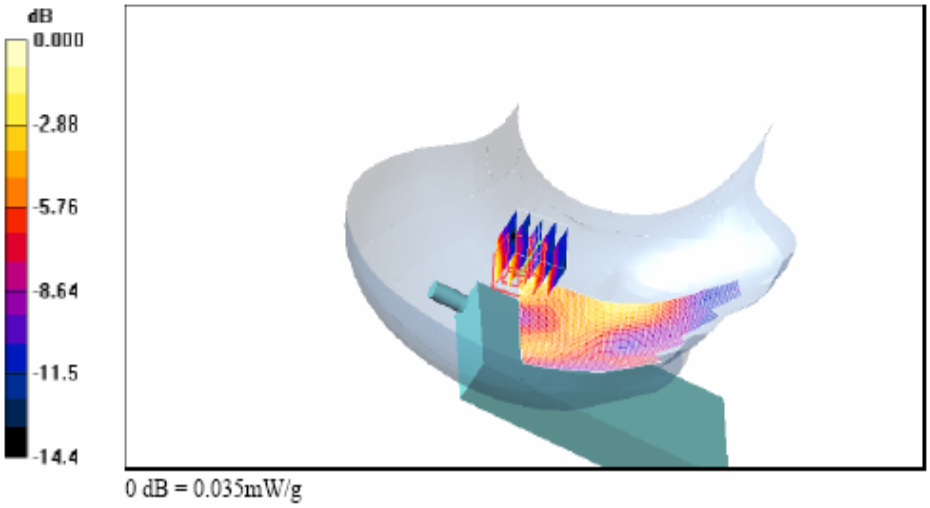
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.036 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.08 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.065 W/kg
SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.035 mW/g



0 dB = 0.035mW/g

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Test Laboratory: ESTECH

RIGHT TOUCH 1 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

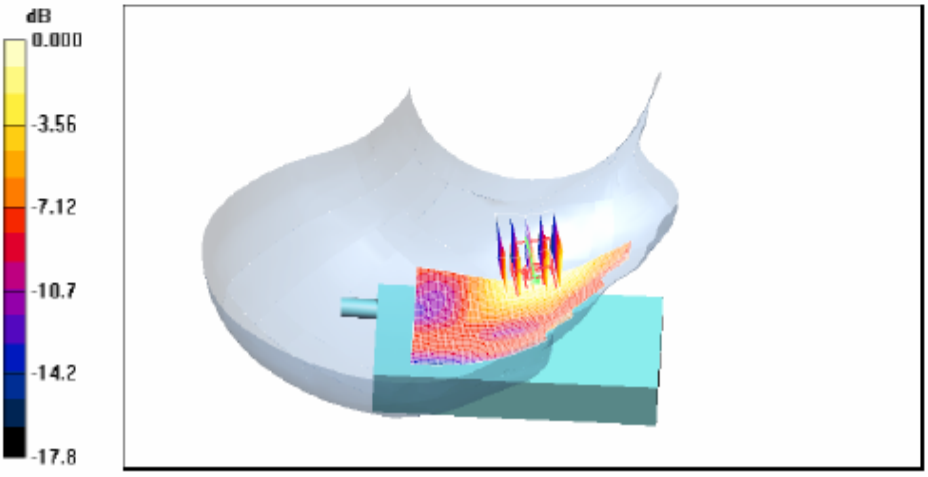
Communication System: Wirless; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412.6 MHz; σ = 1.85 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.059 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 1.81 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.094 W/kg
SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.059 mW/g



0 dB = 0.059mW/g

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Test Laboratory: ESTECH

RIGHT TOUCH 6 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

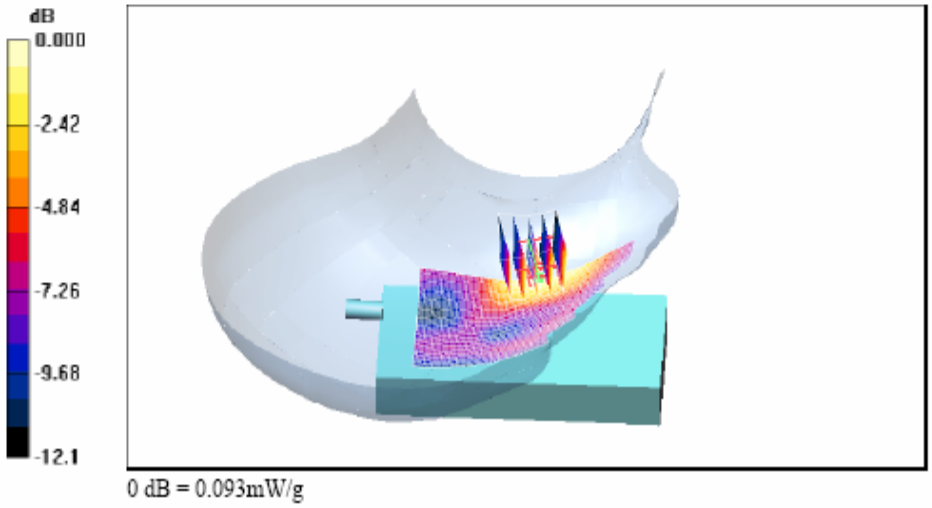
Communication System: Wirless; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437.8 MHz; σ = 1.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.096 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.54 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.047 mW/g
Maximum value of SAR (measured) = 0.093 mW/g



0 dB = 0.093mW/g

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Test Laboratory: ESTECH

RIGHT TOUCH 11 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

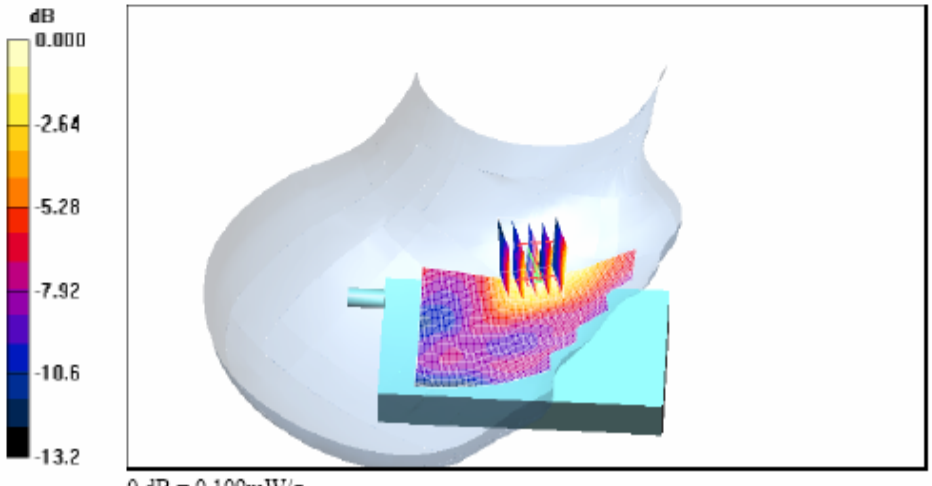
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.92$ mho/m; $\varepsilon_r = 40.3$; $\rho = 1000$ kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.113 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.64 V/m; Power Drift = 0.099 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.109 mW/g



0 dB = 0.109mW/g

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Date: 2008-07-03

Test Laboratory: ESTECH

RIGHT TOUCH 1 11g

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

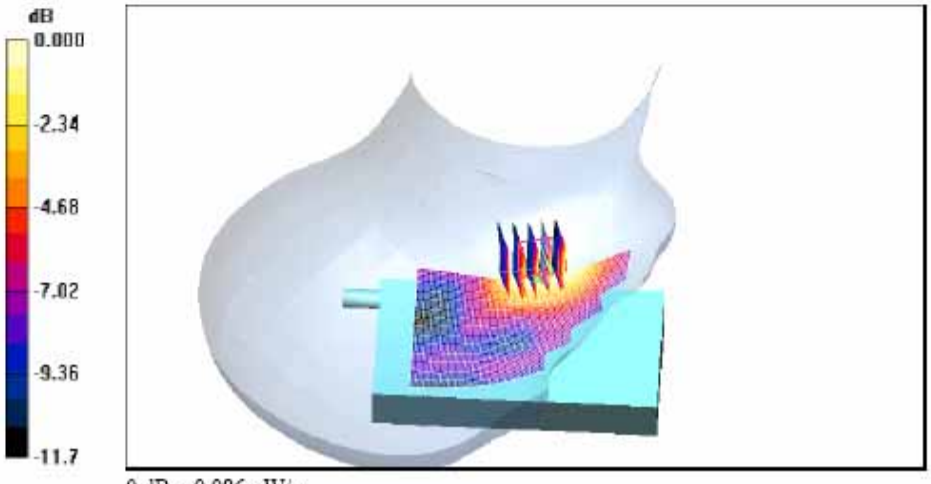
Communication System: Wirless; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412.6 MHz; σ = 1.85 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.086 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.13 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 0.144 W/kg
SAR(1 g) = 0.080 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.086 mW/g



0 dB = 0.086mW/g

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Date: 2008-07-03

Test Laboratory: ESTECH

RIGHT TOUCH 6 11g

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

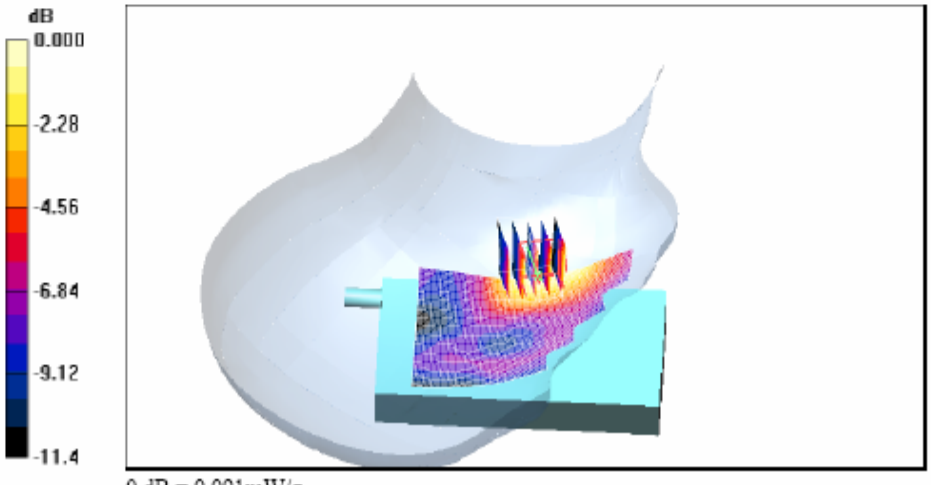
Communication System: Wirless; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437.8 MHz; σ = 1.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.093 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.27 V/m; Power Drift = 0.104 dB
Peak SAR (extrapolated) = 0.151 W/kg
SAR(1 g) = 0.085 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.091 mW/g



0 dB = 0.091mW/g

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RIGHT TOUCH 11 11g

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

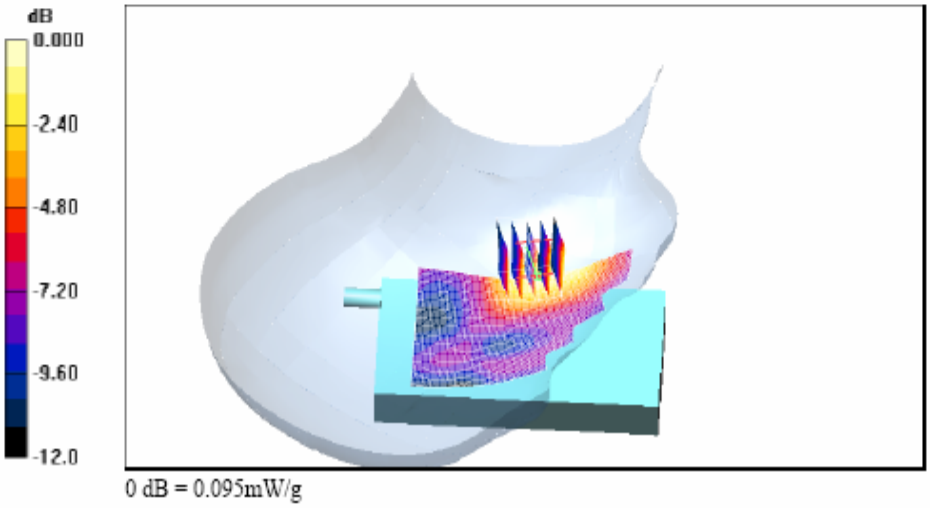
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.48, 4.48, 4.48); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.094 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.20 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.163 W/kg
SAR(1 g) = 0.086 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.095 mW/g



0 dB = 0.095mW/g

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Test Laboratory: ESTECH

BODY REAR 1 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

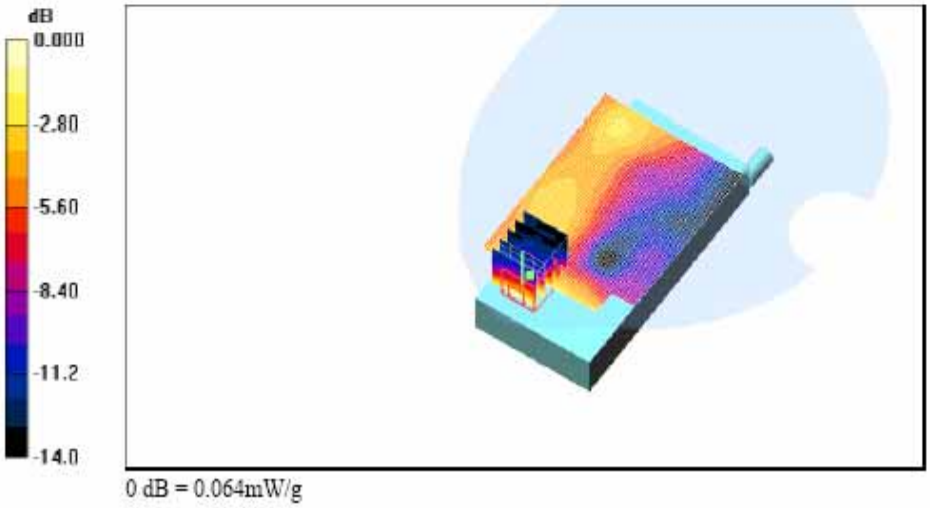
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.93 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.17, 4.17, 4.17); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.049 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.15 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 0.114 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.064 mW/g



0 dB = 0.064mW/g

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BODY REAR 6 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

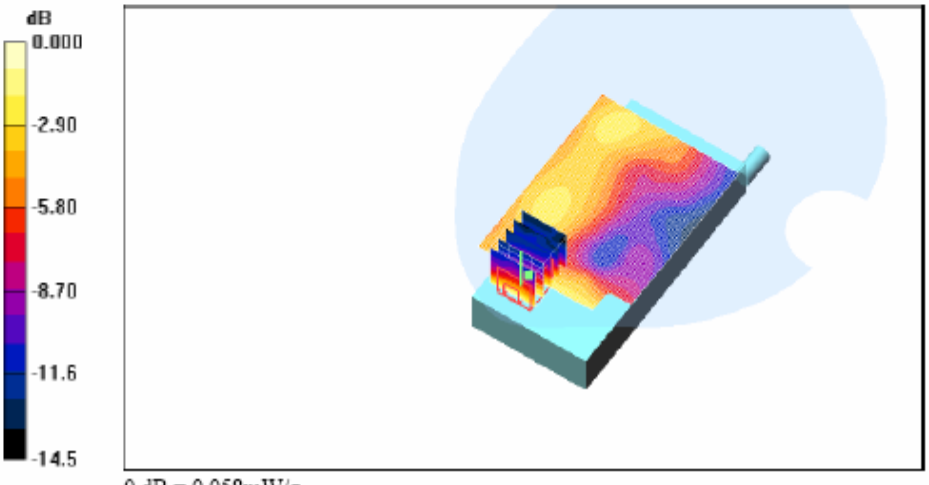
Communication System: Wirless; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.9 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.17, 4.17, 4.17); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.046 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.36 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.103 W/kg
SAR(1 g) = 0.054 mW/g; SAR(10 g) = 0.028 mW/g
Maximum value of SAR (measured) = 0.058 mW/g



0 dB = 0.058mW/g

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BODY REAR 6 11g

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

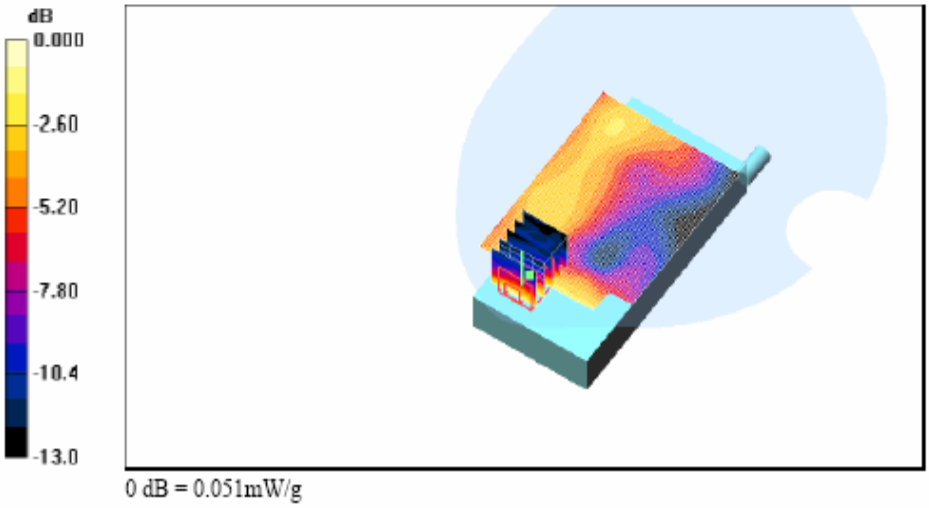
Communication System: Wirless; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2437 MHz; σ = 1.9 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.17, 4.17, 4.17); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.041 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.15 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.089 W/kg
SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.051 mW/g



0 dB = 0.051mW/g

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Test Laboratory: ESTECH

BODY REAR 11 11b

DUT: MC-7500S; Type: BAR TYPE; Serial: XXXX

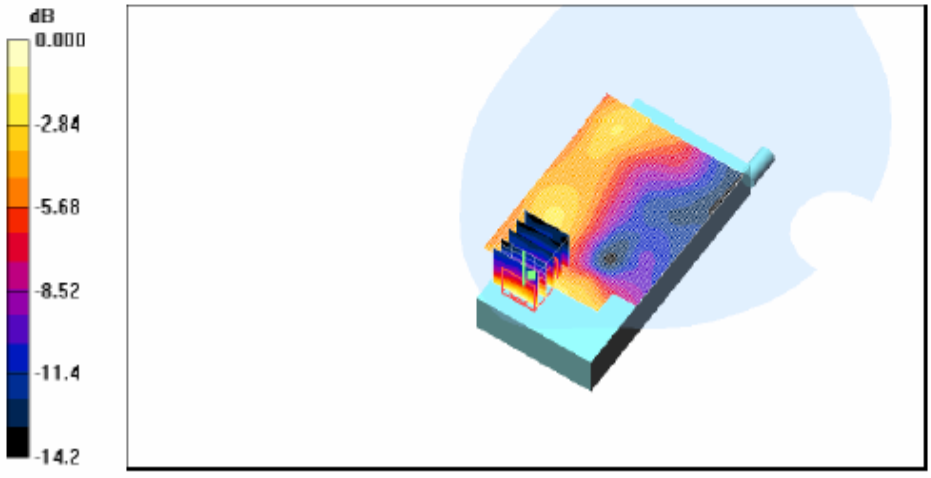
Communication System: Wirless; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.93 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3123; ConvF(4.17, 4.17, 4.17); Calibrated: 2007-12-18
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn551; Calibrated: 2008-04-28
- Phantom: SAM MIC 1800Mhz; Type: SAM MIC 1800MHz; Serial: TP-1263
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161
- Temperature : 24℃, Humidity : 49%

Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.061 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.27 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.129 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.036 mW/g
Maximum value of SAR (measured) = 0.075 mW/g



0 dB = 0.075mW/g

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APPENDIX D : Calibration Certificates