SAR TEST REPORT
(MOBILE)

REPORT NO.:	SA990210L08-3
MODEL NO.:	PC36100
RECEIVED:	Feb. 23, 2010
TESTED:	Mar. 03 ~ Mar. 05, 2010
ISSUED:	Mar. 18, 2010

APPLICANT:	HTC Corporation
ADDRESS:	No. 23, Xinghua Rd., Taoyuan City, 330, Taiwan, R.O.C.

ISSUED BY:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
LAB ADDRESS:	No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang, Taipei Hsien 244, Taiwan, R.O.C.
TEST LOCATION:	No. 19, Hwa Ya 2nd Rd, Wen Hwa Tsuen, Kwei Shan Hsiang, Taoyuan Hsien 333, Taiwan, R.O.C.

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1. CERTIFICATION

PRODUCT:	Smart Phone
MODEL NO.:	PC36100
BRAND:	HTC
APPLICANT:	HTC Corporation
TESTED:	Mar. 03 ~ Mar. 05, 2010
TEST SAMPLE:	ENGINEERING SAMPLE
STANDARDS:	**FCC Part 2 (Section 2.1093)**
	FCC OET Bulletin 65, Supplement C (01-01)
	RSS-102

The above equipment (model: PC36100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Mar. 18, 2010
Pettie Chen / Specialist

TECHNICAL ACCEPTANCE : _____ , **DATE:** Mar. 18, 2010
Responsible for RF
Mason Chang / Engineer

APPROVED BY : _____ , **DATE:** Mar. 18, 2010
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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

EUT	Smart Phone	
MODEL NO.	PC36100	
FCC ID	NM8PC36100	
POWER SUPPLY	3.7Vdc (Battery) 5.0Vdc (Adapter) 5.0Vdc (host equipment)	
MODULATION TYPE	OQPSK, HPSK	
FREQUENCY RANGE	824MHz ~ 849MHz ; 1850MHz ~ 1910MHz	
CHANNEL FREQUENCIES UNDER TEST AND ITS CONDUCTED OUTPUT POWER	**CDMA850 BAND:**	
	SO55 RC3	23.96dBm / 836.5MHz for channel 384
	TDSO SO32 RC3	23.94dBm / 836.5MHz for channel 384
	CDMA1900 BAND:	
	SO55 RC3	23.92dBm / 1851.25MHz for channel 25 23.79dBm / 1880.00MHz for channel 600 23.48dBm / 1908.75MHz for channel 1175
	TDSO SO32 RC3	23.88dBm / 1851.25MHz for channel 25 23.74dBm / 1880.00MHz for channel 600 23.42dBm / 1908.75MHz for channel 1175
MAX. AVERAGE SAR (1g)	**HEAD:**	1.030W/kg
	BODY:	0.961W/kg
ANTENNA TYPE	PIFA antenna	
ANTENNA GAIN	CDMA850 BAND: -3.0dBi CDMA1900 BAND: 1.0dBi	
DATA CABLE	Refer to NOTE	
I/O PORTS	Refer to user's manual	
ACCESSORY DEVICES	Refer to NOTE	

NOTE:

1. The EUT is a Smart Phone. The functions of EUT listed as below:

	REFERENCE REPORT
WLAN 802.11b/g	SA990210L08
WIMAX	SA990210L08-1
BLUETOOTH	SA990210L08-2
CDMA 850 + CDMA 1900	SA990210L08-3
HAC	SA990210L08-4
T-Coil	SA990210L08-5

2. The EUT has following accessories.

NO.	PRODUCT	BRAND	MANU-FACTURE	MODEL	DESCRIPTION
1	Power Adapter	hTC	Delta	TC U250	I/P: 100-240Vac, 50-60Hz, 200mA O/P: 5Vdc, 1A
2			Emerson	TC U250	
3	USB cable	MEC	-	DC M410	1.4m shielded cable without core (For data transmission & charging use)
4		Foxlink	-		
5	Battery	HT ENERGY	-	RHOD160	Rating: 3.7Vdc, 1500mAh
6		Formosa	-		

3. MEID code: A100000D98.
4. The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

2.2 SAR MEASUREMENT CONDITIONS FOR CDMA

The following procedures were followed according to FCC “SAR Measurement Procedures 3G Devices”, Oct. 2007.

➢ Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. Results for at least steps 3, 4 and 10 of the power measurement procedures should be tabulated in the SAR report. Steps 3 and 4 should be measured using SO55 with power control bits in “All Up” condition. TDSO / SO32 may be used instead of SO55 for step 4. Step 10 should be measured using TDSO / SO32 with power control bits in the “Bits Hold” condition (i.e. alternative Up/Down Bits). All power measurements defined in C.S0011/TIA-98-E that are inapplicable to the DUT or cannot be measured due to technical or equipment limitations should be clearly identified in the test report.6

➢ Head SAR Measurement

SAR for head exposure configurations is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

➢ Body SAR Measurements

SAR for body exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. SAR for multiple code channels (FCH + SCHn) is not required when the maximum average output of each RF channel is less than ¼ dB higher than that measured with FCH only. Otherwise, SAR is measured on the maximum output channel (FCH + SCHn) with FCH at full rate and SCH0 enabled at 9600 bps using the exposure configuration that results in the highest SAR for that channel with FCH only.
When multiple code channels are enabled, the DUT output may shift by more than 0.5 dB and lead to higher SAR drifts and SCH dropouts. Body SAR in RC1 is not required when the maximum average output of each channel is less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum
output channel in RC1; with Loopback Service Option SO55, at full rate, using the body exposure configuration that results in the highest SAR for that channel in RC3.

➢ Handsets with Ev-Do

For handsets with Ev-Do capabilities, when the maximum average output of each channel in Rev. 0 is less than ¼ dB higher than that measured in RC3 (1x RTT), body SAR for Ev-Do is not required. Otherwise, SAR for Rev. 0 is measured on the maximum output channel at **153.6 kbps** using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0 or less than ¼ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel for Rev. A using a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots should be configured in the downlink for both Rev. 0 and Rev. A.

2.3 SETTING OF CMU 200

For 1xRTT (CDMA2000)

Application Rev. License

CDMA200 Cellular or CDMA200 PCS V5.01

Network>System Parameters>System ID Number(MID)>13505

Network>Network Identity> Network ID Number (NID)>1

Radio Config (RC)> Please see Following table or details

FCH Service Option(SO) Setup > Please see Following table or details

Traffic Data Rate >Full

TDSO SCH Info >F-SCH Parameters> F-SCH Date Rate > 153.6kbps

>R-SCH Parameters> R-SCH Date Rate > 153.6kbps

BS Signal>Power Control>Power Ctrl. Bits>>Auto

BS Signal>Power Control>Power Ctrl. Bits>All Up (Maximum TxPout)

CONDUCTED POWER OF 1x RTT at 850 BAND:

CHAN.	FREQ. (MHz)	CDMA	RAW VALUE (dBm)				CORR. FACTOR (dB)	OUTPUT POWER (dBm)			
		RC	SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+ SCH)		SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+ SCH)
1013	824.7	RC1	19.47	19.54	-	-	4.2	23.67	23.74	-	-
		RC3	19.51	19.58	19.53	19.49	4.2	23.71	23.78	23.73	23.69
384	836.5	RC1	19.65	19.68	-	-	4.2	23.85	23.88	-	-
		RC3	19.69	19.76	19.74	19.67	4.2	23.89	23.96	23.94	23.87
777	848.3	RC1	18.80	18.87	-	-	4.2	23.00	23.07	-	-
		RC3	18.81	18.91	18.82	18.84	4.2	23.01	23.11	23.02	23.04

CONDUCTED POWER OF 1xRTT at 1900 BAND:

CDMA 2000 CONDUCTED POWER											
CHAN.	FREQ. (MHz)	CDMA 2000	RAW VALUE (dBm)				CORR. FACTOR (dB)	OUTPUT POWER (dBm)			
		RC	SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)		SO2	SO55	TDSO SO32 (FCH)	TDSO SO32 (FCH+SCH)
25	1851.25	RC1	19.18	19.31	-	-	4.5	23.68	23.81	-	-
		RC3	19.29	19.42	19.38	19.35	4.5	23.79	23.92	23.88	23.85
600	1880.00	RC1	19.14	19.18	-	-	4.5	23.64	23.68	-	-
		RC3	19.26	19.29	19.24	19.22	4.5	23.76	23.79	23.74	23.72
1175	1908.75	RC1	18.81	18.85	-	-	4.5	23.31	23.35	-	-
		RC3	18.96	18.98	18.92	18.78	4.5	23.46	23.48	23.42	23.28

For 1xEV-DO (Release 0)

Application Rev. License
1xEV-DO V5.01
EVDO Release 0 – RTAP
AN Signal>ANSN-41>Sector>ANSI-41
Cell Power>-105.5dBm
Cell Band>(Select US Cellular or N. American PCS)
Channel>(Enter channel number)
Network> Network Release > Release 0
Application Selection>Test Application Select>Fwrd&Rvrse >Apply
Layer>Test Applications >RTAP Cfg.>Data>153.6 kbps
BS Signal>Power Control>Power Ctrl. Bits>>Auto
Press " Connect AT " when "RL: Session Open"
BS Signal>Power Control>Power Ctrl. Bits>All Up(Maximum TxPout)

EVDO Release 0 – FTAP
AN Signal>ANSN-41>Sector>ANSI-41
Cell Power>-105.5dBm
Cell Band>(Select US Cellular or N. American PCS)
Channel>(Enter channel number)
Network> Network Release > Release 0
Application Selection>Test Application Select>Fwrd&Rvrse >Apply
Layer>Test Applications>FTAP Cfg.>DRC.>307.2 kbps(2 Slot)
BS Signal>Power Control>Power Ctrl. Bits>>Auto
Press " Connect AT " when "RL: Session Open"
BS Signal>Power Control>Power Ctrl. Bits>All Up(Maximum TxPout)

CONDUCTED POWER OF EVDO-RELEASE 0 AT 850 BAND

FTAP rate	RTAP Rate	Channel	f(MHz)	Conducted power (dBm)
307.2k	153.6 kbps	1013	824.7	23.42
		384	836.52	23.63
		7	848.31	22.94

CONDUCTED POWER OF EVDO-RELEASE 0 AT 1900 Band

FTAP rate	RTAP Rate	Channel	f(MHz)	Conducted power (dBm)
307.2k	153.6 kbps	25	1851.25	23.56
		600	1880.00	23.33
		1175	1908.75	23.07

NOTE: Conducted power of EV-DO release 0 mode is less than 1/4 dB higher than 1xRTT MODE, body SAR of EV-DO release 0 mode will be reduced.

For 1xEV-DO (Release A)

Application Rev. License

1xEV-DO t V5.01

EVDO Release A - RTAP

Cell Power>-60 dBm

Network> Network Release > Release A

Application Selection>Test Application Select>Fwrd&Rvrse >Apply

Layer>Test Applications >RTAP Cfg.>Data>4096 kbps

Subtype>2 (Default)

AN Signal>ANSN-41>Sector>ANSI-41

Network>Access Probes>16 Slots

BS Signal>Power Control>Power Ctrl. Bits>All Up(Maximum TxPout)

EVDO Release A - FTAP

Cell Power>-60 dBm

Network> Network Release > Release A

Application Selection>Test Application Select>Fwrd&Rvrse >Apply

Layer>Test Applications >FTAP Cfg.>DRC>Rate>307.2 kbps 2-slot

Layer>Test Applications >FTAP Cfg.>ACK Ch. Fixed Mode>NACK Always

Subtype>2 (Default)

AN Signal>ANSN-41>Sector>ANSI-41

Network>Access Probes>16 Slots

BS Signal>Power Control>Power Ctrl. Bits>All Up(Maximum TxPout)

CONDUCTED POWER OF EVDO-RELEASE AAT 850 BAND

FETAP-Traffic Format	RETAP-Data Payload Size	Channel	f(MHz)	Conducted power (dBm)
307.2k, QPSK/ACK channel is transmitted at all the slots	4096	1013	824.7	23.40
		384	836.52	23.52
		7	848.31	22.78

CONDUCTED POWER OF EVDO-RELEASE A AT 1900 BAND

FETAP-Traffic Format	RETAP-Data Payload Size	Channel	f(MHz)	Conducted power (dBm)
307.2k, QPSK/ACK channel is transmitted at all the slots	4096	25	1851.25	23.39
		600	1880.00	23.34
		1175	1908.75	23.06

NOTE: Conducted power of EV-DO release A mode is less than 1/4 dB higher than 1xRTT MODE, body SAR of EV-DO mode release A mode will be reduced.

2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

According to the specifications of the manufacturer, this product must comply with the requirements of the following standards:

FCC Part 2 (2.1093)

FCC OET Bulletin 65, Supplement C (01- 01)

RSS-102

IEEE 1528-2003

All test items have been performed and recorded as per the above standards.

2.5 GENERAL INOFRMATION OF THE SAR SYSTEM

DASY5 **(Software 5.2 Build 157)** consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY5 software defined. The DASY5 software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion form the optical into digital electric signal of the DAE and transfers data to the PC.

EX3DV3 ISOTROPIC E-FIELD PROBE

CONSTRUCTION	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
FREQUENCY	10 MHz > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
DIRECTIVITY	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
DYNAMIC RANGE	10 μW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μW/g)
DIMENSIONS	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
APPLICATION	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

NOTE

1. The Probe parameters have been calibrated by the SPEAG. Please reference “APPENDIX D” for the Calibration Certification Report.
2. For frequencies above 800MHz, calibration in a rectangular wave-guide is used, because wave-guide size is manageable.
3. For frequencies below 800MHz, temperature transfer calibration is used because the wave-guide size becomes relatively large.

TWIN SAM V4.0

CONSTRUCTION	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-2003, EN 62209-1 and IEC 62209. 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 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 with the robot.
SHELL THICKNESS	2 ± 0.2mm
FILLING VOLUME	Approx. 25liters
DIMENSIONS	Height: 810mm; Length: 1000mm; Width: 500mm

SYSTEM VALIDATION KITS:

CONSTRUCTION	Symmetrical dipole with l/4 balun enables measurement of feedpoint impedance with NWA matched for use near flat phantoms filled with brain simulating solutions. Includes distance holder and tripod adaptor
CALIBRATION	Calibrated SAR value for specified position and input power at the flat phantom in brain simulating solutions
FREQUENCY	835, 1900MHz
RETURN LOSS	> 20dB at specified validation position
POWER CAPABILITY	> 100W (f < 1GHz); > 40W (f > 1GHz)
OPTIONS	Dipoles for other frequencies or solutions and other calibration conditions upon request

DEVICE HOLDER FOR SAM TWIN PHANTOM

CONSTRUCTION

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

DATA ACQUISITION ELECTRONICS

CONSTRUCTION

The data acquisition electronics (DAE3) consists of a highly sensitive electrometer grade preamplifier with auto-zeroing, a channel and gain-switching multiplex, a fast 16 bit AD converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock. The mechanical probe is mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection. The input impedance of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

2.6 TEST EQUIPMENT

FOR SAR MEASURENENT

ITEM	NAME	BRAND	TYPE	SERIES NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
1	SAM Phantom	S & P	QD000 P40 CA	TP-1150	NA	NA
2	Signal Generator	Anritsu	68247B	984703	May 21, 2009	May 20, 2010
3	E-Field Probe	S & P	EX3DV3	3504	Jan. 26, 2010	Jan. 25, 2011
4	DAE	S & P	DAE	510	Dec. 16, 2009	Dec. 15, 2010
5	Robot Positioner	Staubli Unimation	NA	NA	NA	NA
6	Validation Dipole	S & P	D835V2	4d021	May 25, 2009	May 24, 2010
7	Validation Dipole	S & P	D1900V2	5d022	Mar. 17, 2009	Mar. 16, 2010

NOTE: Before starting, all test equipment shall be warmed up for 30min.

FOR TISSUE PROPERTY

ITEM	NAME	BRAND	TYPE	SERIES NO.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
1	Network Analyzer	Agilent	E5071C	MY46104190	Apr. 10, 2009	Apr. 09, 2010
2	Dielectric Probe	Agilent	85070D	US01440176	NA	NA

NOTE:

1. Before starting, all test equipment shall be warmed up for 30min.
2. The tolerance (k=1) specified by Agilent for general dielectric measurements, deriving from inaccuracies in the calibration data, analyzer drift, and random errors, are usually ±2.5% and ±5% for measured permittivity and conductivity, respectively. However, the tolerances for the conductivity is smaller for material with large loss tangents, i.e., less than ±2.5% (k=1). It can be substantially smaller if more accurate methods are applied

2.7 GENERAL DESCRIPTION OF THE SPATIAL PEAK SAR EVALUATION

The DASY5 post-processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the micro-volt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	dcp_i
Device parameters:	- Frequency	F
	- Crest factor	Cf
Media parameters:	- Conductivity	σ
	- Density	ρ

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

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

V_i	=compensated signal of channel i	(i = x, y, z)
U_i	=input signal of channel I	(i = x, y, z)
Cf	=crest factor of exciting field	(DASY parameter)
dcp_i	=diode compression point	(DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

$$\text{E-fieldprobes: } E_i = \sqrt{\frac{V_1}{Norm_i \cdot ConvF}}$$

$$\text{H-fieldprobes: } H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}$$

V_i	=compensated signal of channel I	(i = x, y, z)
$Norm_i$	=sensor sensitivity of channel i μV/(V/m)2 for E-field Probes	(i = x, y, z)
ConvF	= sensitivity enhancement in solution	
a_{ij}	= sensor sensitivity factors for H-field probes	
F	= carrier frequency [GHz]	
E_i	= electric field strength of channel i in V/m	
H_i	= magnetic field strength of channel i in A/m	

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1'000}$$

SAR	= local specific absorption rate in mW/g
E_{tot}	= total field strength in V/m
σ	= conductivity in [mho/m] or [Siemens/m]
ρ	= equivalent tissue density in g/cm3

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid. The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. The extraction of the measured data (grid and values) from the Zoom Scan
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. The generation of a high-resolution mesh within the measured volume
4. The interpolation of all measured values from the measurement grid to the high-resolution grid
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7 x 7 x 7 scans. The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30 x 30 x 30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume in a 1mm grid (42875 points). In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found. If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

3. DESCRIPTION OF SUPPORT UNITS

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.
1	Universal Radio Communication Tester	R&S	CMU200	104484

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

4. DESCRIPTION OF TEST MODES AND CONFIGURATIONS

4.1. DESCRIPTION OF TEST POSITION

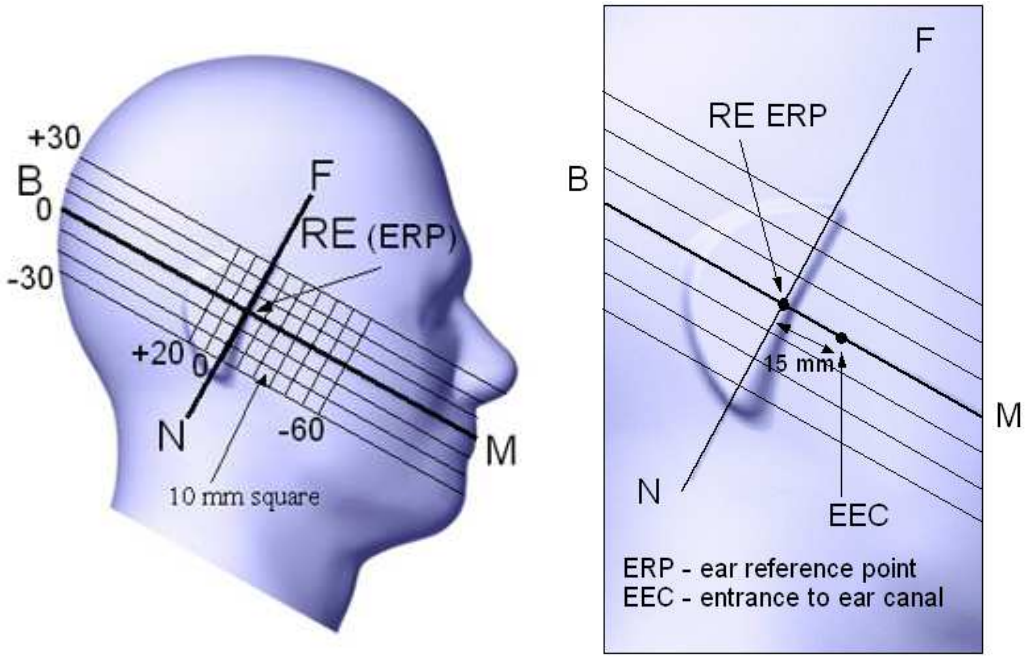


FIGURE 3.1

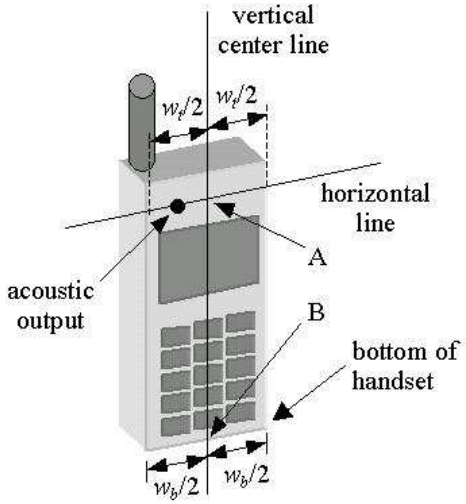


FIGURE 3.1a

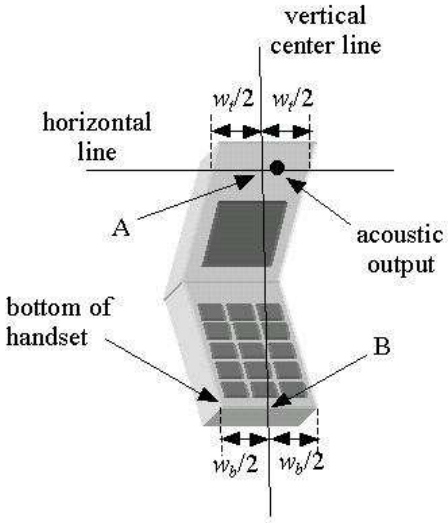
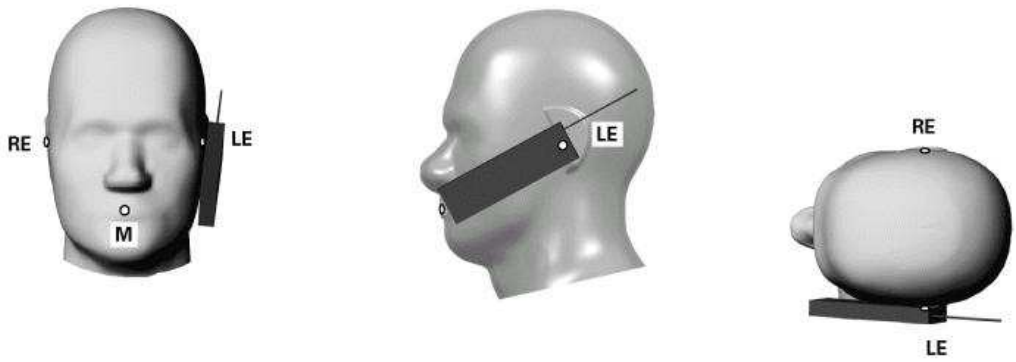


FIGURE 3.1b

4.1.1 TOUCH/CHEEK TEST POSITION

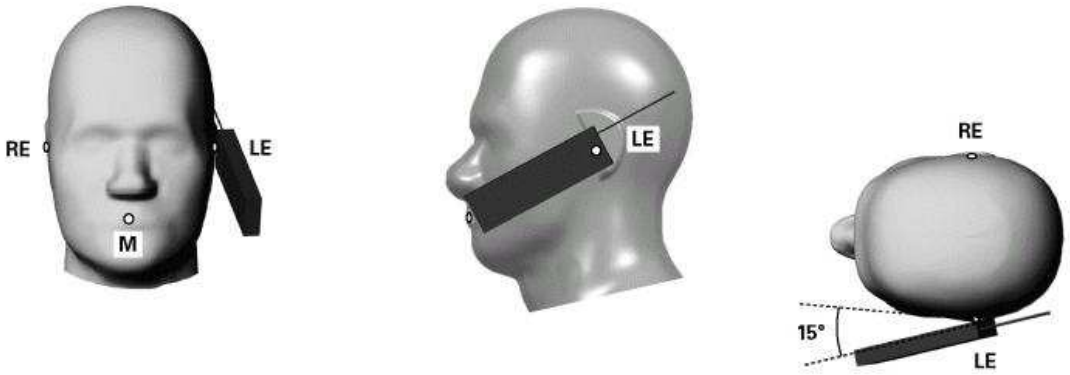
The head position in Figure 3.1, the ear reference points ERP are 15mm above entrance to ear canal along the B-M line. The line N-F (Neck-Front) is perpendicular to the B-M (Back Mouth) line. The handset device in Figure 3.1a and 3.1b,The vertical centerline pass through two points on the front side of handset: the midpoint of the width wt of the handset at the level of the acoustic output (point A) and the midpoint of the width Wb of the bottom of the handset (point B). The vertical centerline is perpendicular to the horizontal line and pass through the center of the acoustic output. The point A touches the ERP and the vertical centerline of the handset is parallel to the B-M line. While maintaining the point A contact with the ear(ERP), rotate the handset about the line NF until any point on handset is in contact with the cheek of the phantom



TOUCH/CHEEK POSITION FIGURE

4.1.2 TILT TEST POSITION

Adjust the device in the cheek position. While maintaining a point of the handset contact in the ear, move the bottom of the handset away from the mouth by an angle of 15 degrees.



TILT POSITION FIGURE

4.1.3 BODY-WORN CONFIGURATION

The handset device attached the belt clip or the holster. The keypad face of the handset is against with the bottom of the flat phantom face and the bottom of the keypad face contact to the bottom of the flat phantom.

When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only accessory that dictates the closest spacing to the body must be tested.

4.2. DESCRIPTION OF TEST CONDITION

TEST DATE	TISSUE TYPE / FREQ.	TEST MODE	TEMPERATURE (℃)		HUMIDITY (%RH)	TESTED BY
			AIMBENT	LIQUID		
Mar. 05, 2010	HSL835	1-4, 9	22.8	21.5	60	Sam Onn
Mar. 05, 2010	MSL835	5-8	23.0	22.1	58	Sam Onn
Mar. 03, 2010	HSL1900	10-13, 18	22.6	21.3	58	Sam Onn
Mar. 03, 2010	MSL1900	14-17	22.4	21.2	61	Sam Onn

4.3. DESCRIPTION OF TEST MODE

ASSESSMENT POSTITION	BATTERY	TEST MODE	COMMUNICATION MODE	MODULATION TYPE	TESTED CHANNEL
Right Head / Cheek	HT ENERGY Battery	1	CDMA 850 SO55	OQPSK	384
Right Head / Tilt	HT ENERGY Battery	2	CDMA 850 SO55	OQPSK	384
Left Head / Cheek	HT ENERGY Battery	3	CDMA 850 SO55	OQPSK	384
Left Head / Tilt	HT ENERGY Battery	4	CDMA 850 SO55	OQPSK	384
Body / Back 15mm-separation	HT ENERGY Battery	5	CDMA 850 SO32	OQPSK	384
Body / Front 15mm-separation	HT ENERGY Battery	6	CDMA 850 SO32	OQPSK	384
Body / Back 15mm-separation	Formosa Battery	7	CDMA 850 SO32	OQPSK	384
Right Head / Cheek	HT ENERGY Battery	8	CDMA 1900 SO55	OQPSK	600
Right Head / Tilt	HT ENERGY Battery	9	CDMA 1900 SO55	OQPSK	25, 600, 1175
Left Head / Cheek	HT ENERGY Battery	10	CDMA 1900 SO55	OQPSK	25, 600, 1175
Left Head / Tilt	HT ENERGY Battery	11	CDMA 1900 SO55	OQPSK	25, 600, 1175
Body / Back 15mm-separation	HT ENERGY Battery	12	CDMA 1900 SO32	OQPSK	25, 600, 1175
Body / Front 15mm-separation	HT ENERGY Battery	13	CDMA 1900 SO32	OQPSK	600
Left Head / Tilt	Formosa Battery	14	CDMA 1900 SO55	OQPSK	25

5. TEST RESULTS

5.1 TEST PROCEDURES

The EUT makes a phone call to the communication simulator station. Establish the simulation communication configuration rather the actual communication. Then the EUT could continuous the transmission mode. Adjust the PCL of the base station could controlled the EUT to transmitted the maximum output power. The base station also could control the transmission channel. The SAR value was calculated via the 3D spline interpolation algorithm that has been implemented in the software of DASY5 SAR measurement system manufactured and calibrated by SPEAG. According to the IEEE 1528 / EN 62209-1, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- Power reference measurement
- Verification of the power reference measurement
- Area scan
- Zoom scan
- Power reference measurement

The area scan was performed for the highest spatial SAR location. The zoom scan with 30mm x 30mm x 30mm volume was performed for SAR value averaged over 1g and 10g spatial volumes.

In the zoom scan, the distance between the measurement point at the probe sensor location (geometric center behind the probe tip) and the phantom surface is 3mm and maintained at a constant distance of ±0.5mm during a zoom scan to determine peak SAR locations. The distance is 3mm between the first measurement point and the bottom surface of the phantom. The secondary measurement point to the bottom surface of the phantom is with 8mm separation distance. The cube size is 7 x 7 x 7 points consists of 343 points and the grid space is 5mm.

The measurement time is 0.5s at each point of the zoom scan. The probe boundary effect compensation shall be applied during the SAR test. Because of the tip of the probe to the Phantom surface separated distances are longer than half a tip probe diameter.

In the area scan, the separation distance is 3mm between the each measurement point and the phantom surface. The scan size shall be included the transmission portion of the EUT. The measurement time is the same as the zoom scan. At last the reference power drift shall be less than ±5%.

5.2 SAR LIMITS

HUMAN EXPOSURE	SAR (W/kg)	
	(GENERAL POPULATION / UNCONTROLLED EXPOSURE ENVIRONMENT)	(OCCUPATIONAL / CONTROLLED EXPOSURE ENVIRONMENT)
Spatial Peak (averaged over 1 g)	**1.6**	8.0

NOTE:

1. This limits accord to 47 CFR 2.1093 – Safety Limit.
2. The EUT property been complied with the partial body exposure limit under the general population environment.

5.3 MEASURED SAR RESULTS

Battery: HT Energy

Channel	LEFT				RIGHT			
	CHEEK		TILT		CHEEK		TILT	
	Measured	Compen-sated	Measured	Compen-sated	Measured	Compen-sated	Measured	Compen-sated
CDMA 850 Band								
384	0.455	0.443	0.284	0.276	0.351	0.341	0.202	0.196
CDMA 1900 Band								
25	0.966	0.938	1.030	0.999			0.998	0.968
600	0.828	0.781	0.927	0.875	0.705	0.664	0.867	0.816
1175	0.939	0.858	1.000	0.913			0.977	0.891

Battery: HT Energy

Channel	FRONT 15mm-separation		BACK 15mm-separation	
	Measured	Compensated	Measured	Compensated
CDMA 850 Band				
384	0.297	0.285	0.636	0.610
CDMA 1900 Band				
25			0.953	0.917
600	0.224	0.211	0.812	0.765
1175			0.961	0.880

Battery: Formosa

Channel	LEFT	
	TILT	
	Measured	Compensated
CDMA 1900 Band		
25	0.998	0.971

Battery: Formosa

Channel	BACK 15mm-separation	
	Measured	Compensated
CDMA 850 Band		
384	0.611	0.587

NOTE:

1. In this testing, the limit for General Population Spatial Peak averaged over 1g, **1.6 W/kg**, is applied
2. Please see the Appendix A for the data.
3. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.
4. The calibrated frequency is beyond 50 MHz of measurement frequency. Per KDB 450824 D01 requirements, the measured 1-g SAR is compensated with respect to +5% tolerances in ε^{r} and -5% tolerances in σ.

5.4 RECIPES FOR TISSUE SIMULATING LIQUIDS

For the measurement of the field distribution inside the SAM phantom, the phantom must be filled with 25 litters of tissue simulation liquid.

The following are some common ingredients：

- **WATER-** Deionized water (pure H20), resistivity _16 M - as basis for the liquid
- **SUGAR-** Refined sugar in crystals, as available in food shops - to reduce relative permittivity
- **SALT-** Pure NaCl - to increase conductivity
- **CELLULOSE-** Hydroxyethyl-cellulose, medium viscosity (75-125mPa.s, 2% in water, 20_C),

  CAS # 54290 - to increase viscosity and to keep sugar in solution
- **PRESERVATIVE-** Preventol D-7 Bayer AG, D-51368 Leverkusen, CAS # 55965-84-9 - to prevent the spread of bacteria and molds
- **DGMBE-** Diethylenglycol-monobuthyl ether (DGMBE), Fluka Chemie GmbH, CAS # 112-34-5 - to reduce relative permittivity

THE RECIPES FOR 835MHz SIMULATING LIQUID TABLE

INGREDIENT	HEAD SIMULATING LIQUID 835MHz (HSL-835)	MUSCLE SIMULATING LIQUID 835MHz (MSL-835)
Water	40.28%	50.07%
Cellulose	02.41%	NA
Salt	01.38%	0.94%
Preventtol D-7	00.18%	0.09%
Sugar	57.97%	48.2%
Dielectric Parameters at 22℃	f = 835MHz ε= 41.5 ± 5% σ= 0.97 ± 5% S/m	f= 835MHz ε= 55.0 ± 5% σ= 1.05 ± 5% S/m

THE RECIPES FOR 1900MHz SIMULATING LIQUID TABLE

INGREDIENT	HEAD SIMULATING LIQUID 1900MHz (HSL-1900)	MUSCLE SIMULATING LIQUID 1900MHz (MSL-1900)
Water	55.24%	70.16%
DGMBE	44.45%	29.44%
Salt	0.306%	00.39%
Dielectric Parameters at 22℃	f= 1900MHz ε= 40.0 ± 5% σ= 1.40 ± 5% S/m	f= 1900MHz ε= 53.3 ± 5% σ= 1.52 ± 5% S/m

Testing the liquids using the Agilent Network Analyzer E8358A and Agilent Dielectric Probe Kit 85070D.The testing procedure is following as

1. Turn Network Analyzer on and allow at least 30min. warm up.
2. Mount dielectric probe kit so that interconnecting cable to Network Analyzer will not be moved during measurements or calibration.
3. Pour de-ionized water and measure water temperature (±1℃).
4. Set water temperature in Agilent-Software (Calibration Setup).
5. Perform calibration.
6. Validate calibration with dielectric material of known properties (e.g. polished ceramic slab with >8mm thickness ε'=10.0, ε''=0.0). If measured parameters do not fit within tolerance, repeat calibration (±0.2 for ε': ±0.1 for ε'').
7. Conductivity can be calculated from ε'' by $\sigma = \omega \varepsilon_0 \varepsilon'' = \varepsilon'' f$ [GHz] / 18.
8. Measure liquid shortly after calibration. Repeat calibration every hour.
9. Stir the liquid to be measured. Take a sample (~ 50ml) with a syringe from the center of the liquid container.
10. Pour the liquid into a small glass flask. Hold the syringe at the bottom of the flask to avoid air bubbles.
11. Put the dielectric probe in the glass flask. Check that there are no air bubbles in front of the opening in the dielectric probe kit.
12. Perform measurements.
13. Adjust medium parameters in DASY5 for the frequencies necessary for the measurements (‘Setup Config’, select medium (e.g. Brain 900MHz) and press ‘Option’-button.
14. Select the current medium for the frequency of the validation (e.g. Setup Medium Brain 900MHz).

FOR CDMA850 BAND SIMULATING LIQUID

LIQUID TYPE		HSL-835			
SIMULATING LIQUID TEMP.		21.5			
TEST DATE		Mar. 05, 2010			
TESTED BY		Sam Onn			
FREQ. (MHz)	LIQUID PARAMETER	STANDARD VALUE	MEASUREMENT VALUE	ERROR PERCENTAGE (%)	LIMIT(%)
835.00	Permitivity (ε)	41.50	42.00	1.20	±5
836.52		41.50	42.00	1.20	
835.00	Conductivity (σ) S/m	0.90	0.88	-2.22	
836.52		0.90	0.88	-2.22	

LIQUID TYPE		MSL-835			
SIMULATING LIQUID TEMP.		22.1			
TEST DATE		Mar. 05, 2010			
TESTED BY		Sam Onn			
FREQ. (MHz)	LIQUID PARAMETER	STANDARD VALUE	MEASUREMENT VALUE	ERROR PERCENTAGE (%)	LIMIT(%)
835.00	Permitivity (ε)	55.20	56.00	1.45	±5
836.52		55.20	56.00	1.45	
835.00	Conductivity (σ) S/m	0.97	0.96	-1.03	
836.52		0.97	0.96	-1.03	

FOR CDMA1900 BAND SIMULATING LIQUID

LIQUID TYPE		HSL-1900			
SIMULATING LIQUID TEMP.		21.3			
TEST DATE		Mar. 03, 2010			
TESTED BY		Sam Onn			
FREQ. (MHz)	**LIQUID PARAMETER**	**STANDARD VALUE**	**MEASUREMENT VALUE**	**ERROR PERCENTAGE (%)**	**LIMIT(%)**
1851.25	Permitivity (ε)	40.00	41.30	3.25	±5
1880.00		40.00	41.20	3.00	
1900.00		40.00	41.10	2.75	
1908.75		40.00	41.00	2.50	
1851.25	Conductivity (σ) S/m	1.40	1.37	-2.14	
1880.00		1.40	1.41	0.71	
1900.00		1.40	1.44	2.86	
1908.75		1.40	1.45	3.57	

LIQUID TYPE		MSL-1900			
SIMULATING LIQUID TEMP.		21.2			
TEST DATE		Mar. 03, 2010			
TESTED BY		Sam Onn			
FREQ. (MHz)	**LIQUID PARAMETER**	**STANDARD VALUE**	**MEASUREMENT VALUE**	**ERROR PERCENTAGE (%)**	**LIMIT(%)**
1851.25	Permitivity (ε)	53.30	54.50	2.25	±5
1880.00		53.30	54.40	2.06	
1900.00		53.30	54.30	1.88	
1908.75		53.30	54.20	1.69	
1851.25	Conductivity (σ) S/m	1.52	1.50	-1.32	
1880.00		1.52	1.53	0.66	
1900.00		1.52	1.55	1.97	
1908.75		1.52	1.57	3.29	

6. SYSTEM VALIDATION

The system validation was performed in the flat phantom with equipment listed in the following table. Since the SAR value is calculated from the measured electric field, dielectric constant and conductivity of the body tissue and the SAR is proportional to the square of the electric field. So, the SAR value will be also proportional to the RF power input to the system validation dipole under the same test environment. In our system validation test, 250mW RF input power was used.

6.1 TEST PROCEDURE

Before the system performance check, we need only to tell the system which components (probe, medium, and device) are used for the system performance check; the system will take care of all parameters. The dipole must be placed beneath the flat section of the SAM Twin Phantom with the correct distance holder in place. The distance holder should touch the phantom surface with a light pressure at the reference marking (little cross) and be oriented parallel to the long side of the phantom. Accurate positioning is not necessary, since the system will search for the peak SAR location, except that the dipole arms should be parallel to the surface. The device holder for mobile phones can be left in place but should be rotated away from the dipole.

1. The ”Power Reference Measurement” and ”Power Drift Measurement” jobs are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the amplifier output power. If it is too high (above ±0.1 dB), the system performance check should be repeated; some amplifiers have very high drift during warm-up. A stable amplifier gives drift results in the DASY system below ±0.02dB.

2. The ”Surface Check” job tests the optical surface detection system of the DASY system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ±0.1mm). In that case it is better to abort the system performance check and stir the liquid.

3. The ”Area Scan” job measures the SAR above the dipole on a plane parallel to the surface. It is used to locate the approximate location of the peak SAR. The proposed scan uses large grid spacing for faster measurement; due to the symmetric field, the peak detection is reliable. If a finer graphic is desired, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result.

4. The ”Zoom Scan” job measures the field in a volume around the peak SAR value assessed in the previous ”Area Scan” job (for more information see the application note on SAR evaluation).

About the validation dipole positioning uncertainty, the constant and low loss dielectric spacer is used to establish the correct distance between the top surface of the dipole and the bottom surface of the phantom, the error component introduced by the uncertainty of the distance between the liquid (i.e., phantom shell) and the validation dipole in the DASY5 system is less than ±0.1mm.

$$SAR_{tolerance}[\%] = 100 \times (\frac{(a+d)^2}{a^2} - 1)$$

As the closest distance is 10mm, the resulting tolerance $SAR_{tolerance}$[%] is <2%.

6.2 VALIDATION RESULTS

SYSTEM VALIDATION TEST OF SIMULATING LIQUID					
FREQUENCY (MHz)	**REQUIRED SAR (mW/g)**	**MEASURED SAR (mW/g)**	**DEVIATION (%)**	**SEPARATION DISTANCE**	**TESTED DATE**
HSL835	2.37 (1g)	2.27	-4.22	15mm	Mar. 05, 2010
MSL835	2.54 (1g)	2.43	-4.33	15mm	Mar. 05, 2010
HSL1900	10.20 (1g)	10.20	0.00	10mm	Mar. 03, 2010
MSL1900	10.20 (1g)	9.67	-5.20	10mm	Mar. 03, 2010
TESTED BY	Sam Onn				

NOTE: Please see Appendix for the photo of system validation test.

6.3 SYSTEM VALIDATION UNCERTAINTIES

In the table below, the system validation uncertainty with respect to the analytically assessed SAR value of a dipole source as given in the IEEE 1528 standard is given. This uncertainty is smaller than the expected uncertainty for mobile phone measurements due to the simplified setup and the symmetric field distribution.

Error Description	Tolerance (±%)	Probability Distribution	Divisor	(C_i)		Standard Uncertainty (±%)		(v_i)
				(1g)	(10g)	(1g)	(10g)	
Measurement System								
Probe Calibration	5.50	Normal	1	1	1	5.50	5.50	∞
Axial Isotropy	0.50	Rectangular	√3	0.7	0.7	0.20	0.20	∞
Hemispherical Isotropy	2.60	Rectangular	√3	0.7	0.7	1.05	1.05	∞
Boundary effects	1.00	Rectangular	√3	1	1	0.58	0.58	∞
Linearity	0.60	Rectangular	√3	1	1	0.35	0.35	∞
System Detection Limits	1.00	Rectangular	√3	1	1	0.58	0.58	∞
Readout Electronics	0.30	Normal	1	1	1	0.30	0.30	∞
Response Time	0.80	Rectangular	√3	1	1	0.46	0.46	∞
Integration Time	2.60	Rectangular	√3	1	1	1.50	1.50	∞
RF Ambient Noise	3.00	Rectangular	√3	1	1	1.73	1.73	∞
RF Ambient Reflections	3.00	Rectangular	√3	1	1	1.73	1.73	∞
Probe Positioner	0.40	Rectangular	√3	1	1	0.23	0.23	∞
Probe Positioning	2.90	Rectangular	√3	1	1	1.67	1.67	∞
Max. SAR Eval.	1.00	Rectangular	√3	1	1	0.58	0.58	∞
Dipole Related								
Dipole Axis to Liquid Distance	2.00	Rectangular	√3	1	1	1.15	1.15	145
Input Power Drift	5.00	Rectangular	√3	1	1	2.89	2.89	∞
Phantom and Tissue parameters								
Phantom Uncertainty	4.00	Rectangular	√3	1	1	2.31	2.31	∞
Liquid Conductivity (target)	5.00	Rectangular	√3	0.64	0.43	1.85	1.24	∞
Liquid Conductivity (measurement)	3.57	Normal	1	0.64	0.43	2.28	1.54	∞
Liquid Permittivity (target)	5.00	Rectangular	√3	0.6	0.49	1.73	1.41	∞
Liquid Permittivity (measurement)	3.25	Normal	1	0.6	0.49	1.95	1.59	∞
Combined Standard Uncertainty						**8.62**	**8.21**	
Coverage Factor for 95%						**Kp=2**		
Expanded Uncertainty (K=2)						**17.25**	**16.41**	

NOTE: About the system validation uncertainty assessment, please reference the section 7.

7. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050
Web Site: www.adt.com.tw

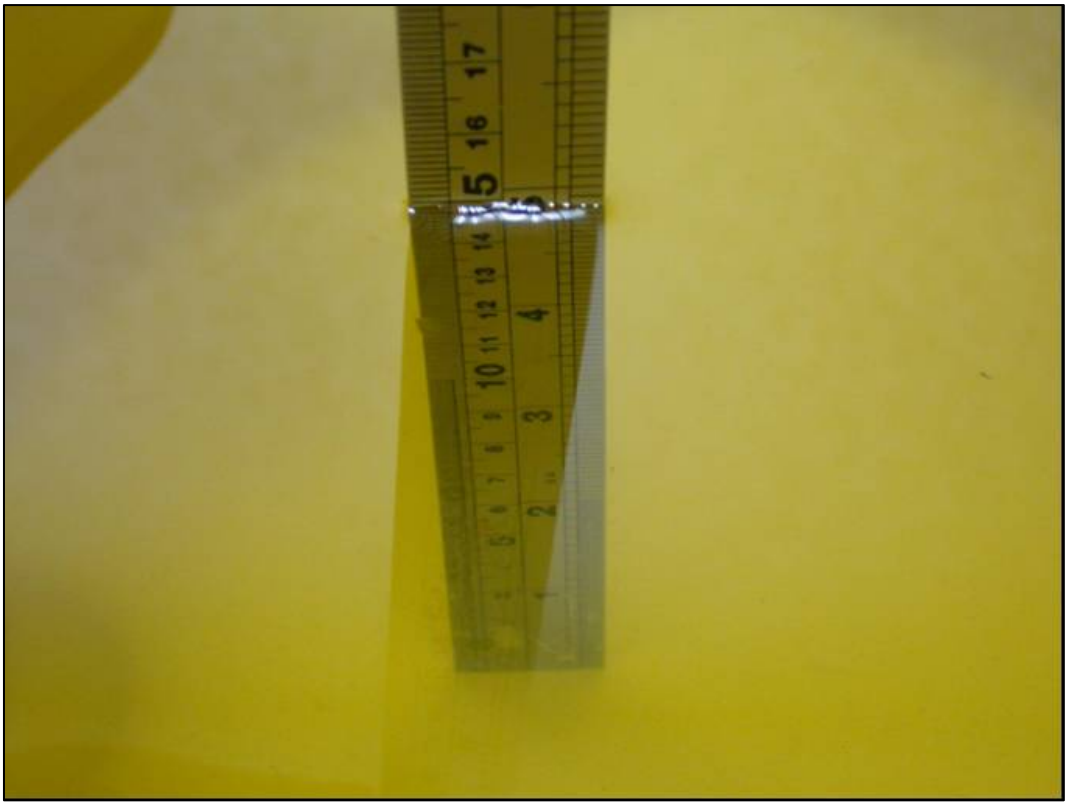
The address and road map of all our labs can be found in our web site also.

---END---

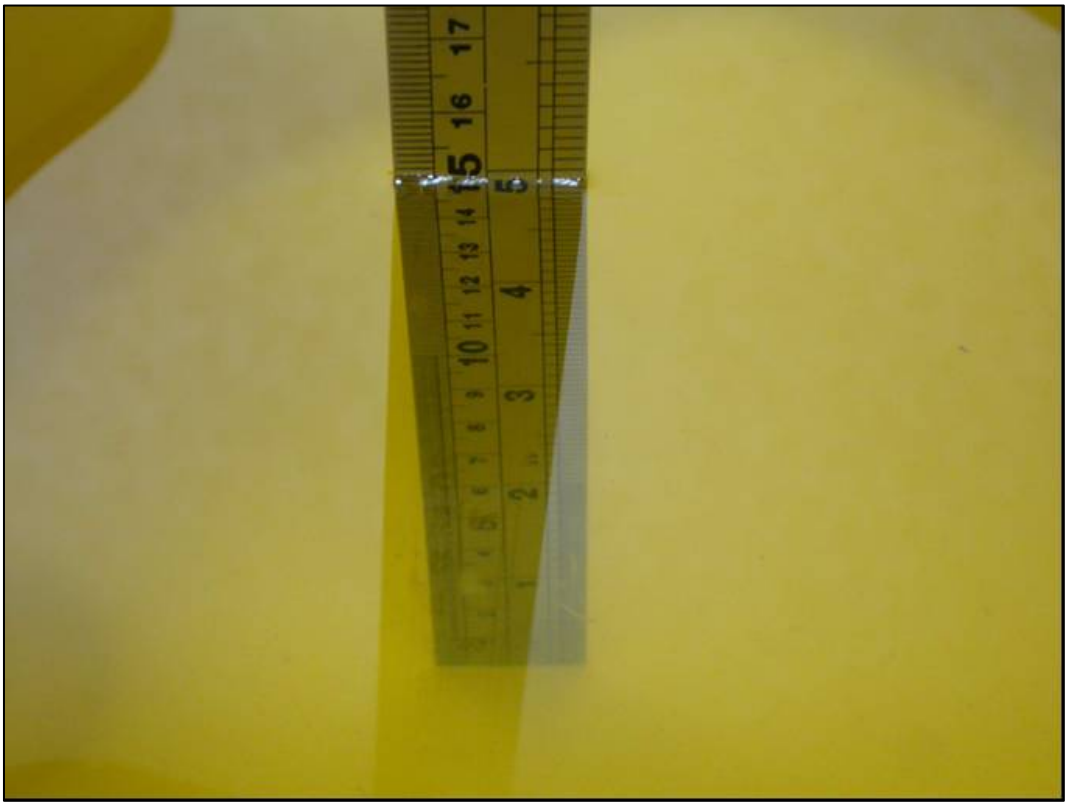
APPENDIX A: TEST DATA

Liquid Level Photo

Tissue HSL835MHz D=150mm



Tissue MSL835MHz D=151mm



Tissue HSL1900MHz D=152mm

Tissue MSL1900MHz D=155mm

Date/Time: 2010/3/5 11:17:16

Test Laboratory: Bureau Veritas ADT

M01-Right Head-Cheek-CDMA_Cellular-Ch384

DUT: Pocket PC Phone ; Type: PC36100

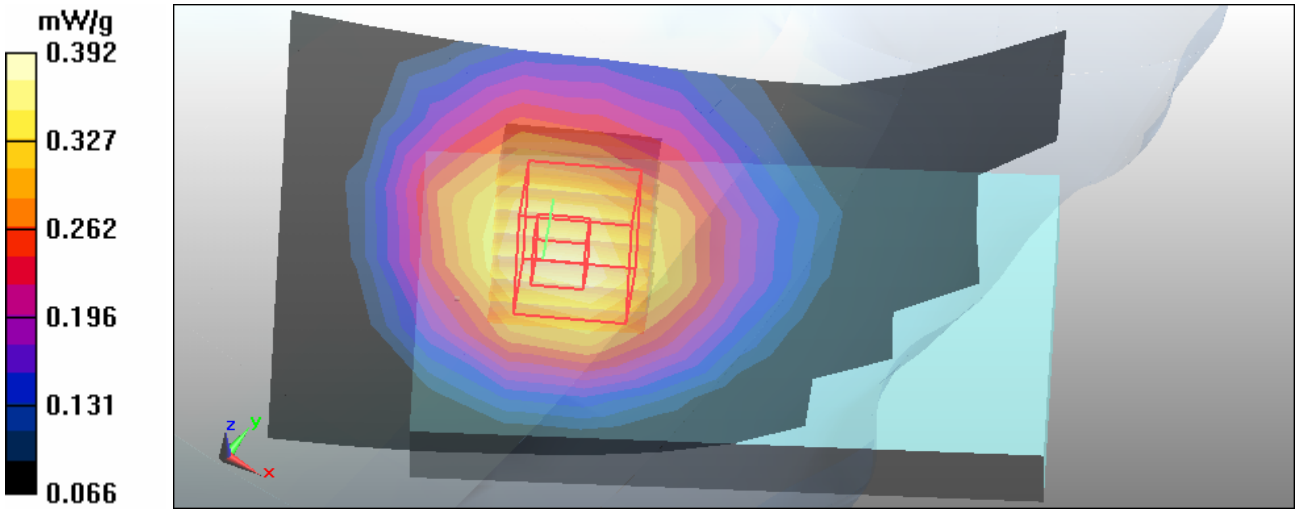
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: HSL850 Medium parameters used: f = 836.52 MHz; σ = 0.88 mho/m; εr = 42; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.8, 9.8, 9.8) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.387 mW/g

Touch Position - Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.7 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.465 W/kg
SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.256 mW/g
Maximum value of SAR (measured) = 0.392 mW/g



Date/Time: 2010/3/5 11:43:54

Test Laboratory: Bureau Veritas ADT

M02-Right Head-Tilt-CDMA_Cellular-Ch384

DUT: Pocket PC Phone ; Type: PC36100

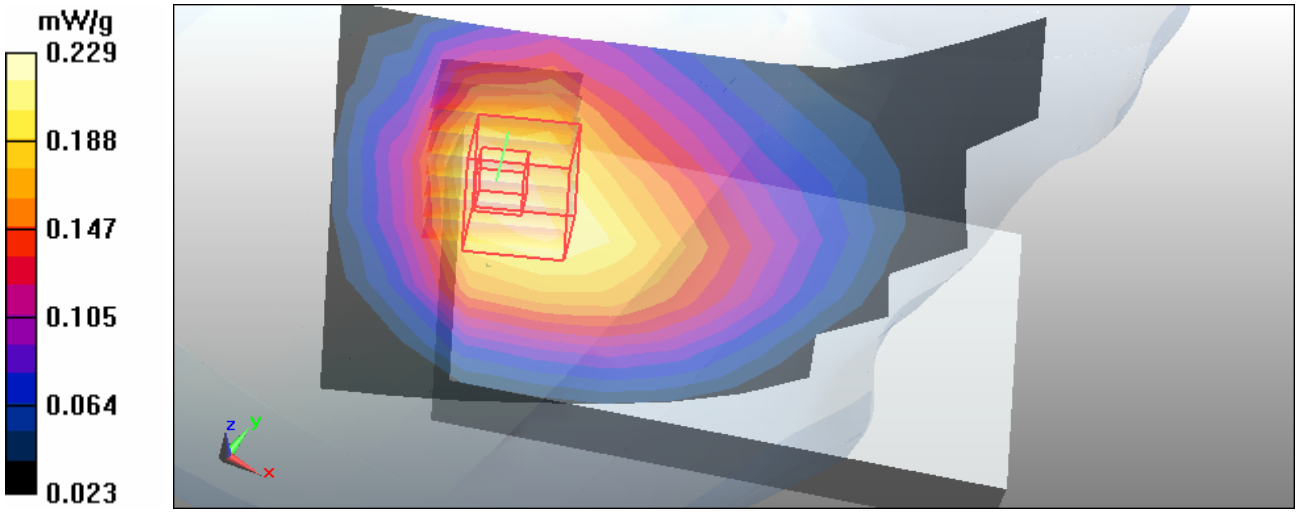
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: HSL850 Medium parameters used: f = 836.52 MHz; σ = 0.88 mho/m; εr = 42; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.8, 9.8, 9.8) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.227 mW/g

Tilt Position - Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.8 V/m; Power Drift = 0.00782 dB
Peak SAR (extrapolated) = 0.294 W/kg
SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.147 mW/g
aximum value of SAR (measured) = 0.229 mW/g



Date/Time: 2010/3/6 12:12:08

Test Laboratory: Bureau Veritas ADT

M03-Left Head-Cheek-CDMA_Cellular-Ch384

DUT: Pocket PC Phone ; Type: PC36100

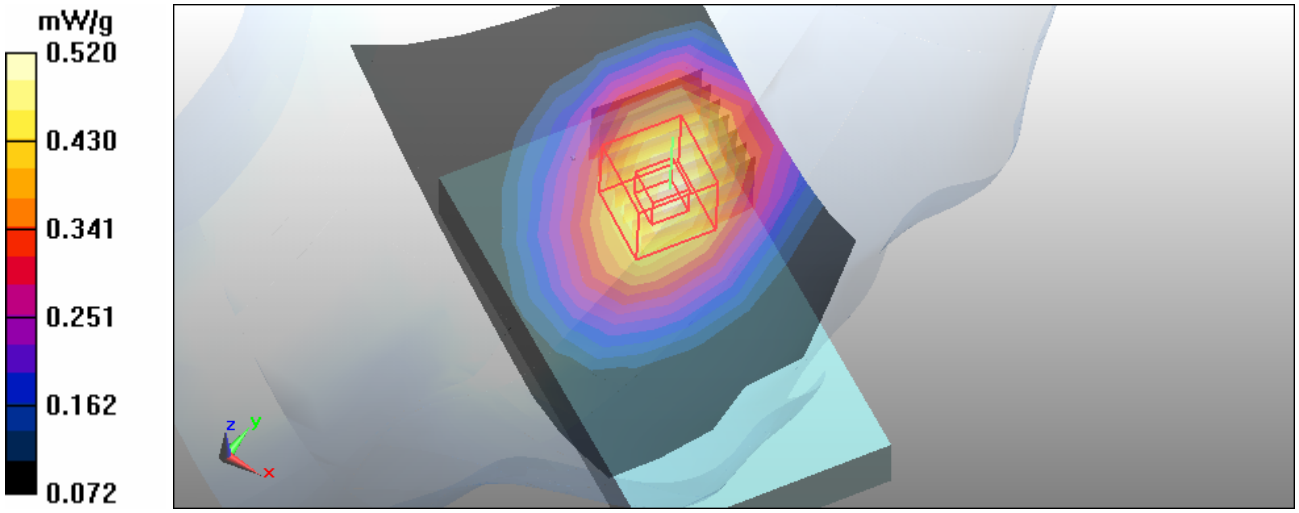
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: HSL850 Medium parameters used: f = 836.52 MHz; σ = 0.88 mho/m; εr = 42; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.8, 9.8, 9.8) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.519 mW/g

Touch Position - Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 23.8 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.650 W/kg
SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.320 mW/g
Maximum value of SAR (measured) = 0.520 mW/g



Date/Time: 2010/3/6 12:55:25

Test Laboratory: Bureau Veritas ADT

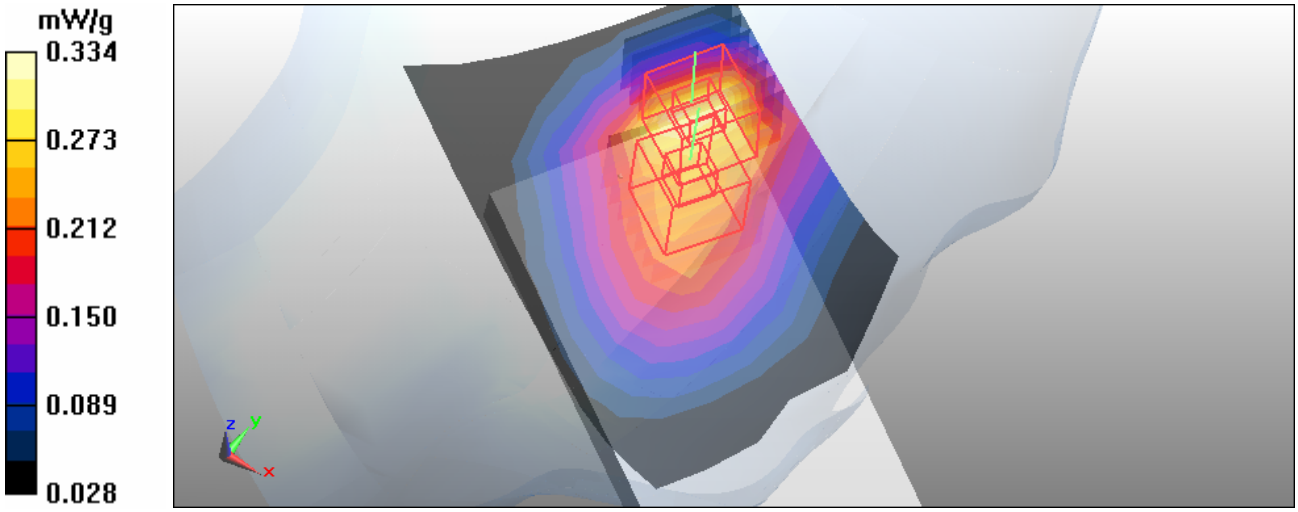
M04-Left Head-Tilt-CDMA_Cellular-Ch384

DUT: Pocket PC Phone ; Type: PC36100

Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: HSL850 Medium parameters used: f = 836.52 MHz; σ = 0.88 mho/m; εr = 42; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK
DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.8, 9.8, 9.8) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.318 mW/g
Tilt Position - Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.9 V/m; Power Drift = 0.00373 dB
Peak SAR (extrapolated) = 0.473 W/kg
SAR(1 g) = 0.284 mW/g; SAR(10 g) = 0.185 mW/g
Maximum value of SAR (measured) = 0.334 mW/g
Tilt Position - Mid. Ch384/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.9 V/m; Power Drift = 0.00373 dB
Peak SAR (extrapolated) = 0.312 W/kg
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.266 mW/g



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Test Laboratory: Bureau Veritas ADT

M05-Body-CDMA_Cellular-Ch384 / LCD Down

DUT: Pocket PC Phone ; Type: PC36100

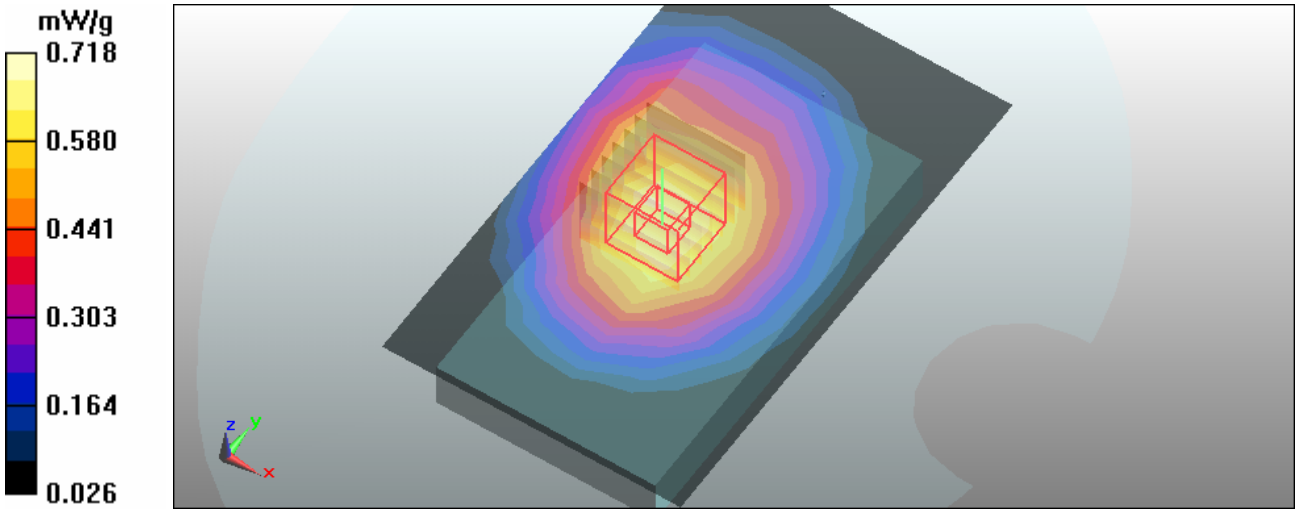
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: MSL900 Medium parameters used : f = 836.52 MHz; σ = 0.96 mho/m; εr = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The back side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.83, 9.83, 9.83) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat Section Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.687 mW/g

Flat Section Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 26.7 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.852 W/kg
SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.465 mW/g
Maximum value of SAR (measured) = 0.718 mW/g



Date/Time: 2010/3/5 20:01:07

Test Laboratory: Bureau Veritas ADT

M06-Body-CDMA_Cellular-Ch384 / LCD Up

DUT: Pocket PC Phone ; Type: PC36100

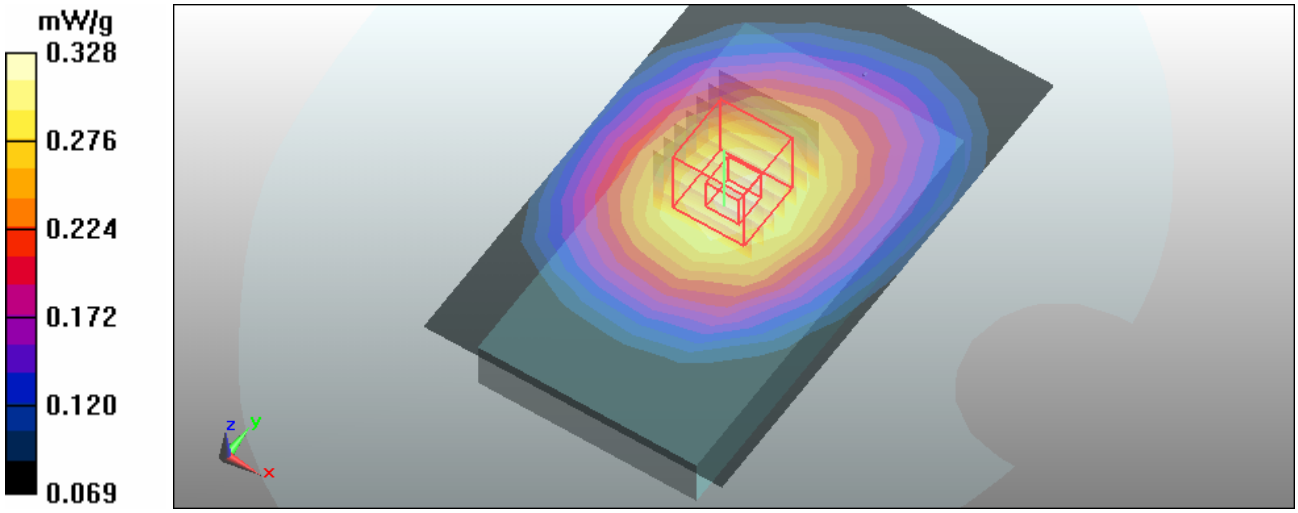
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: MSL900 Medium parameters used : f = 836.52 MHz; σ = 0.96 mho/m; εr = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The front side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.83, 9.83, 9.83) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat Section Mid. Ch384 /Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.324 mW/g

Flat Section Mid. Ch384 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.5 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.386 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.328 mW/g



Date/Time: 2010/3/5 21:23:46

Test Laboratory: Bureau Veritas ADT

M07-Body-CDMA_Cellular-Ch384 / LCD Down-Bat.2

DUT: Pocket PC Phone ; Type: PC36100

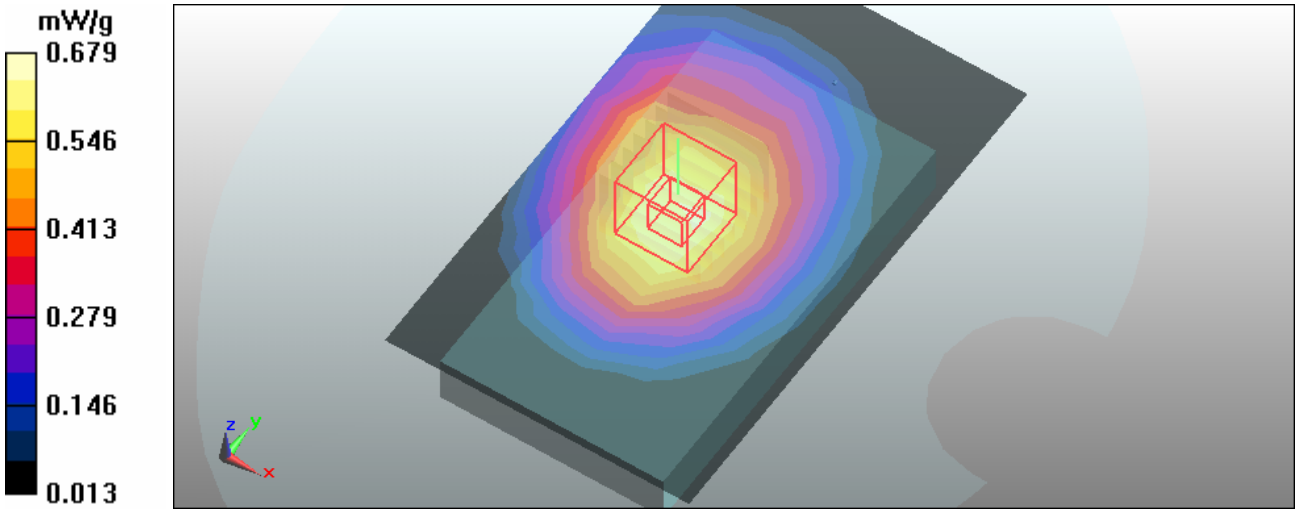
Communication System: CDMA 1x ; Frequency: 836.52 MHz ; Duty Cycle: 1:1
Medium: MSL900 Medium parameters used : f = 836.52 MHz; σ = 0.96 mho/m; εr = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The back side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.83, 9.83, 9.83) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat Section Mid. Ch384/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.654 mW/g

Flat Section Mid. Ch384/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 26.1 V/m; Power Drift = 0.091 dB
Peak SAR (extrapolated) = 0.813 W/kg
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.449 mW/g
Maximum value of SAR (measured) = 0.679 mW/g



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Test Laboratory: Bureau Veritas ADT

M08-Right Head-Cheek-CDMA_PCS-Ch600

DUT: Pocket PC Phone ; Type: PC31600

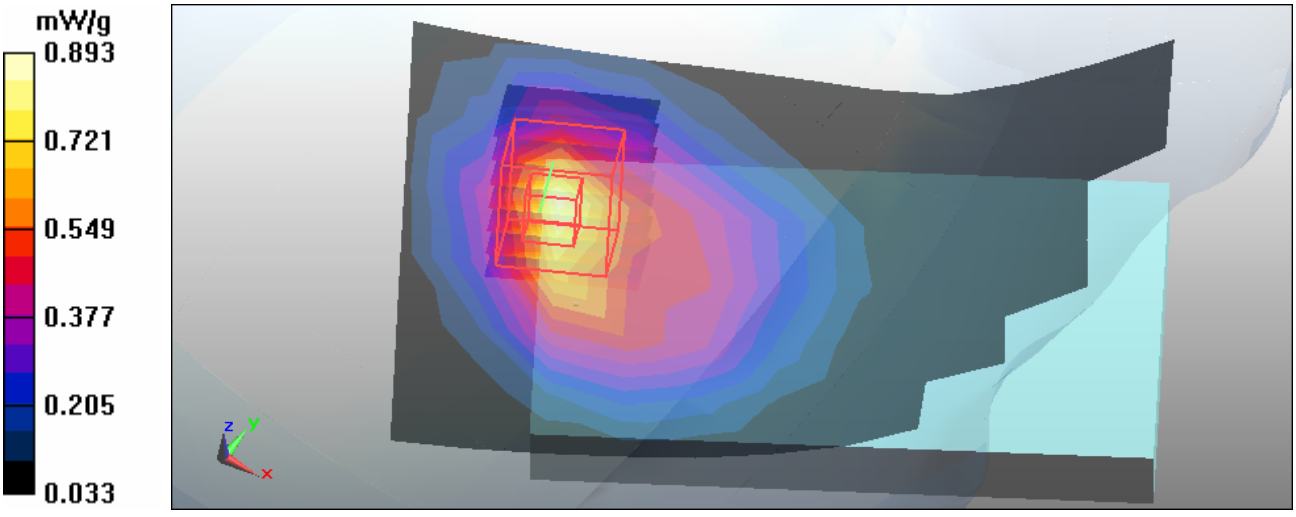
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 41.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - Mid. Ch600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.862 mW/g

Touch Position - Mid. Ch600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 24.5 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.383 mW/g
Maximum value of SAR (measured) = 0.893 mW/g



Date/Time: 2010/3/3 11:32:50

Test Laboratory: Bureau Veritas ADT

M09-Right Head-Tilt-CDMA_PCS-Ch25

DUT: Pocket PC Phone ; Type: PC31600

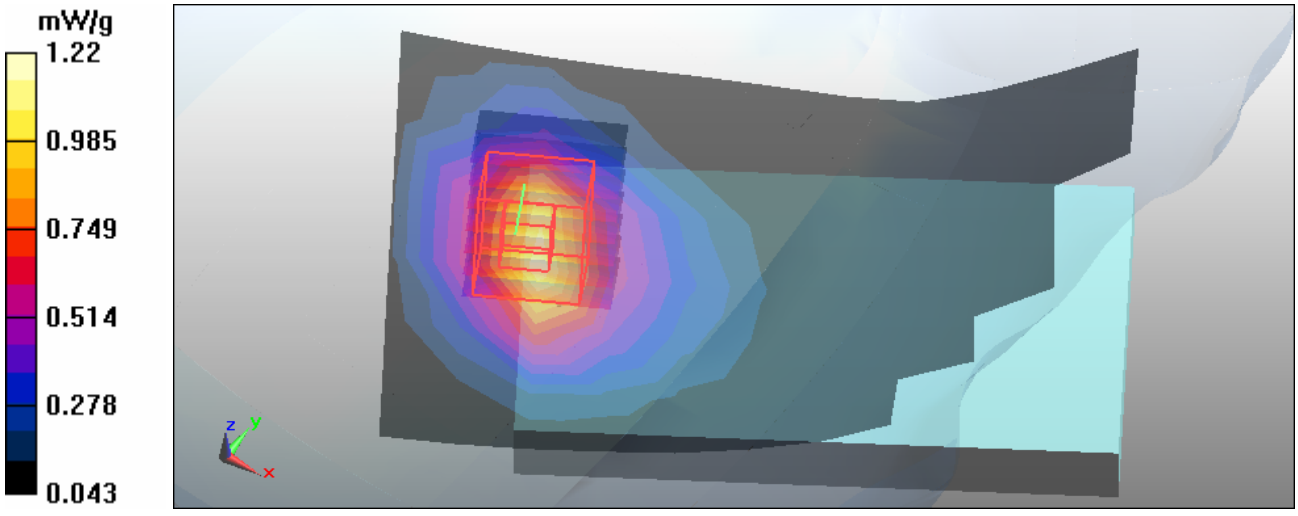
Communication System: CDMA 1x ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.37 mho/m; εr = 41.3; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Low Ch25/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.14 mW/g

Tilt Position - Low Ch25/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.9 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.544 mW/g
Maximum value of SAR (measured) = 1.22 mW/g



Date/Time: 2010/3/3 11:58:06

Test Laboratory: Bureau Veritas ADT

M09-Right Head-Tilt-CDMA_PCS-Ch600

DUT: Pocket PC Phone ; Type: PC31600

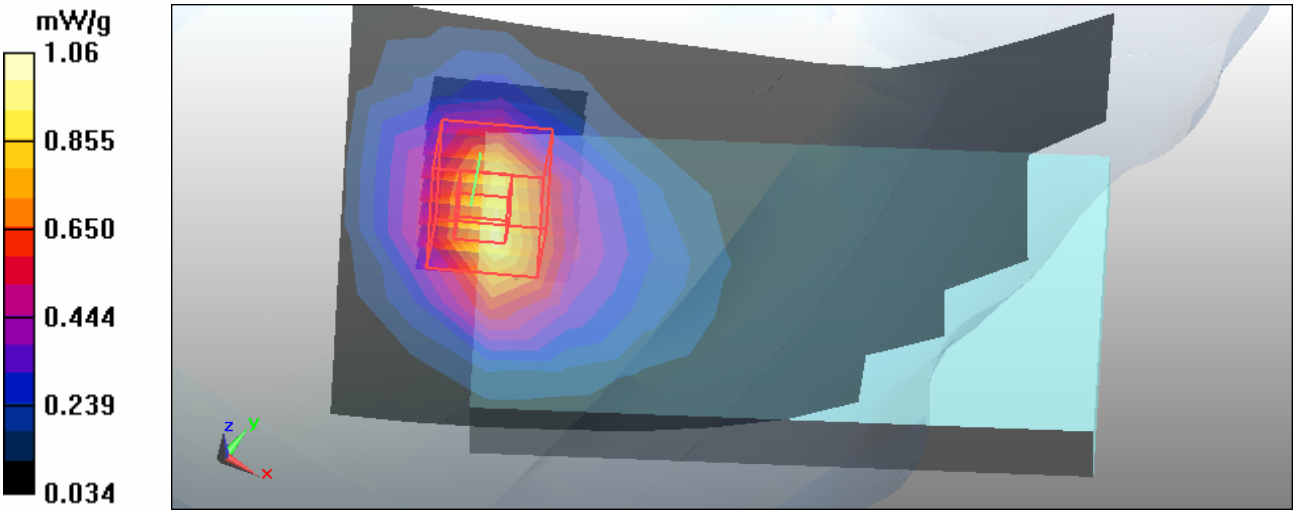
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 41.2; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Mid. Ch600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.963 mW/g

Tilt Position - Mid. Ch600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 25.2 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 0.867 mW/g; SAR(10 g) = 0.466 mW/g
Maximum value of SAR (measured) = 1.06 mW/g



Date/Time: 2010/3/3 12:31:42

Test Laboratory: Bureau Veritas ADT

M09-Right Head-Tilt-CDMA_PCS-Ch1175

DUT: Pocket PC Phone ; Type: PC31600

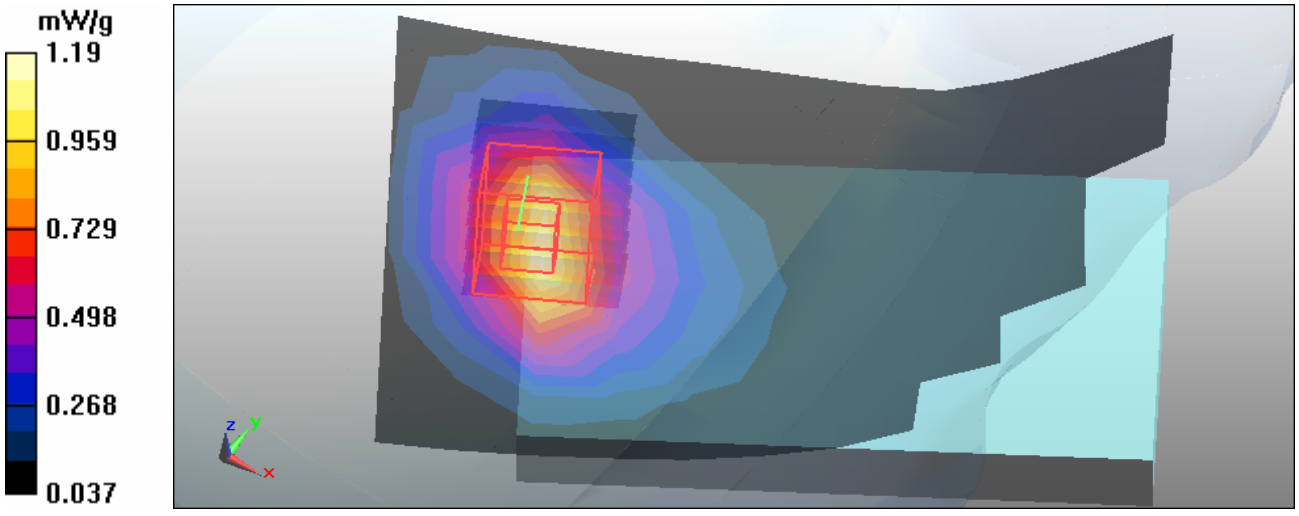
Communication System: CDMA 1x ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.45 mho/m; εr = 41; ρ = 1000 kg/m^3
Phantom section: Right Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - High Ch1175/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.13 mW/g

Tilt Position - High Ch1175/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.2 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.526 mW/g
Maximum value of SAR (measured) = 1.19 mW/g



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Test Laboratory: Bureau Veritas ADT

M10-Left Head-Cheek-CDMA_PCS-Ch25

DUT: Pocket PC Phone ; Type: PC31600

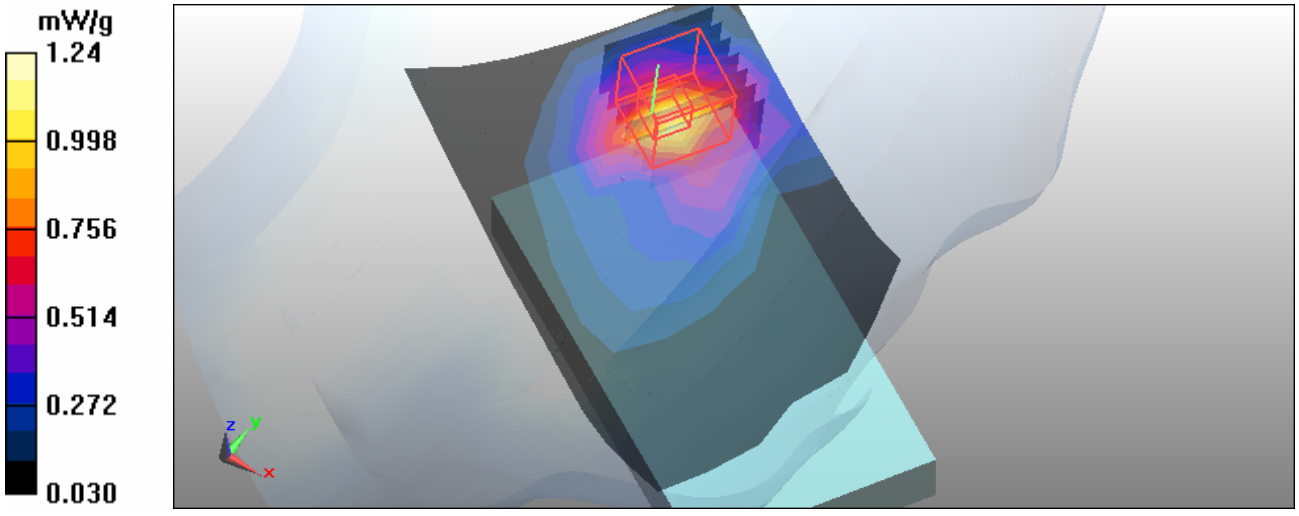
Communication System: CDMA 1x ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.37 mho/m; εr = 41.3; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - Low Ch25/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.18 mW/g

Touch Position - Low Ch25/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28.3 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 1.9 W/kg
SAR(1 g) = 0.966 mW/g; SAR(10 g) = 0.506 mW/g
Maximum value of SAR (measured) = 1.24 mW/g



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Test Laboratory: Bureau Veritas ADT

M10-Left Head-Cheek-CDMA_PCS-Ch600

DUT: Pocket PC Phone ; Type: PC31600

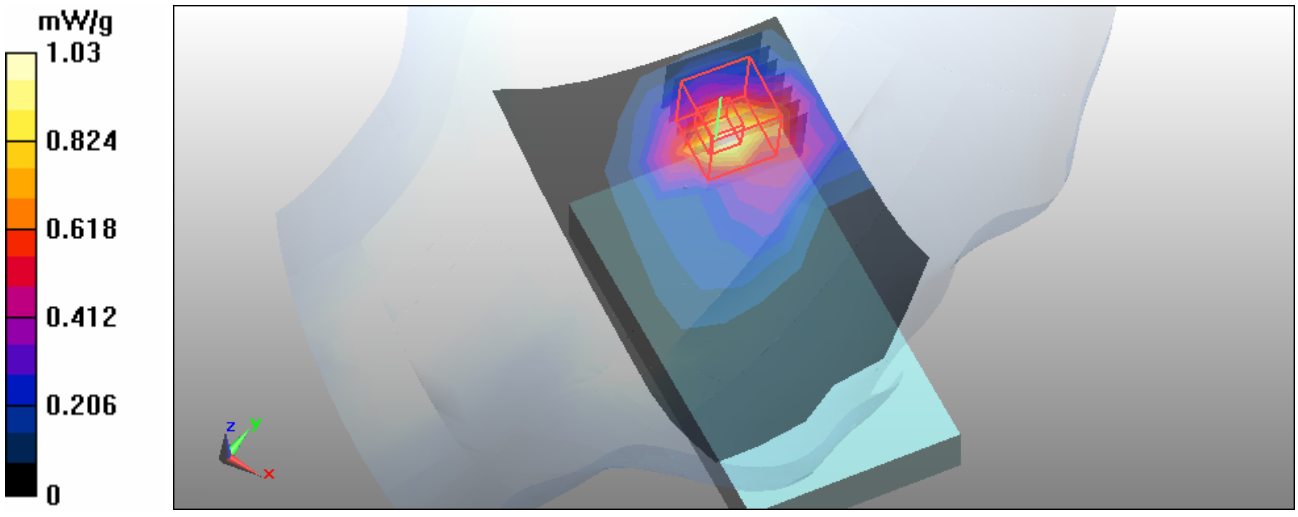
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - Mid.600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.03 mW/g

Touch Position - Mid.600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.4 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 1.62 W/kg
SAR(1 g) = 0.828 mW/g; SAR(10 g) = 0.423 mW/g
Maximum value of SAR (measured) = 0.99 mW/g



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Test Laboratory: Bureau Veritas ADT

M10-Left Head-Cheek-CDMA_PCS-Ch1175

DUT: Pocket PC Phone ; Type: PC31600

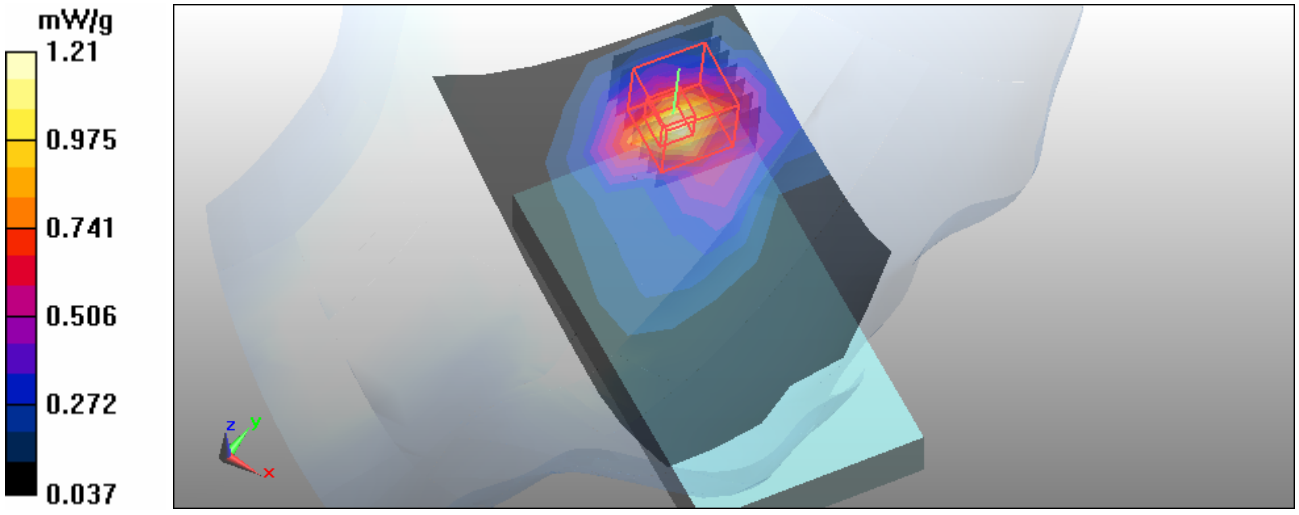
Communication System: CDMA 1x ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.45 mho/m; εr = 41; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Touch Position - High Ch1175/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.20 mW/g

Touch Position - High Ch1175/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28 V/m; Power Drift = 0.089 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 0.939 mW/g; SAR(10 g) = 0.486 mW/g
Maximum value of SAR (measured) = 1.21 mW/g



Date/Time: 2010/3/3 14:18:25

Test Laboratory: Bureau Veritas ADT

M11-Left Head-Tilt-CDMA_PCS-Ch25

DUT: Pocket PC Phone ; Type: PC31600

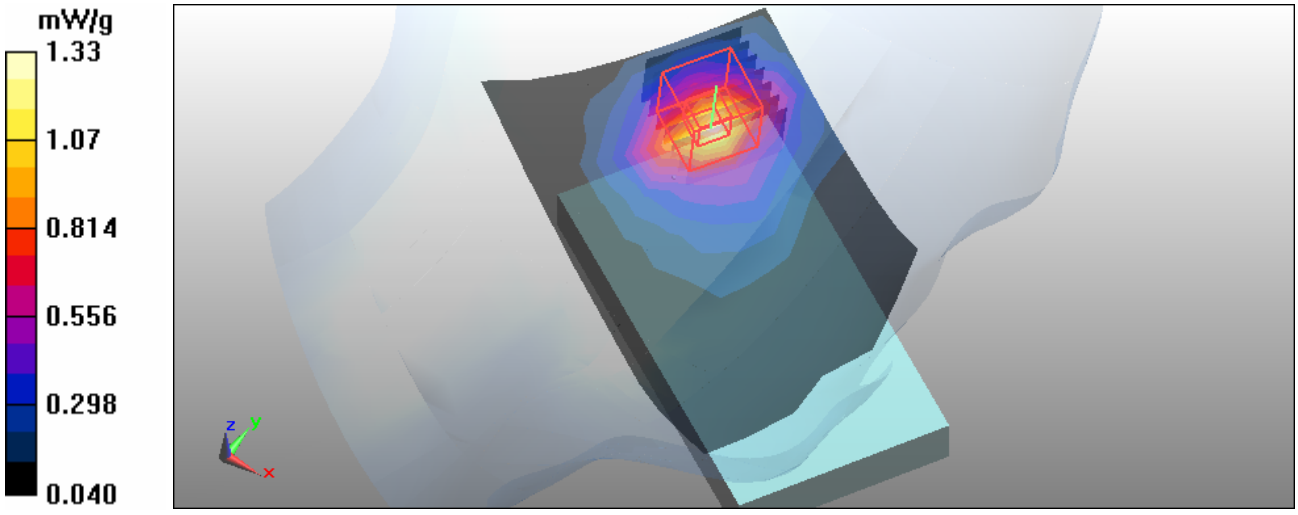
Communication System: CDMA 1x ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.37 mho/m; εr = 41.3; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

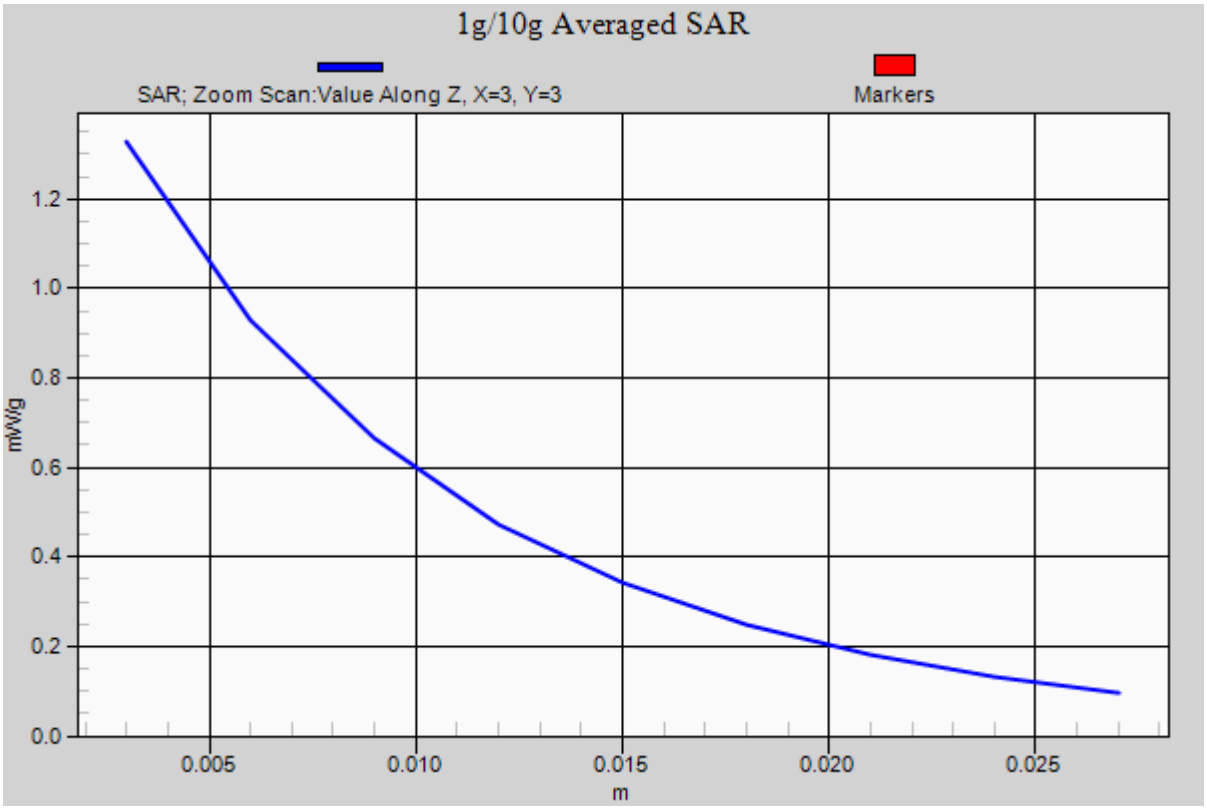
DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Low Ch25/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.27 mW/g

Tilt Position - Low Ch25/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 29.7 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 1.9 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.538 mW/g
Maximum value of SAR (measured) = 1.33 mW/g




1g/10g Averaged SAR
SAR; Zoom Scan:Value Along Z, X=3, Y=3
Markers
mW/g
1.2
1.0
0.8
0.6
0.4
0.2
0.0
0.005
0.010
0.015
0.020
0.025
m

Date/Time: 2010/3/3 14:44:13

Test Laboratory: Bureau Veritas ADT

M11-Left Head-Tilt-CDMA_PCS-Ch600

DUT: Pocket PC Phone ; Type: PC31600

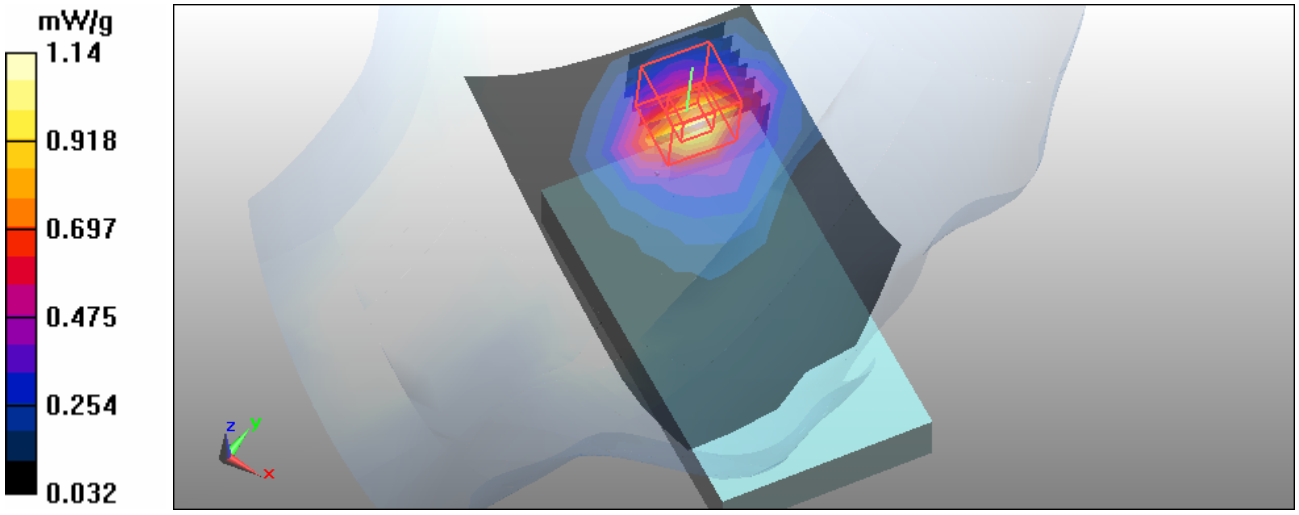
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; εr = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Mid. Ch600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.14 mW/g

Tilt Position - Mid. Ch600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.8 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 0.927 mW/g; SAR(10 g) = 0.482 mW/g



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Test Laboratory: Bureau Veritas ADT

M11-Left Head-Tilt-CDMA_PCS-Ch1175

DUT: Pocket PC Phone ; Type: PC31600

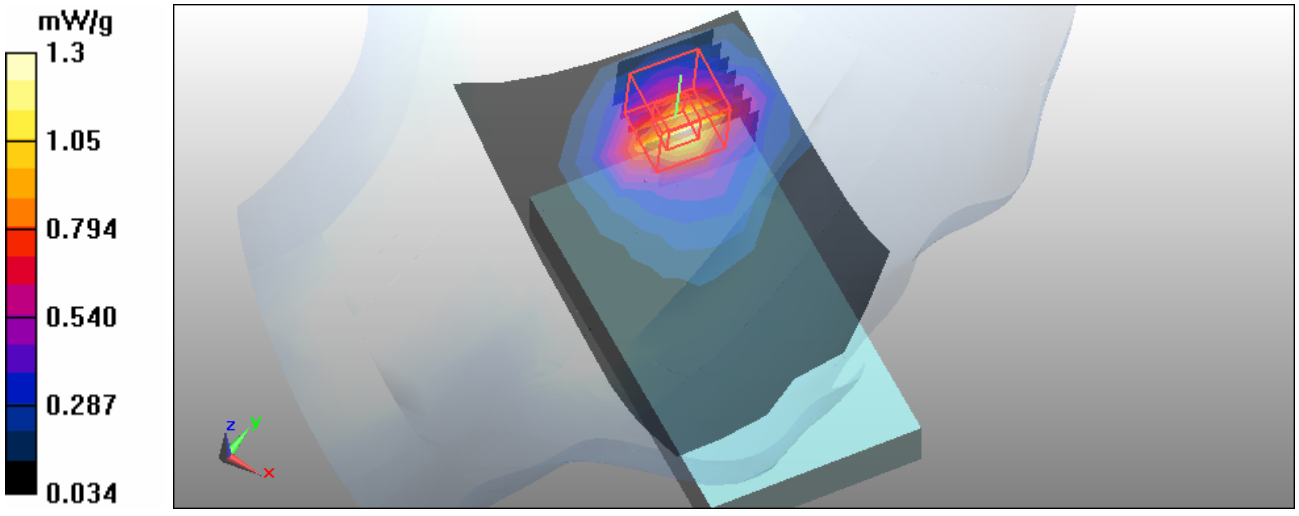
Communication System: CDMA 1x ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.45 mho/m; εr = 41; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - High Ch1175/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.23 mW/g

Tilt Position - High Ch1175/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 29.2 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1 mW/g; SAR(10 g) = 0.517 mW/g
Maximum value of SAR (measured) = 1.25 mW/g



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Test Laboratory: Bureau Veritas ADT

M12-CDMA_PCS-Ch25 / LCD Down

DUT: Pocket PC Phone ; Type: PC36100

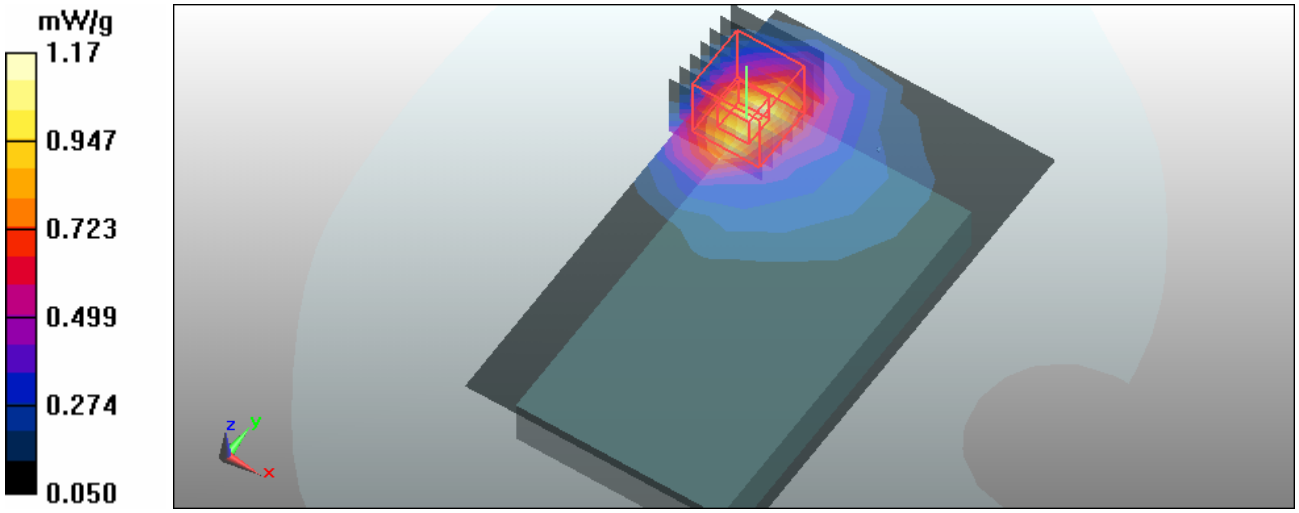
Communication System: CDMA 1x ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: MSL1900 Medium parameters used: f = 1851.25 MHz; σ = 1.5 mho/m; εr = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The back side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.52, 8.52, 8.52) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat-Section Low Ch25/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.1 mW/g

Flat-Section Low Ch25/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.3 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.533 mW/g
Maximum value of SAR (measured) = 1.17 mW/g



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Test Laboratory: Bureau Veritas ADT

M12-CDMA_PCS-Ch600 / LCD Down

DUT: Pocket PC Phone ; Type: PC36100

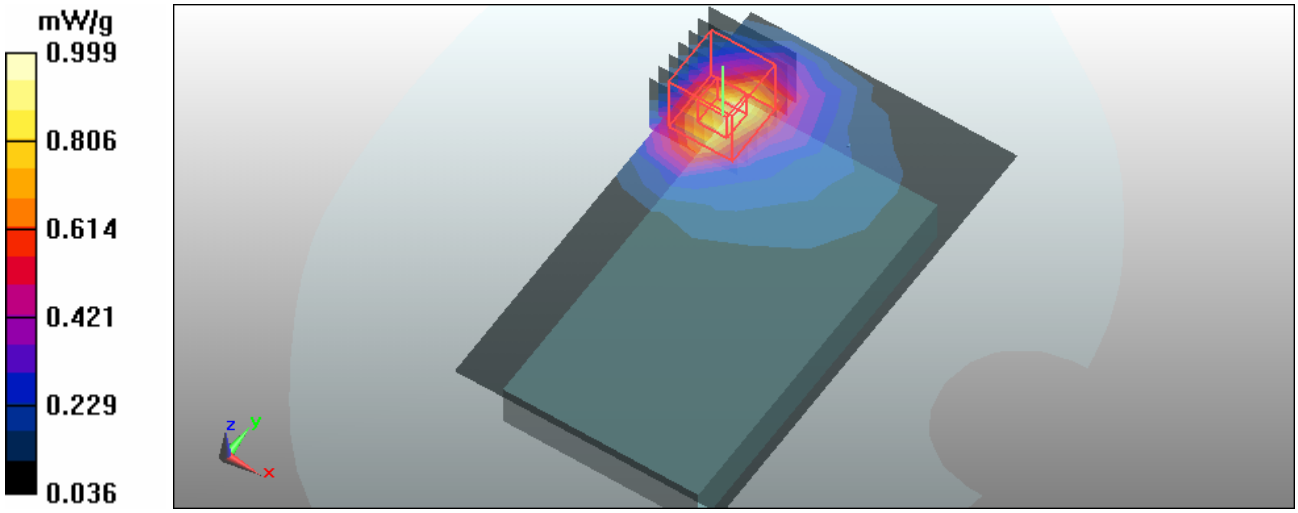
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: MSL1900 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; εr = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The back side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.52, 8.52, 8.52) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat-Section Mid. Ch600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.967 mW/g

Flat-Section Mid. Ch600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 25.3 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.812 mW/g; SAR(10 g) = 0.449 mW/g
Maximum value of SAR (measured) = 0.999 mW/g



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Test Laboratory: Bureau Veritas ADT

M12-CDMA_PCS-Ch1175 / LCD Down

DUT: Pocket PC Phone ; Type: PC36100

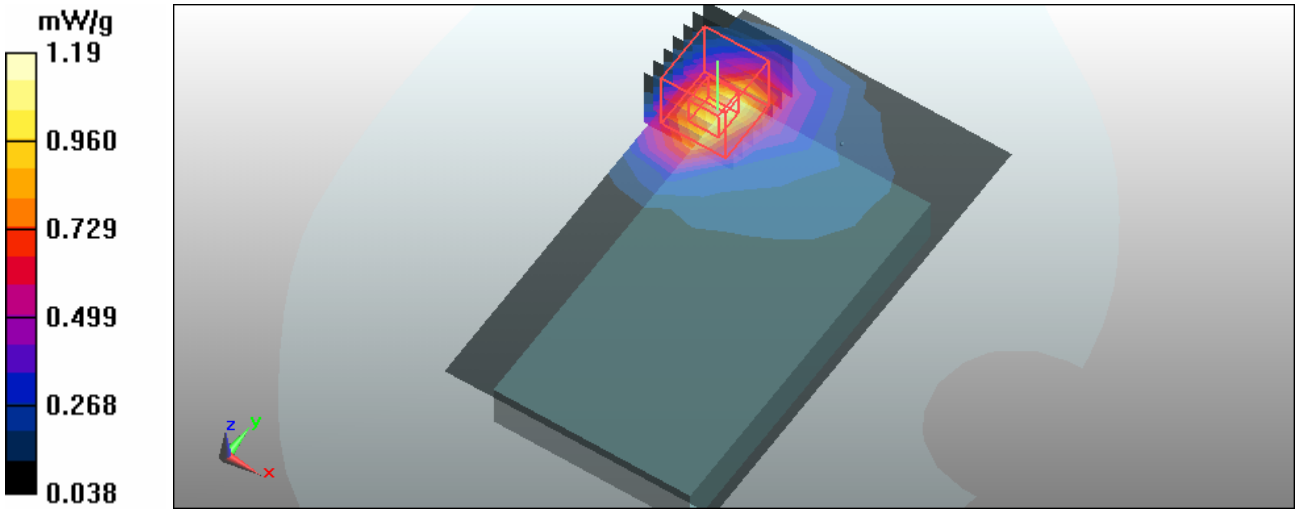
Communication System: CDMA 1x ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: MSL1900 Medium parameters used: f = 1908.75 MHz; σ = 1.57 mho/m; εr = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The back side of the EUT to the Phantom)

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.52, 8.52, 8.52) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat-Section High Ch1175/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.16 mW/g

Flat-Section High Ch1175/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.4 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 0.961 mW/g; SAR(10 g) = 0.524 mW/g
Maximum value of SAR (measured) = 1.19 mW/g



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Test Laboratory: Bureau Veritas ADT

M13-CDMA_PCS-Ch600 / LCD Up

DUT: Pocket PC Phone ; Type: PC36100

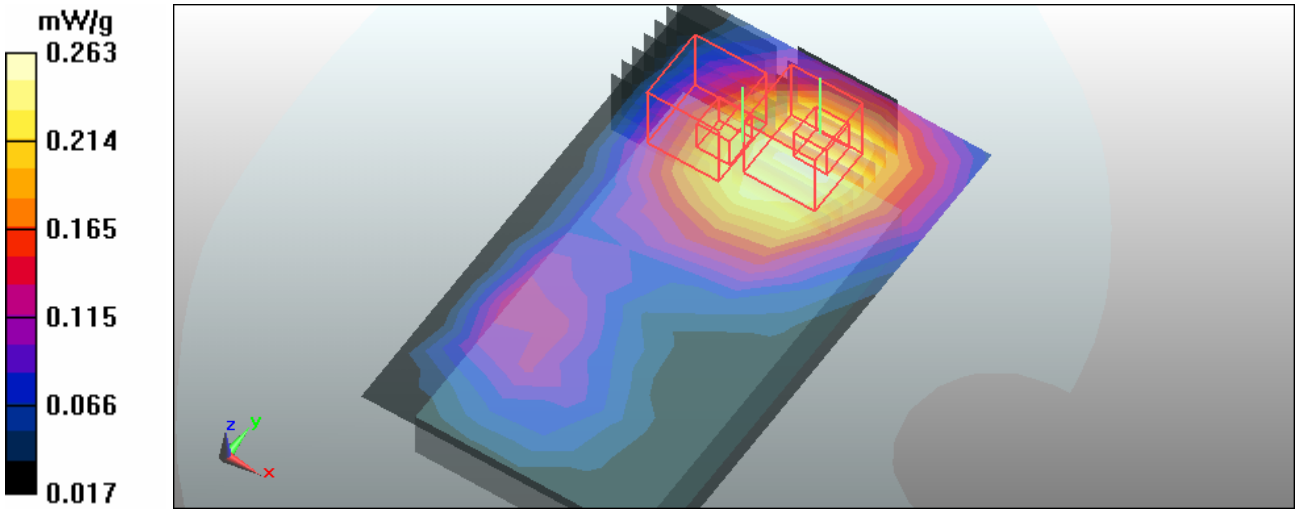
Communication System: CDMA 1x ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: MSL1900 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; εr = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: OQPSK
Separation Distance : 15 mm (The front side of the EUT to the Phantom)
DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.52, 8.52, 8.52) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Flat-Section Mid. Ch600/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.248 mW/g

Flat-Section Mid. Ch600/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 0 V/m; Power Drift = 0.099 dB
Peak SAR (extrapolated) = 0.351 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.145 mW/g
Maximum value of SAR (measured) = 0.263 mW/g

Flat-Section Mid. Ch600/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 0 V/m; Power Drift = 0.099 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.191 mW/g; SAR(10 g) = 0.108 mW/g
Maximum value of SAR (measured) = 0.241 mW/g



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Test Laboratory: Bureau Veritas ADT

M14-Left Head-Tilt-CDMA_PCS-Ch25 / Bat2

DUT: Pocket PC Phone ; Type: PC31600

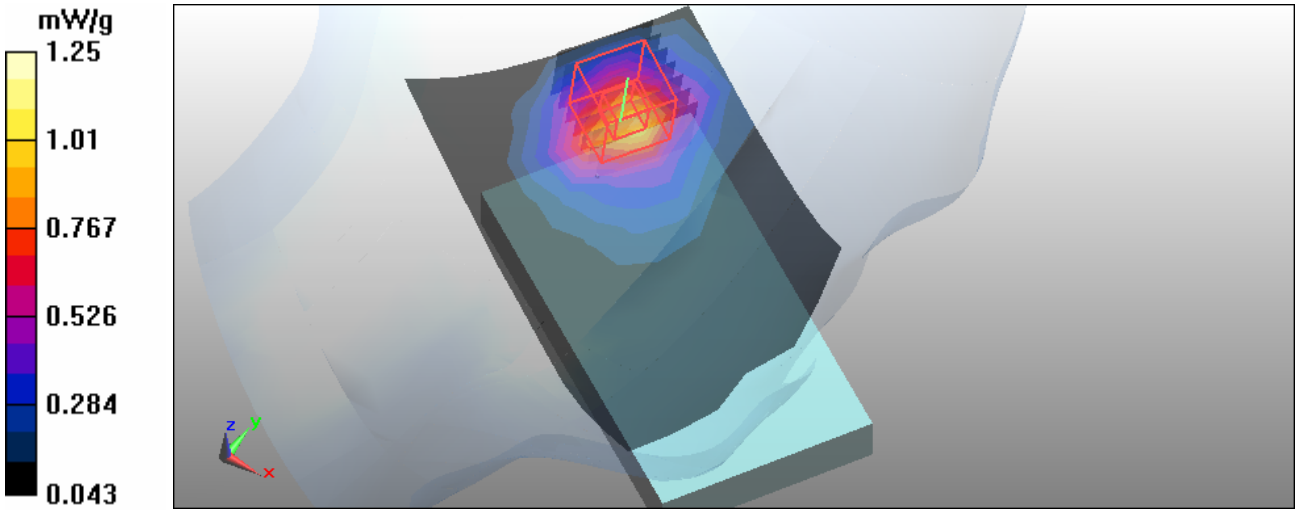
Communication System: CDMA 1x ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.37 mho/m; εr = 41.3; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

Tilt Position - Low Ch25/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.07 mW/g

Tilt Position - Low Ch25/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 27.5 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 0.998 mW/g; SAR(10 g) = 0.516 mW/g
Maximum value of SAR (measured) = 1.25 mW/g



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Test Laboratory: Bureau Veritas ADT

SystemPerformanceCheck-HSL835 MHz

DUT: Dipole 835 MHz ; Type: D835V2 ; Serial: 4d021 ; Test Frequency: 835 MHz

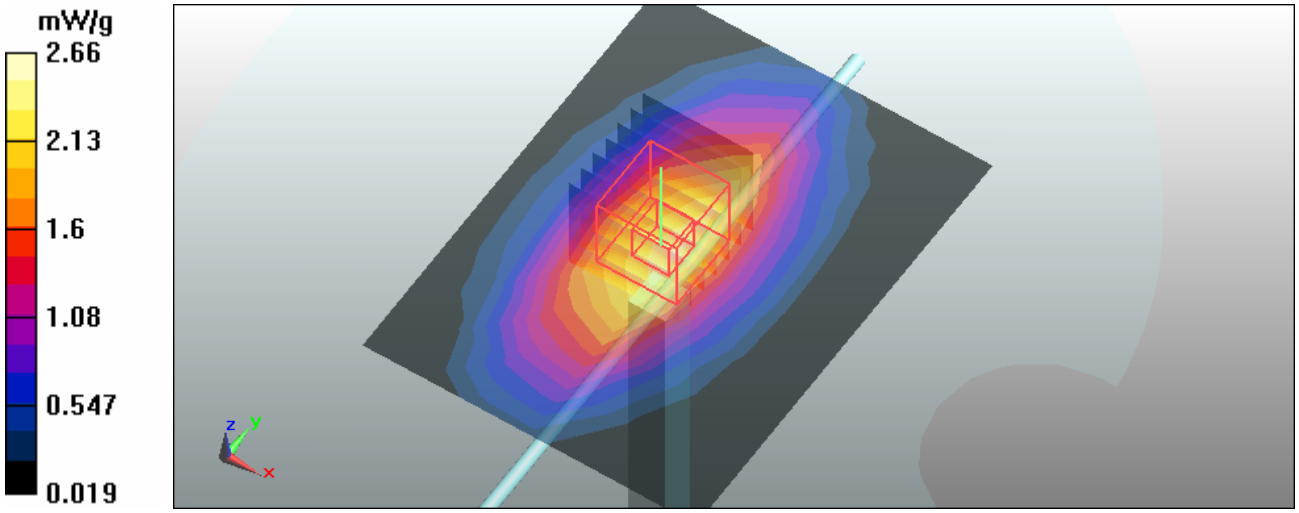
Communication System: CW ; Frequency: 835 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL850;Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42; ρ = 1000 kg/m^3 ;
Liquid level : 150 mm
Phantom section: Flat Section ; Separation distance : 15 mm (The feetpoint of the dipole to the Phantom)Air temp. : 22.8 degrees ; Liquid temp. : 21.5 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.8, 9.8, 9.8) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

System Performance Check at Frequencies 835 MHz/d=15mm, Pin=250 mW, dist=3.0mm /Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.56 mW/g

System Performance Check at Frequencies 835 MHz/d=15mm, Pin=250 mW, dist=3.0mm /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.8 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.47 mW/g
Maximum value of SAR (measured) = 2.66 mW/g



Date/Time: 2010/3/5 18:03:58

Test Laboratory: Bureau Veritas ADT

SystemPerformanceCheck-MSL835 MHz

DUT: Dipole 835 MHz ; Type: D835V2 ; Serial: 4d021 ; Test Frequency: 835 MHz

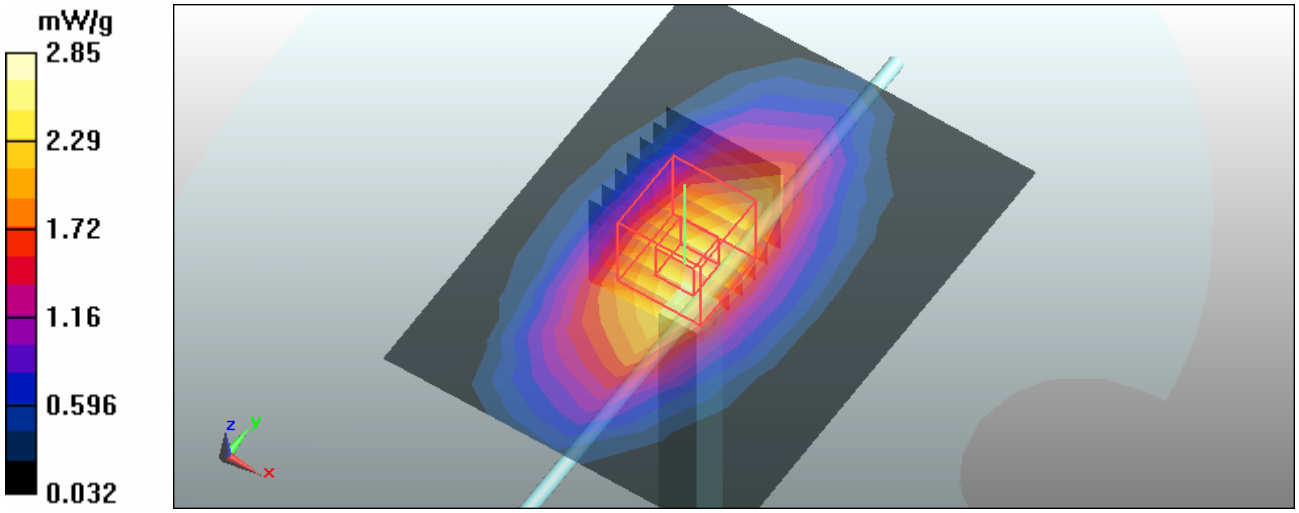
Communication System: CW ; Frequency: 835 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL900;Medium parameters used: f = 835 MHz; σ = 0.96 mho/m; ε_r = 56; ρ = 1000 kg/m^3 ;
Liquid level : 151 mm
Phantom section: Flat Section ; Separation distance : 15 mm (The feetpoint of the dipole to the Phantom)Air temp. : 23 degrees ; Liquid temp. : 22.1 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(9.83, 9.83, 9.83) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

System Performance Check at Frequencies 835 MHz/d=15mm, Pin=250 mW, dist=3.0mm /Area Scan (7x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 2.68 mW/g

System Performance Check at Frequencies 835 MHz/d=15mm, Pin=250 mW, dist=3.0mm /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.2 V/m; Power Drift = 0.0068 dB
Peak SAR (extrapolated) = 3.66 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.85 mW/g



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Test Laboratory: Bureau Veritas ADT

SystemPerformanceCheck-HSL1900 MHz

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: 5d022 ; Test Frequency: 1900 MHz

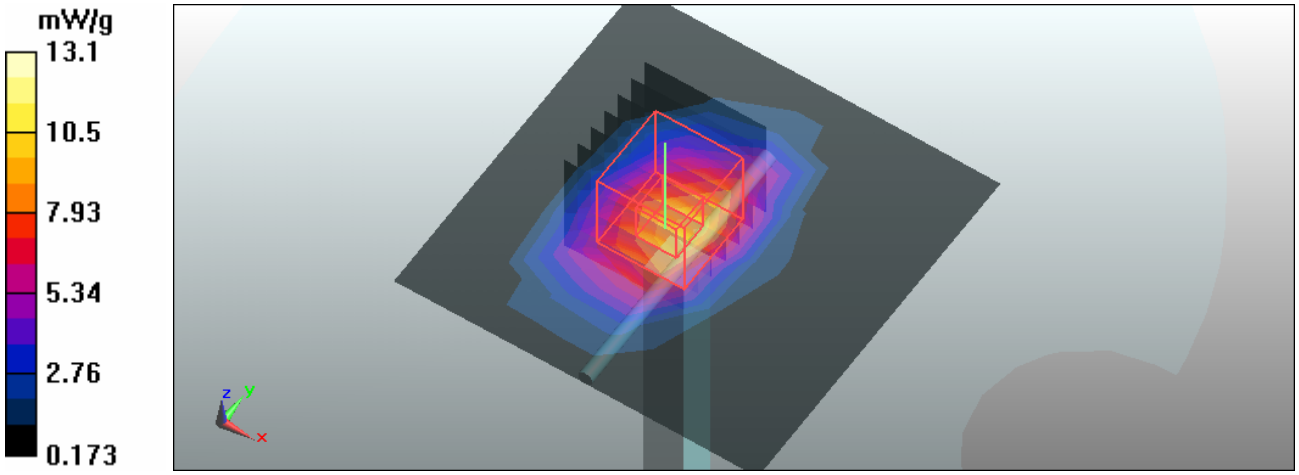
Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.44 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3 ;
Liquid level : 152 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 22.6 degrees ; Liquid temp. : 21.3 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157;

System Performance Check at Frequencies 1.9 GHz/d=10mm, Pin=250 mW, dist=3.0mm /Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.7 mW/g

System Performance Check at Frequencies 1.9 GHz/d=10mm, Pin=250 mW, dist=3.0mm /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.9 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 19.8 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.15 mW/g
Maximum value of SAR (measured) = 13.1 mW/g



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Test Laboratory: Bureau Veritas ADT

SystemPerformanceCheck-MSL1900MHz

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: 5d022 ; Test Frequency: 1900 MHz

Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: MSL1900;Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3 ; Liquid level : 155 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 22.4 degrees ; Liquid temp. : 21.2 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(8.52, 8.52, 8.52) ; Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

System Performance Check at Frequencies 1.9 GHz/d=10mm, Pin=250 mW, dist=3.0mm /Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 10.2 mW/g

System Performance Check at Frequencies 1.9 GHz/d=10mm, Pin=250 mW, dist=3.0mm /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.5 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.67 mW/g; SAR(10 g) = 5.02 mW/g
Maximum value of SAR (measured) = 12.1 mW/g