SAR SUPPLEMENT REPORT

-preliminary and worst case finding supplement data

REPORT NO.: SA981022L04-5

MODEL NO.: MC75A8

RECEIVED: Oct. 22, 2009

TESTED: Jun. 07 ~ Jun. 08, 2010

ISSUED: Jun. 17, 2010

APPLICANT: Symbol Technologies, Inc.

ADDRESS: One Motorola Plaza, Holtsville, NY-11742-1300, U.S.A.

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:	EDA (Enterprise Digital Assistant)
MODEL:	MC75A8
BRAND:	Symbol
APPLICANT:	Symbol Technologies, Inc.
TESTED:	Jun. 07 ~ Jun. 08, 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: MC75A8) have 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 :** Jun. 17, 2010
Joanna Wang / Senior Specialist

TECHNICAL ACCEPTANCE : _____ , **DATE :** Jun. 17, 2010
Responsible for RF
Mason Chang / Engineer

APPROVED BY : _____ , **DATE :** Jun. 17, 2010
Gary Chang / Assistant Manager

REVISED VERSION	REVISED DATE	DESCRIPTION
Ver. 1	Jun. 17, 2010	Modified typing error.

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

EUT	EDA (Enterprise Digital Assistant)	
MODEL NO.	MC75A8	
FCC ID	H9PMC75A8	
POWER SUPPLY	3.7Vdc (Li-Lon battery) 5.4Vdc (Adapter)	
CLASSIFICATION	Portable device, production unit	
MODULATION TYPE	**WLAN 802.11b :** CCK, DQPSK, DBPSK **WLAN 802.11g :** 64QAM, 16QAM, QPSK, BPSK **WLAN 802.11a:** 64QAM, 16QAM, QPSK, BPSK **Mobile:** OQPSK, HPSK	
OPERATING FREQUENCY	**WLAN** **802.11b/g:** 2412 ~ 2472MHz **802.11a:** 5180 ~ 5320MHz, 5500 ~ 5700MHz **Mobile:** 824.7MHz ~ 848.3MHz, 1851.25MHz ~ 1908.75MHz	
CHANNEL FREQUENCIES UNDER TEST AND ITS CONDUCTED OUTPUT POWER	**802.11a:** 8.0dBm / Ch64: 5320MHz **CDMA 1900:** 23.8dBm / Ch 25: 1851.25Hz 23.9dBm / Ch 600: 1880.00MHz 23.9dBm / Ch 1175: 1908.75MHz	
MAX. AVERAGE SAR (1g)	**Head:** 1.24W/kg	
ANTENNA TYPE	**WLAN 802.11a:** inverted F antenna (Main) Planar inverted antenna (Aux.) **Mobile:** Monopole antenna	
MAX. ANTENNA GAIN	**WLAN**	
	2.4GHz: -4.39dBi (Main)	2.4GHz: 2.31dBi (Aux.)
	5.0GHz: 2.05dBi (Main)	5.0GHz: 3.29dBi (Aux.)
	Mobile:	
	850MHz: -0.67dBi	1900MHz: 1.5dBi
DATA CABLE	NA	
I/O PORTS	Refer to user's manual	
ACCESSORY DEVICES	Battery	

NOTE:

1. The EUT is an EDA (Enterprise Digital Assistant). The test data are separated into following test reports:

	REFERENCE REPORT
SAR test report-247 2.4G WLAN	SA981022L04
SAR test report-247 5G WLAN	
SAR test report-407 5G WLAN	SA981022L04-1
SAR test report-247 BLUETOOTH	SA981022L04-2
SAR test report-CDMA850	SA981022L04-3
SAR test report-CDMA1900	
SAR collocated report-WLAN 802.11a + MOBILE	SA981022L04-4
SAR supplement report-preliminary and worst case finding supplement data	SA981022L04-5

2. The communicated functions of EUT listed as below:

		850MHz	1900MHz	
3G	**CDMA 1X RTT EV-OD Rev 0 EV-OD Rev A (Power class 3)**	√	√	**With WLAN 802.11a/b/g + BT 2.0 with EDR + GPS**

3. The models identified as below are identical to each other except of the following options:
   - Keypad: Numeric / QWERTY
   - Barcode reader: 1D laser scanner / BB Imager

BRAND	MODEL	DESCRIPTION
Symbol	MC75A8	EVDO 1D Numeric
Symbol	MC75A8	EVDO 1D QWERTY
Symbol	MC75A8	EVDO BB Numeric
Symbol	MC75A8	EVDO BB QWERTY

4. The EUT uses the following Li-ion batteries:

BATTERY 1 (1.5X)	
BRAND:	MOTOROLA
PART NUMBER:	82-71364-05 Rev D
RATING:	3.7Vdc, 3600mAh, 13.3Wh

BATTERY 2 (2.5X)	
BRAND:	MOTOROLA
PART NUMBER:	82-71364-06 Rev C
RATING:	3.7Vdc, 4800mAh, 17.7Wh

*The applicant defined the normal working voltage of the battery is from 3.7Vdc to 4.2Vdc.

*The EUT have been pre-tested and found “BB / QWERTY + 1.5X battery” was the worst case configuration for final test.

5. The following accessories are optional to the DUT.

PRODUCT	BRAND	MODEL	DESCRIPTION
RS232 charging cable	Motorola	25-102776-01R	1.2m non-shielded cable with one core
USB charging cable	Motorola	25-102775-01R	1.5m shielded cable with one core
Headset	Motorola	50-11300-050R	VR10 headset 0.8m non-shielded cable with one core
Power Supply Adaptor	Motorola	EADP-16BB A	I/P: 100-240Vac, 50-60Hz, 0.4A O/P: 5.4Vdc, 3A 1.8m non-shielded cable without core
Fabric holster	Motorola	SG-MC7521215-01R	Contain metal
Ridged holster	Motorola	SG-MC7011110-02R	Contain metal

6. Hardware version: EVT1A.
7. Software version: BSP_21.03.
8. 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 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC 47 CFR 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.

2.3 GENERAL INOFRMATION OF THE SAR SYSTEM

DASY5 (software 5.0 Build 125) 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 to > 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, CENELEC 50361 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 ± 0.2 mm
FILLING VOLUME	Approx. 25 liters
DIMENSIONS	Height: 810 mm; Length: 1000 mm; Width: 500 mm

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	1900MHz, 5200MHz
RETURN LOSS	> 20 dB at specified validation position
POWER CAPABILITY	> 100 W (f < 1GHz); > 40 W (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 GSM900/DCS1800/PCS1900 GSM/GPRS/CDMA 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.

2.4 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-1485	NA	NA
2	E-Field Probe	S & P	EX3DV3	3504	Jan. 26, 2010	Jan. 25, 2011
3	DAE	S & P	DAE	510	Dec. 16, 2009	Dec. 15, 2010
4	Robot Positioner	Staubli Unimation	NA	NA	NA	NA
5	Validation Dipole	S & P	D1900V2	5d036	Feb. 23, 2010	Feb. 22, 2011
6		S & P	D5GHzV2	1018	Jan. 22, 2010	Jan. 21, 2011
7	Power Meter	Agilent	E4416A	GB41291763	Sep. 30, 2009	Sep. 29, 2010
8	Power Sensor	Agilent	E9327A	US40441181	Sep. 30, 2009	Sep. 29, 2010

NOTE: Before starting the measurement, 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	E8358A	US41480538	Dec. 03, 2009	Dec. 02, 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.

2.5 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 1 g and 10 g 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 1 g and 10 g.

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.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within -2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

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

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

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 POSITION

4.1 DESCRIPTION OF TEST POSITION

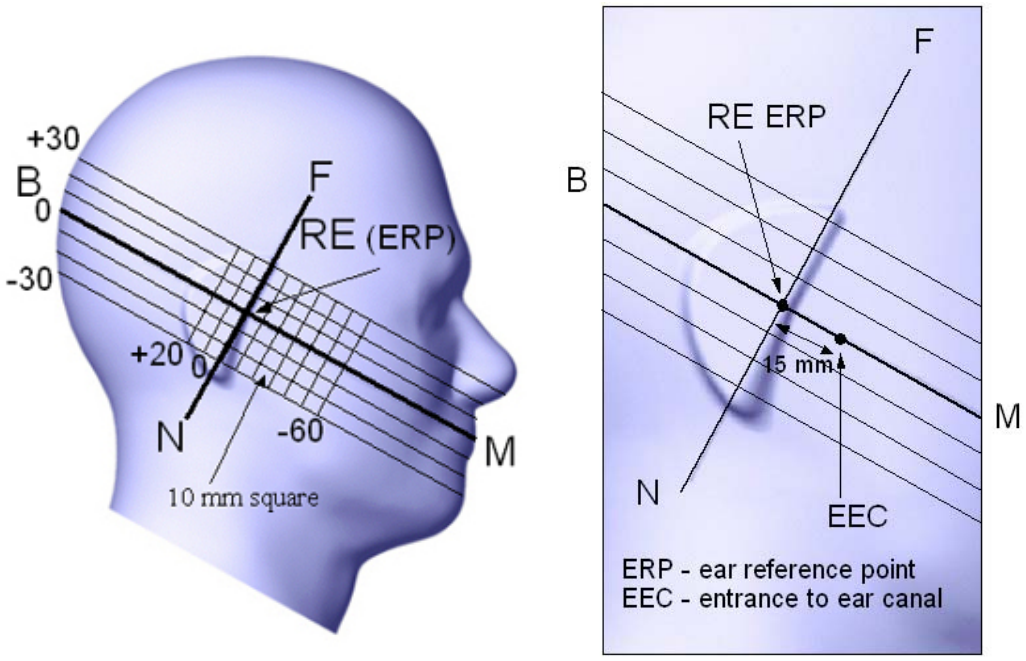


FIGURE 3.1

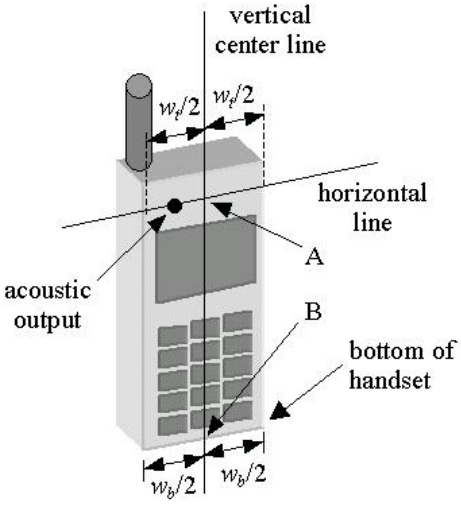


FIGURE 3.1a

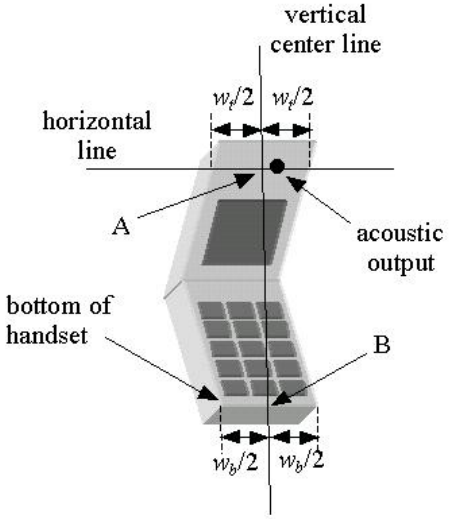
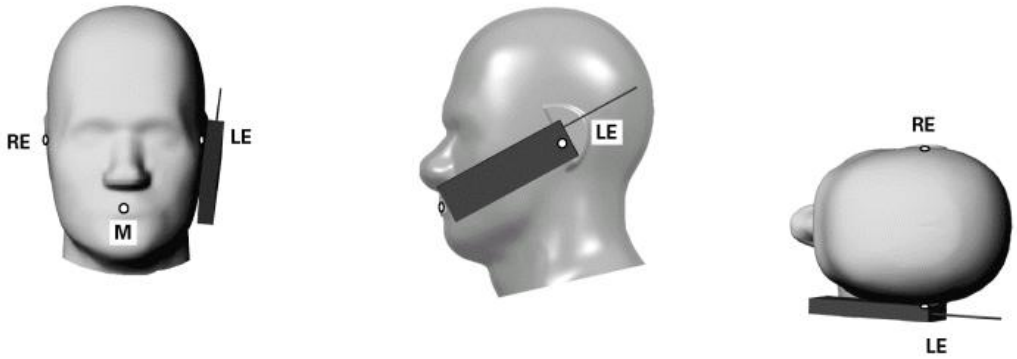


FIGURE 3.1b

4.1.1 TOUCH/CHEEK TEST POSITION

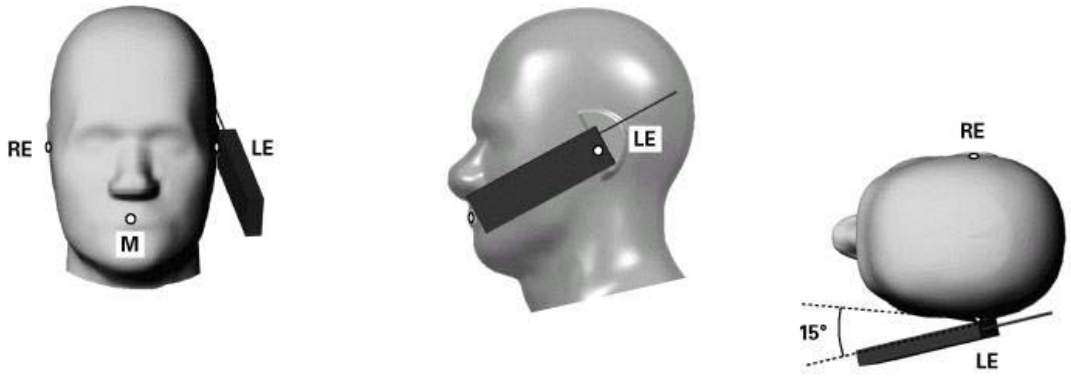
The head position in Figure 3.1, the ear reference points ERP are 15mm above entrance to ear canal along the B-M line. The line N-F (Neck-Front) is perpendicular to the B-M (Back Mouth) line. The handset device in Figure 3.1a and 3.1b,The vertical centerline pass through two points on the front side 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.

5. 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 ingredients are used：

- **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 (75-125 mPa.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 INFORMATION FOR 5GHz SIMULATING LIQUID

The 5GHz liquids was purchased from SPEAG.

Body liquid model: HSL 5800, P/N: SL AAH 5800 AA

Head liquid model: M 5800, P/N: SL AAM 580 AD

5GHz liquids contain the following ingredients:

Water 64 - 78%

Mineral Oil 11 - 18%

Emulsifiers 9 - 15%

Additives and Salt 2 - 3%

THE RECIPES FOR 1900MHz SIMULATING LIQUID TABLE

INGREDIENT	HEAD SIMULATING LIQUID 1900MHz (HSL-1900)
Water	55.24%
DGMBE	44.45%
Salt	0.306%
Dielectric Parameters at 22℃	f= 1900MHz ε= 40.0 ± 5% σ= 1.40 ± 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 30 min. 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 900 MHz) and press ‘Option’-button.

Select the current medium for the frequency of the validation (e.g. Setup Medium Brain 900 MHz).

FOR CDMA 1900 BAND SIMULATING LIQUID

LIQUID TYPE		HSL-1900		
SIMULATING LIQUID TEMP.		22.7		
TEST DATE		Jun. 07, 2010		
TESTED BY		James Fan		
FREQ. (MHz)	**LIQUID PARAMETER**	**STANDARD VALUE**	**MEASUREMENT VALUE**	**ERROR PERCENTAGE (%)**
1851.25	Permitivity (ε)	40.00	40.70	1.75
1880.00		40.00	40.70	1.75
1900.00		40.00	40.60	1.50
1908.75		40.00	40.50	1.25
1851.25	Conductivity (σ) S/m	1.40	1.41	0.71
1880.00		1.40	1.42	1.43
1900.00		1.40	1.42	1.43
1908.75		1.40	1.43	2.14

LIQUID TYPE		HSL-1900		
SIMULATING LIQUID TEMP.		22.8		
TEST DATE		Jun. 08, 2010		
TESTED BY		James Fan		
FREQ. (MHz)	**LIQUID PARAMETER**	**STANDARD VALUE**	**MEASUREMENT VALUE**	**ERROR PERCENTAGE (%)**
1851.25	Permitivity (ε)	40.00	40.60	1.50
1880.00		40.00	40.60	1.50
1900.00		40.00	40.50	1.25
1908.75		40.00	40.40	1.00
1851.25	Conductivity (σ) S/m	1.40	1.42	1.43
1880.00		1.40	1.42	1.43
1900.00		1.40	1.43	2.14
1908.75		1.40	1.43	2.14

FOR WLAN 5GHz BAND SIMULATING LIQUID

LIQUID TYPE		HSL-5200		
SIMULATING LIQUID TEMP.		22.7		
TEST DATE		Jun. 07, 2010		
TESTED BY		James Fan		
FREQ. (MHz)	LIQUID PARAMETER	STANDARD VALUE	MEASUREMENT VALUE	ERROR PERCENTAGE (%)
5200	Permitivity (ε)	36.00	36.70	1.94
5320		35.80	36.60	2.23
5200	Conductivity (σ) S/m	4.66	4.70	0.86
5320		4.78	4.81	0.63

LIQUID TYPE		HSL-5200		
SIMULATING LIQUID TEMP.		22.9		
TEST DATE		Jun. 08, 2010		
TESTED BY		James Fan		
FREQ. (MHz)	LIQUID PARAMETER	STANDARD VALUE	MEASUREMENT VALUE	ERROR PERCENTAGE (%)
5200	Permitivity (ε)	36.00	36.60	1.67
5320		35.80	36.50	1.96
5200	Conductivity (σ) S/m	4.66	4.72	1.29
5320		4.78	4.82	0.84

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 you start the system performance check, need only to tell the system with which components (probe, medium, and device) are performing the system performance check; the system will take care of all parameters. The dipole must be placed beneath the flat phantom 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 the EUT 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 ±0.02 dB.

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**
HSL 1900	10.00 (1g)	10.30	3.00	10mm	Jun. 07, 2010
HSL 1900	10.00 (1g)	10.40	4.00	10mm	Jun. 08, 2010
HSL 5200	7.95 (1g)	8.35	5.03	10mm	Jun. 07, 2010
HSL 5200	7.95 (1g)	8.32	4.65	10mm	Jun. 08, 2010
TESTED BY	James Fan				

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	6.55	Normal	1	1	1	6.55	6.55	∞
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	2.00	Rectangular	√3	1	1	1.15	1.15	∞
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	0.80	Rectangular	√3	1	1	0.46	0.46	∞
Probe Positioning	9.90	Rectangular	√3	1	1	5.72	5.72	∞
Max. SAR Eval.	4.00	Rectangular	√3	1	1	2.31	2.31	∞
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)	2.40	Normal	1	0.64	0.43	1.54	1.03	∞
Liquid Permittivity (target)	5.00	Rectangular	√3	0.6	0.49	1.73	1.41	∞
Liquid Permittivity (measurement)	2.82	Normal	1	0.6	0.49	1.69	1.38	∞
Combined Standard Uncertainty						**10.92**	**10.68**	
Coverage Factor for 95%						**Kp=2**		
Expanded Uncertainty (K=2)						**21.84**	**21.37**	

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

7. TEST RESULTS

7.1 TEST PROCEDURES

The EUT (EDA (Enterprise Digital Assistant)) 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 50361, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

Zoom scan:

• Power reference measurement

• Verification of the power reference measurement

• Area scan

• Zoom scan

• Power reference measurement

The area scan with 15mm x 15mm grid was performed for the highest spatial SAR location. Consist of 11 x 13 points while the scan size is the 150mm x 180mm. 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 4.0 mm and maintained at a constant distance of ±1.0 mm during a zoom scan to determine peak SAR locations. The distance is 4mm 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 9mm separation distance. The cube size is 7 x 7 x 7 points consist of 343 points and the grid space is 5mm.

The measurement time is 0.5 s 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 4mm 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%.

Volume scan:

- Power reference measurement
- Verification of the power reference measurement
- Volume scan
- Power reference measurement

Volume Scans are used to assess peak SAR and averaged SAR measurement in largely extended 3-dimensional volumes within any phantom. This measurement does not need any previous area scan

In the volume scan, the distance between the measurement point at the probe sensor location (geometric center behind the probe tip) and the phantom surface is 2.5mm.The scan size is 18 x 16 x 9 points and the grid space is 4mm.

The measurement time is 0.5s at each point of the volume 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

Multiband Data Extractions

In order to extract and process measurements within different frequency bands, the SEMCAD X Postprocessor allows the user to combine and subsequently superpose these measurement data using the Tools menu. Using combined Multi Band Averaged SAR of tools menu to get the multiband SAR value.

7.2 MEASURED SAR RESULTS

Following tests are requested by the commission in Tracking Number 974053 (Applicant test reduction PBA) for demonstrating that the selected EUT model, BB Qwerty / 1.5x Battery, is indeed the worst case model. The test data below show that multiband SAR of rest 3 models at worst configuration found in BB Qwerty /1.5x Battery is lower than the fully tested model and this concluded that the selected model is conservative.

ZOOM SCAN SAR VALUE:

SAR (1g)		
TEST POSITION	**LEFT / CHEEK**	**LEFT / TILT**
CDMA 1900	**Configuration: 1D Numeric / 1.5x Battery**	
Ch 25: 1851.25MHz	1.060	0.999
Ch 600: 1880.00MHz	1.110	1.110
Ch 1175: 1908.75MHz	1.060	1.040
CDMA 1900	**Configuration: 1D QWERTY / 1.5x Battery**	
Ch 25: 1851.25MHz	1.120	1.110
Ch 600: 1880.00MHz	1.200	1.180
Ch 1175: 1908.75MHz	1.200	1.120
CDMA 1900	**Configuration: BB Numeric / 1.5x Battery**	
Ch 25: 1851.25MHz	1.080	0.996
Ch 600: 1880.00MHz	1.240	1.070
Ch 1175: 1908.75MHz	1.170	1.030
802.11a	**Configuration: 1D Numeric / 1.5x Battery**	
Ch 64: 5320MHz	0.460	0.423
802.11a	**Configuration: 1D QWERTY / 1.5x Battery**	
Ch 64: 5320MHz	0.440	0.430
802.11a	**Configuration: BB Numeric / 1.5x Battery**	
Ch 64: 5320MHz	0.524	0.510

NOTE:

1. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/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. Temperature of Liquid is 22±1°C

VOLUME SCAN SAR VALUE:

CDMA 1900

Configuration: 1D QWERTY / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 600: 1880.00MHz	1.190
Ch 1175: 1908.75MHz	1.210
TEST POSITION	**LEFT / TILT**
Ch 600: 1880.00MHz	1.160

Configuration: BB Numeric / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 25: 1851.25MHz	1.080
Ch 600: 1880.00MHz	1.210
Ch 1175: 1908.75MHz	1.160

802.11a

Configuration: 1D QWERTY / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 64: 5320MHz	0.459
TEST POSITION	**LEFT / TILT**
Ch 64: 5320MHz	0.428

Configuration: BB Numeric / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 64: 5320MHz	0.513

NOTE:

1. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/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. Temperature of Liquid is 22±1°C

MULTIBAND SAR VALUE:

CDMA 1900 + 802.11a

Configuration: BB Numeric / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 25: 1851.25MHz + Ch 64: 5320MHz	1.100
Ch 600: 1880.00MHz + Ch 64: 5320MHz	1.240
Ch 1175: 1908.75MHz + Ch 64: 5320MHz	1.180

Configuration: 1D QWERTY / 1.5x Battery

SAR (1g)	
TEST POSITION	**LEFT / CHEEK**
Ch 600: 1880.00MHz + Ch 64: 5320MHz	1.200
Ch 1175: 1908.75MHz + Ch 64: 5320MHz	1.230
TEST POSITION	**LEFT / TILT**
Ch 600: 1880.00MHz + Ch 64: 5320MHz	1.180

NOTE:

1. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/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. Temperature of Liquid is 22±1°C

7.3 SAR LIMITS

HUMAN EXPOSURE	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / controlled Exposure Environment)
Spatial Average (whole body)	0.08	0.4
Spatial Peak (averaged over 1 g)	**1.6**	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

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.

8. 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

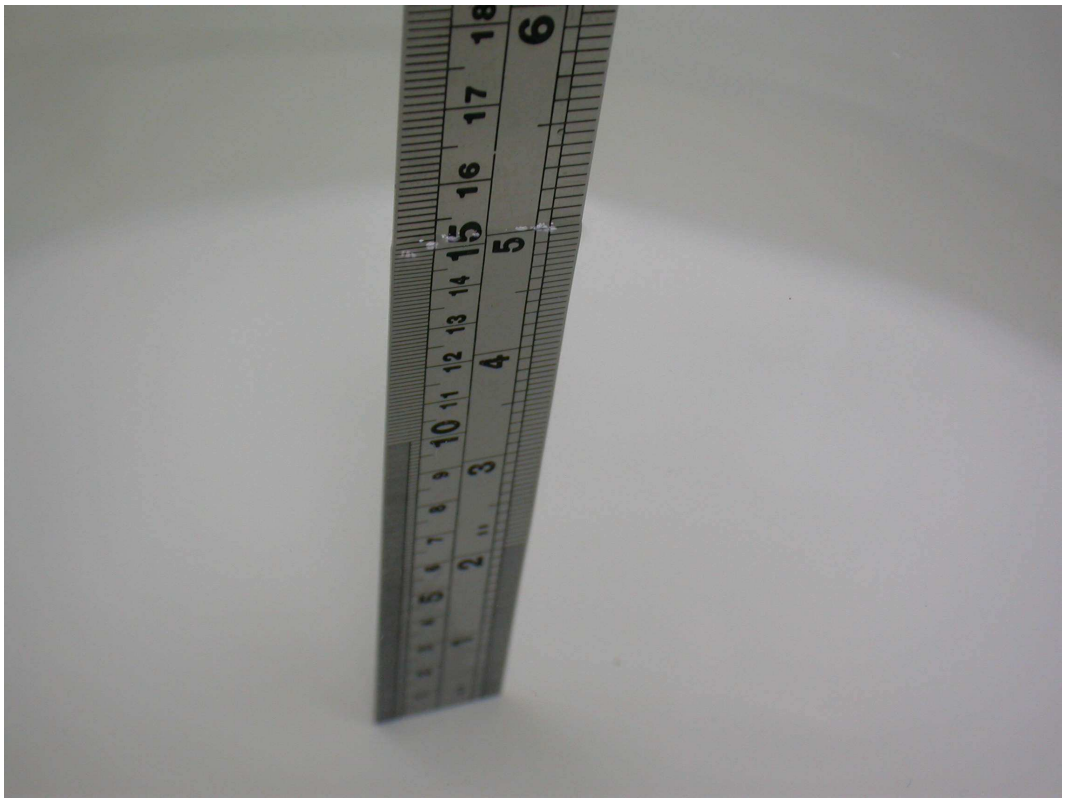
Web Site: www.adt.com.tw

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

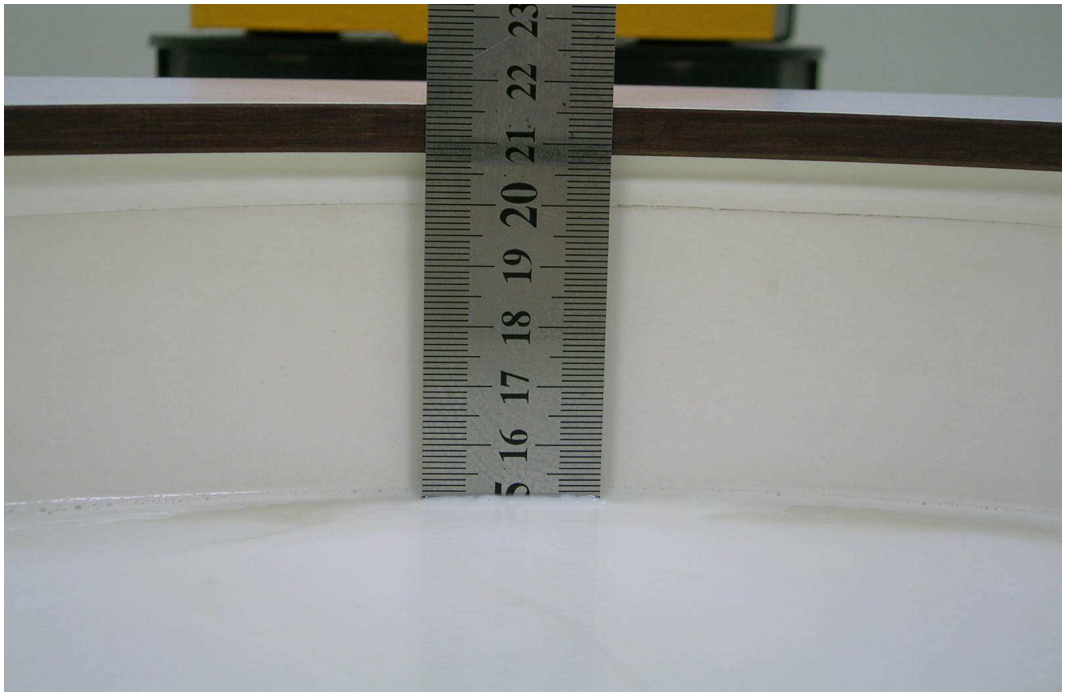
APPENDIX A: TEST DATA for Zoom scan SAR

Liquid Level Photo

Tissue HSL1900MHz D=152mm



Tissue HSL5500MHz D=151mm



Date/Time: 2010/6/7 01:42:17

Test Laboratory: Bureau Veritas ADT

M01-Left Head Cheek CDMA1900 Ch25 /1D/1.5xBatt/numeric

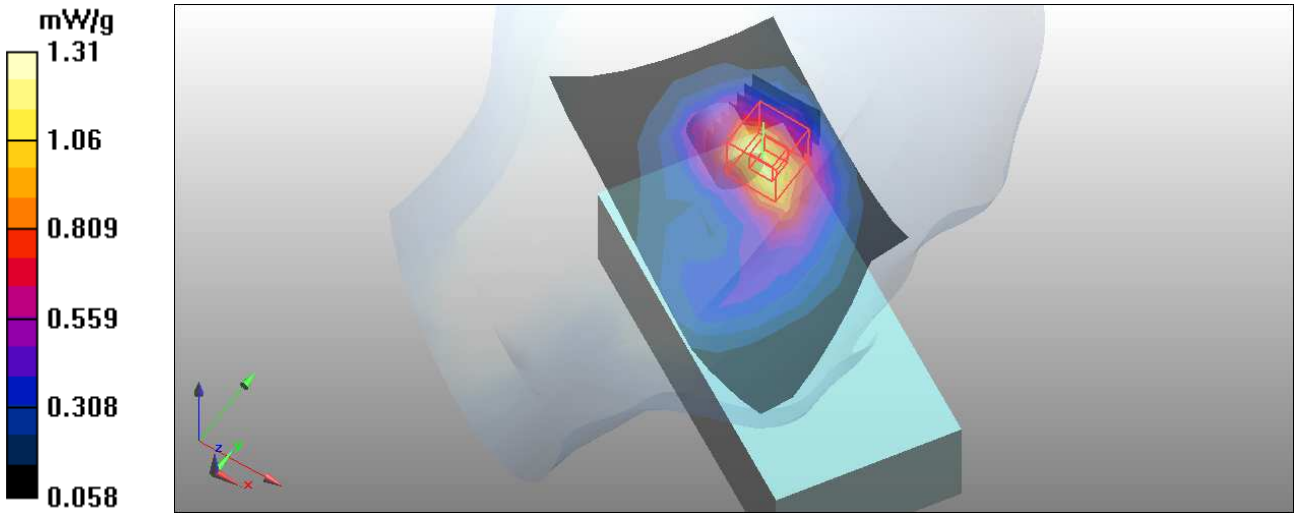
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.18 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 19.1 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.607 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



Date/Time: 2010/6/7 02:25:45

Test Laboratory: Bureau Veritas ADT

M02-Left Head Cheek CDMA1900 Ch600 /1D/1.5xBatt/numeric

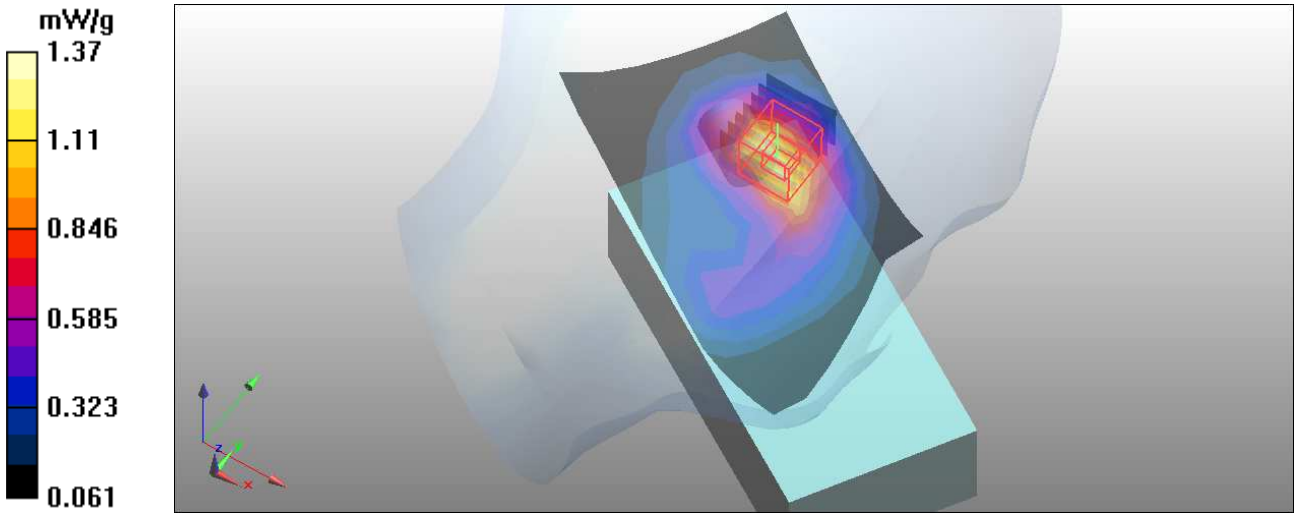
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.7; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

Configuration/CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.25 mW/g

Configuration/CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 20.1 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 1.83 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.644 mW/g
Maximum value of SAR (measured) = 1.37 mW/g



Date/Time: 2010/6/7 03:04:48

Test Laboratory: Bureau Veritas ADT

M03-Left Head Cheek CDMA1900 Ch1175 /1D/1.5xBatt/numeric

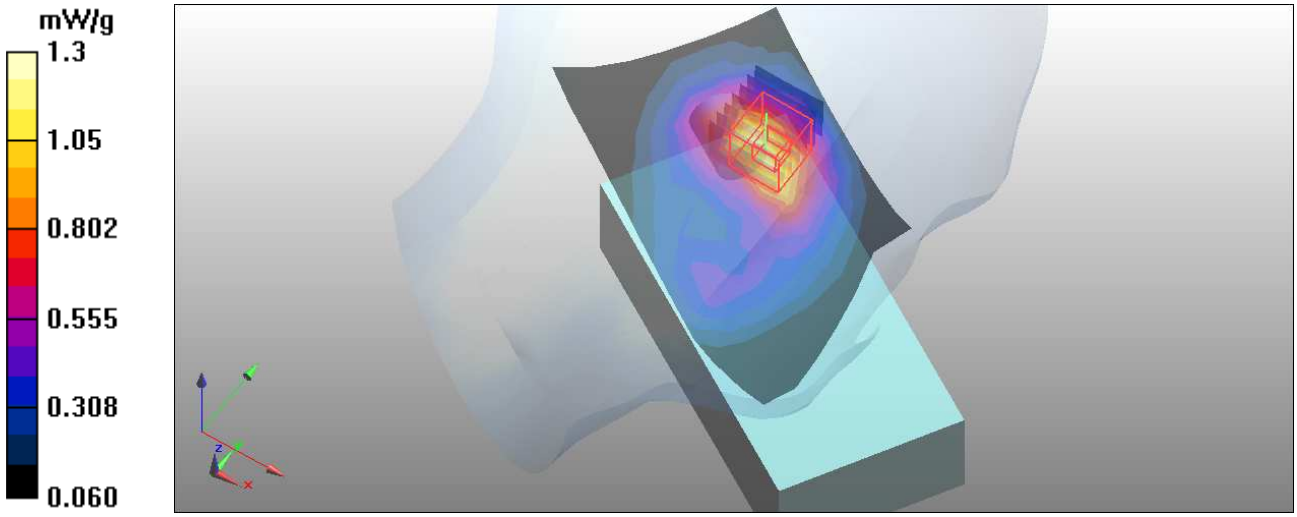
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.22 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 20 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 1.7 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.610 mW/g
Maximum value of SAR (measured) = 1.3 mW/g



Date/Time: 2010/6/7 03:45:54

Test Laboratory: Bureau Veritas ADT

M04-Left Head Tilt CDMA1900 Ch25 /1D/1.5xBatt/numeric

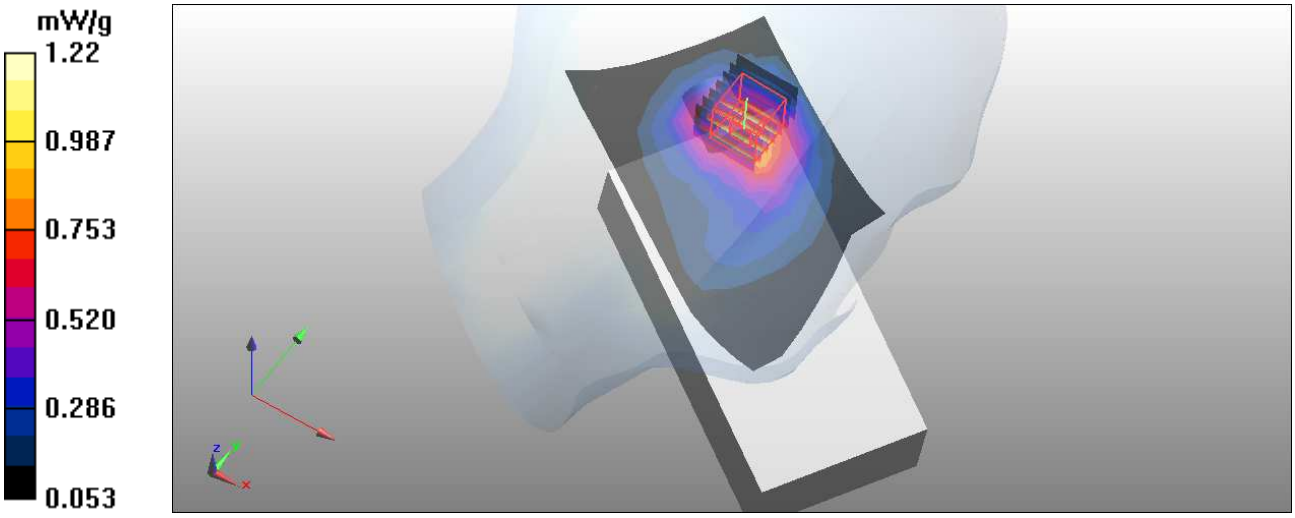
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; εr = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.19 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 19.2 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 1.76 W/kg
SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 1.22 mW/g



Date/Time: 2010/6/7 04:28:45

Test Laboratory: Bureau Veritas ADT

M05-Left Head Tilt CDMA1900 Ch600 /1D/1.5xBatt/numeric

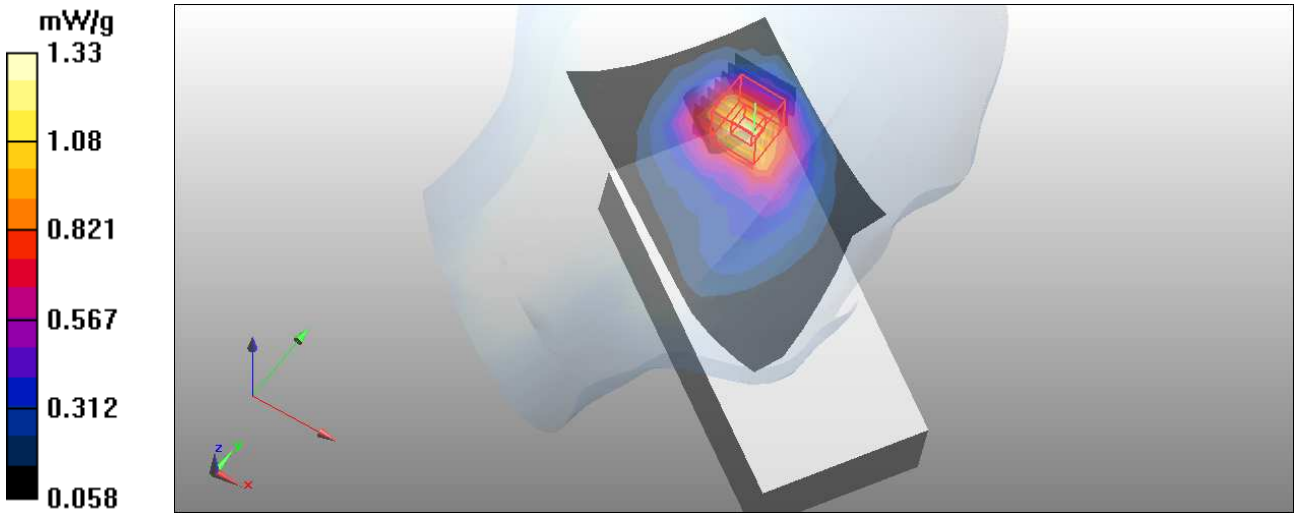
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.7; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.34 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 20.7 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.639 mW/g
Maximum value of SAR (measured) = 1.33 mW/g



Date/Time: 2010/6/7 05:16:57

Test Laboratory: Bureau Veritas ADT

M06-Left Head Tilt CDMA1900 Ch1175 /1D/1.5xBatt/numeric

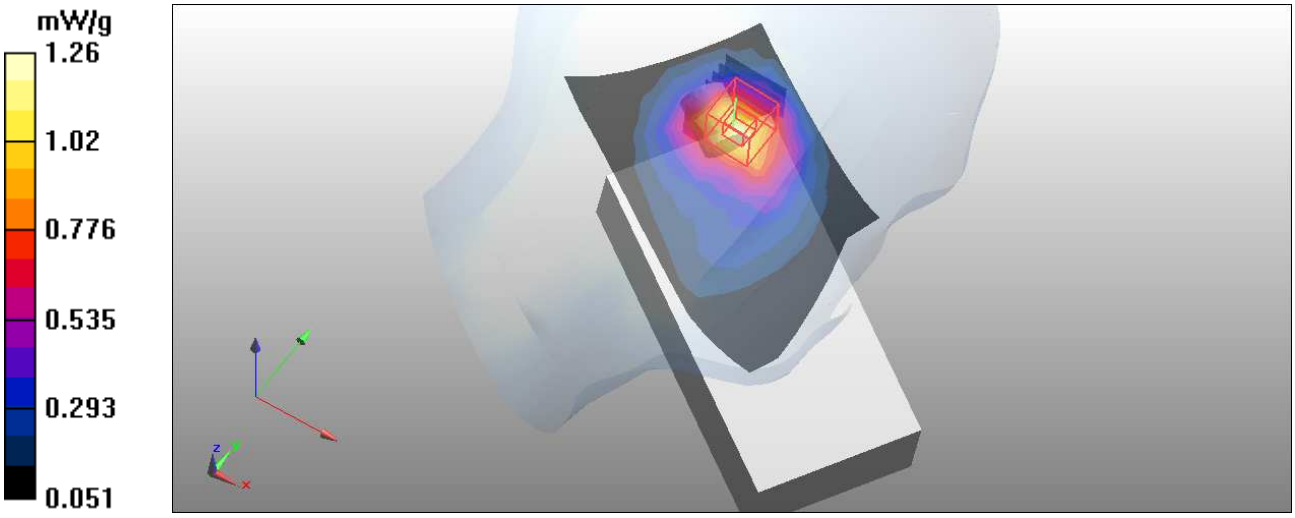
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.23 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 20.4 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.596 mW/g
Maximum value of SAR (measured) = 1.26 mW/g



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Test Laboratory: Bureau Veritas ADT

M07-Left Head Cheek CDMA1900 Ch25 /1D/1.5xBatt/qwerty

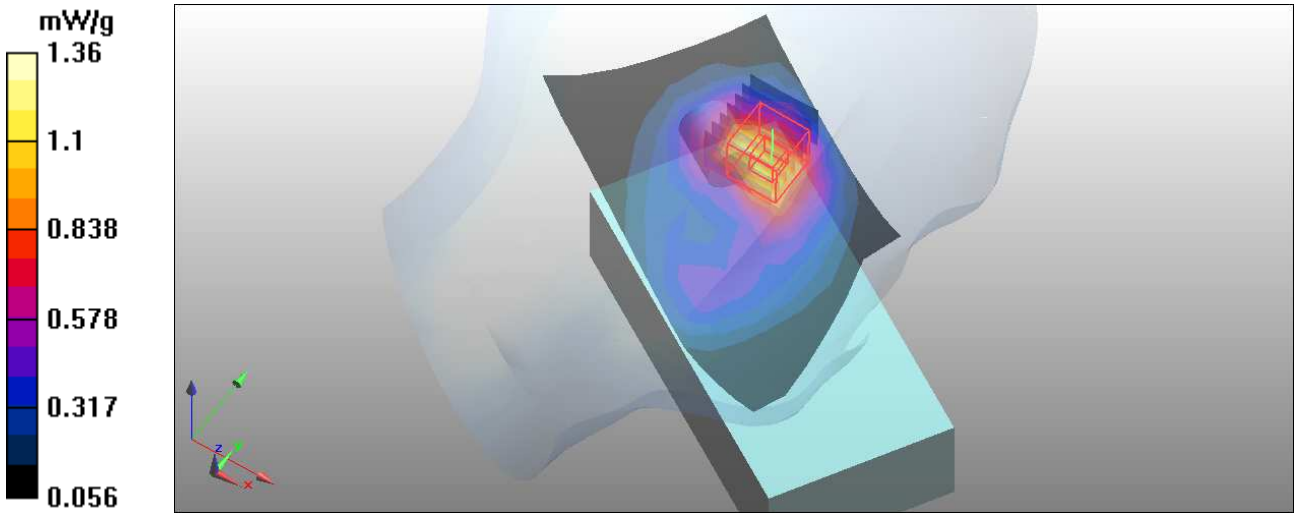
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; εr = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH25 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.17 mW/g

CDMA1900 CH25 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 20.2 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 1.9 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.633 mW/g
Maximum value of SAR (measured) = 1.36 mW/g



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Test Laboratory: Bureau Veritas ADT

M08-Left Head Cheek CDMA1900 Ch600 /1D/1.5xBatt/qwerty

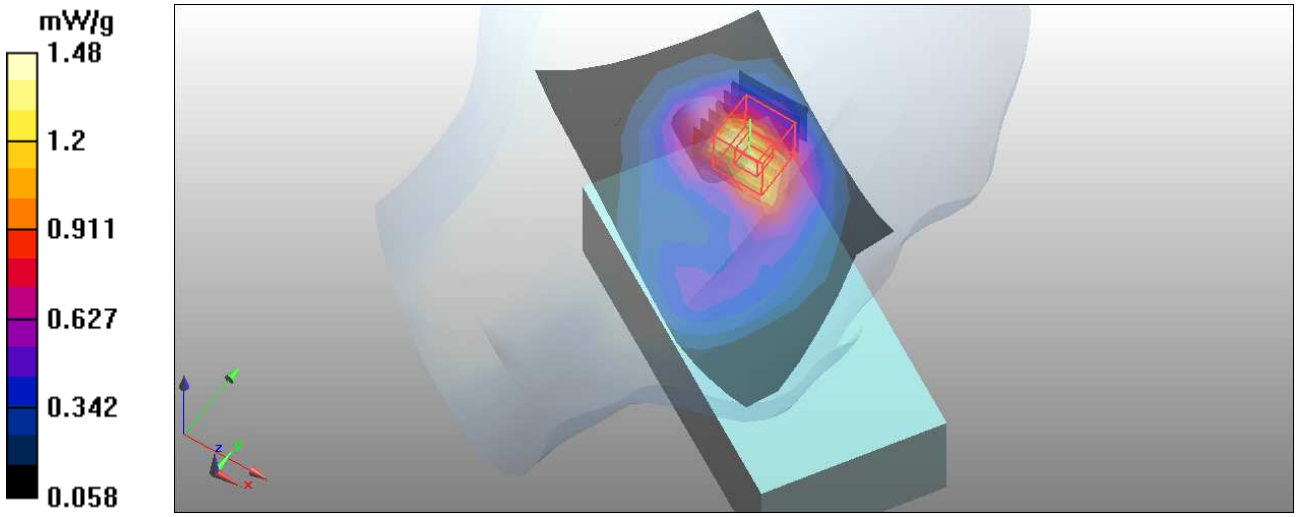
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.7; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.33 mW/g

CDMA1900 CH600 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 21.3 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.680 mW/g
Maximum value of SAR (measured) = 1.48 mW/g



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Test Laboratory: Bureau Veritas ADT

M09-Left Head Cheek CDMA1900 Ch1175 /1D/1.5xBatt/qwerty

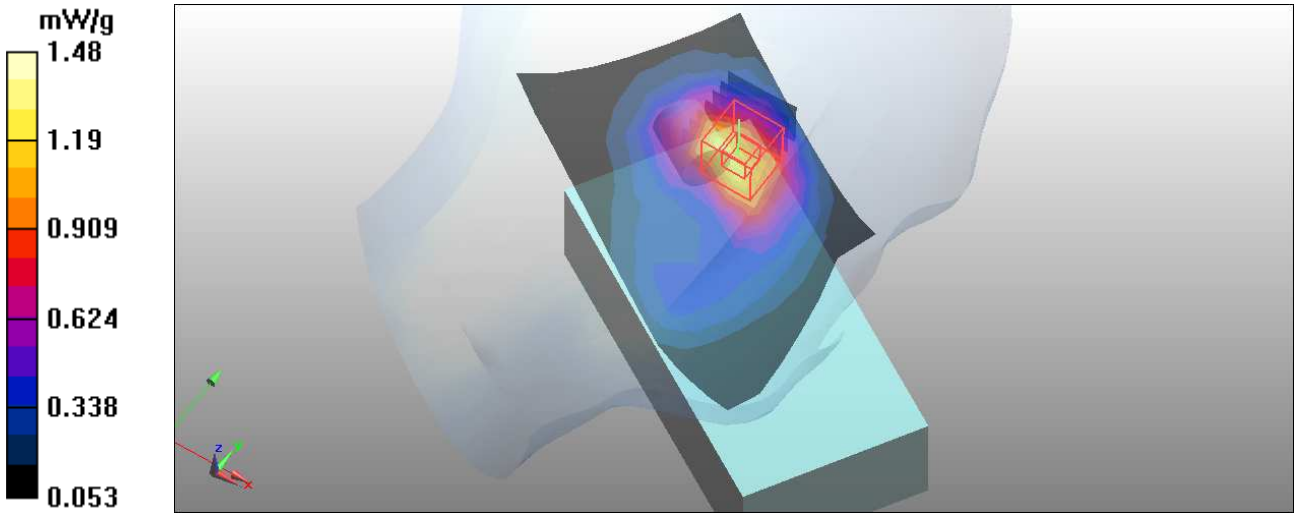
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH1175 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.29 mW/g

CDMA1900 CH1175 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 19.9 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 2.05 W/kg
SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.675 mW/g
Maximum value of SAR (measured) = 1.48 mW/g



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Test Laboratory: Bureau Veritas ADT

M10-Left Head Tilt CDMA1900 Ch25 /1D/1.5xBatt/qwerty

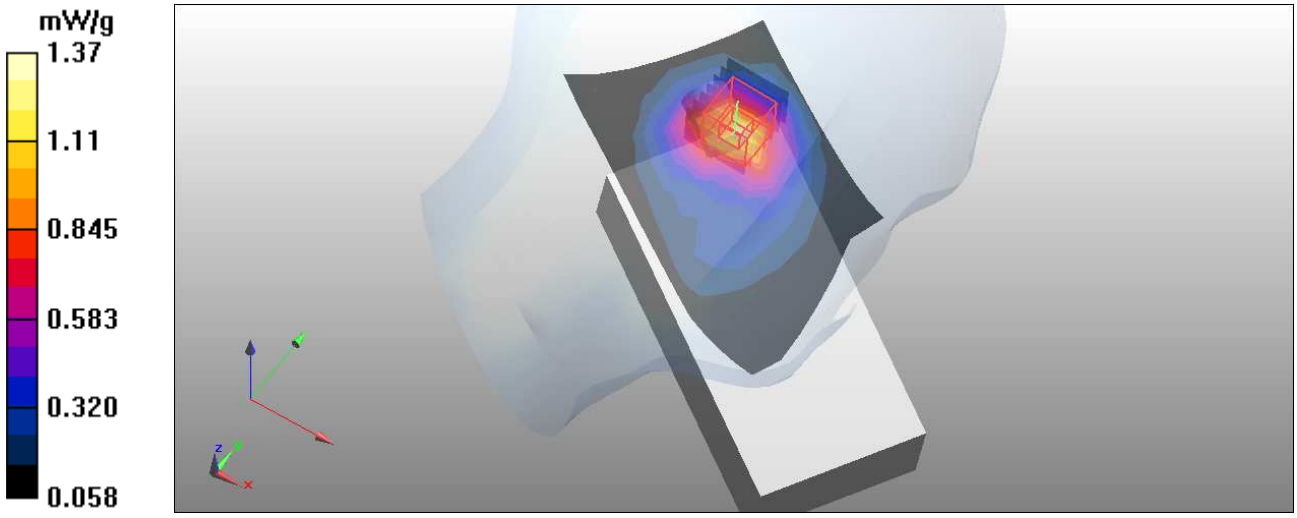
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; εr = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH25 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.32 mW/g

CDMA1900 CH25 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 22.5 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.625 mW/g
Maximum value of SAR (measured) = 1.37 mW/g



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Test Laboratory: Bureau Veritas ADT

M11-Left Head Tilt CDMA1900 Ch600 /1D/1.5xBatt/qwerty

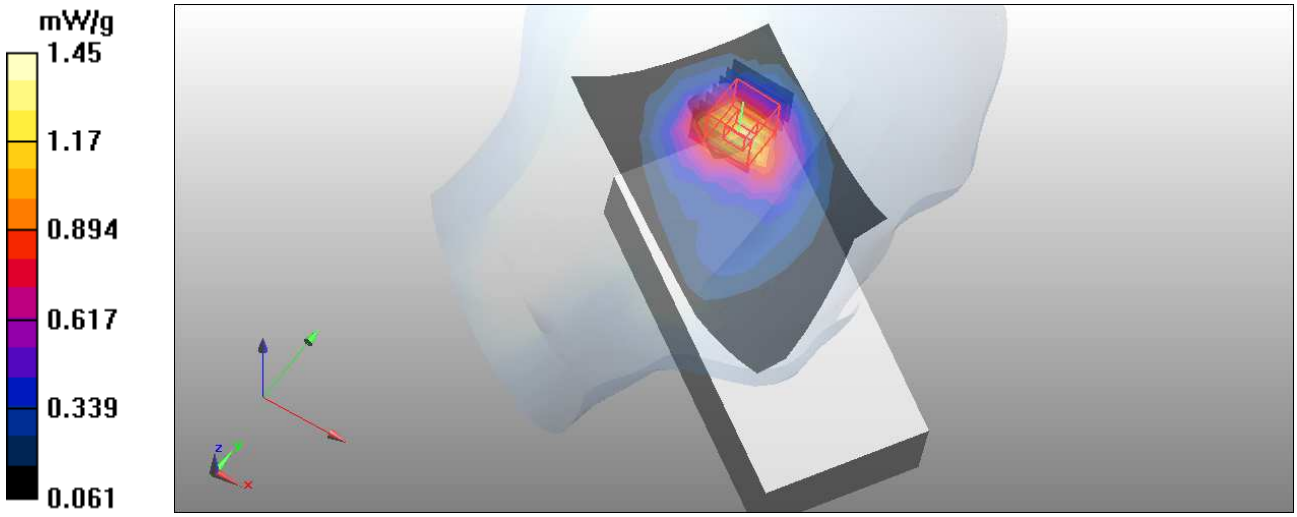
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.7; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.41 mW/g

CDMA1900 CH600 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 23.5 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.672 mW/g
Maximum value of SAR (measured) = 1.45 mW/g



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Test Laboratory: Bureau Veritas ADT

M12-Left Head Tilt CDMA1900 Ch1175 /1D/1.5xBatt/qwerty

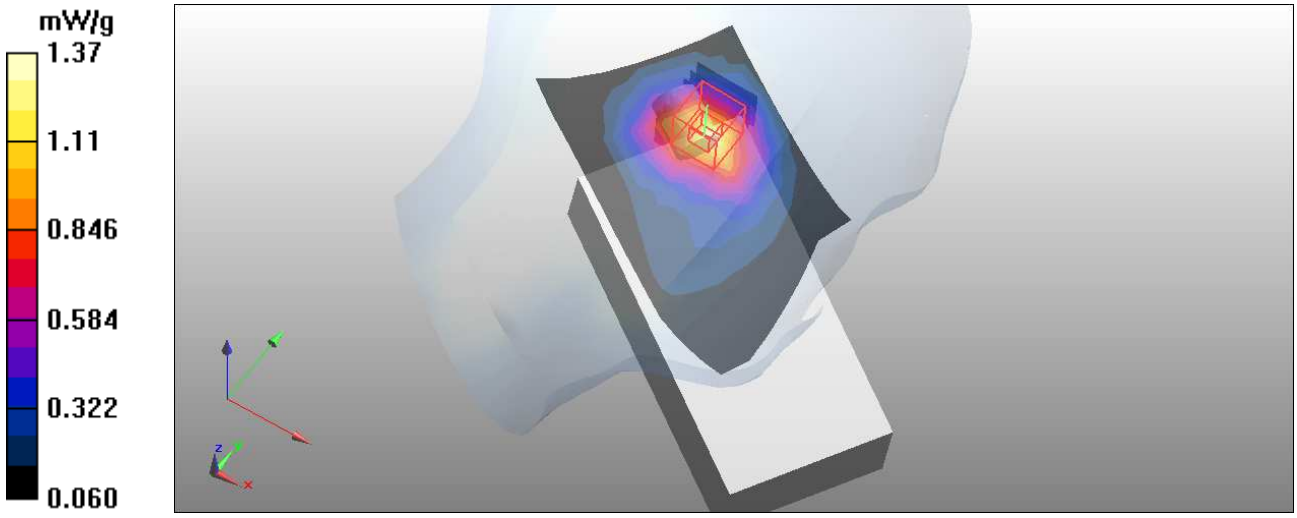
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH1175 Zoom/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.35 mW/g

CDMA1900 CH1175 Zoom/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm

Reference Value = 22.4 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.635 mW/g
Maximum value of SAR (measured) = 1.37 mW/g



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Test Laboratory: Bureau Veritas ADT

M13-Left Head Cheek CDMA1900 Ch25 Volume /2D/1.5xBatt/numeric

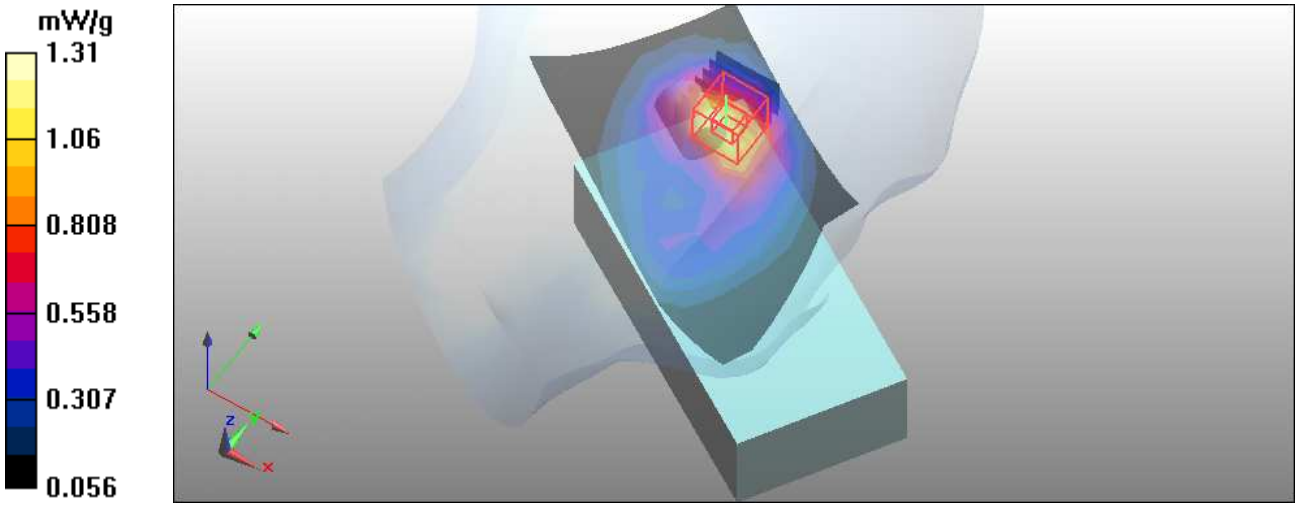
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; εr = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH25 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.25 mW/g

CDMA1900 CH25 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.7 V/m; Power Drift = -0.095 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.623 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



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Test Laboratory: Bureau Veritas ADT

M14-Left Head Cheek CDMA1900 Ch600 /2D/1.5xBatt/numeric

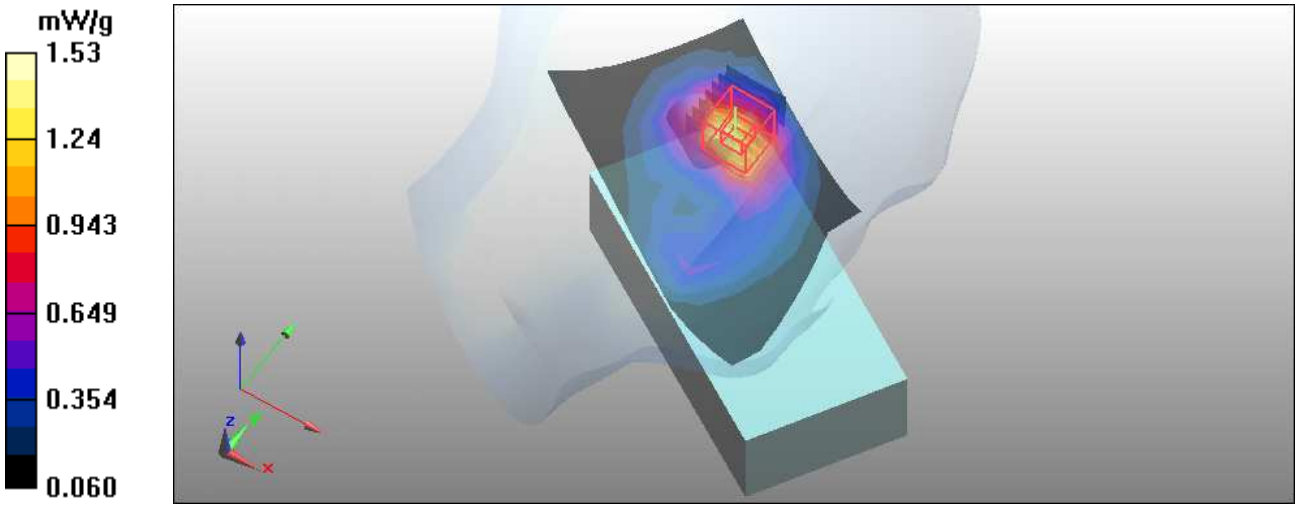
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.44 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.3 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 2.11 W/kg
SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.703 mW/g
Maximum value of SAR (measured) = 1.53 mW/g



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Test Laboratory: Bureau Veritas ADT

M15-Left Head Cheek CDMA1900 Ch1175 /2D/1.5xBatt/numeric

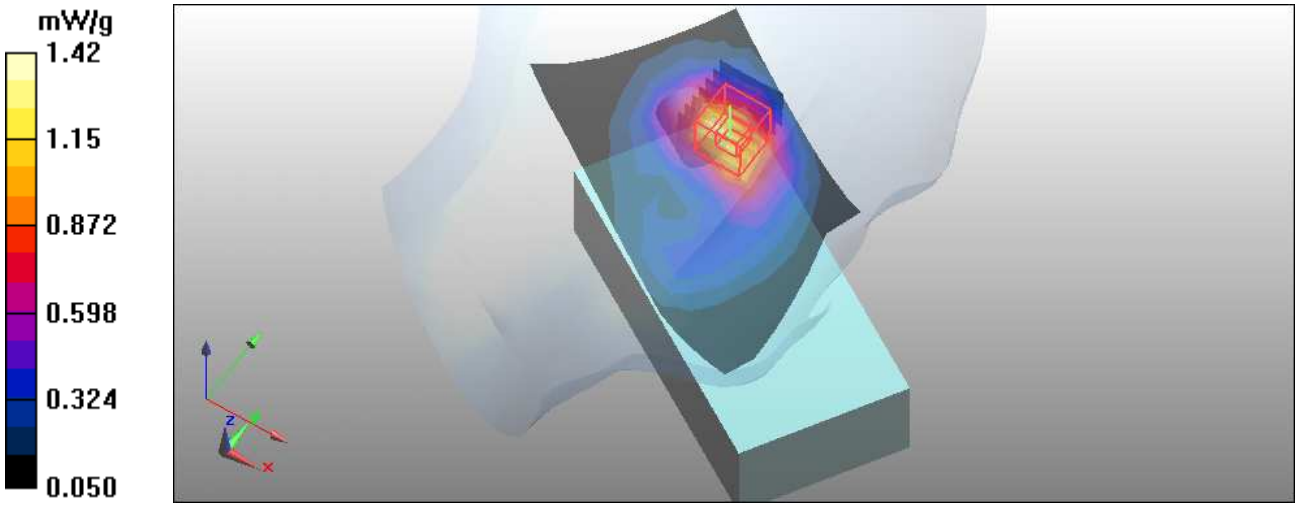
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH1175 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.33 mW/g

CDMA1900 CH1175 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.9 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 1.9 W/kg
SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.667 mW/g
Maximum value of SAR (measured) = 1.42 mW/g



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Test Laboratory: Bureau Veritas ADT

M16-Left Head Tilt CDMA1900 Ch25 /2D/1.5xBatt/numeric

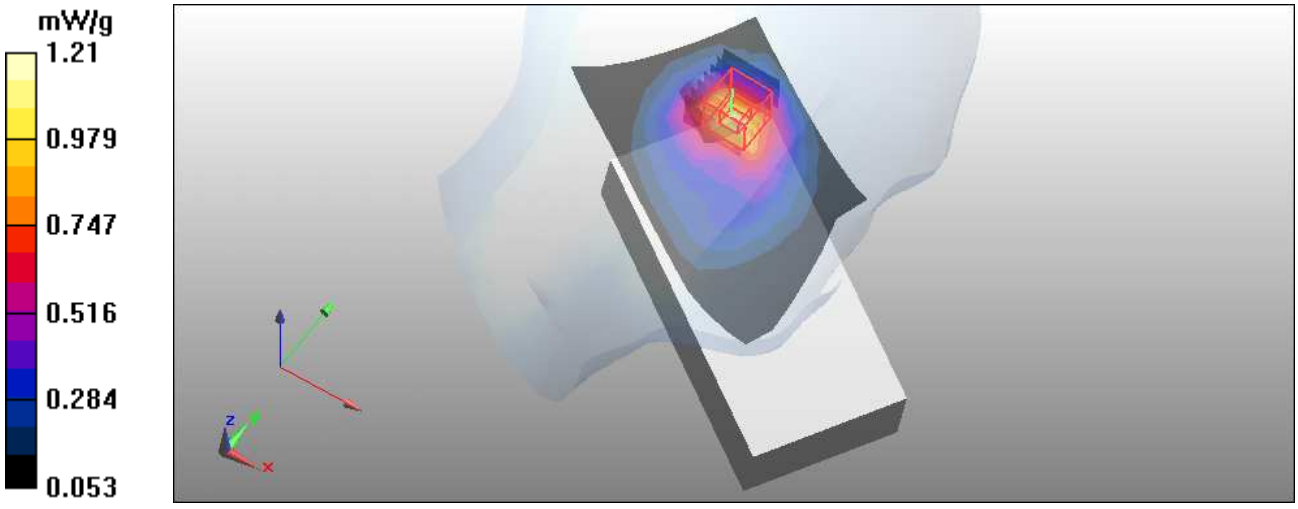
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.41 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH25 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.2 mW/g

CDMA1900 CH25 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.4 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 0.996 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 1.21 mW/g



Date/Time: 2010/6/7 14:06:45

Test Laboratory: Bureau Veritas ADT

M17-Left Head Tilt CDMA1900 Ch600 /2D/1.5xBatt/numeric

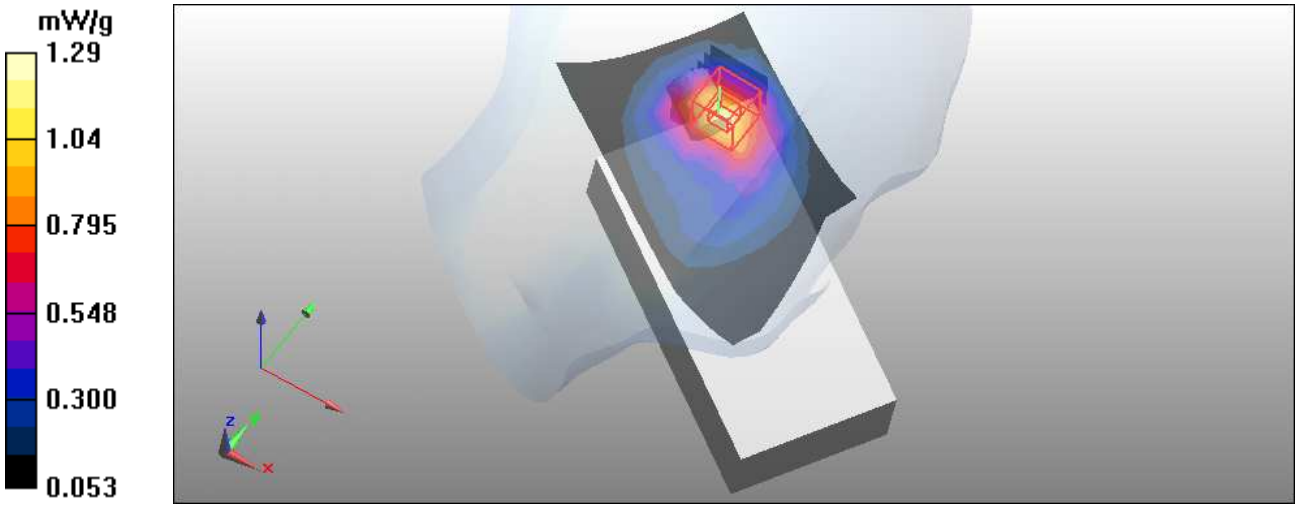
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.28 mW/g

CDMA1900 CH600 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.1 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.610 mW/g
Maximum value of SAR (measured) = 1.29 mW/g



Date/Time: 2010/6/7 14:52:57

Test Laboratory: Bureau Veritas ADT

M18-Left Head Tilt CDMA1900 Ch1175 /2D/1.5xBatt/numeric

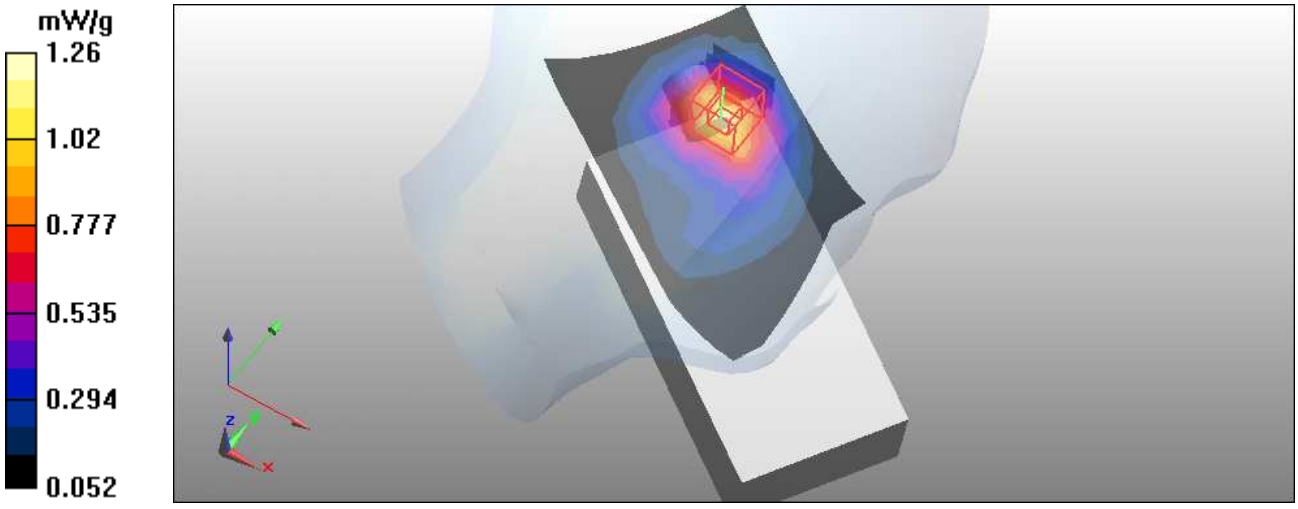
DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: OQPSK

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 162; SEMCAD X Version 14.0 Build 61

CDMA1900 CH1175 /Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.25 mW/g

CDMA1900 CH1175 /Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.8 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.591 mW/g
Maximum value of SAR (measured) = 1.26 mW/g



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Test Laboratory: Bureau Veritas ADT

M19-Left Head Cheek 11A-Ch64 /1D/1.5xBatt/numeric

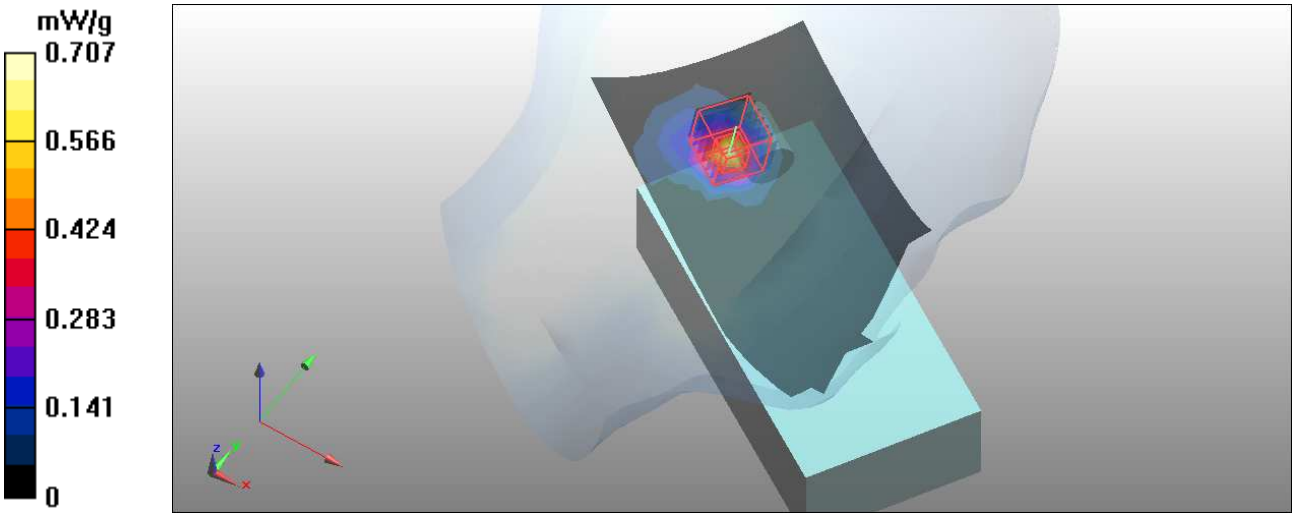
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; εr = 36.6; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.707 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 13.2 V/m; Power Drift = -0.179 dB
Peak SAR (extrapolated) = 1.58 W/kg
SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.166 mW/g.
Maximum value of SAR (measured) = 0.772 mW/g



Date/Time: 2010/6/7 18:08:59

Test Laboratory: Bureau Veritas ADT

M20-Left Head Tilt 11A-Ch64 /1D/1.5xBatt/numeric

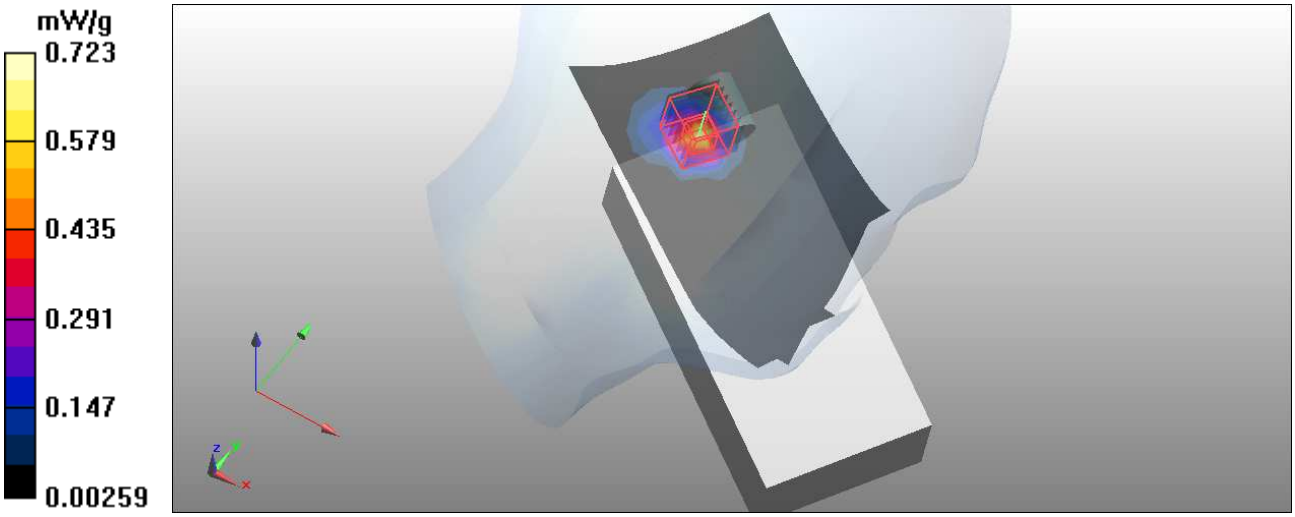
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; εr = 36.6; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.687 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 12.2 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.423 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.723 mW/g



Date/Time: 2010/6/7 19:05:45

Test Laboratory: Bureau Veritas ADT

M21-Left HeAD Cheek11A-Ch64 /1D/1.5xBatt/qwerty

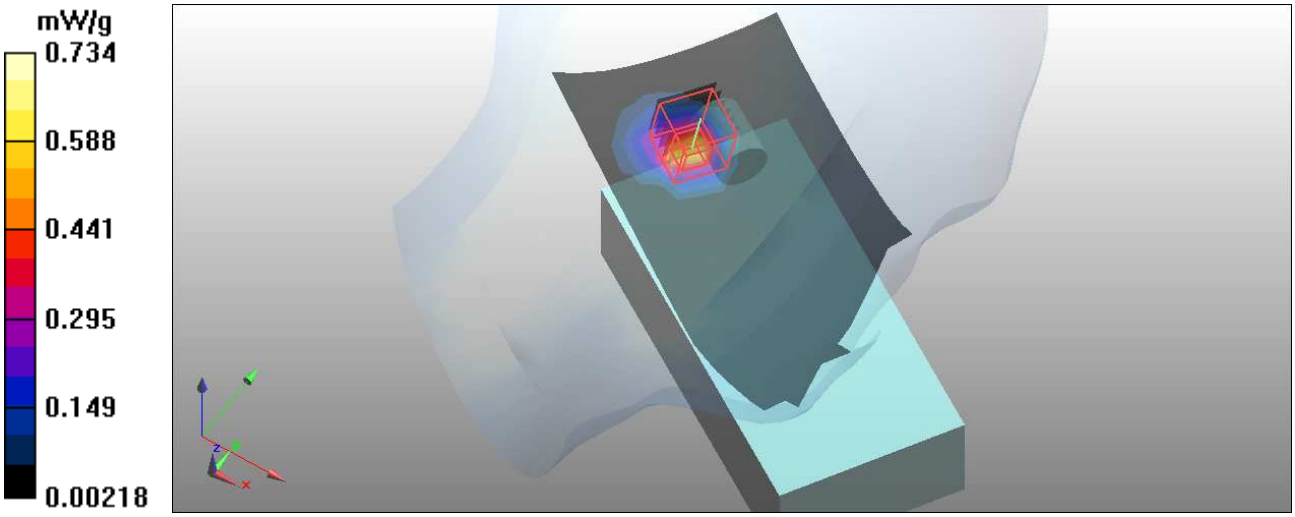
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; εr = 36.6; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.660 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.5 V/m; Power Drift = 0.130 dB

Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.141 mW/g
Maximum value of SAR (measured) = 0.734 mW/g



Date/Time: 2010/6/7 20:02:50

Test Laboratory: Bureau Veritas ADT

M22-Left HeAD Tilt 11A-Ch64 /1D/1.5xBatt/qwerty

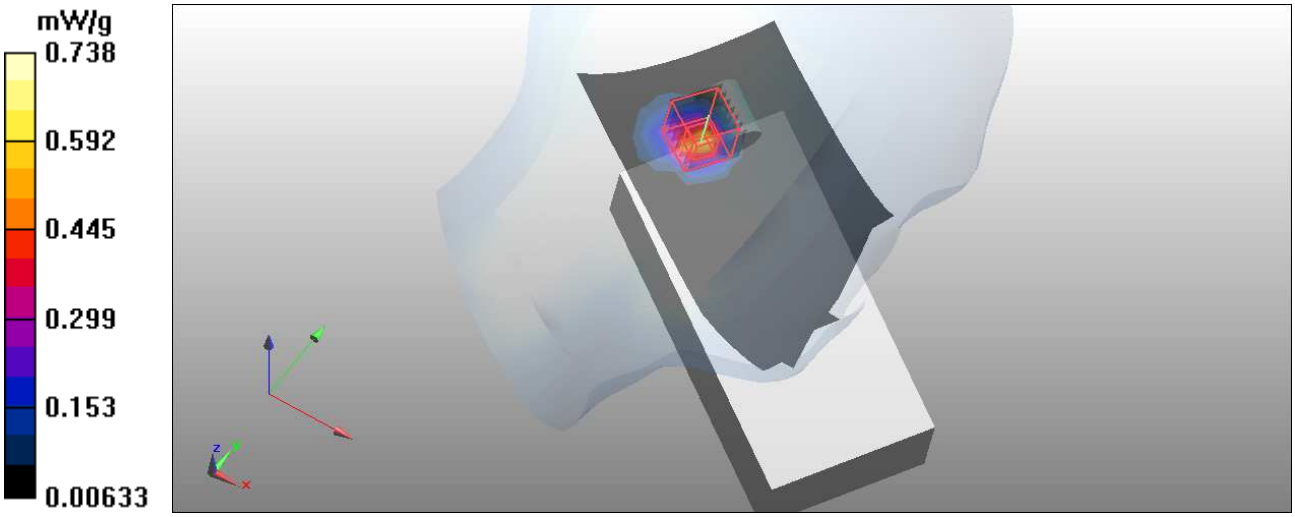
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; εr = 36.6; ρ = 1000 kg/m3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.647 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.7 V/m; Power Drift = 0.135 dB

Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.738 mW/g



Date/Time: 2010/6/7 21:05:40

Test Laboratory: Bureau Veritas ADT

M23-Left Head Cheek 11A-Ch64 /2D/1.5xBatt/numeric

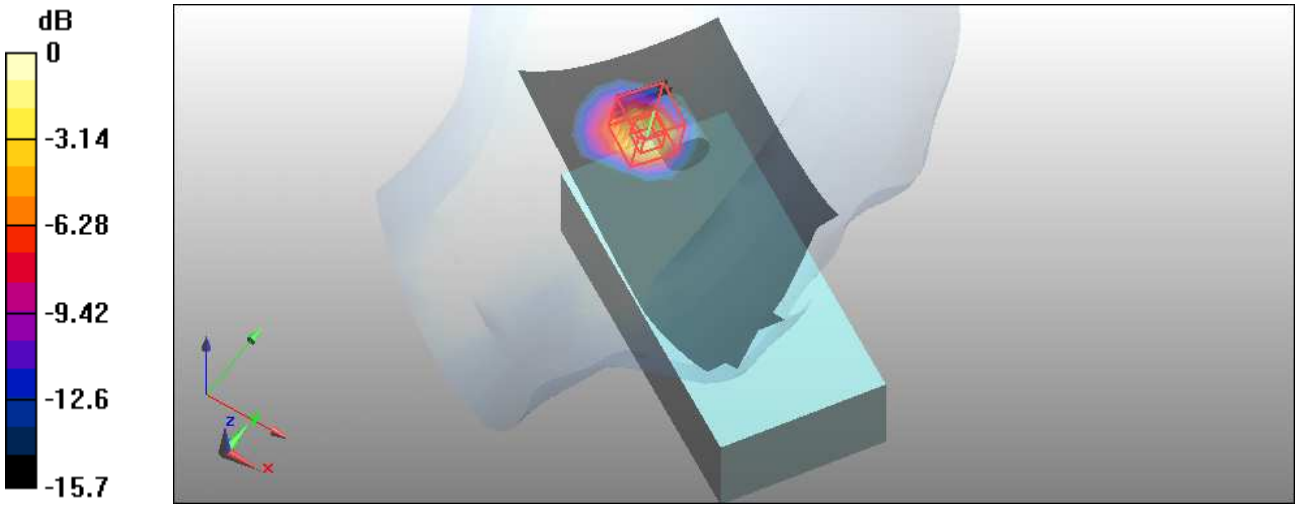
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; ε_r = 36.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.886 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 12.7 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 1.83 W/kg
SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.896 mW/g



Date/Time: 2010/6/7 22:06:59

Test Laboratory: Bureau Veritas ADT

M24-Left HeAD Tilt 11A-Ch64 /2D/1.5xBatt/numeric

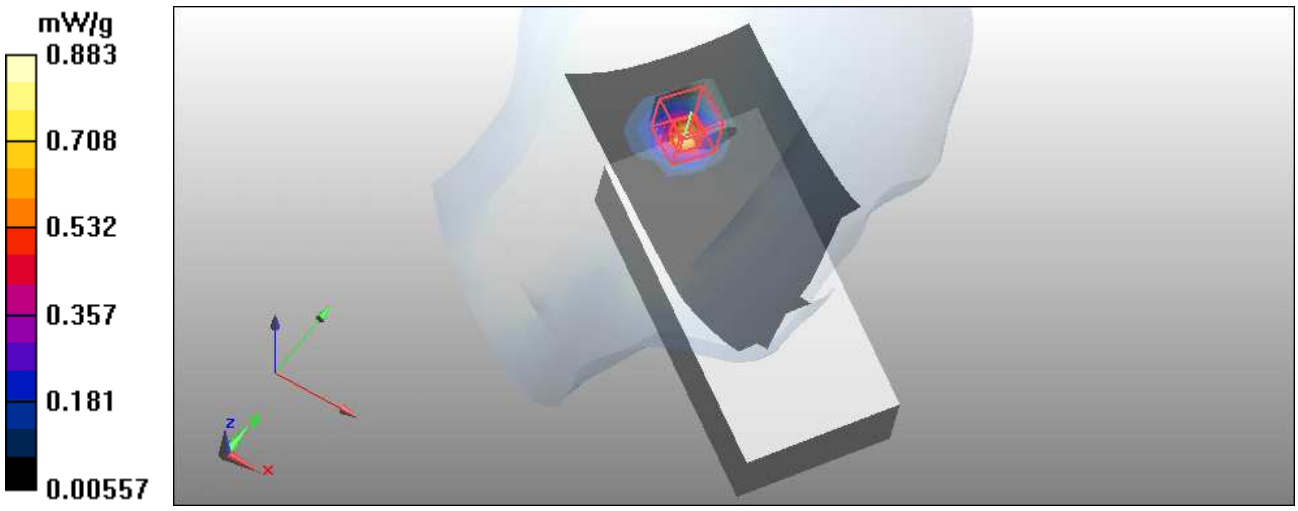
DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.81 mho/m; ε_r = 36.6; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162; SEMCAD X Version 14.0 Build 61

11a Ch64/Area Scan (10x20x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.901 mW/g

11a Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 13.3 V/m; Power Drift = -0.126 dB
Peak SAR (extrapolated) = 1.7 W/kg
SAR(1 g) = 0.510 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.883 mW/g



Date/Time: 2010/6/7 00:41:48

Test Laboratory: Bureau Veritas ADT

System Performance Check-HSL1900

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: 5d036 ; Test Frequency: 1900 MHz

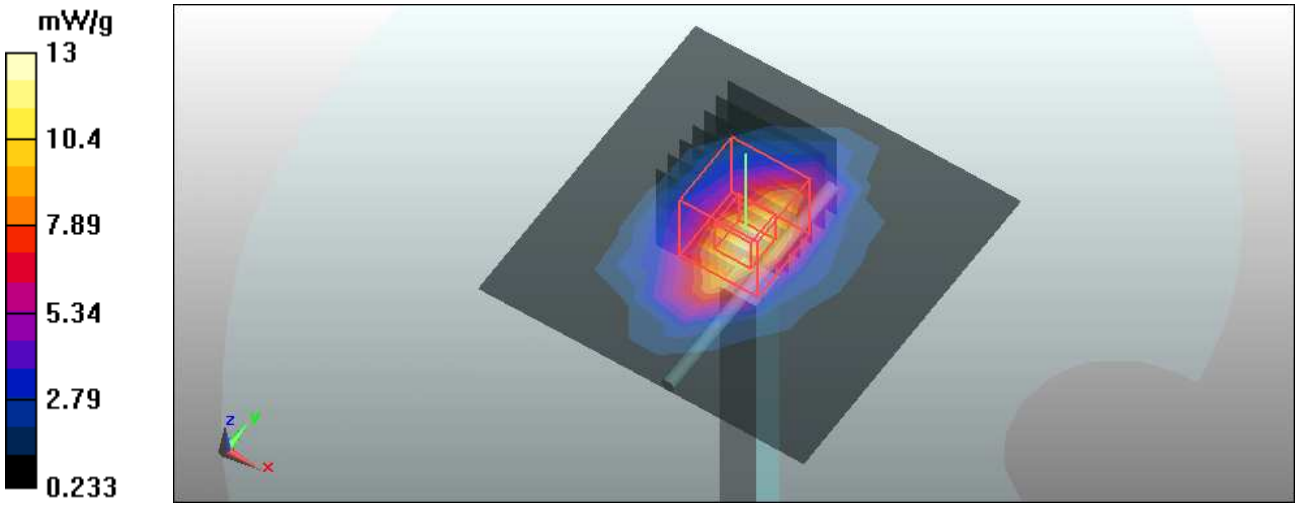
Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3 ;
Liquid level : 152 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 23 degrees ; Liquid temp. : 22.7 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 162; SEMCAD X Version 14.0 Build 61

d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 13 mW/g

d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.5 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.39 mW/g



Date/Time: 2010/6/7 16:10:31

Test Laboratory: Bureau Veritas ADT

System Performance Check-HSL5200

DUT: Dipole D5GHzV2 ; Type: D5GHzV2 ; Serial: 1018 ; Test Frequency: 5200 MHz

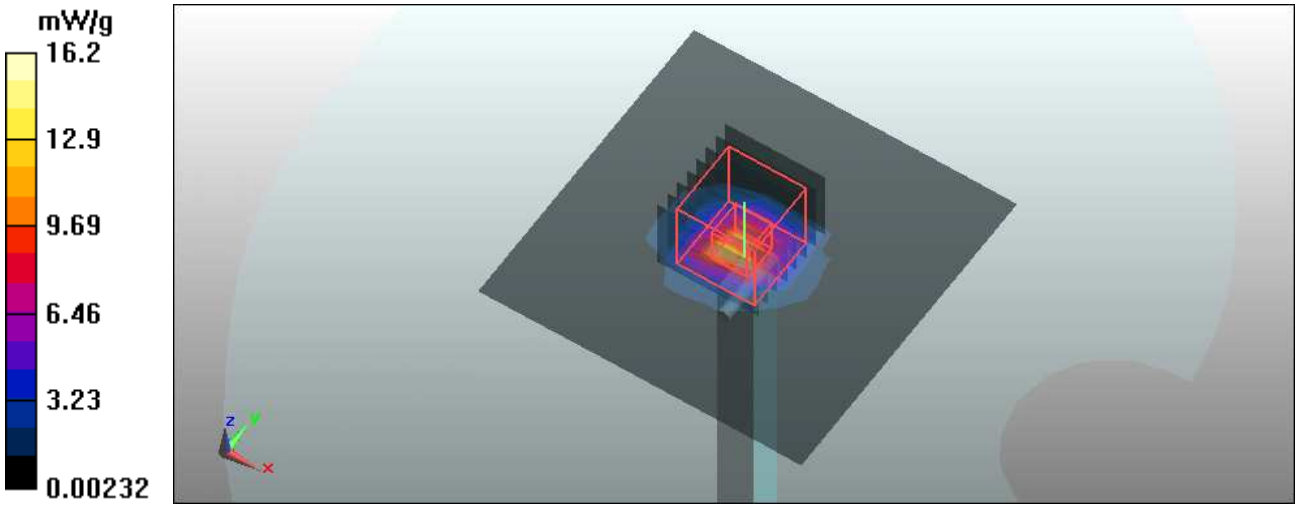
Communication System: CW-5GHz ; Frequency: 5200 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL5200;Medium parameters used: f = 5200 MHz; σ = 4.7 mho/m; ε_r = 36.7; ρ = 1000 kg/m^3 ;
Liquid level : 152 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 23 degrees ; Liquid temp. : 22.7 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(4.87, 4.87, 4.87); Calibrated: 2010/1/26
- Sensor-Surface: 2mm (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 162; SEMCAD X Version 14.0 Build 61

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.2 mW/g

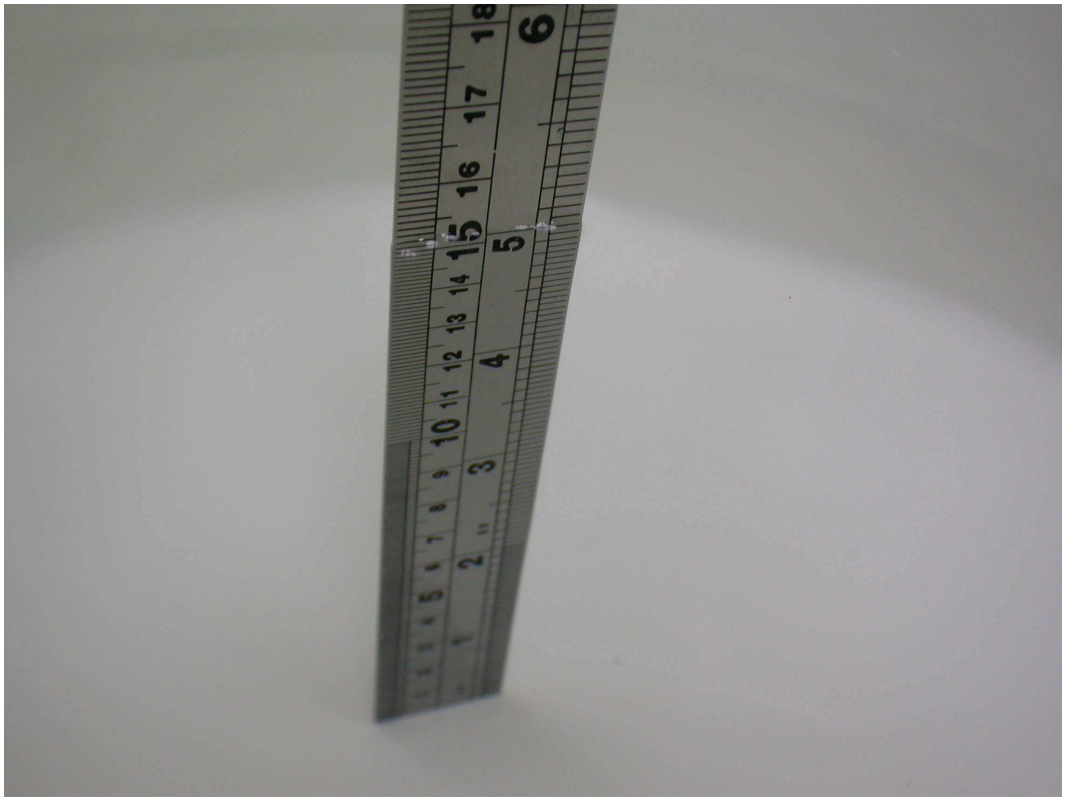
d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (4x4x2.5mm),dist=2mm (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 63.4 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 8.35 mW/g; SAR(10 g) = 2.36 mW/g
Maximum value of SAR (measured) = 16.2 mW/g



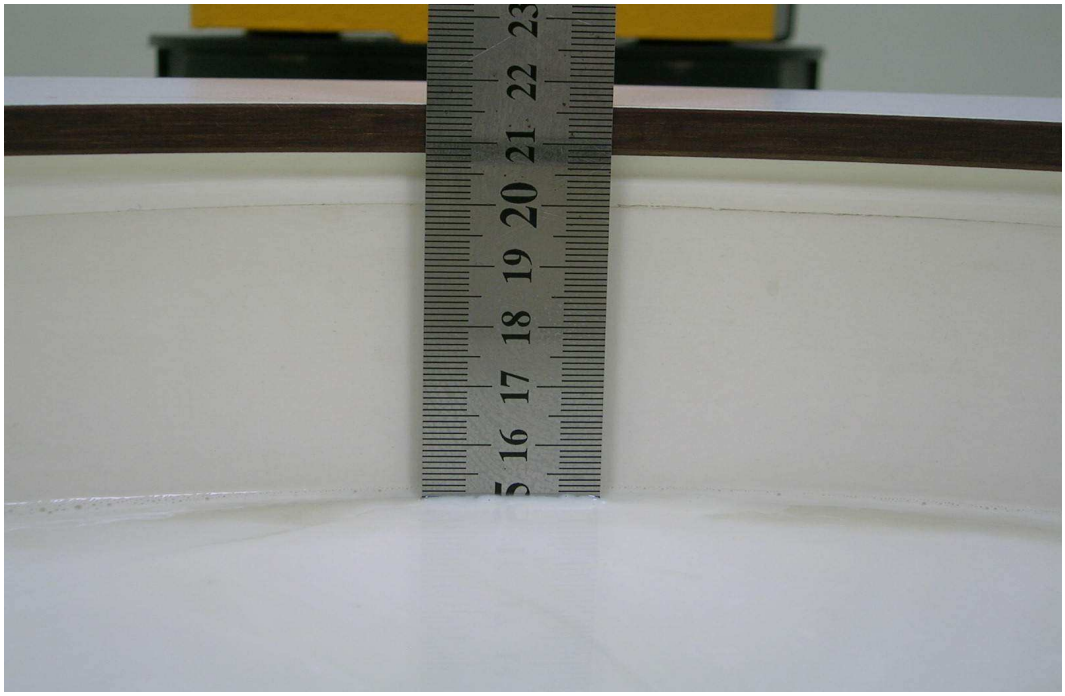
APPENDIX A: TEST DATA for Volume scan SAR

Liquid Level Photo

Tissue HSL1900MHz D=152mm



Tissue HSL5200MHz D=151mm



Date/Time: 2010/6/8 08:25:14

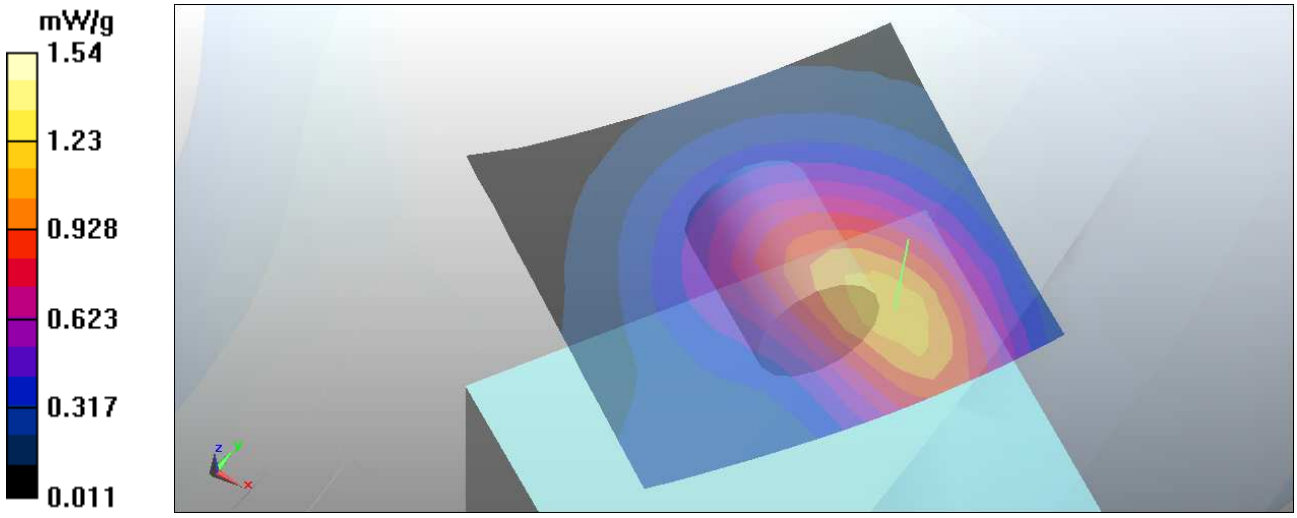
Test Laboratory: Bureau Veritas ADT

M01-Left Head Cheek CDMA1900 Ch600 /1D/1.5xBatt/qwerty

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m3
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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 21.4 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.676 mW/g
Maximum value of SAR (measured) = 1.54 mW/g



Date/Time: 2010/6/8 09:55:37

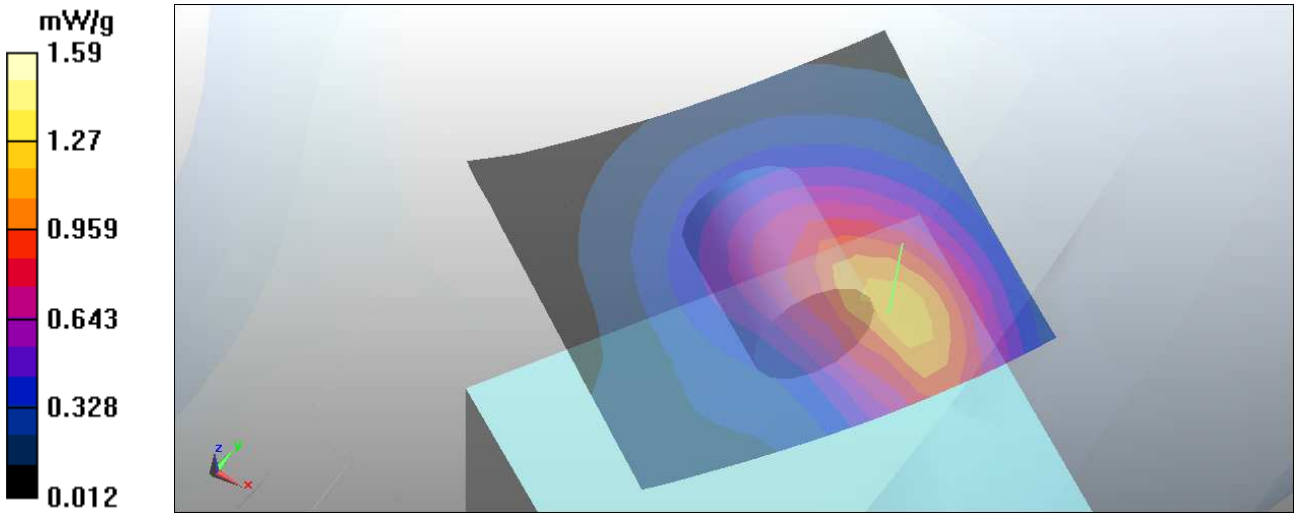
Test Laboratory: Bureau Veritas ADT

M02-1D Left Head Cheek CDMA1900 Ch1175 /1D/1.5xBatt/qwerty

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.4; 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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 Ch1175 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 20 V/m; Power Drift = -0.084 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.675 mW/g
Maximum value of SAR (measured) = 1.59 mW/g



Date/Time: 2010/6/8 11:23:44

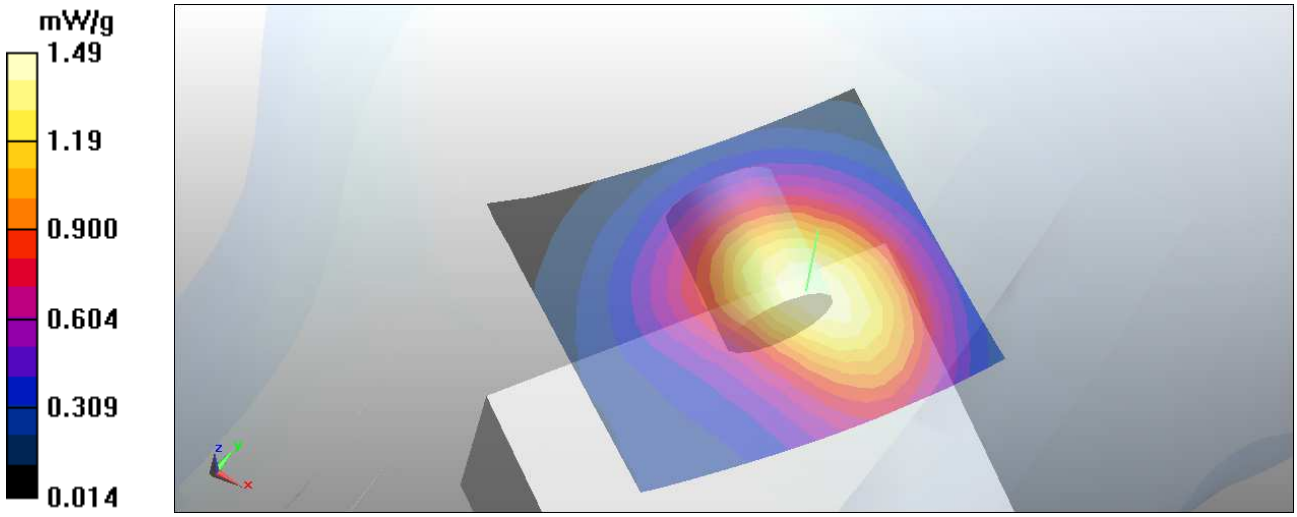
Test Laboratory: Bureau Veritas ADT

M03-Left Head Tilt CDMA1900 Ch600 /1D/1.5xBatt/qwerty

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m3
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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 CH600 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 23.3 V/m; Power Drift = -0.168 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.666 mW/g
Maximum value of SAR (measured) = 1.49 mW/g



Date/Time: 2010/6/8 12:45:56

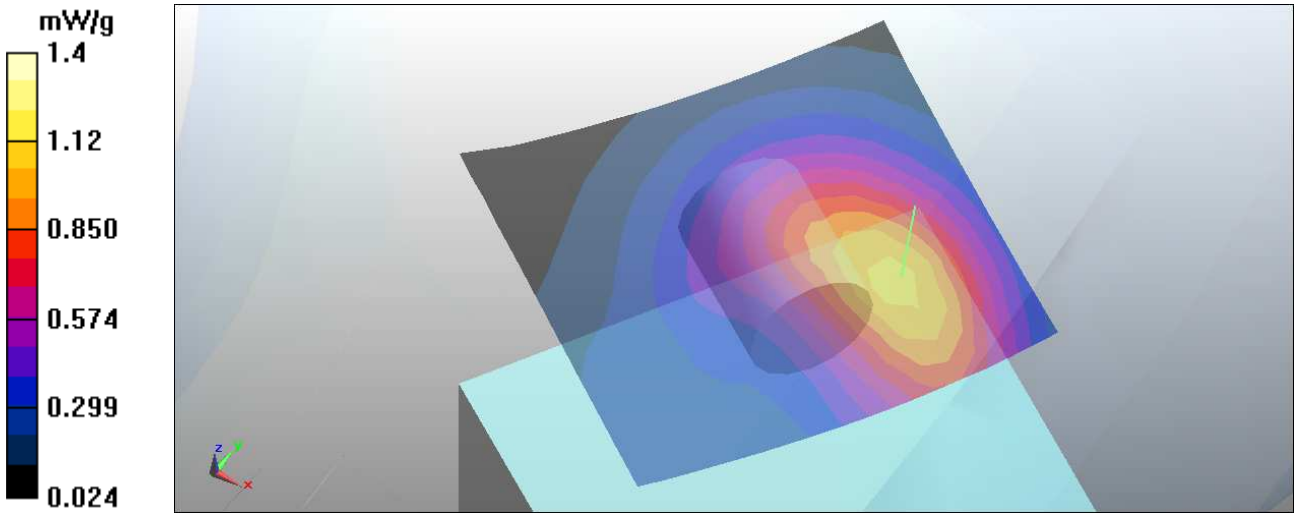
Test Laboratory: Bureau Veritas ADT

M04-Left Head Cheek CDMA1900 Ch25 /2D/1.5xBatt/numeric

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1851.25 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.42 mho/m; ε_r = 40.6; 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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 Ch25 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 19 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 1.77 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.615 mW/g
Maximum value of SAR (measured) = 1.4 mW/g



Date/Time: 2010/6/8 14:29:25

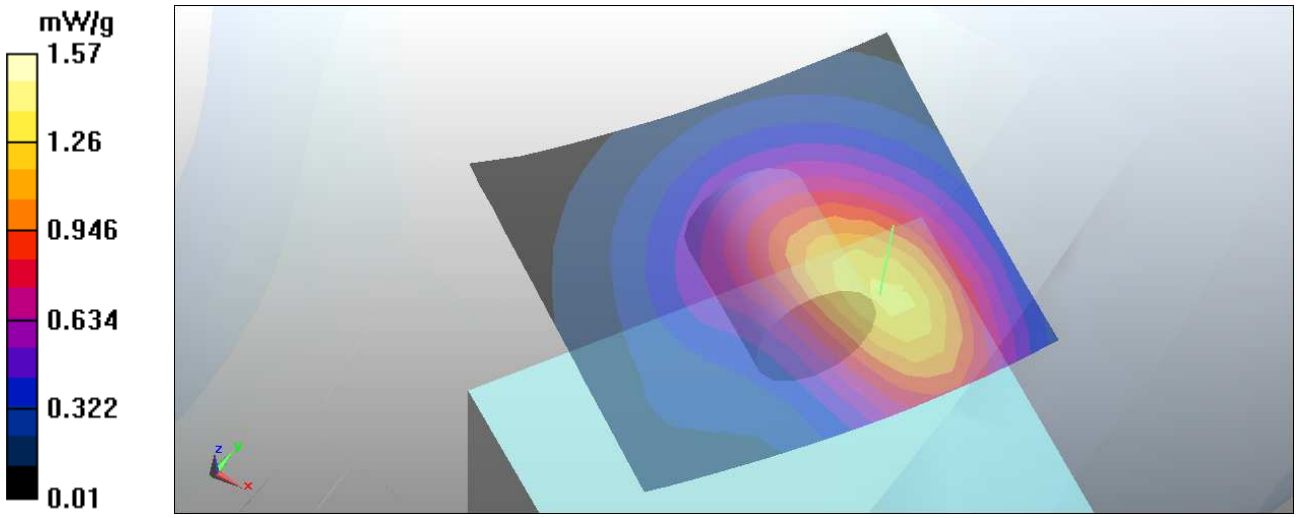
Test Laboratory: Bureau Veritas ADT

M05-Left Head Cheek CDMA1900 Ch600 /2D/1.5xBatt/numeric

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1880 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m3
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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 Ch600 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 20.2 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.690 mW/g
Maximum value of SAR (measured) = 1.57 mW/g



Date/Time: 2010/6/8 15:51:22

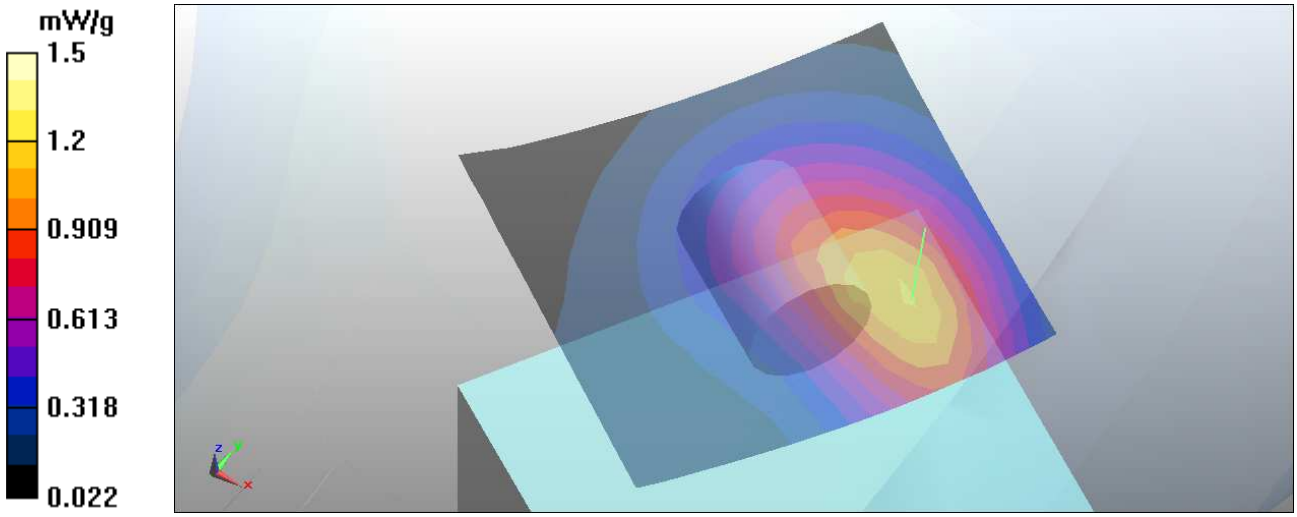
Test Laboratory: Bureau Veritas ADT

M06-Left Head Cheek CDMA1900 Ch1175 /2D/1.5xBatt/numeric

DUT: EDA ; Type: MC75A8
Communication System: CDMA ; Frequency: 1908.75 MHz ; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; εr = 40.4; 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: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

CDMA1900 Ch1175 volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 17.8 V/m; Power Drift = -0.127 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.661 mW/g
Maximum value of SAR (measured) = 1.5 mW/g



Date/Time: 2010/6/8 02:20:55

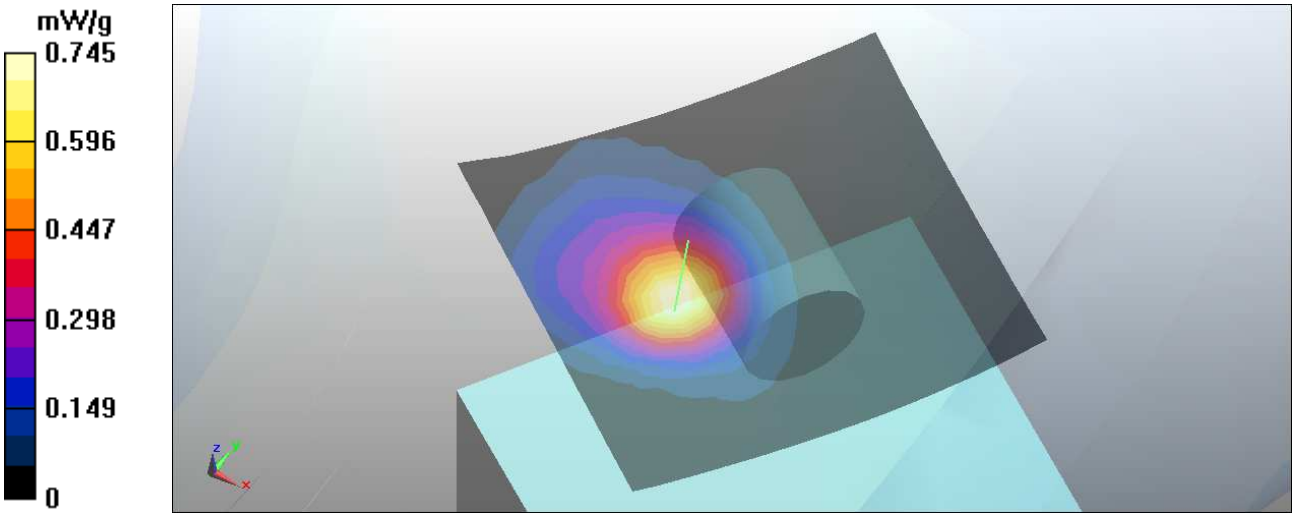
Test Laboratory: Bureau Veritas ADT

M07-Left Head Cheek 11A-Ch64 /1D/1.5xBatt/qwerty

DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64 Volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.7 V/m; Power Drift = -0.086 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 0.459 mW/g; SAR(10 g) = 0.160 mW/g
Maximum value of SAR (measured) = 0.745 mW/g



Date/Time: 2010/6/8 03:42:21

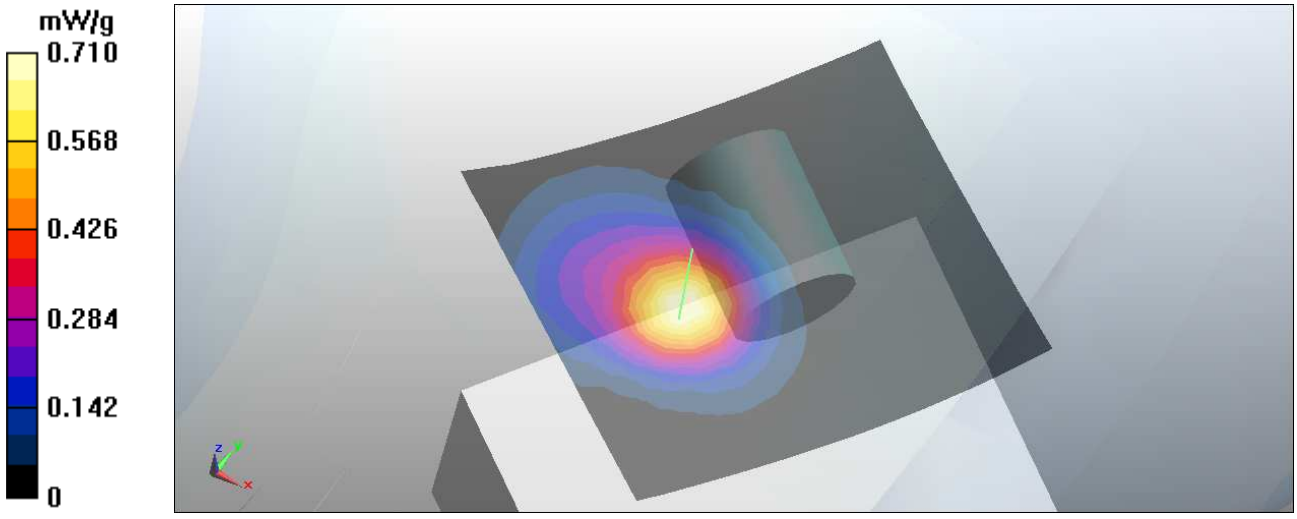
Test Laboratory: Bureau Veritas ADT

M08-Left Head Tilt 11A-Ch64 /1D/1.5xBatt/qwerty

DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; εr = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Tilt ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64 Volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.8 V/m; Power Drift = 0.186 dB
Peak SAR (extrapolated) = 2.2 W/kg
SAR(1 g) = 0.428 mW/g; SAR(10 g) = 0.138 mW/g
Maximum value of SAR (measured) = 0.710 mW/g



Date/Time: 2010/6/8 05:03:09

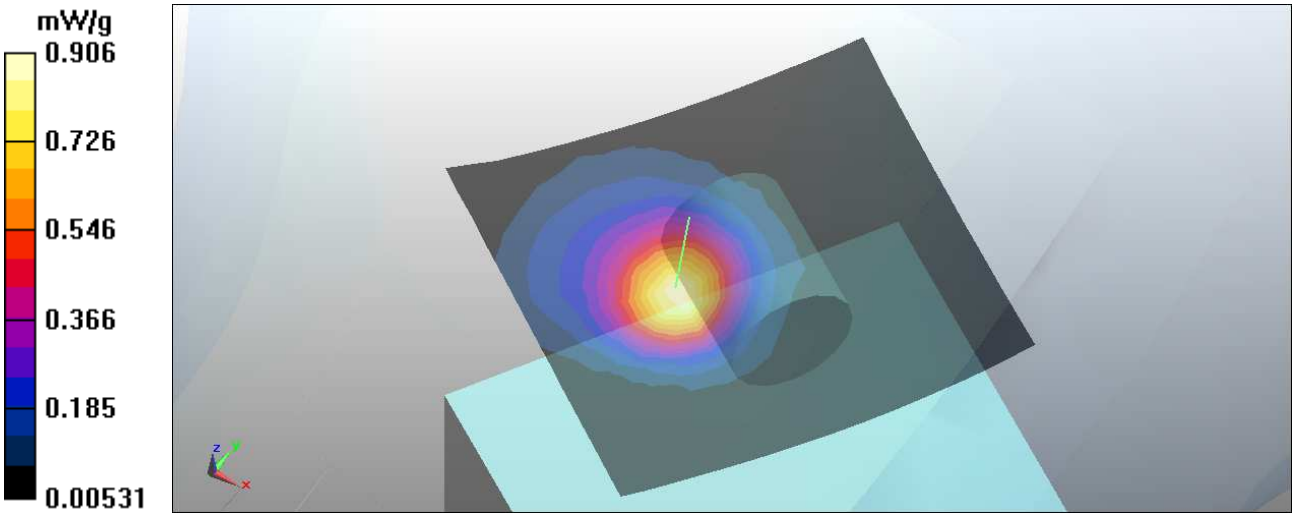
Test Laboratory: Bureau Veritas ADT

M09-Left Head Cheek 11A-Ch64 /2D/1.5xBatt/numeric

DUT: EDA ; Type: MC75A8
Communication System: 802.11a ; Frequency: 5320 MHz ; Duty Cycle: 1:1
Medium: HSL5200 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; εr = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section ; DUT test position : Cheek ; Modulation type: BPSK

DASY5 Configuration:
- Probe: EX3DV3 - SN3504 ; ConvF(4.62, 4.62, 4.62) ; Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- ; SEMCAD X Version 14.0 Build 61

11a Ch64 Volume/Volume Scan (18x16x9): Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 12.2 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 1.98 W/kg
SAR(1 g) = 0.513 mW/g; SAR(10 g) = 0.189 mW/g
Maximum value of SAR (measured) = 0.906 mW/g



Date/Time: 2010/6/8 07:00:48

Test Laboratory: Bureau Veritas ADT

System Performance Check-HSL1900

DUT: Dipole 1900 MHz ; Type: D1900V2 ; Serial: 5d036 ; Test Frequency: 1900 MHz

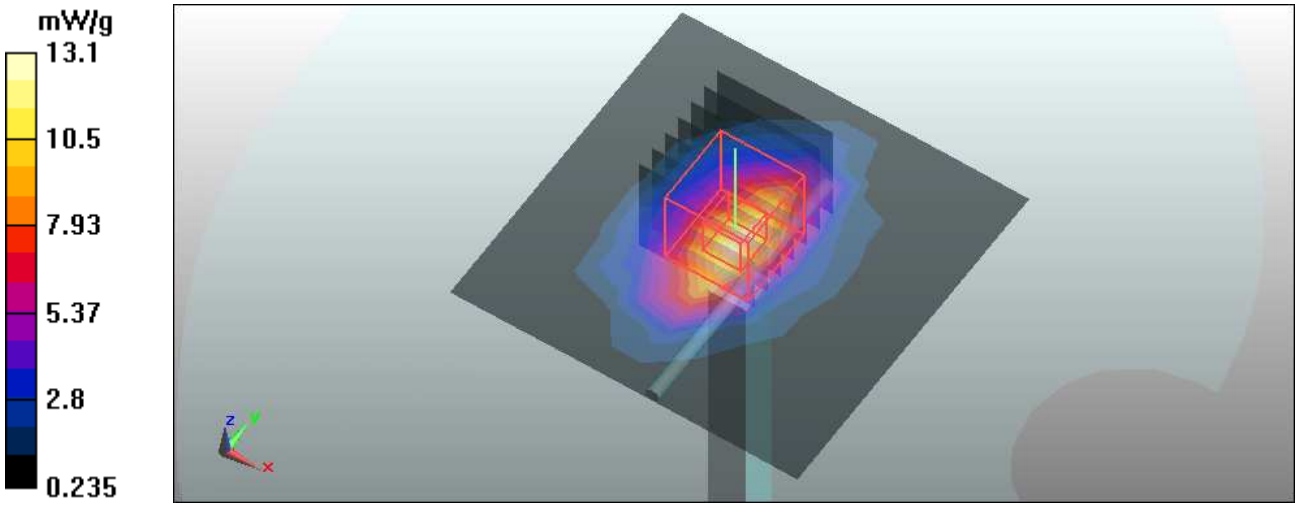
Communication System: CW ; Frequency: 1900 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL1900;Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3 ;
Liquid level : 152 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 22.9 degrees ; Liquid temp. : 22.8 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 162; SEMCAD X Version 14.0 Build 61

d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 13.1 mW/g

d=10mm, Pin=250 mW, dist=3.0mm (EX-Probe)/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.5 V/m; Power Drift = -0.107 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.43 mW/g



Date/Time: 2010/6/8 00:30:31

Test Laboratory: Bureau Veritas ADT

System Performance Check-HSL5200

DUT: Dipole D5GHzV2 ; Type: D5GHzV2 ; Serial: 1018 ; Test Frequency: 5200 MHz

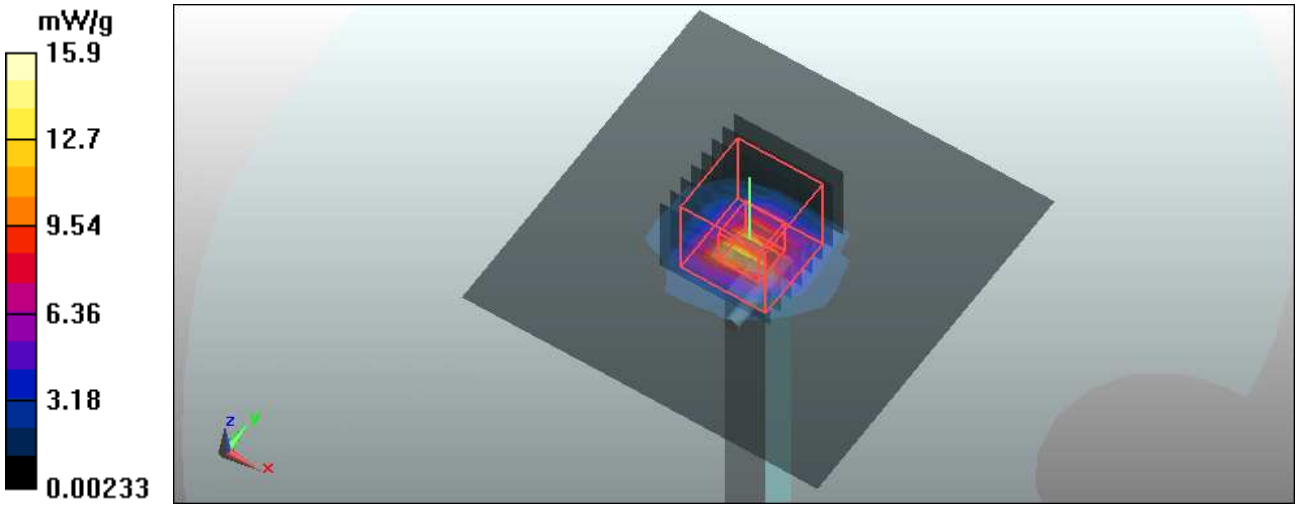
Communication System: CW-5GHz ; Frequency: 5200 MHz; Duty Cycle: 1:1; Modulation type: CW
Medium: HSL5200;Medium parameters used: f = 5200 MHz; σ = 4.72 mho/m; ε_r = 36.6; ρ = 1000 kg/m^3 ;
Liquid level : 151 mm
Phantom section: Flat Section ; Separation distance : 10 mm (The feetpoint of the dipole to the Phantom)Air temp. : 23.1degrees ; Liquid temp. : 22.9 degrees

DASY5 Configuration:

- Probe: EX3DV3 - SN3504; ConvF(4.87, 4.87, 4.87); Calibrated: 2010/1/26
- Sensor-Surface: 2mm (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 162; SEMCAD X Version 14.0 Build 61

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (10x10x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 12.3 mW/g

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (4x4x2.5mm), dist=2mm (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 63.1 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 29.7 W/kg
SAR(1 g) = 8.32 mW/g; SAR(10 g) = 2.34 mW/g
Maximum value of SAR (measured) = 16.2 mW/g



APPENDIX A: Co-located Data

M01 A8 2D Left Head Cheek CDMA1900 Ch25 + 11A CH64 Numeric

DASY Configuration for Program/CDMA1900 Ch25 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1851.25 MHz; σ = 1.42 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

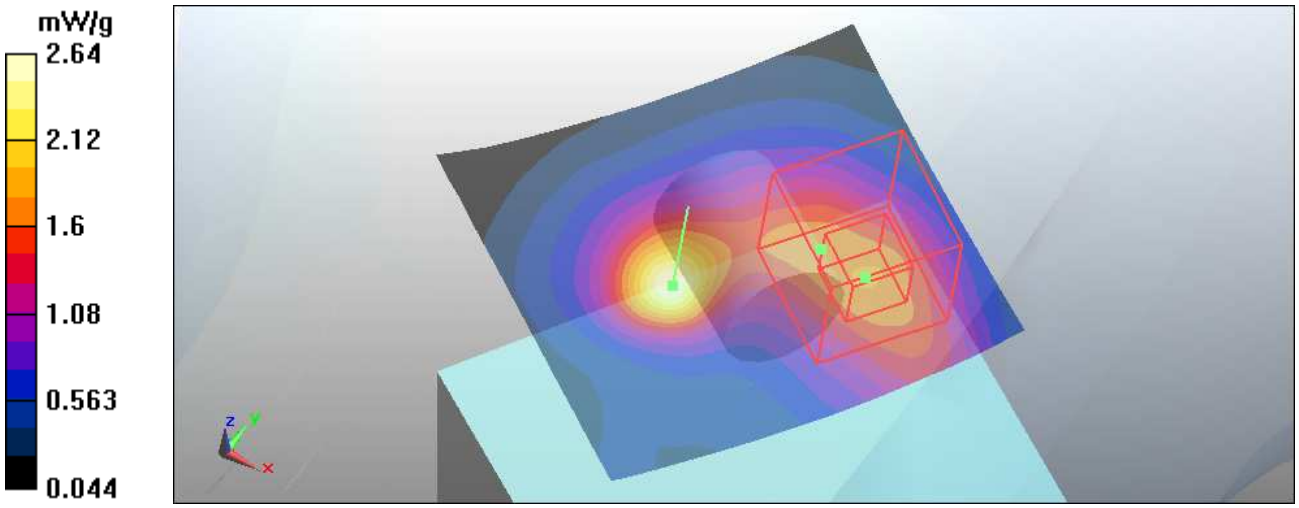
- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 162

DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.644 mW/g
Maximum value of SAR (measured) = 2.64 mW/g


mW/g
2.64
2.12
1.6
1.08
0.563
0.044

M02 A8 2D Left Head Cheek CDMA1900 Ch600 + 11A CH64 Numeric

DASY Configuration for Program/CDMA1900 Ch600 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

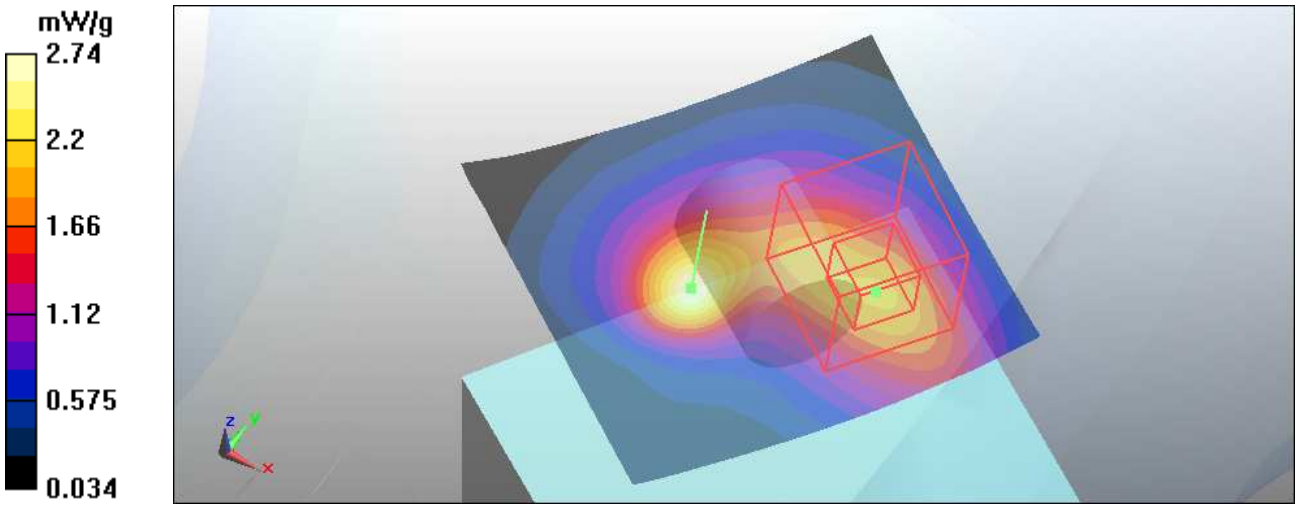
DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT

DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.722 mW/g
Maximum value of SAR (measured) = 2.74 mW/g


mW/g
2.74
2.2
1.66
1.12
0.575
0.034

M03 A8 2D Left Head Cheek CDMA1900 Ch1175 + 11A CH64 Numeric

DASY Configuration for Program/CDMA1900 Ch1175 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

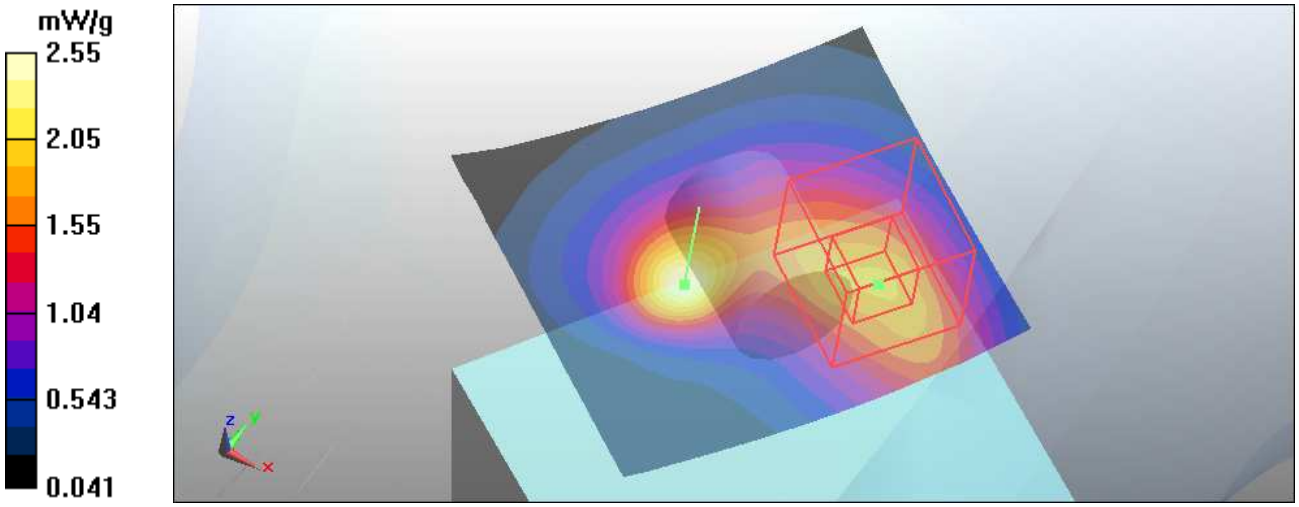
- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 162

DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.690 mW/g
Maximum value of SAR (measured) = 2.55 mW/g


mW/g
2.55
2.05
1.55
1.04
0.543
0.041

M04 A8 1D Left Head Cheek CDMA1900 Ch600 + 11A Ch 64 QWERTY

DASY Configuration for Program/CDMA1900 CH600 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

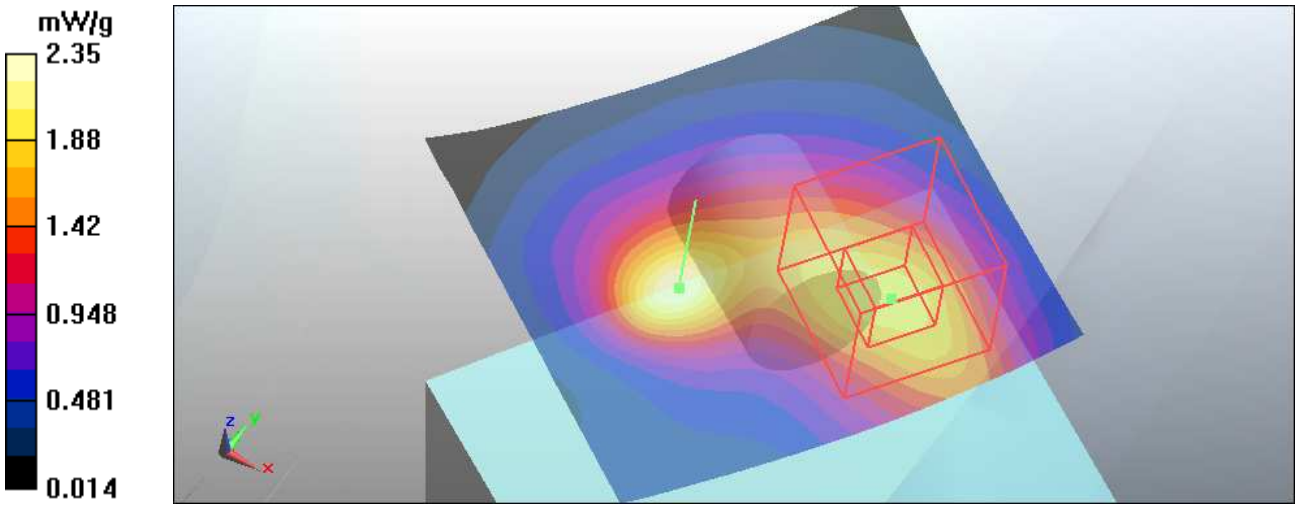
- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 162

DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.696 mW/g
Maximum value of SAR (measured) = 2.35 mW/g


mW/g
2.35
1.88
1.42
0.948
0.481
0.014

M05 A8 1D Left Head Cheek CDMA1900 Ch1175 + 11A Ch 64 QWERTY

DASY Configuration for Program/CDMA1900 Ch1175 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used : f = 1908.75 MHz; σ = 1.43 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

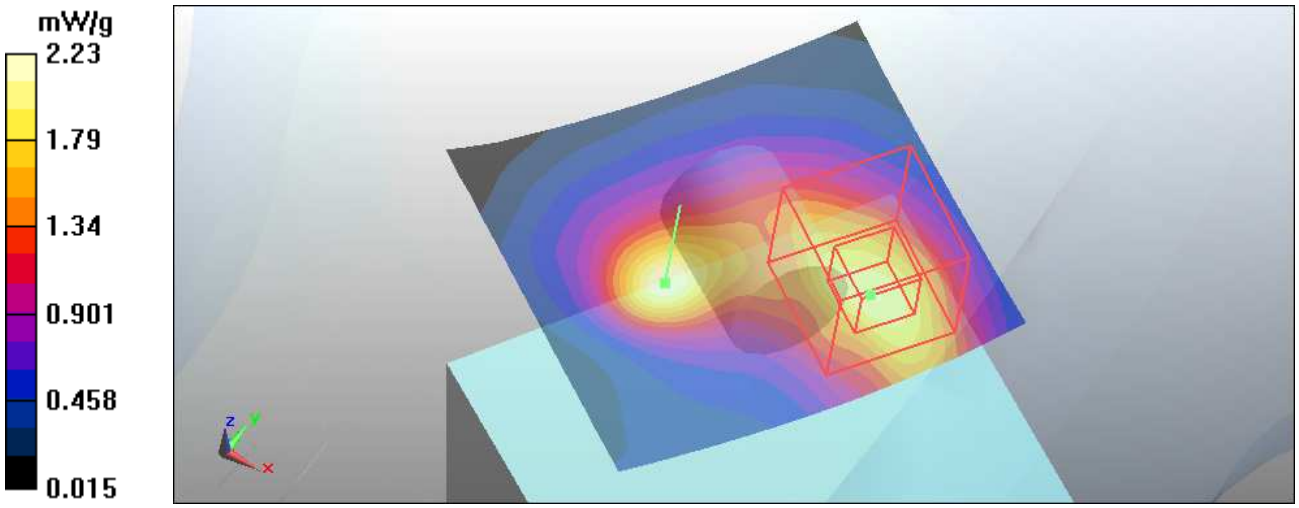
- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 162

DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.694 mW/g
Maximum value of SAR (measured) = 2.23 mW/g


mW/g
2.23
1.79
1.34
0.901
0.458
0.015

M06 A8 1D Left Head Tilt CDMA1900 Ch600 + 11A Ch 64 QWERTY

DASY Configuration for Program/CDMA1900 CH600 volume/Volume Scan:

Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

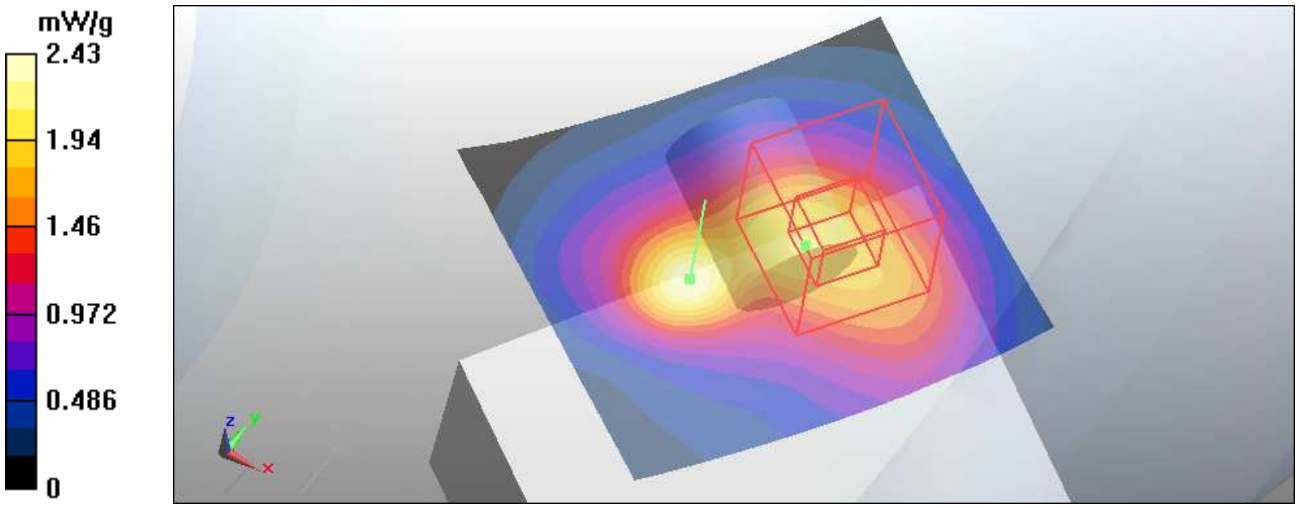
- Probe: EX3DV3 - SN3504; ConvF(8.2, 8.2, 8.2); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510; Calibrated: 2009/12/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1485
- Measurement SW: DASY5, V5.2 Build 162

DASY Configuration for Program/11a Ch64 Volume/Volume Scan:

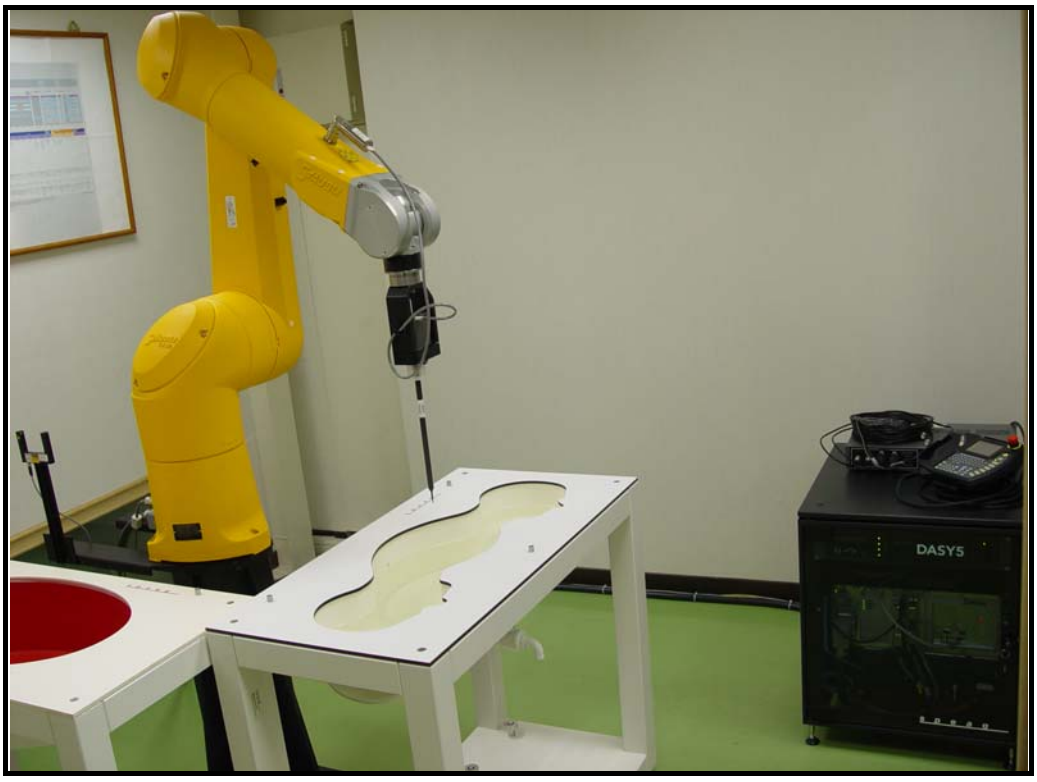
Date/Time: 2010/6/8
Test Laboratory: Bureau Veritas ADT
DUT: EDA; Type: MC75A8
Communication System: 802.11a; Frequency: 5320 MHz; Duty Cycle: 1:1
Medium: HSL5800 Medium parameters used: f = 5320 MHz; σ = 4.82 mho/m; ε_r = 36.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV3 - SN3504; ConvF(4.62, 4.62, 4.62); Calibrated: 2010/1/26
- Sensor-Surface: 2.5mm (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 162

Multi Band Result:
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.684 mW/g
Maximum value of SAR (measured) = 2.43 mW/g


mW/g
2.43
1.94
1.46
0.972
0.486
0

APPENDIX B: BV ADT SAR MEASUREMENT SYSTEM



APPENDIX C: PHOTOGRAPHS OF SYSTEM VALIDATION