SAR TEST REPORT

(CO-LOCATED)

REPORT NO.: SA970123L04A-6

MODEL NO.: MC7596

RECEIVED: Jun. 13, 2008

TESTED: Jul. 08 ~ Jul. 09, 2008

ISSUED: Jul. 14, 2008

APPLICANT: Symbol Technologies, Inc.

ADDRESS: One Symbol Plaza, Holtsville, NY 11742-1300 USA

ISSUED BY: Advance Data Technology Corporation

LAB ADDRESS: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou Hsiang 244, Taipei Hsien, 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.

Testing Laboratory 0528

ACCREDITED No.: 2177-01

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1. CERTIFICATION

PRODUCT:	EDA (Enterprise Digital Assistant)
MODEL:	MC7596
BRAND:	Symbol
APPLICANT:	Symbol Technologies, Inc.
TESTED:	Jul. 08 ~ Jul. 09, 2008
TEST SAMPLE:	PROTOTYPE
STANDARDS:	**FCC Part 2 (Section 2.1093)** **FCC OET Bulletin 65, Supplement C (01-01)** **RSS-102** **IEEE 1528-2003**

The above equipment (model: MC7596) have been tested by **Advance Data Technology Corporation**, 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 : Wendy Liao , **DATE:** Jul. 14, 2008
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Responsible for RF
James Fan / Engineer

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Gary Chang / Assistant Manager

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	EDA (Enterprise Digital Assistant)
MODEL NO.	MC7596
FCC ID	H9PMC7596
POWER SUPPLY	3.7Vdc from rechargeable lithium battery 5.4Vdc from power adapter
CLASSIFICATION	Portable device, production unit
MODULATION TYPE	**Mobile phone:** GMSK / 8PSK / BPSK **Wireless LAN:** CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM **Bluetooth:** GFSK, π/4-DQPSK, 8DPSK **GPS:** C/A code
FREQUENCY RANGE	**Mobile phone:** Tx Frequency: 824.2MHz ~ 848.8MHz (GSM band) 1850.2MHz ~ 1909.8MHz (WCDMA band) Rx Frequency: 869.2MHz ~ 893.8MHz (GSM band) 1930.2MHz ~ 1989.8MHz (WCDMA band) **Wireless LAN:** 2.4GHz: 2400 ~ 2483.5MHz 5.0GHz: 5150 ~ 5350MHz & 5470 ~ 5725MHz & 5725 ~ 5850MHz **Bluetooth:** 2402 ~ 2480MHz **GPS:** 1575.42 MHz
CHANNEL FREQUENCIES UNDER TEST AND ITS CONDUCTED OUTPUT POWER	**Mobile phone:** **GSM850 band:** 1.995W / 848.8MHz for channel 251 **WCDMA850 band:** 0.393W / 846.6MHz for channel 4233 **PCS1900 band:** 0.955W / 1880.0MHz for channel 661 **WCDMA1900 band:** 0.494W / 1880.0MHz for channel 9400

CHANNEL FREQUENCIES UNDER TEST AND ITS CONDUCTED OUTPUT POWER	**Wireless LAN:** 101.86mW / Ch6: 2437MHz **802.11a:** 81.28mW / Ch165: 5825MHz **Bluetooth:** 2.04mW / Ch0: 2402MHz		
MAX. AVERAGE SAR (1g)	**Body:** **Mobile phone:** 0.142W/kg (GSM850) 0.156W/kg (WCDMA850) 0.048W/kg (PCS1900) 0.072W/kg (WCDMA1900) **Wireless LAN:** 0.038W/kg (802.11g) 0.057W/kg (802.11a) **Bluetooth:** 0.0000153W/kg		
ANTENNA TYPE(S)	**Wireless LAN:** Inverted F antenna Planar inverted antenna **Bluetooth:** Chip antenna		
MAX. ANTENNA GAIN	**2.4GHz:** 2.5dBi	**5.0GHz:** 3.5dBi	**Bluetooth:** -1.5dBi
DATA CABLE	Refer to NOTE		
I/O PORTS	Refer to user's manual		
ASSOCIATED DEVICES	Battery		
EUT EXTREME VOL. RANGE	3.7Vdc to 4.2Vdc		

NOTE:

1. This is a supplementary report of SA970123L04-1.
2. This report is prepared for FCC class II permissive change. Differences compared with the original report differences is adding the pouch, therefore we only re-tested for body part in the report.
3. The applicant defined the normal working voltage of the battery is from 3.7Vdc to 4.2Vdc.
4. The models as identified below are identical to each other except of the following options:
   - Keypad: Numeric / QWERTY
   - Barcode reader: 1D laser scanner / 2D Imager

BRAND	MODEL	DESCRIPTION
Symbol	MC7596	HSDPA 1D Numeric
Symbol	**MC7596**	**HSDPA 2D QWERTY**
**the worst case had been marked by boldface.		

5. The EUT is an EDA (Enterprise Digital Assistant). The functions of EUT listed as below:

	REFERENCE REPORT
WLAN 802.11a/b/g (15.247) + Bluetooth	SA970123L04A-1
WLAN 802.11a (15.407)	SA970123L04A-2
GSM850 / WCDMA850	SA970123L04A
PCS1900 / WCDMA1900	
Mobile + WLAN + Bluetooth (Co-located)	SA970123L04A-6

6. The communicated functions of EUT listed as below:

		GSM850MHz	PCS1900MHz	WCDMA850MHz	WCDMA1900MHz	
2G	GSM	√	√			With 802.11a/b/g + Bluetooth + GPS functions
	GPRS	√	√			
	EDGE	√	√			
3G	WCDMA			√	√	
	Release 5 HSDPA			√	√	

7. The EUT has one lithium battery listed as below:

LI-LON BATTERY	
BRAND:	MOTOROLA
MODEL:	82-71364-05 Rev A
RATING:	3.7Vdc, 3600mAh

8. The following accessories are for support units only.

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
Holster	Motorola	SG-MC7011110-01R	Ridged holster
		11-77969-01R	

9. Hardware version: MV.

10. Software version: BSP16.

11. IMEI Code: 00440168000 000 ~ 00440168000 999.

12. 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.

13. Output power of aux path is lower than main path, we test max power channel of 2.4GHz and 5GHz to confirm SAR value of aux antenna comply with limit.

2.2 SAR MEASUREMENT CONDITIONS FOR WCDMA

The following procedures were followed according to FCC "SAR Measurement Procedure for 3G Devices", October 2007.

- **Output Power Verification**

Maximum output power is verified on the High, Middle and Low channels according to the procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all "1's" for WCDMA/HSDPA or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) should be tabulated in the SAR report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations should be clearly identified.

- **Head SAR Measurement**

SAR for head exposure configurations in voice mode is measured using a 12.2 kbps RMC with TPC bits configured to all "1's". SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2 kbps AMR is less than ¼ dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2 kbps AMR with a 3.4 kbps SRB (signaling radio bearer) using the exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel.

➢ **Body SAR Measurements**

SAR for body exposure configurations in voice and data modes is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. SAR for other spreading codes and multiple DPDCHn, when supported by the DUT, are not required when the maximum average output of each RF channel, for each spreading code and DPDCHn configuration, are less than ¼ dB higher than those measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel with an applicable RMC configuration for the corresponding spreading code or DPDCHn using the exposure configuration that results in the highest SAR with 12.2 kbps RMC. When more than 2 DPDCHn are supported by the DUT, it may be necessary to configure additional DPDCHn for a DUT using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

➢ **Handsets with Release 5 HSDPA**

Body SAR is not required for handsets with HSDPA capabilities when the maximum average output of each RF channel with HSDPA active is less than ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC and the maximum SAR for 12.2 kbps RMC is ≤ 75% of the SAR limit. Otherwise, SAR is measured for HSDPA, using the additional body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, on the maximum output channel with the body exposure configuration that results in the highest SAR in 12.2 kbps RMC for that RF channel. Handsets with both HSDPA and HSUPA should be tested according to Release 6 HSPA test procedures.

2.3 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.

2.4 GENERAL INOFRMATION OF THE SAR SYSTEM

DASY4 (software 4.7 Build 53) 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 DASY4 software defined. The DASY4 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.

ET3DV6 ISOTROPIC E-FIELD PROBE

CONSTRUCTION	Symmetrical design with triangular core. Built-in optical fiber for surface detection system. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., glycolether).
FREQUENCY	10MHz to 3GHz; Linearity: ± 0.2dB (30MHz to 3GHz)
DYNAMIC RANGE	5μW/g to > 100mW/g; Linearity: ± 0.2dB
OPTICAL SURFACE DETECTION	± 0.2mm repeatability in air and clear liquids over diffuse reflecting surfaces
DIMENSIONS	Overall length: 330mm (Tip Length: 16mm) Tip diameter: 6.8mm (Body diameter: 12mm) Distance from probe tip to dipole centers: 2.7mm
APPLICATION	General dosimetric measurements up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (ET3DV6)

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.

EX3DV3 ISOTROPIC E-FIELD PROBE (FREQUENCY BAND 5 ~ 6GHz)

DIMENSIONS	Overall length: 330 mm (Tip Length: 20 mm) Tip diameter: 2.5 mm (Body diameter: 12 mm) Distance from probe tip to dipole centers: 1.0 mm
APPLICATION	General dosimetric measurements range 5 ~ 6 GHz. Fast automatic scanning in arbitrary phantoms (EX3DV3)

NOTE

4. The Probe parameters have been calibrated by the SPEAG. Please reference “APPENDIX D” for the Calibration Certification Report.
5. For frequencies above 800 MHz, calibration in a rectangular wave-guide is used, because wave-guide size is manageable.
6. For frequencies below 800 MHz, 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	835, 1900, 2450, 5200, 5500, 5800MHz
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.

2.5 GENERAL DESCRIPTION OF THE SPATIAL PEAK SAR EVALUATION

The DASY4 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.

4. DESCRIPTION OF TEST POSITION

4.1 DESCRIPTION OF TEST POSITION

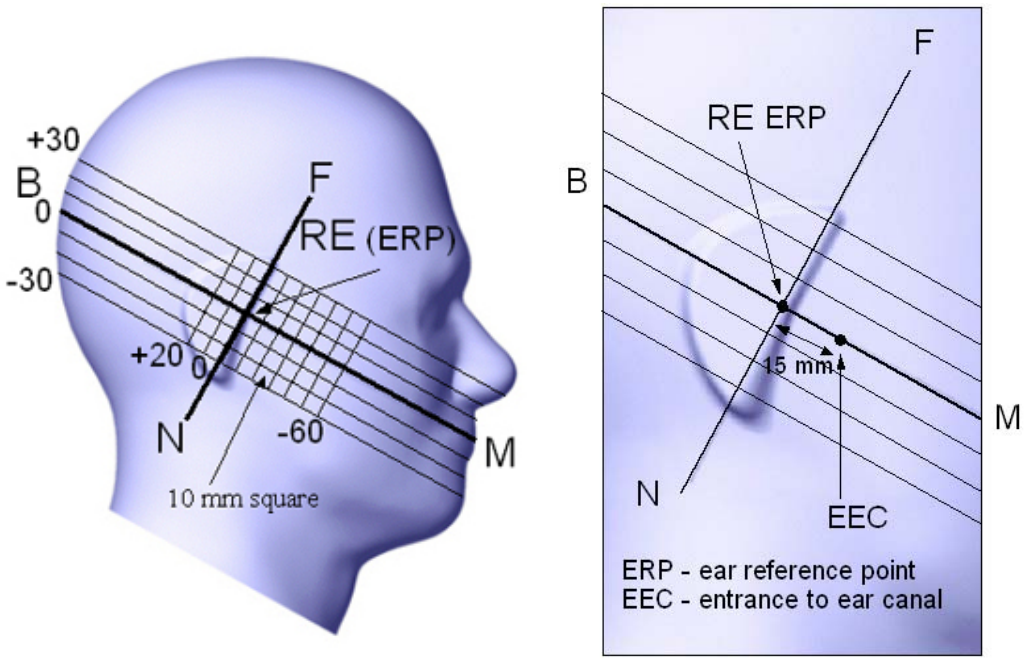


FIGURE 3.1

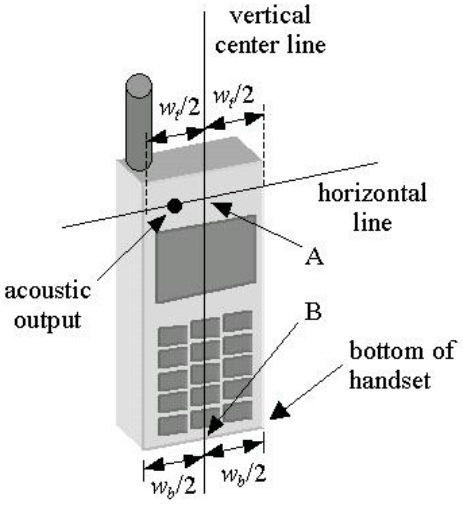


FIGURE 3.1a

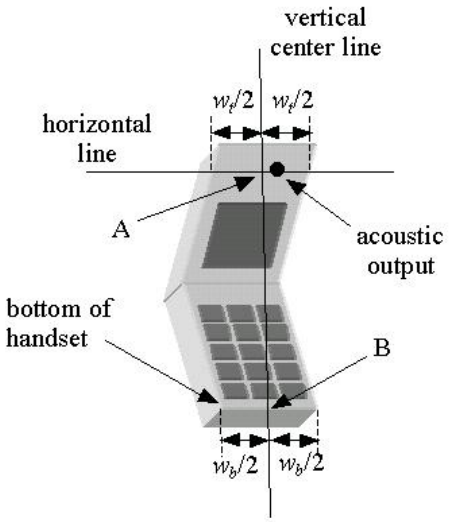
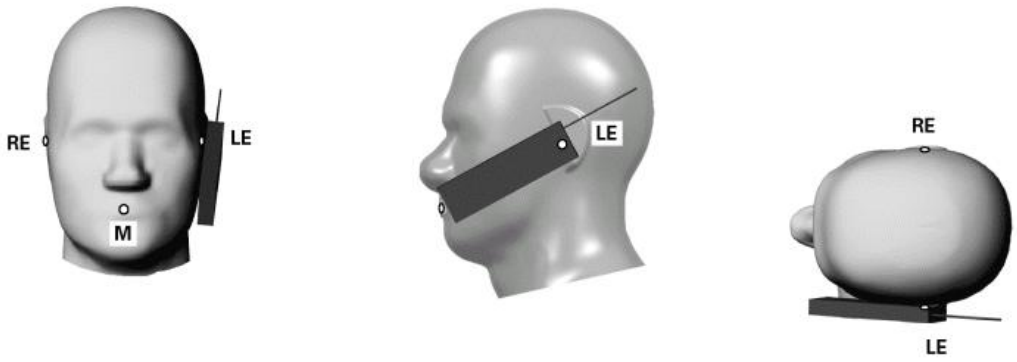


FIGURE 3.1b

4.2.1 TOUCH/CHEEK TEST POSITION

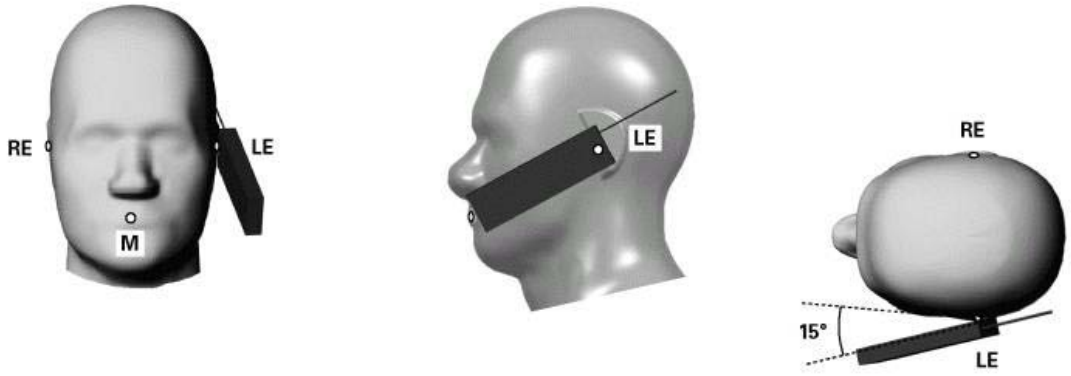
The head position in Figure 3.1, the ear reference points ERP are 15mm above entrance to ear canal along the B-M line. The line N-F (Neck-Front) is perpendicular to the B-M (Back Mouth) line. The handset device in Figure 3.1a and 3.1b,The vertical centerline pass through two points on the front side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

4.2.2 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

4.2.3 BODY-WORN CONFIGURATION

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

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

4.2 DESCRIPTION OF TEST MODE

TEST MODE	COMMUNICATION MODE	MODULATION TYPE	ASSESSMENT POSTITION	TESTED CHANNEL
1	GSM850+802.11g+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1
2	WCDMA850+802.11g+Blueooth	NOTE 1	C : Body / Bottom	NOTE 1
3	PCS1900+802.11g+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1
4	WCDMA1900+802.11g+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1
5	GSM850+802.11a+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1
6	WCDMA850+802.11a+Blueooth	NOTE 1	C : Body / Bottom	NOTE 1
7	PCS1900+802.11a+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1
8	WCDMA1900+802.11a+Bluetooth	NOTE 1	C : Body / Bottom	NOTE 1

NOTE: 1. The combination is from the worst situation of each communication mode.
2. Assessment position A: Right head position, B: Left head position, C: Body position, please refer to appendix E for the photo.

4.3 SUMMARY OF TEST RESULTS

The worst situation has been chosen from the above table, and make up following combinations for the test of co-location listed as below.

TEST MODE	DESCRIPTION	MEASURED VALUE OF 1g SAR (W/kg)
1	GSM850+802.11g+Bluetooth	0.142
2	WCDMA850+802.11g+Blueooth	0.156
3	PCS1900+802.11g+Bluetooth	0.048
4	WCDMA1900+802.11g+Bluetooth	0.072
5	GSM850+802.11a+Bluetooth	0.142
6	WCDMA850+802.11a+Blueooth	0.156
7	PCS1900+802.11a+Bluetooth	0.057
8	WCDMA1900+802.11a+Bluetooth	0.072

5. TEST RESULTS

5.1 TEST PROCEDURES

For Mobile Phone:

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 DASY4 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:

For WLAN & Bluetooth:

The EUT (EDA (Enterprise Digital Assistant)) use the software to control the EUT channel and transmission power. Then record the conducted power before the testing. Place the EUT to the specific test location. After the testing, must writing down the conducted power of the EUT into the report. The SAR value was calculated via the 3D spline interpolation algorithm that has been implemented in the software of DASY4 SAR measurement system manufactured and calibrated by SPEAG. According to the IEEE P1528 / EN 50361 standards, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

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

The area scan 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%.

5.2 MEASURED SAR RESULTS

GSM850+WLAN(802.11g)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.1°C, Liquid Temperature：22.3°C Humidity：61%RH					
TESTED BY	Sam Onn			DATE	Jul. 08, 2008	

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
251	848.8 (High)	GSM850	1.995W	1.981W	-0.70	1	0.142
6	2437 (Mid.)	802.11g	101.86mW	99.90mW	-1.92		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

WCDMA850+WLAN(802.11g)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.1°C, Liquid Temperature：22.3°C Humidity：61%RH		
TESTED BY	Sam Onn	DATE	Jul. 08, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER (W)		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
4233	846.6 (High)	WCDMA850	0.393W	0.387W	-1.53	2	0.156
6	2437 (Mid.)	802.11g	101.86mW	99.90mW	-1.92		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

PCS1900+WLAN(802.11g)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.7°C, Liquid Temperature：22.9°C Humidity：62%RH		
TESTED BY	Sam Onn	DATE	Jul. 09, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
661	1880.0 (Mid.)	PCS1900	0.955W	0.950W	-0.52	3	0.048
6	2437 (Mid.)	802.11g	101.86mW	99.90mW	-1.92		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

WCDMA1900+WLAN(802.11g)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.7°C, Liquid Temperature：22.9°C Humidity：62%RH		
TESTED BY	Sam Onn	DATE	Jul. 09, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
9400	1880.0 (Mid.)	WCDMA1900	0.494W	0.488W	-1.21	4	0.072
6	2437 (Mid.)	802.11g	101.86mW	99.90mW	-1.92		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

GSM850+WLAN(802.11a)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.1°C, Liquid Temperature：22.3°C Humidity：61%RH		
TESTED BY	Sam Onn	DATE	Jul. 08, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
251	848.8 (High)	GSM850	1.995W	1.981W	-0.70	5	0.142
165	5825	802.11a	81.28mW	79.61mW	-2.05		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

WCDMA850+WLAN(802.11a)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.1°C, Liquid Temperature：22.3°C Humidity：61%RH					
TESTED BY	Sam Onn			**DATE**	Jul. 08, 2008	

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
4233	**846.6 (High)**	**WCDMA 850**	0.393W	0.387W	-1.53	6	0.156
165	**5825**	**802.11a**	81.28mW	79.61mW	-2.05		
0	**2402 (Low)**	**Bluetooth**	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

PCS1900+WLAN(802.11a)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.7°C, Liquid Temperature：22.9°C Humidity：62%RH		
TESTED BY	Sam Onn	DATE	Jul. 09, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
661	1880.0 (Mid.)	PCS1900	0.955W	0.950W	-0.52	7	0.057
165	5825	802.11a	81.28mW	79.61mW	-2.05		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

WCDMA1900+WLAN(802.11a)+BLUETOOTH BAND BODY POSITION

ENVIRONMENTAL CONDITION	Air Temperature：23.7°C, Liquid Temperature：22.9°C Humidity：62%RH		
TESTED BY	Sam Onn	DATE	Jul. 09, 2008

CHAN.	FREQ. (MHz)	TEST MODE	CONDUCTED POWER		POWER DRIFT (%)	DEVICE TEST POSITION MODE	MEASURED 1g SAR (W/kg)
			BEGIN TEST	AFTER TEST			
9400	1880.0 (Mid.)	WCDMA1900	0.494W	0.488W	-1.21	8	0.072
165	5825	802.11a	81.28mW	79.61mW	-2.05		
0	2402 (Low)	Bluetooth	2.04mW	2.01mW	-1.47		

NOTE:

1. Test configuration of each mode is described in section 3.
2. In this testing, the limit for General Population Spatial Peak averaged over **1g, 1.6W/kg**, is applied.
3. Please see the Appendix A for the data.
4. The variation of the EUT conducted power measured before and after SAR testing should not over 5%.

6. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC, UL, A2LA
GERMANY	TUV Rheinland
JAPAN	VCCI
NORWAY	NEMKO
CANADA	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
NETHERLANDS	Telefication
SINGAPORE	GOST-ASIA (MOU)
RUSSIA	CERTIS (MOU)

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.

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Date/Time: 2008/7/8 13:03:23

Test Laboratory: Advance Data Technology

M01-Body Worn-GSM850 Ch251+11g Ch6+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 848.8 MHz Frequency: 2437 MHz Frequency: 2402 MHz

Communication System: PCS 850 Communication System: 802.11g Communication System: Bluetooth ; Frequency: 848.8 MHz Frequency: 2437 MHz Frequency: 2402 MHz ; Duty Cycle: 1:8.3 Duty Cycle: 1:1 Medium: MSL835 Medium: MSL2450 Medium parameters used: f = 848.8 MHz; σ = 0.98 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3 Medium parameters used: f = 2437 MHz; σ = 1.99 mho/m; εr = 52.8; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 150 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: GMSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.1 degrees ; Liquid Temp. : 22.3 degrees

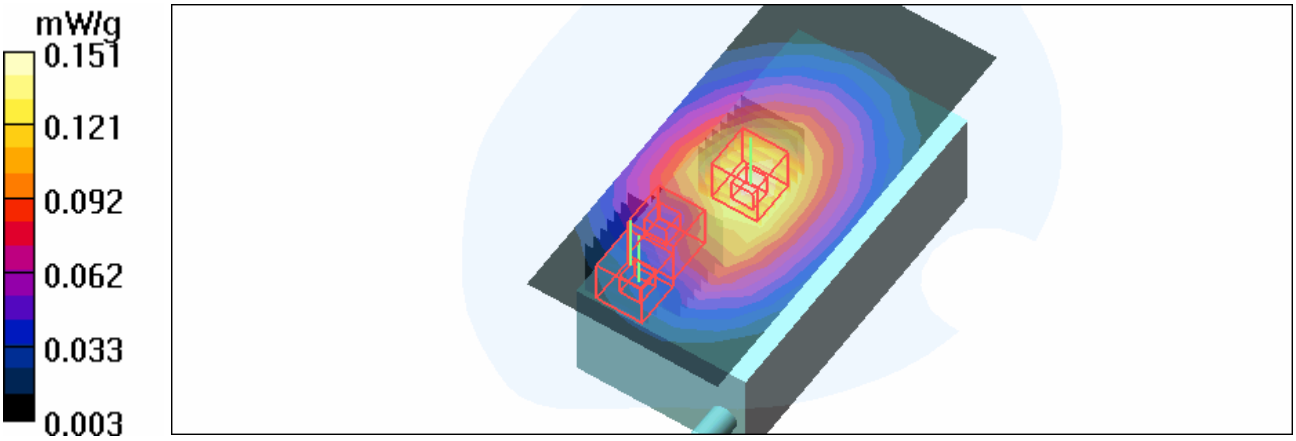
DASY4 Configuration:
- Probe: ET3DV6 - SN1790 ; ConvF(6.15, 6.15, 6.15)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

High Channel 251/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.149 mW/g

High Channel 251/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 0.181 W/kg
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.151 mW/g

Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.51 V/m
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.039 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g


mW/g
0.151
0.121
0.092
0.062
0.033
0.003

Date/Time: 2008/7/8 15:51:38

Test Laboratory: Advance Data Technology

M02-Body Worn-WCDMA850 Ch4233+11g Ch6+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 846.6 MHz Frequency: 2437 MHz Frequency: 2402 MHz

Communication System: WCDMA Communication System: 802.11g Communication System: Bluetooth ; Frequency: 846.6 MHz Frequency: 2437 MHz Frequency: 2402 MHz ; Duty Cycle: 1:1
Medium: MSL835Medium: MSL2450 Medium parameters used: f = 846.6 MHz; σ = 0.98 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3 Medium parameters used: f = 2437 MHz; σ = 1.99 mho/m; εr = 52.8; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 150 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: BPSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.1 degrees ; Liquid Temp. : 22.3 degrees

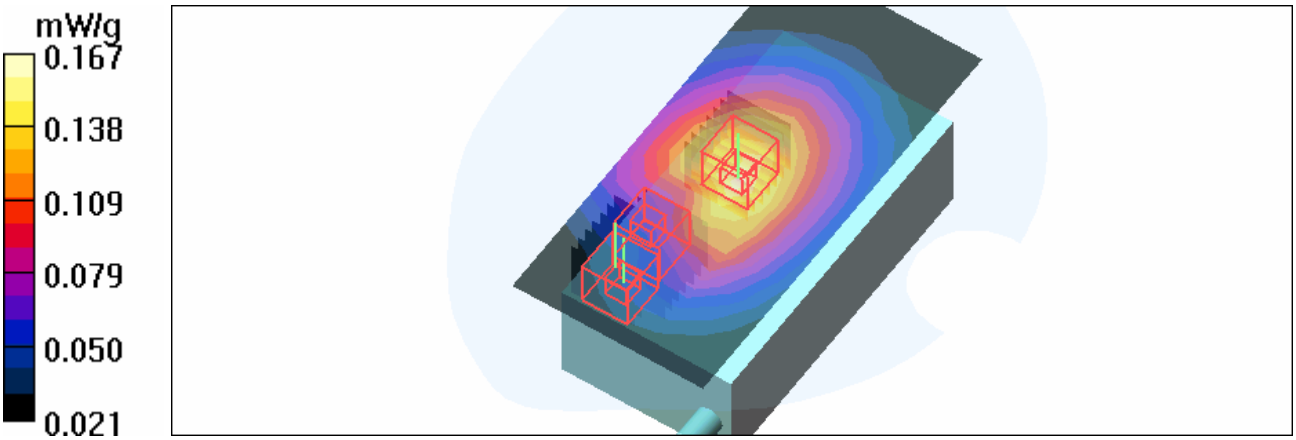
DASY4 Configuration:
- Probe: ET3DV6 - SN1790 ; ConvF(6.15, 6.15, 6.15)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

High Channel 4233/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.163 mW/g

High Channel 4233/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m
Peak SAR (extrapolated) = 0.202 W/kg
SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.112 mW/g
Maximum value of SAR (measured) = 0.167 mW/g

Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.51 V/m
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.039 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g


mW/g
0.167
0.138
0.109
0.079
0.050
0.021

Date/Time: 2008/7/9 11:35:50

Test Laboratory: Advance Data Technology

M03-Body Worn-PCS1900 Ch661+11g Ch6+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 1880 MHz Frequency: 2437 MHz Frequency: 2402 MHz

Communication System: PCS 1900 Communication System: 802.11g Communication System: Bluetooth ; Frequency: 1880 MHz Frequency: 2437 MHz Frequency: 2402 MHz ; Duty Cycle: 1:8.3 Duty Cycle: 1:1 Medium: MSL1900 Medium: MSL2450 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3 Medium parameters used: f = 2437 MHz; σ = 1.99 mho/m; εr = 52.8; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 151 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: GMSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.7 degrees ; Liquid Temp. : 22.9 degrees

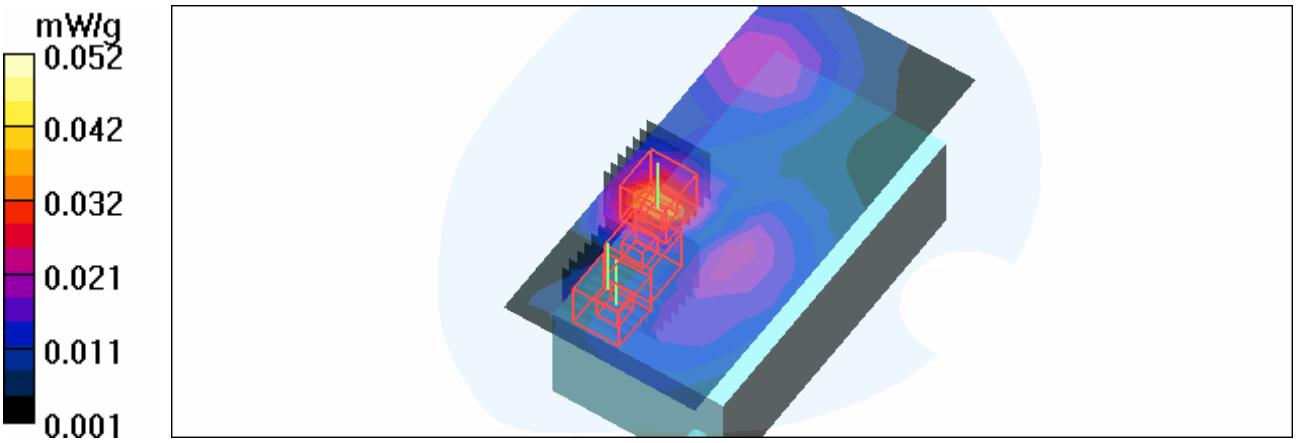
DASY4 Configuration:
- Probe: ET3DV6 - SN1790 ; ConvF(4.58, 4.58, 4.58)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

Mid Channel 661/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.048 mW/g

Mid Channel 661/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.19 V/m
Peak SAR (extrapolated) = 0.066 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.052 mW/g

Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.51 V/m
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.039 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g


mW/g
0.052
0.042
0.032
0.021
0.011
0.001

Date/Time: 2008/7/9 14:50:02

Test Laboratory: Advance Data Technology

M04-Body Worn-WCDMA1900 Ch9400+11g Ch6+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 1880 MHz Frequency: 2437 MHz Frequency: 2402 MHz

Communication System: WCDMA1900 Communication System: 802.11g Communication System: Bluetooth ; Frequency: 1880 MHz Frequency: 2437 MHz Frequency: 2402 MHz ; Duty Cycle: 1:1
Medium: MSL1900Medium: MSL2450 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3 Medium parameters used: f = 2437 MHz; σ = 1.99 mho/m; εr = 52.8; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 151 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: BPSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.7 degrees ; Liquid Temp. : 22.9 degrees

DASY4 Configuration:
- Probe: ET3DV6 - SN1790 ; ConvF(4.58, 4.58, 4.58)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

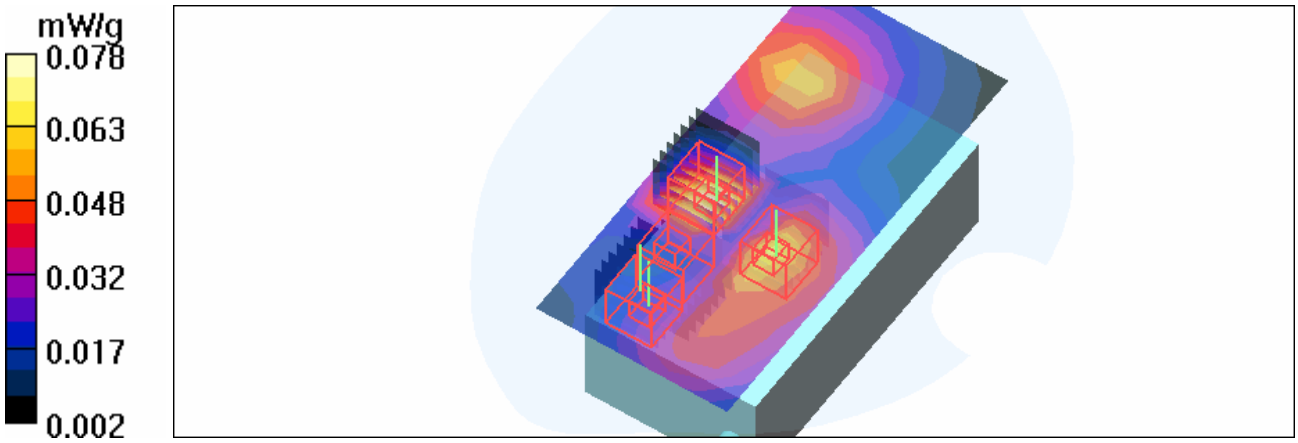
Mid Channel 9400/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.071 mW/g

Mid Channel 9400/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.98 V/m
Peak SAR (extrapolated) = 0.100 W/kg
SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.047 mW/g
Maximum value of SAR (measured) = 0.078 mW/g

Mid Channel 9400/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.98 V/m
Peak SAR (extrapolated) = 0.089 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.063 mW/g

Mid Channel 6/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.51 V/m
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.039 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g



Date/Time: 2008/7/8 13:03:23

Test Laboratory: Advance Data Technology

M05-Body Worn-GSM850 Ch251+11a Ch165+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 848.8 MHz Frequency: 5825 MHz Frequency: 2402 MHz

Communication System: PCS 850 Communication System: 802.11a Communication System: Bluetooth ; Frequency: 848.8 MHz Frequency: 5825 MHz Frequency: 2402 MHz ; Duty Cycle: 1:8.3 Duty Cycle: 1:1 Medium: MSL835 Medium: MSL5800 Medium: MSL2450 Medium parameters used: f = 848.8 MHz; σ = 0.98 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3 Medium parameters used: f = 5825 MHz; σ = 6.06 mho/m; εr = 48.7; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 150 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: GMSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.1 degrees ; Liquid Temp. : 22.3 degrees

DASY4 Configuration:
- Probe: ET3DV6 - SN1790Probe: EX3DV3 - SN3504 ; ConvF(6.15, 6.15, 6.15)ConvF(4.1, 4.1, 4.1)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20Calibrated: 2007/8/30
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

High Channel 251/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.149 mW/g

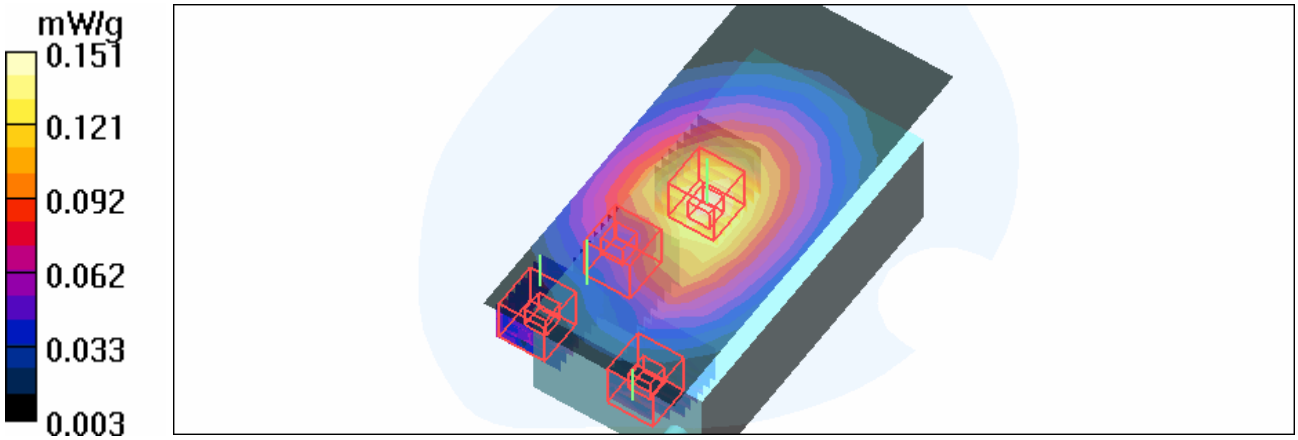
High Channel 251/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 0.181 W/kg
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.151 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.066 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 1: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.076 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g



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Test Laboratory: Advance Data Technology

M06-Body Worn-WCDMA850 Ch4233+11a Ch165+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 846.6 MHz Frequency: 5825 MHz Frequency: 2402 MHz

Communication System: WCDMA Communication System: 802.11a Communication System: Bluetooth ; Frequency: 846.6 MHz Frequency: 5825 MHz Frequency: 2402 MHz ; Duty Cycle: 1:1
Medium: MSL835 Medium: MSL5800 Medium: MSL2450 Medium parameters used: f = 846.6 MHz; σ = 0.98 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3 Medium parameters used: f = 5825 MHz; σ = 6.06 mho/m; εr = 48.7; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 150 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: BPSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.1 degrees ; Liquid Temp. : 22.3 degrees

DASY4 Configuration:
- Probe: ET3DV6 - SN1790Probe: EX3DV3 - SN3504 ; ConvF(6.15, 6.15, 6.15)ConvF(4.1, 4.1, 4.1)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20Calibrated: 2007/8/30
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

High Channel 4233/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.163 mW/g

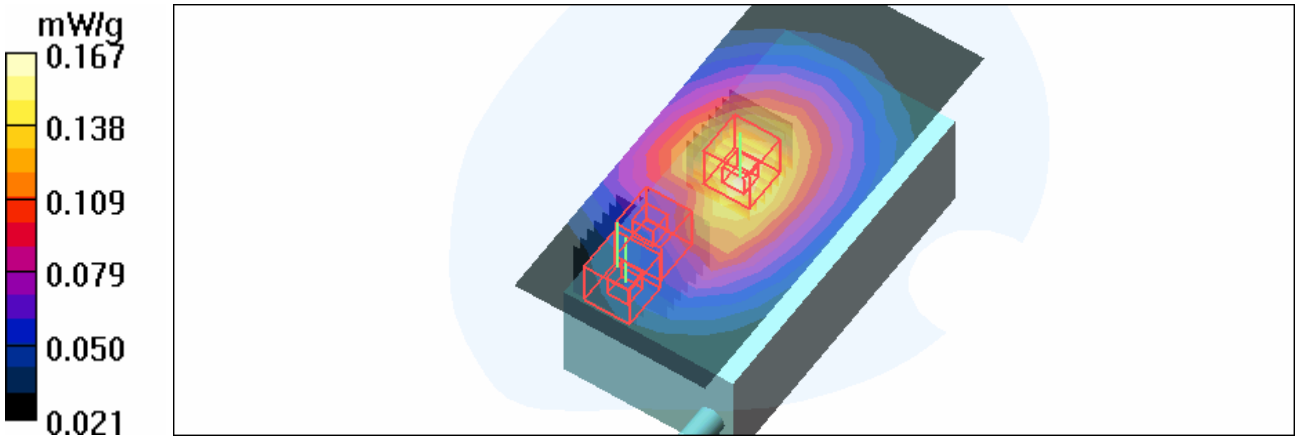
High Channel 4233/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m
Peak SAR (extrapolated) = 0.202 W/kg
SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.112 mW/g
Maximum value of SAR (measured) = 0.167 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.066 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 1: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.076 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g



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Test Laboratory: Advance Data Technology

M07-Body Worn-PCS1900 Ch661+11a Ch165+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 1880 MHz Frequency: 5825 MHz Frequency: 2402 MHz

Communication System: PCS 1900 Communication System: 802.11a Communication System: Bluetooth ; Frequency: 1880 MHz Frequency: 5825 MHz Frequency: 2402 MHz ; Duty Cycle: 1:8.3 Duty Cycle: 1:1 Medium: MSL1900 Medium: MSL5800 Medium: MSL2450 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3 Medium parameters used: f = 5825 MHz; σ = 6.06 mho/m; εr = 48.7; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 151 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: GMSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.7 degrees ; Liquid Temp. : 22.9 degrees

DASY4 Configuration:
- Probe: ET3DV6 - SN1790Probe: EX3DV3 - SN3504 ; ConvF(6.15, 6.15, 6.15)ConvF(4.1, 4.1, 4.1)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20Calibrated: 2007/8/30
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

Mid Channel 661/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.048 mW/g

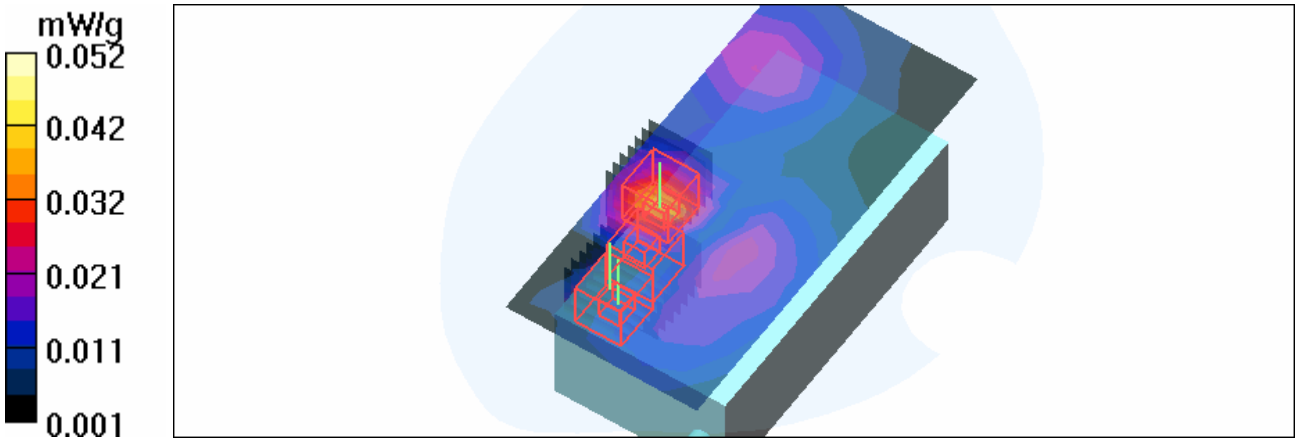
Mid Channel 661/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.19 V/m
Peak SAR (extrapolated) = 0.066 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.052 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.066 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 1: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.076 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g



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Test Laboratory: Advance Data Technology

M08-Body Worn-WCDMA1900 Ch9400+11a Ch165+BT Ch0

DUT: EDA ; Type: MC7596 ; Test Frequency: 1880 MHz Frequency: 5825 MHz Frequency: 2402 MHz

Communication System: WCDMA1900 Communication System: 802.11a Communication System: Bluetooth ; Frequency: 1880 MHz Frequency: 5825 MHz Frequency: 2402 MHz ; Duty Cycle: 1:1
Medium: MSL1900 Medium: MSL5800 Medium: MSL2450 Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3 Medium parameters used: f = 5825 MHz; σ = 6.06 mho/m; εr = 48.7; ρ = 1000 kg/m^3 Medium parameters used: f = 2402 MHz; σ = 1.96 mho/m; εr = 52.9; ρ = 1000 kg/m^3 ; Liquid Level : 151 mm
Phantom section: Flat Section ; DUT test position : Body ; Modulation Type: BPSK
Separation Distance : 0 mm (The bottom side of the EUT with leather to the Phantom)
Antenna Type : Monopole Antenna ; Air Temp. : 23.7 degrees ; Liquid Temp. : 22.9 degrees

DASY4 Configuration:
- Probe: ET3DV6 - SN1790Probe: EX3DV3 - SN3504 ; ConvF(6.15, 6.15, 6.15)ConvF(4.1, 4.1, 4.1)ConvF(4.16, 4.16, 4.16) ; Calibrated: 2007/11/20Calibrated: 2007/8/30
- Sensor-Surface: 4mm (Mechanical Surface Detection)Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn510 ; Calibrated: 2007/8/29
- Phantom: SAM 12 ; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY4, V4.7 Build 53 ; Postprocessing SW: SEMCAD, V1.8 Build 172

Mid Channel 9400/Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.071 mW/g

Mid Channel 9400/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.98 V/m
Peak SAR (extrapolated) = 0.100 W/kg
SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.047 mW/g
Maximum value of SAR (measured) = 0.078 mW/g

Mid Channel 9400/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.98 V/m
Peak SAR (extrapolated) = 0.089 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.063 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.066 mW/g

High Channel 165/Zoom Scan (7x7x7) (8x8x8)/Cube 1: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.29 V/m
Peak SAR (extrapolated) = 0.156 W/kg
SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.076 mW/g

Low Channel 0/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.000 V/m
Peak SAR (extrapolated) = 0.001 W/kg
SAR(1 g) = 1.53e-005 mW/g; SAR(10 g) = 1.73e-006 mW/g
Maximum value of SAR (measured) = 0.003 mW/g