SAR TEST REPORT

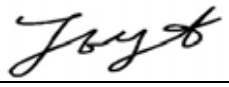
Equipment Under Test	:	PDA
Model No.	:	BIP-1300
Applicant	:	BluebirdSoft., Inc.
Address of Applicant	:	558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea
FCC ID		SS4BIP1300
Device Category	:	Portable Device
Exposure Category	:	General Population/Uncontrolled Exposure
Date of Receipt	:	2007-08-03
Date of Test(s)	:	2007-09-18 ~ 2007-09-19
Date of Issue	:	2007-10-18
Max. SAR	:	0.781 W/kg (GPRS850 Body)

Standards:

FCC OET Bulletin 65 supplement C
IEEE 1528, 2003
ANSI/IEEE C95.1, C95.3

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

Tested by	: **Leo Kim**		**2007-10-18**
Approved by	: **Albert Lim**		**2007-10-18**

Contents

APPENDIX

A. Photographs of EUT & EUT's Test Setup
B. DASY4 SAR Report
C. Uncertainty Analysis
D. Calibration certificate

1. General Information

1.1 Testing Laboratory

SGS Testing Korea Co., Ltd.
Wireless Div. 2FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040
Telephone : +82 +31 428 5700
FAX : +82 +31 427 2371
Homepage : www.electrolab.kr.sgs.com

1.2 Details of Applicant

Manufacturer : BluebirdSoft., Inc.
Address : 558-5, Sinsa-dong, Kangnam-gu, Seoul, Korea
Contact Person : KyeongJin Park
Phone No. : 82-2-548-0740
Fax No. : 82-2-548-0870

1.3 Version of Report

Version Number	Date	Revision
00	2007-09-21	Initial issue
01	2007-10-12	Revision 1
02	2007-10-18	Revision 2

1.4 Description of EUT(s)

EUT Type	: PDA
Model	: BIP-1300
Serial Number	: 130KHGGAJ013
Hardware Version	: REV 0.4
Software Version	: 2007.7.10(7191)
Mode of Operation	: GSM/GPRS/EGPRS 850/1900, WLAN 11b/g, Bluetooth
Duty Cycle	: GSM 12.5%, GPRS/EGPRS 25%, WLAN/BT 100%
Body worn Accessory	: None
Tx Frequency Range	: 824.2 ~ 848.8 MHz (GSM850), 1850.2 ~ 1909.8 MHz(GSM 1900) 2412 ~ 2462 MHz(WLAN), 2402~ 2480 MHz(Bluetooth)
Antenna	: GSM/WLAN(Type : Inverted_L, Fixed) WLAN(Type : PCB type SMD, Fixed)
Max Conducted Power	: 32.0 dBm(Average, GSM850), 29.9(Average, GSM1900) 17.66 dBm(Peak, WLAN)
Battery Type	: DC 7.4V(Li-ion Battery)

1.5 Test Environment

Ambient temperature	: 22 ~ 23 ° C
Tissue Simulating Liquid	: 22 ~ 23 ° C
Relative Humidity	: 40 ~ 60 %

1.6 Operation Configuration

The device in GSM mode was controlled by using a Communication tester(CMU200). Communication between the device and the tester was established by air link. For WLAN and BT, the client provided a special driver and test program which can control the frequency and power of the module.. Measurements were performed at the lowest, middle and highest channels of the operating band. The EUT was set to maximum power level during all tests and at the beginning of each test the battery was fully charged.

The DASY4 system measures power drift during SAR testing by comparing e-field in the same location at the beginning and at the end of measurement.

1.7 EVALUATION PROCEDURES

- Power Reference Measurement Procedures

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The Minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 4 mm. This distance cannot be smaller than the Distance of sensor calibration points to probe tip as defined in the probe properties (for example, 2.7 mm for an ET3DV6 probe type).

- 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 1g and 10g.

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

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 7x7x7 scans. The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm 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 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.

1.8 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (Speag Dasy 4 professional system). A Model ET3DV6 1782 E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant. The DASY4 system for performing compliance tests consists of the following items:

•A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An

arm extension for accommodating the data acquisition electronics (DAE).

•A dosimeter probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

•A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

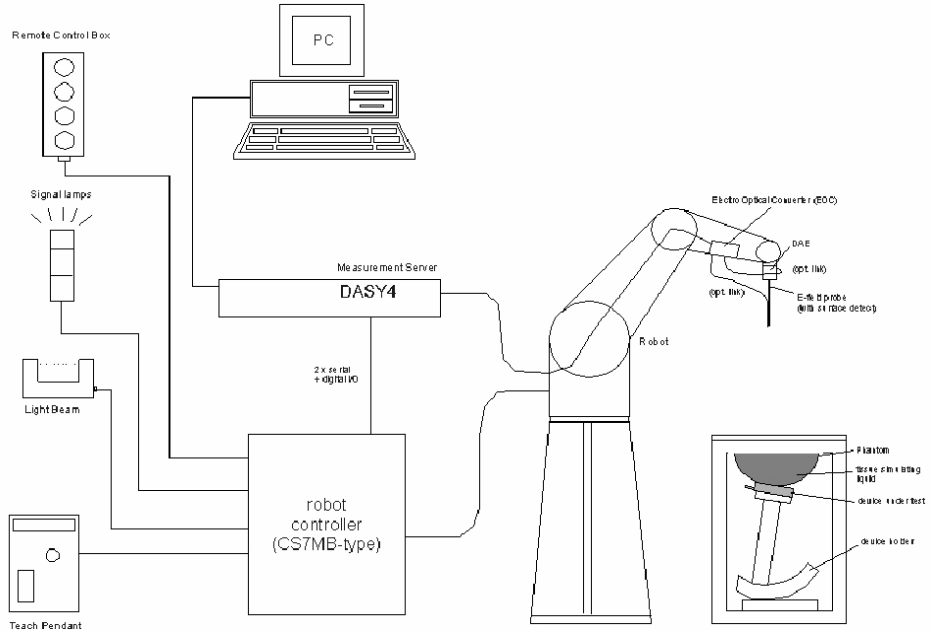


Fig a. The microwave circuit arrangement used for SAR system verification

• The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.

• The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.

• A probe alignment unit which improves the (absolute) accuracy of the probe positioning.

• A computer operating Windows 2000 or Windows XP.

• DASY4 software.

• Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.

• The SAM twin phantom enabling testing left-hand and right-hand usage.

• The device holder for handheld mobile phones.

• Tissue simulating liquid mixed according to the given recipes.

• Validation dipole kits allowing to validate the proper functioning of the system.

1.9 System Components

ET3DV6 E-Field Probe

Construction : Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g. glycol).

Calibration : In air from 10 MHz to 2.5 GHz In brain simulating tissue (accuracy ± 8%)

Frequency : 10 MHz to >6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)

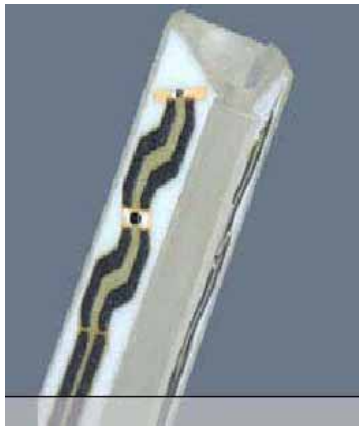
Directivity : ±0.2 dB in brain tissue (rotation around probe axis)
±0.4 dB in brain tissue (rotation normal to probe axis)

Dynamic Range : 5 µW/g to >100 mW/g; Linearity: ±0.2 dB

Srfce. Detect : ±0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces

Dimensions : Overall length: 330 mm
Tip length: 16 mm
Body diameter: 12 mm
Tip diameter: 6.8 mm
Distance from probe tip to dipole centers: 2.7 mm

Application : General dosimetry up to 3 GHz Compliance tests of mobile phone


ET3DV6 E-Field Probe

NOTE:

1. The Probe parameters have been calibrated by the SPEAG. Please reference “APPENDIX D” for the Calibration Certification Report.

SAM Phantom

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

SAM Phantom

Shell Thickness: 2.0 ± 0.1 mm

Filling Volume: Approx. 25 liters

DEVICE HOLDER

Construction In combination with the Twin SAM PhantomV4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Device Holder

1.10 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. These tests were done at 835MHz, 1900MHz and 2450 MHz. The tests for EUT were conducted within 24 hours after each validation. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 20~23 °C, the relative humidity was in the range 40~60% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

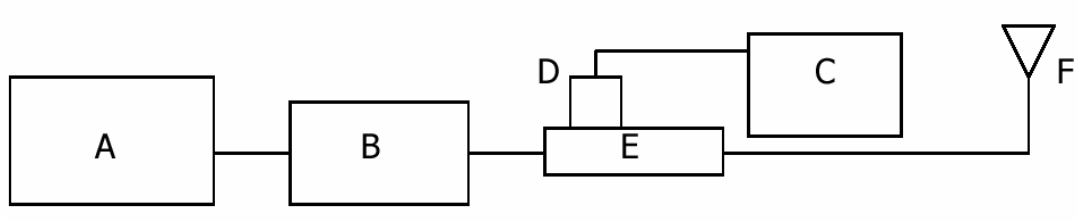


Fig b. The microwave circuit arrangement used for SAR system verification

A. Agilent Model E4421B Signal Generator
B. EMPOWER Model 2001-BBS3Q7ECK Amplifier
C. Agilent Model E4419B Power Meter
D. Agilent Model 9300H Power Sensor
E. Agilent Model 777D/778D Dual directional coupling
F. Reference dipole Antenna

Photo of the dipole Antenna

System Validation Results

Validation Kit	Tissue	Target SAR 1 g from Calibration Certificate (Input Power : 250 mW)	Measured SAR 1 g (Input Power : 250 mW)	Deviation (%)	Date	Liquid Temp. (°C)
D835V2 S/N: 490	835 MHz Brain	2.27 W/kg	**2.36 W/kg**	**3.96**	2007-09-18	22.3
D1900V2 S/N: 5d033	1900 MHz Brain	9.39 W/kg	**9.74 W/kg**	**3.73**	2007-09-19	22.3
D2450V2 S/N: 734	2450 MHz Brain	13.3 W/kg	**12.9 W/kg**	**-3.00**	2007-09-19	22.2

Table 1. Results system validation

1.11 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this simulant fluid were measured by using the Agilent Model 85070D Dielectric Probe (rates frequence band 200 MHz to 20 GHz) in conjunction with Agilent E5070B Network Analyzer(300 KHz-3000 MHz) by using a procedure detailed in Section V.

f (MHz)	Tissue type	Limits / Measured	Dielectric Parameters		
			Permittivity	Conductivity	Simulated Tissue Temp(℃)
835	Head	Measured, 2007-09-18	**42.4**	**0.876**	**22.3**
		Recommended Limits	41.5	0.90	22.0
		Deviation(%)	2.16	-2.67	-
	Body	Measured, 2007-09-18	**53.24**	**0.9715**	**22.3**
		Recommended Limits	55.2	0.97	22.0
		Deviation(%)	-3.56	0.15	-
1900	Head	Measured, 2007-09-19	**41**	**1.38**	**22.3**
		Recommended Limits	40.0	1.40	22.0
		Deviation(%)	2.5	-1.43	-
	Body	Measured, 2007-09-19	**51.24**	**1.493**	**22.3**
		Recommended Limits	53.3	1.52	22.0
		Deviation(%)	-3.87	-1.78	-
2450	Head	Measured, 2007-09-19	**38**	**1.83**	**22.2**
		Recommended Limits	39.2	1.80	22.0
		Deviation(%)	-3.07	1.66	-
	Body	Measured, 2007-09-19	**52.5**	**2.025**	**22.2**
		Recommended Limits	52.7	1.95	22.0
		Deviation(%)	-0.38	3.84	-

The composition of the brain tissue simulating liquid

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Ingredients (% by weight)	**Frequency (MHz)**									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99^{+}% Pure Sodium Chloride Sugar: 98^{+}% Pure Sucrose

Water: De-ionized, 16 MΩ^{+} resistivity HEC: Hydroxyethyl Cellulose

DGBE: 99^{+}% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100 (ultra pure): Polyethylene glycol mono [4-(1,1, 3, 3-tetramethylbutyl)phenyl]ether

1.12 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (‘‘SAR’’) in Section 4.2 of ‘‘IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,’’ ANSI/IEEE C95.3–2003, Copyright 2003 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in ‘‘Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields,’’ NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have

been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube). Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.

(2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .4)

Human Exposure	**Uncontrolled Environment General Population**	**Controlled Environment Occupational**
Partial Peak SAR (Partial)	1.60 m W/g	8.00 m W/g
Partial Average SAR (Whole Body)	0.08 m W/g	0.40 m W/g
Partial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table .4 RF exposure limits

2. Instruments List

Maunfacturer	Device	Type	Serial Number	Due date of Calibration
Stäubli	Robot	RX90BL	F03/5W05A1/A/01	N/A
Schmid& Partner Engineering AG	Dosimetric E-Field Probe	ET3DV6	1782	April 23, 2008
Schmid& Partner Engineering AG	835 MHz System Validation Dipole	D835V2	490	August 27, 2008
Schmid& Partner Engineering AG	1900 MHz System Validation Dipole	D1900V2	5d033	August 28, 2008
Schmid& Partner Engineering AG	2450 MHz System Validation Dipole	D2450V2	734	August 20, 2008
Schmid& Partner Engineering AG	Data acquisition Electronics	DAE4	614	August 30, 2008
Schmid& Partner Engineering AG	Software	DASY 4 V4.7	-	N/A
Schmid& Partner Engineering AG	Phantom	SAM Phantom V4.0	TP-1299 TP-1300	N/A
Agilent	Network Analyzer	E5070B	MY42100282	May 11, 2008
Agilent	Dielectric Probe Kit	85070D	2184	N/A
Agilent	Power Meter	E4419B	GB43311126	December 8, 2007
Agilent	Power Sensor	E9300H	MY41495308 MY41495314	December 8, 2007
Agilent	Signal Generator	E4421B	MY43350132	December 8, 2007
Empower RF Systems	Power Amplifier	2001-BBS3Q7ECK	1032 D/C 0336	May 11, 2008
Agilent	Dual Directional Coupler	777D 778D	50128 50454	December 8, 2007
Microlab	LP Filter	LA-15N LA-30N	N/A	December 8, 2007
R & S	Mobile Test Unit	CMU200	GB43345198	December 28, 2007

3.Summary of Results

Ambient Temperature (°C)	22.2
Liquid Temperature (°C)	22.2
Date	2007-09-18

GSM/GPRS/EGPRS 850Body SAR

Mode	Position	Traffic Channel		Power Drift (dB)	1g SAR (W/kg)	1 g SAR Limits (W/kg)
		Frequency (MHz)	Channel			
GSM	Face Up	836.6	190	-0.003	0.354	1.6
GPRS	Face Up	836.6	190	0.002	0.635	
EGPRS	Face Up	836.6	190	0.024	0.359	
GPRS	Face Down	824.2	128	-0.091	0.774	
GPRS	Face Down	836.6	190	-0.061	0.705	
GPRS	Face Down	848.8	251	-0.048	0.673	
GPRS + BT ON	Face Down	824.2	128	0.015	**0.781**	

GSM/GPRS/EGPRS 1900Body SAR

Ambient Temperature (°C)	22.3
Liquid Temperature (°C)	22.3
Date	2007-09-19

Mode	Position	Traffic Channel		Power Drift (dB)	1g SAR (W/kg)	1 g SAR Limits (W/kg)
		Frequency (MHz)	Channel			
GSM	Face Up	1880	661	0.327	0.058	1.6
GPRS	Face Up	1880	661	-0.234	0.115	
EGPRS	Face Up	1880	661	0.033	0.034	
GPRS	Face Down	1850.2	512	-0.036	**0.465**	
GPRS	Face Down	1880	661	-0.091	0.415	
GPRS	Face Down	1909.8	810	-0.005	0.368	
GPRS + BT ON	Face Down	1850.2	512	-0.025	0.464	

Ambient Temperature (°C)	22.3
Liquid Temperature (°C)	22.3
Date	July 26, 2007

WLAN 2450Body SAR

Mode	Position	Traffic Channel		Power Drift (dB)	1g SAR (W/kg)	1 g SAR Limits (W/kg)
		Frequency (MHz)	Channel			
11b	Face Up	2437	6	-0.334	0.036	1.6
11g	Face Up	2437	6	-0.280	0.014	
11b	Face Down	2412	1	-0.052	0.073	
11b	Face Down	2437	6	-0.161	**0.088**	
11b	Face Down	2462	11	-0.133	**0.088**	
11b + BT ON	Face Down	2437	6	-0.169	0.077	

Appendix

List

Appendix A	Photographs	- EUT - Test Setup
Appendix B	DASY4 Report (Plots of the SAR Measurements)	- 835, 1900,2450 MHz Validation Test - GSM850 Test - GSM1900 Test - WLAN
Appendix C	Uncertainty Analysis	
Appendix D	Calibration Certificate	- PROBE - DAE - DIPOLE

Appendix A

EUT Photographs

Front View of EUT

Rear View of EUT

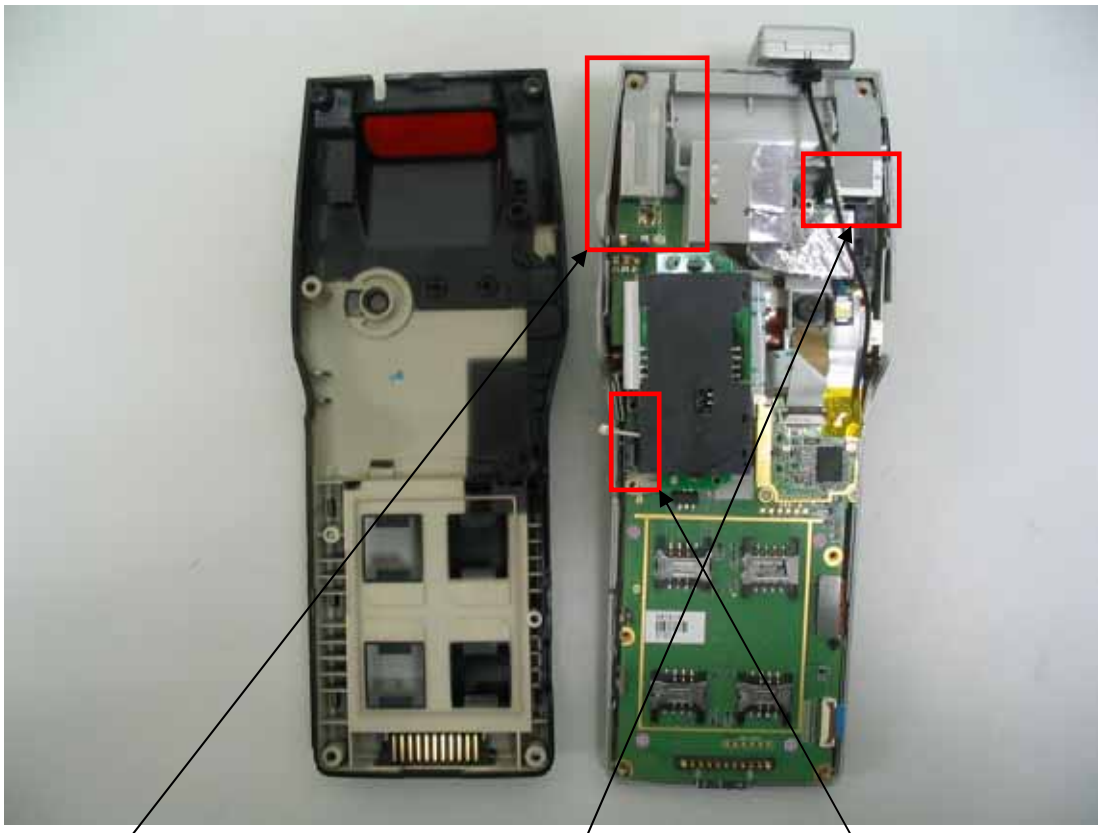
Right View of EUT

Left View of EUT

Top View of EUT

Bottom View of EUT

Inside View of EUT



Test Setup Photographs

GSM Body Face Up Position

GPRS/EGPRS/WLAN Body Face Up Position

GPRS/WLAN Body Face Down Position

GPRS/WLAN with BT ON Body Face Down Position

Appendix B

Test Plot - DASY4 Report

835 MHz Validation Test

Date/Time: 2007-09-18 11:42:12

Test Laboratory: SGS Testing Korea
File Name: Validation850.da4

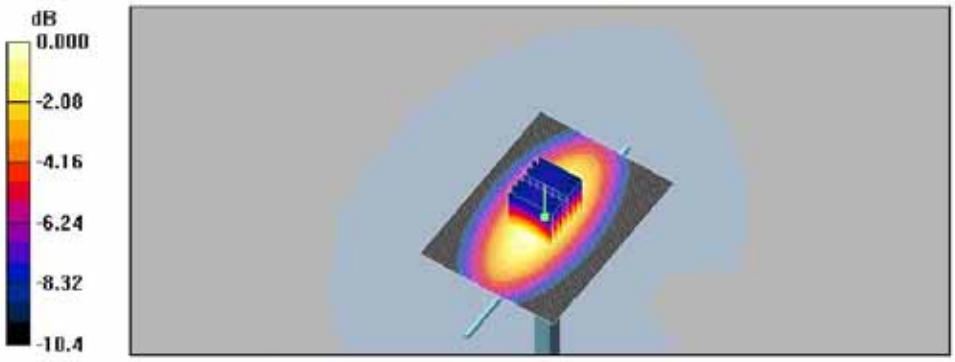
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:490
Program Name: Validation 835

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.876 mho/m; ε_r = 42.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(6.18, 6.18, 6.18); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Validation 835/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.53 mW/g

Validation 835/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.9 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 3.34 W/kg
SAR(1 g) = 2.36 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.53 mW/g



0 dB = 2.53mW/g

1900 MHz Validation Test

Date/Time: 2007-09-19 9:26:21

Test Laboratory: SGS Testing Korea
File Name: Validation1900.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d033
Program Name: Validation1900

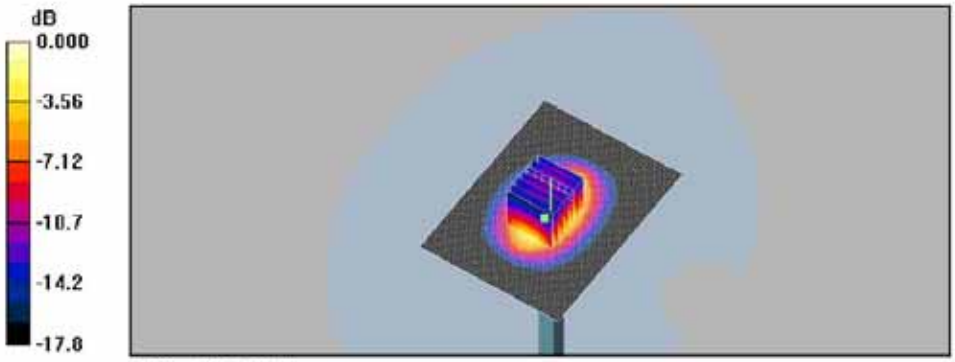
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.38 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.16, 5.16, 5.16); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Validation1900 /Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.4 mW/g

Validation1900 /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.8 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 16.5 W/kg
SAR(1 g) = 9.74 mW/g; SAR(10 g) = 5.21 mW/g

Maximum value of SAR (measured) = 11.1 mW/g



0 dB = 11.1mW/g

2450 MHz Validation Test

Date/Time: 2007-09-19 3:51:15

Test Laboratory: SGS Testing Korea
File Name: Validation2450.da4

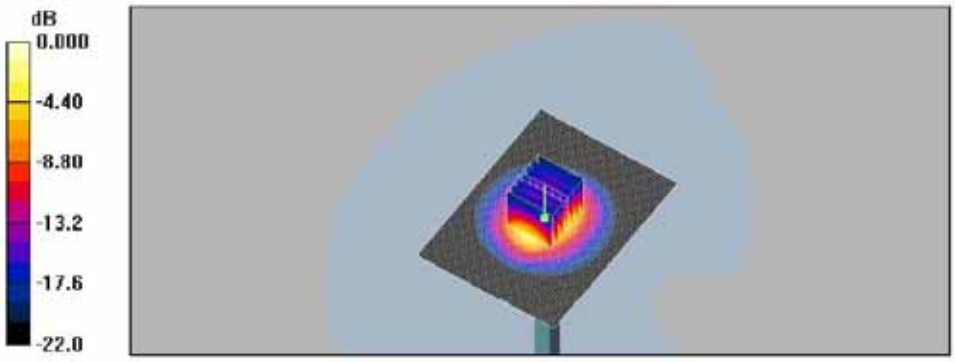
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: -
Program Name: Validation2450

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.83 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.62, 4.62, 4.62); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Validation2450/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.6 mW/g

Validation2450/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.6 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 28.4 W/kg
SAR(1 g) = 12.9 mW/g; SAR(10 g) = 5.89 mW/g
Maximum value of SAR (measured) = 14.6 mW/g



0 dB = 14.6mW/g

GSM850 Body SAR Test

Date/Time: 2007-09-18 3:35:36

Test Laboratory: SGS Testing Korea
File Name: GSM850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GSM850 Body

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.973 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

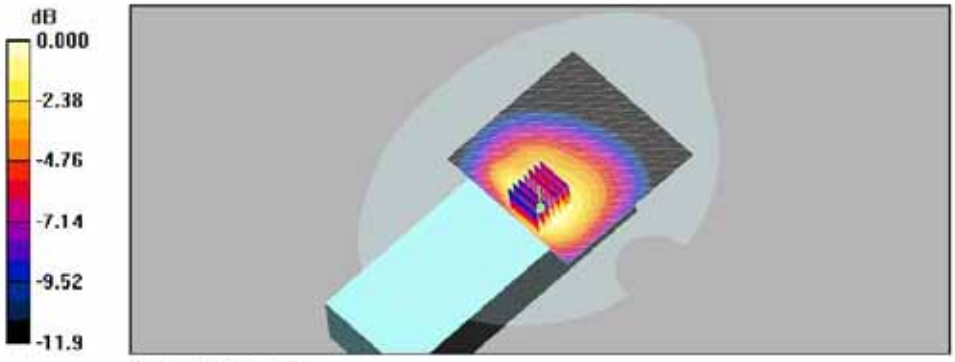
DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GSM850 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.392 mW/g

GSM850 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.523 W/kg
SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.237 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.385 mW/g



0 dB = 0.385mW/g

Date/Time: 2007-09-18 5:22:38

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.973 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

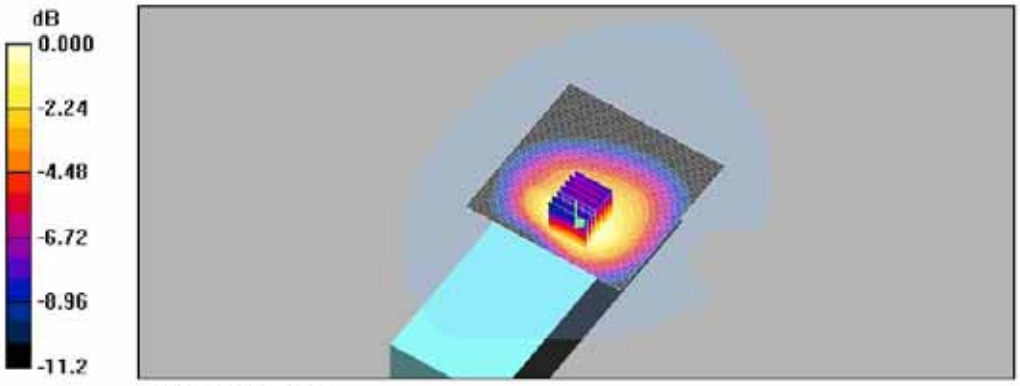
DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS850 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.675 mW/g

GPRS850 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.8 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.939 W/kg
SAR(1 g) = 0.635 mW/g; SAR(10 g) = 0.428 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.686 mW/g



0 dB = 0.686mW/g

Date/Time: 2007-09-18 5:56:50

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.973 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

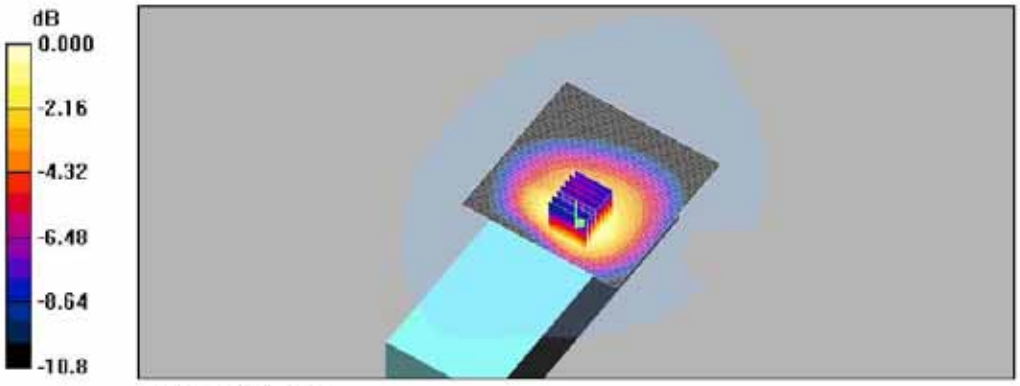
DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

EGPRS850 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.382 mW/g

EGPRS850 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.514 W/kg
SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.244 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.388 mW/g



0 dB = 0.388mW/g

Date/Time: 2007-09-18 7:13:20

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.973 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

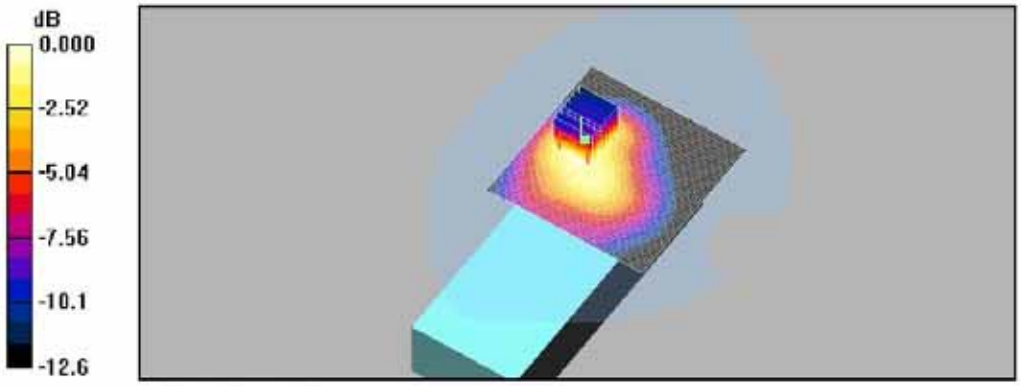
GPRS850 Body_Face Down_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.780 mW/g

GPRS850 Body_Face Down_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.7 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.443 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.771 mW/g



0 dB = 0.771mW/g

Date/Time: 2007-09-18 8:53:33

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.961 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

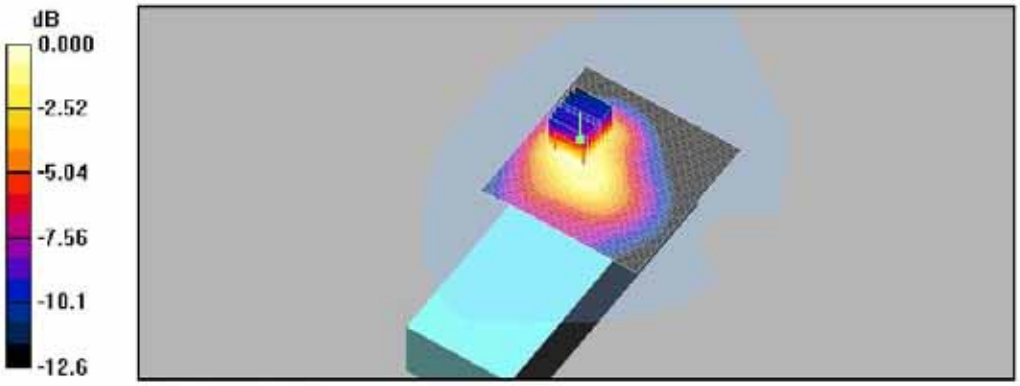
GPRS850 Body_Face Down_Low/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.852 mW/g

GPRS850 Body_Face Down_Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.4 V/m; Power Drift = -0.091 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.774 mW/g; SAR(10 g) = 0.488 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.848 mW/g



0 dB = 0.848mW/g

Date/Time: 2007-09-18 9:23:12

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

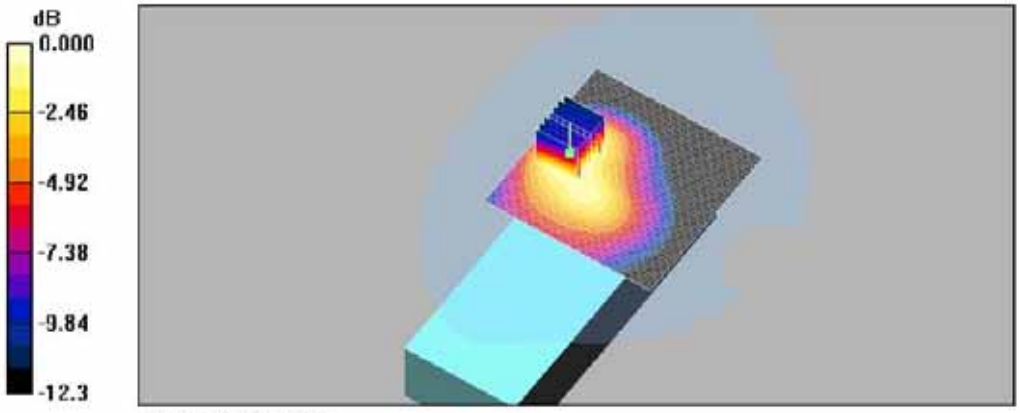
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 849 MHz; σ = 0.985 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS850 Body_Face Down_High/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.704 mW/g

GPRS850 Body_Face Down_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.9 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.420 mW/g
Maximum value of SAR (measured) = 0.734 mW/g



0 dB = 0.734mW/g

Date/Time: 2007-09-18 9:43:48

Test Laboratory: SGS Testing Korea
File Name: GPRS850Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS/EGPRS_850 Body

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.961 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(5.96, 5.96, 5.96); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP_900MHz; Type: SAM MIC #2000-93; Serial: TP-1300
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

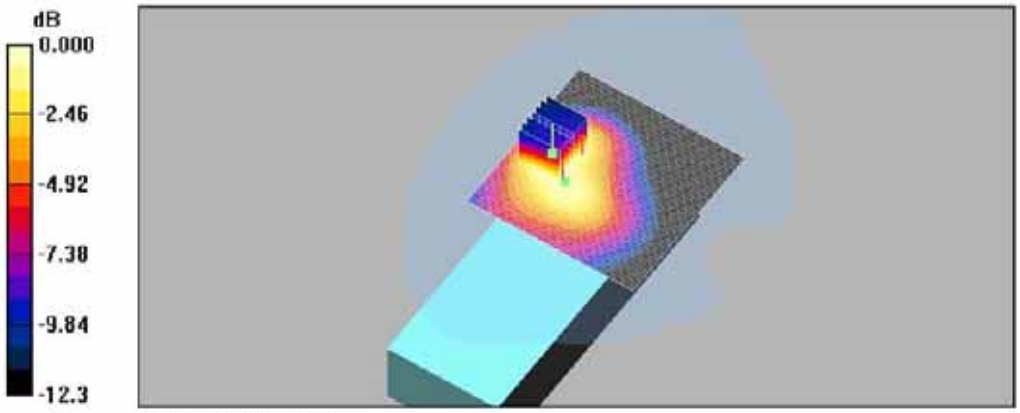
GPRS850 Body_Face Down_Low_BT ON/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.806 mW/g

GPRS850 Body_Face Down_Low_BT ON/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.781 mW/g; SAR(10 g) = 0.491 mW/g

Info: Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (measured) = 0.845 mW/g



0 dB = 0.845mW/g

GSM1900 SAR Test

Date/Time: 2007-09-19 10:33:32

Test Laboratory: SGS Testing Korea
File Name: GSM1900Body.da4

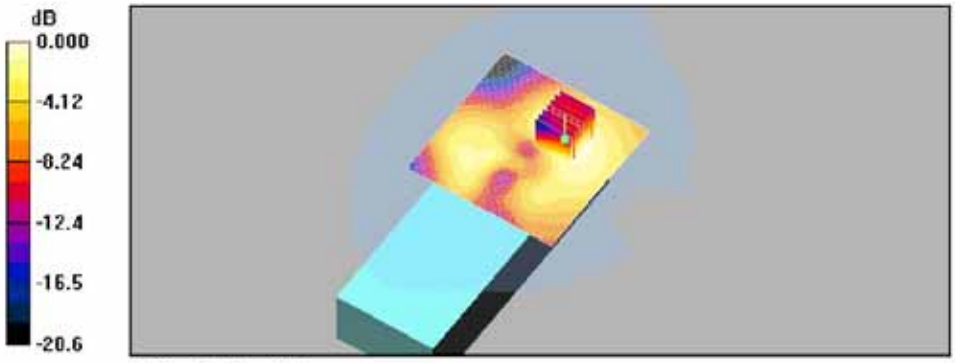
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GSM1900 Body

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GSM1900 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.067 mW/g

GSM1900 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.09 V/m; Power Drift = 0.327 dB
Peak SAR (extrapolated) = 0.084 W/kg
SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.062 mW/g



0 dB = 0.062mW/g

Date/Time: 2007-09-19 11:09:54

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

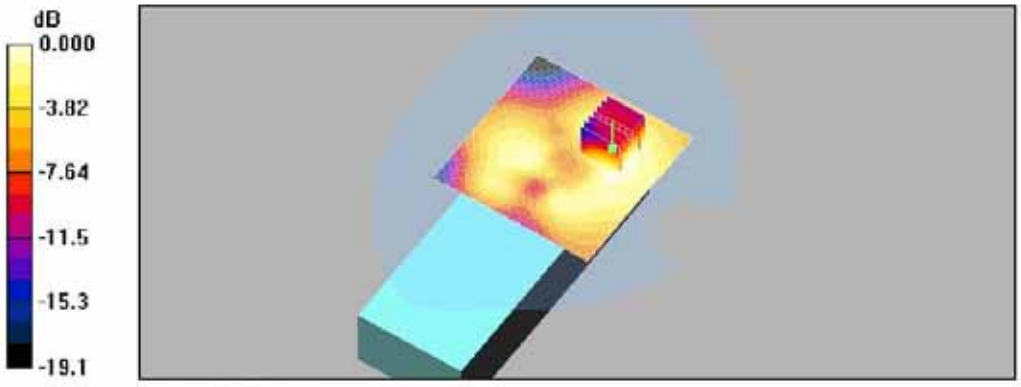
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS1900 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

GPRS1900 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.28 V/m; Power Drift = -0.234 dB
Peak SAR (extrapolated) = 0.168 W/kg
SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.125 mW/g



0 dB = 0.125mW/g

Date/Time: 2007-09-19 11:53:38

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

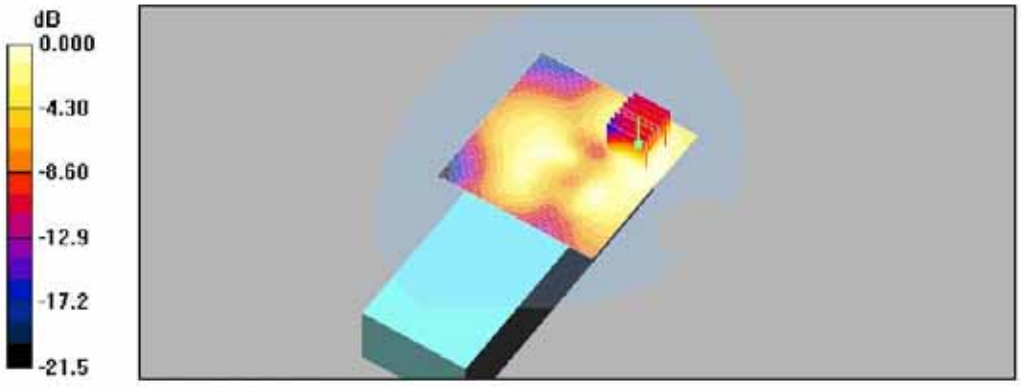
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

EGPRS1900 Body_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.038 mW/g

EGPRS1900 Body_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.36 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.051 W/kg
SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.038 mW/g



0 dB = 0.038mW/g

Date/Time: 2007-09-19 1:45:57

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

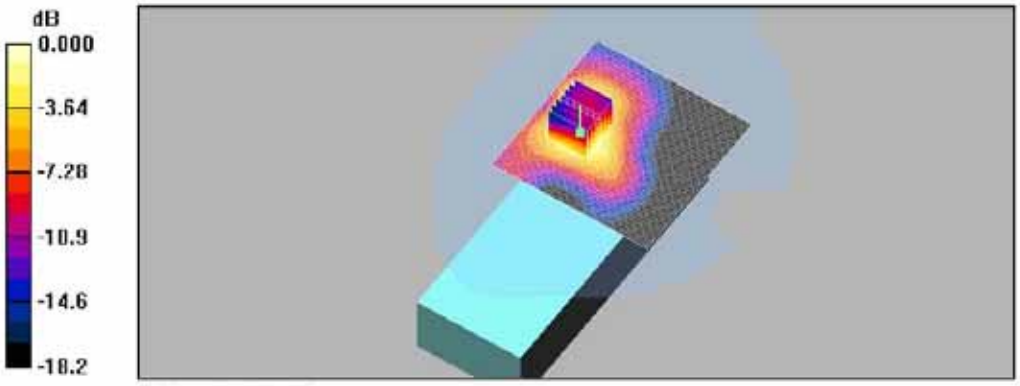
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS1900 Body_Face Down_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.440 mW/g

GPRS1900 Body_Face Down_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.71 V/m; Power Drift = -0.091 dB
Peak SAR (extrapolated) = 0.631 W/kg
SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.249 mW/g
Maximum value of SAR (measured) = 0.461 mW/g



0 dB = 0.461mW/g

Date/Time: 2007-09-19 2:15:28

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.44 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

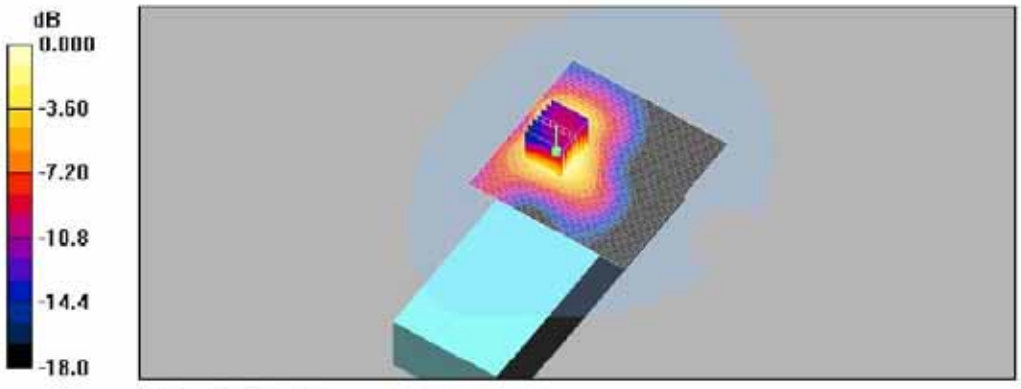
DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS1900 Body_Face Down_Low/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.485 mW/g

GPRS1900 Body_Face Down_Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.12 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.702 W/kg
SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.281 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.521 mW/g



0 dB = 0.521mW/g

Date/Time: 2007-09-19 2:34:29

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

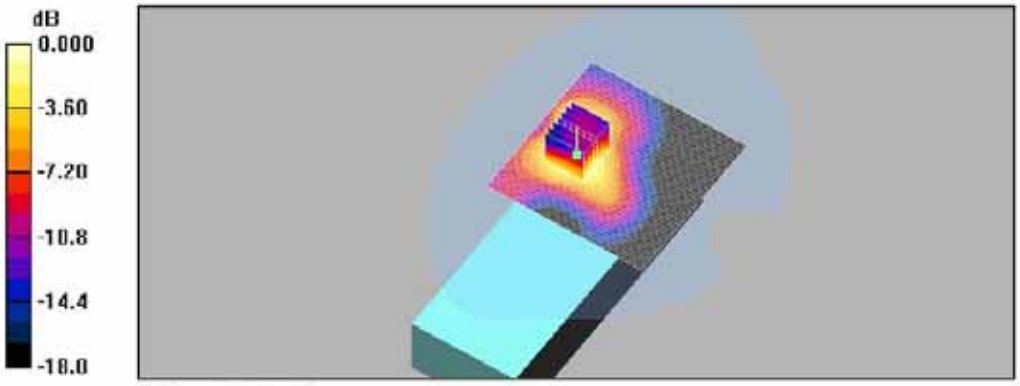
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1910 MHz; σ = 1.5 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS1900 Body_Face Down_High/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.390 mW/g

GPRS1900 Body_Face Down_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.45 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.578 W/kg
SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.217 mW/g
Maximum value of SAR (measured) = 0.413 mW/g



0 dB = 0.413mW/g

Date/Time: 2007-09-19 2:54:23

Test Laboratory: SGS Testing Korea
File Name: GPRS1900Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: GPRS1900 Body

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.44 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

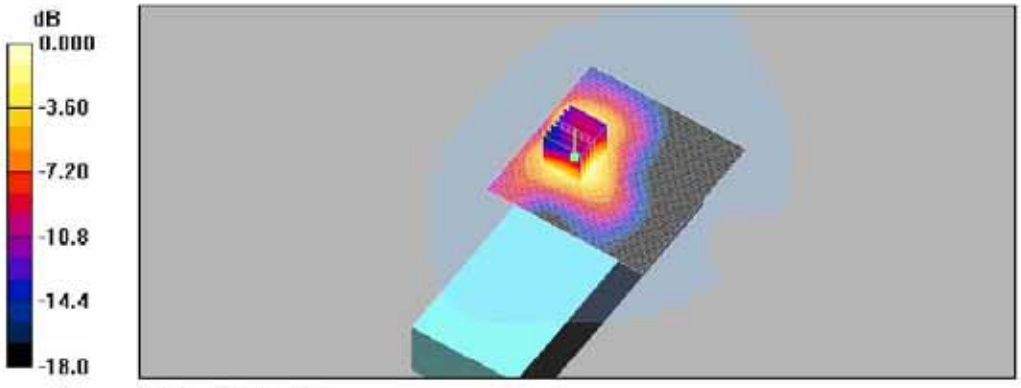
DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.84, 4.84, 4.84); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

GPRS1900 Body_Face Down_Low_BT ON/Area Scan (81x81x1): Measurement grid:
dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.496 mW/g

GPRS1900 Body_Face Down_Low_BT ON/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.09 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.696 W/kg
SAR(1 g) = 0.464 mW/g; SAR(10 g) = 0.281 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.514 mW/g



0 dB = 0.514mW/g

WLAN SAR Test

Date/Time: 2007-09-19 5:20:46

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

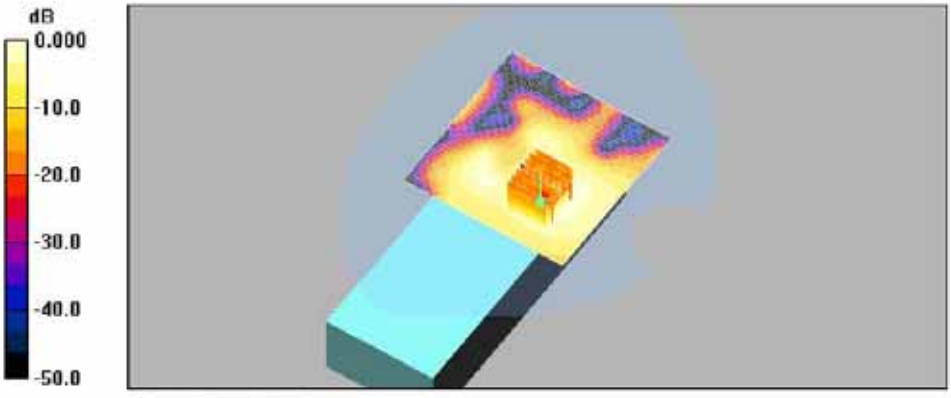
DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 2 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11b_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.038 mW/g

WLAN Body_11b_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.18 V/m; Power Drift = -0.334 dB
Peak SAR (extrapolated) = 0.106 W/kg
SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.015 mW/g
Maximum value of SAR (measured) = 0.041 mW/g



0 dB = 0.041mW/g

Date/Time: 2007-09-19 5:41:50

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

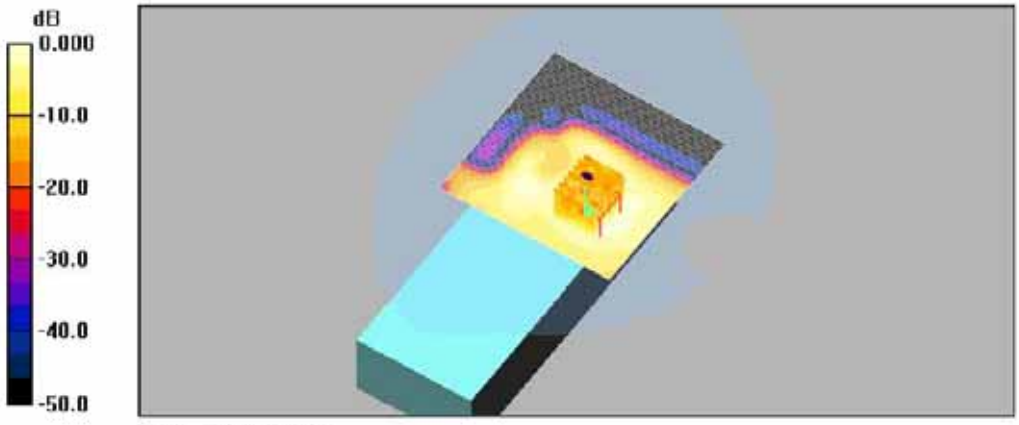
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 2 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11g_Face Up_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.016 mW/g

WLAN Body_11g_Face Up_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.12 V/m; Power Drift = -0.280 dB
Peak SAR (extrapolated) = 0.057 W/kg
SAR(1 g) = 0.014 mW/g; SAR(10 g) = 0.00578 mW/g

Maximum value of SAR (measured) = 0.016 mW/g



0 dB = 0.016mW/g

Date/Time: 2007-09-19 6:02:44

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

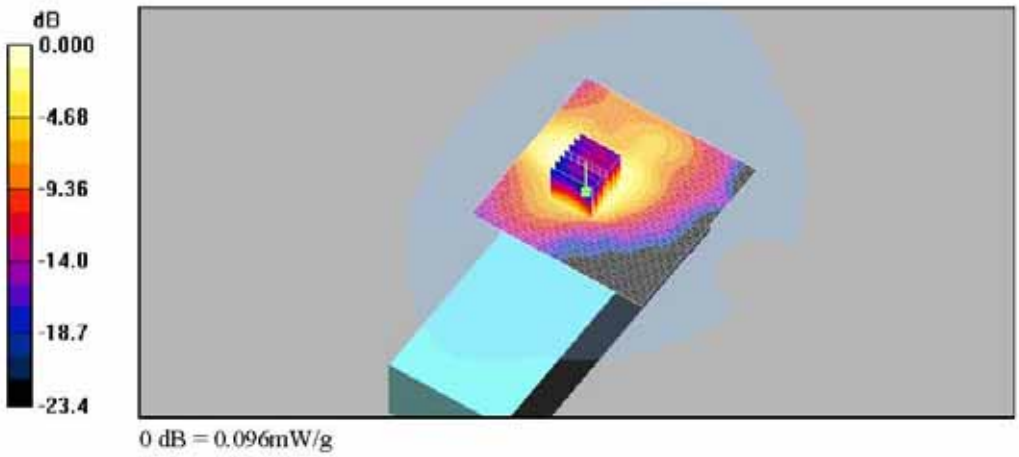
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 2 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11b_Face Down_Mid/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.105 mW/g

WLAN Body_11b_Face Down_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.91 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.186 W/kg
SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.049 mW/g

Maximum value of SAR (measured) = 0.096 mW/g



0 dB = 0.096mW/g

Date/Time: 2007-09-19 6:25:03

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

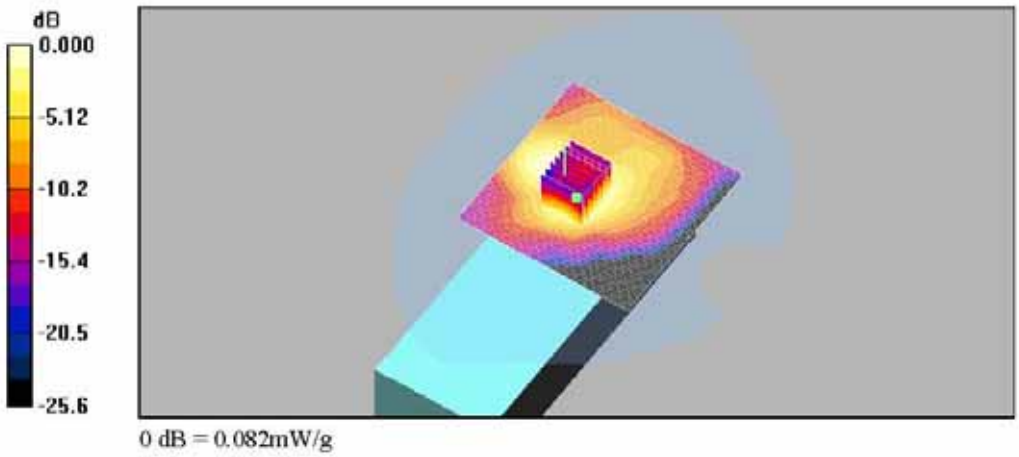
Communication System: WLAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.97 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11b_Face Down_Low/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.084 mW/g

WLAN Body_11b_Face Down_Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.68 V/m; Power Drift = -0.052 dB
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.073 mW/g; SAR(10 g) = 0.041 mW/g

Maximum value of SAR (measured) = 0.082 mW/g



0 dB = 0.082mW/g

Date/Time: 2007-09-19 7:59:25

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

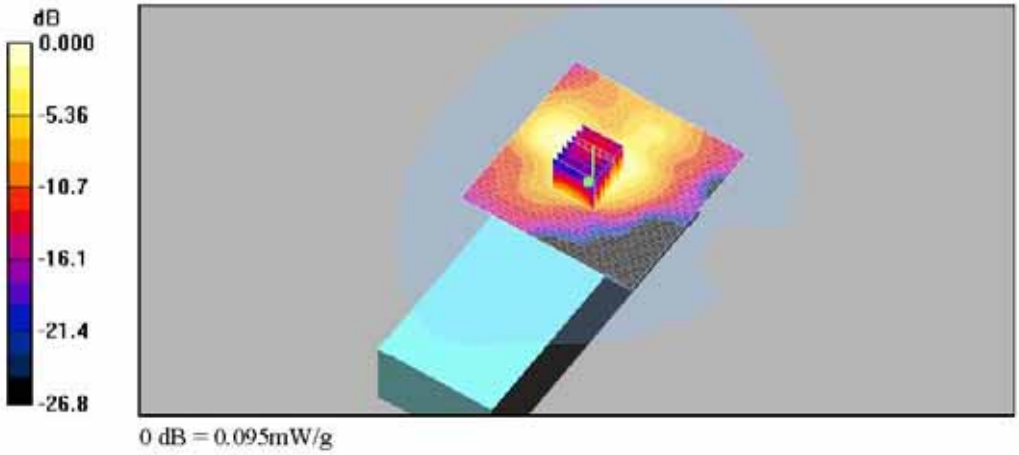
Communication System: WLAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 2.04 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11b_Face Down_High/Area Scan (81x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.102 mW/g

WLAN Body_11b_Face Down_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.83 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 0.166 W/kg
SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.048 mW/g

Maximum value of SAR (measured) = 0.095 mW/g



0 dB = 0.095mW/g

Date/Time: 2007-09-19 8:22:34

Test Laboratory: SGS Testing Korea
File Name: WLAN Body.da4

DUT: BIP-1300; Type: BAR; Serial: 130KHGGAJ013
Program Name: WLAN Body

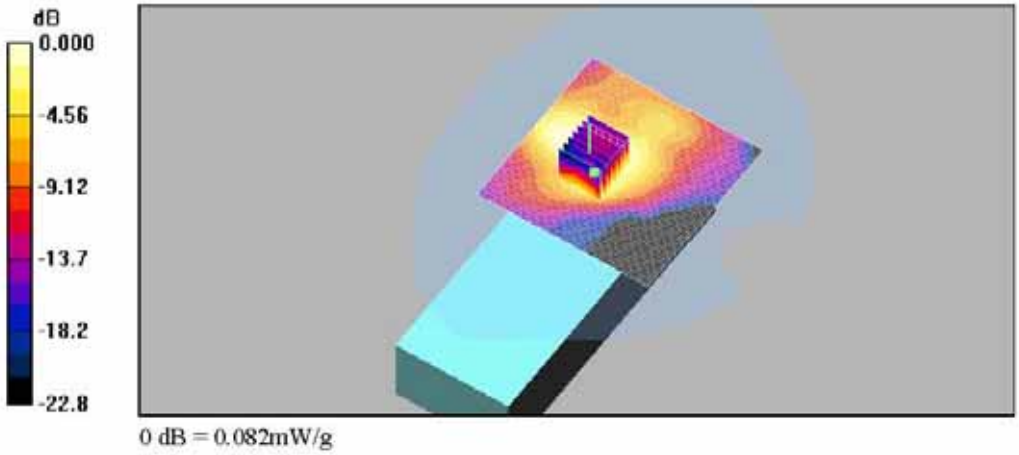
Communication System: WLAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; σ = 2 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1782; ConvF(4.14, 4.14, 4.14); Calibrated: 2007-04-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn614; Calibrated: 2007-08-30
- Phantom: SAM MIC #2000-93 with CRP; Type: SAM MIC #2000-93; Serial: TP-1299
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

WLAN Body_11b_Face Down_Mid_BT ON/Area Scan (81x81x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.091 mW/g

WLAN Body_11b_Face Down_Mid_BT ON/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.65 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 0.166 W/kg
SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.043 mW/g

Maximum value of SAR (measured) = 0.082 mW/g



0 dB = 0.082mW/g