Specific Absorption Rate (SAR) Test Report

for

ASUSTek COMPUTER INC.

on the

PDA Phone

Report No.	:	FA830315B
Trade Name	:	ASUS
Model Name	:	ZX1 / P560
FCC ID	:	MSQGALAXY3
Date of Testing	:	Mar. 19, Apr. 07, and 09, 2008
Date of Report	:	Apr. 21, 2008
Date of Review	:	Apr. 21, 2008

- The test results refer exclusively to the presented test model / sample only.
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- Report Version: Rev. 01

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1. Statement of Compliance

The Specific Absorption Rate (SAR) maximum results found during testing for the **ASUSTek COMPUTER INC. PDA Phone ASUS ZX1 / P560** are as follows (with expanded uncertainty 21.9%):

<Standalone SAR>

Model \ Band / Position		802.11b/g (W/Kg)	Bluetooth (W/Kg)
ZX1	Head	0.095	0.000738
	Body	0.03	0.0000685
P560	Head	0.012	0.00021
	Body	0.00362	0.00021

<Volume Scan SAR>

Model	Position	Mode	Channel	Multi Band 1g SAR (W/kg)
ZX1	Left Cheek	GSM850	251	0.668
		802.11b	01	
	Left Cheek	GSM850	251	0.612
		Bluetooth	00	
	Left Cheek	GSM1900	512	0.487
		802.11b	01	
	Left Cheek	GSM1900	512	0.435
		Bluetooth	00	
	Left Cheek	WCDMA Band V	4233	0.571
		802.11b	01	
	Left Cheek	WCDMA Band V	4233	0.522
		Bluetooth	00	
	Left Cheek	WCDMA Band II	9400	0.688
		802.11b	01	
	Left Cheek	WCDMA Band II	9400	0.638
		Bluetooth	00	
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	0.921
		802.11b	01	
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	0.906
		Bluetooth	00	
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	0.421
		802.11b	01	
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	0.411
		Bluetooth	00	
	Rear Face with 1.5cm Gap	WCDMA Band V (RMC 12.2K)	4233	0.374
		802.11b	01	
	Rear Face with 1.5cm Gap	WCDMA Band V (RMC 12.2K)	4233	0.361
		Bluetooth	00	
	Rear Face with 1.5cm Gap	WCDMA Band II (RMC 12.2K)	9400	0.304
		802.11b	01	
	Rear Face with 1.5cm Gap	WCDMA Band II (RMC 12.2K)	9400	0.295
		Bluetooth	00	
P560	Left Cheek	GSM850	251	0.666
		802.11b	01	
	Left Cheek	WCDMA Band II	9400	0.653
		802.11b	01	
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	0.667
		802.11b	01	
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	0.471
		802.11b	01	

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They are in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in IEEE C95.3-2002, IEEE P1528-2003, and OET Bulletin 65 Supplement C (Edition 01-01).

Approved by

Roy Wu
Manager

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2. Administration Data

2.1 Testing Laboratory

Company Name : Sporton International Inc.
Department : Antenna Design/SAR
Address : No.52, Hwa-Ya 1st RD., Hwa Ya Technology Park, Kwei-Shan Hsiang, TaoYuan Hsien, Taiwan, R.O.C.
Telephone Number : 886-3-327-3456
Fax Number : 886-3-328-4978

2.2 Detail of Applicant

Company Name : ASUSTek COMPUTER INC.
Address : 4F., No. 150, Li-Te Rd., Peitou, Taipei, Taiwan

2.3 Detail of Manufacturer

Company Name :
1. Pegatron Corporation Taoyuan Mfg.
2. ProTek (Shanghai) Ltd.
3. MainTek Computer (Suzhou) Co., Ltd.

Address :
1. No. 5, Shing Yeh Street, 333 Kwei Shan Hsiang, Taoyuan Hsien, Taiwan
2. No.3768, Xiu Yan Road, Nanhui District, 201315 Shanghai, People's Republic of China
3. No. 233 Jing Feng Road, 215011 Suzhou New District, Jiangsu, People's Republic of China

2.4 Application Details

Date of reception of application: Mar. 03, 2008
Start of test : Mar. 19, 2008
End of test : Apr. 09, 2008

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3. General Information

3.1 Description of Device Under Test (DUT)

Product Feature & Specification	
DUT Type :	PDA Phone
Trade Name :	ASUS
Model Name :	ZX1 / P560
FCC ID :	MSQGALAXY3
Tx Frequency :	WLAN / Bluetooth : 2400 MHz ~ 2483.5 MHz
Rx Frequency :	WLAN / Bluetooth : 2400 MHz ~ 2483.5 MHz
Maximum Output Power to Antenna :	**<Model : ZX1 / P560>** Bluetooth : 4.44 dBm (1Mbps) Bluetooth EDR : 2.42 dBm (2Mbps) / 2.66 dBm (3Mbps) WLAN : 15.89 dBm (802.11b) / 16.11 dBm (802.11g)
Antenna Type :	WLAN / Bluetooth : Chip Antenna
Antenna Gain :	WLAN / Bluetooth : -3 dBi
HW Version :	SR2
SW Version :	ROM version : V3.8.3_WWE Radio version : V2.1.4-G3
Type of Modulation :	Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : π/4-DQPSK Bluetooth EDR (3Mbps) : 8-DPSK WLAN : DSSS / OFDM
DUT Stage :	Identical Prototype
Application Type :	Certification

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3.2 Basic Description of Device under Test

Equipment		PDA Phone
Trade Name		ASUS
Model No.		ZX1 / P560
FCC ID		MSQGALAXY3
AC Adapter 1	**Brand Name**	TAMURA
	Model Name	JSP050090UU
	Power Rating	I/P: AC 100-240V, 50-60Hz, 0.3A; O/P: DC 5V, 0.9A, 4.5 W
	AC Power Cord Type	1.5 meter shielded cable without ferrite core
AC Adapter 2	**Brand Name**	DELTA
	Model Name	EADP-5HB B
	Power Rating	I/P: AC 100-240V, 50-60Hz, 0.4A; O/P: DC 5V, 0.8A
	AC Power Cord Type	1.8 meter non-shielded cable without ferrite core
Car Charger	**Brand Name**	L&K
	Part Number	04G267011910
	Power Rating	I/P: DC 12V/24V; O/P: DC 5V, 900mA
	Power Cord Type	1.6 meter shielded cable without ferrite core
Battery 1	**Brand Name**	ASUS
	Model Name	SBP-15
	Part Number	07G0166J3450
	Power Rating	DC 3.7V, 1100mAh
	Type	Li-ion
Battery 2	**Brand Name**	ASUS
	Model Name	SBP-15
	Part Number	07G0166Y3450
	Power Rating	DC 3.7V, 1150mAh
	Type	Li-ion
Earphone	**Brand Name**	ASUS
	Part Number	04G171301270
	Signal Line Type	1.5 meter non-shielded cable without ferrite core
USB Cable	**Brand Name**	ACON
	Part Number	14G000511900
	Signal Line Type	1.2 meter non-shielded cable without ferrite core

Remark:

1. P560 is ZX1 serial model. They have the same RF chipset, the same block diagram and main board PCB. The differences between them are ID design, keypad PCB, antenna and antenna matching.
2. Above EUT's information was declared by manufacturer. Please refer to the specifications of manufacturer or User's Manual for more detailed features description.

3.3 Product Photos

Please refer to Appendix D

3.4 Applied Standards

The Specific Absorption Rate (SAR) testing specification, method and procedure for this PDA Phone is in accordance with the following standards:

47 CFR Part 2 (2.1093),
IEEE C95.1-1999,
IEEE C95.3-2002,
IEEE P1528-2003, and
OET Bulletin 65 Supplement C (Edition 01-01)
Preliminary Guidance for Reviewing Applications for Certification of 3G Device. May 2006.
SAR Measurement Procedures for 3G Devices. June 2006.
KDB 648474
KDB 248227

3.5 Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

3.6 Test Conditions

3.6.1 Ambient Condition

Item	HSL_2450	HSL_2450	MSL_2450	HSL_2450
Test Date	Mar. 19, 2008	Apr. 07, 2008	Mar. 19, 2008	Apr. 07, 2008
Ambient Temperature (°C)	20-24℃			
Tissue simulating liquid temperature (°C)	21.5°C	21.5°C	21.3°C	21.1°C
Humidity (%)	<60 %			

3.6.2 Test Configuration

The DUT was set from the emulator to radiate maximum output power during all tests.

For WLAN link mode, engineering testing software installed on the EUT can provide continuous transmitting RF signal. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1. Measurements were performed on the lowest, middle, and highest channel for each testing position. However, measurements were performed only on the middle channel if the SAR is below 3 dB of limit.

The worst configuration on each position is used for the volume scan.

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The data rates for WLAN and Bluetooth SAR testing were set in 11Mbps for 802.11b, 9Mbps for 802.11g, and 1Mbps for Bluetooth due to the highest RF output power. Power table of 802.11b/g and Bluetooth as below:

<802.11b>

Channel	Frequency (MHz)	Data Rate			
		1M bps	2M bps	5.5M bps	11M bps
CH 01	2412 MHz	15.84	15.77	15.35	**15.89**
CH 06	2437 MHz	15.02	14.67	14.30	14.75
CH 11	2462 MHz	14.28	14.25	13.87	14.27

<802.11g>

Channel	Frequency (MHz)	Data Rate							
		6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
CH 01	2412 MHz	15.39	**16.11**	15.39	15.80	15.44	15.78	15.90	15.97
CH 06	2437 MHz	13.85	15.10	14.24	15.17	14.54	15.43	15.21	14.31
CH 11	2462 MHz	12.91	14.27	13.70	13.82	13.77	13.67	13.93	14.00

<Bluetooth>

Channel	Frequency	Data Rate / Modulation		
		GFSK	π/4-DQPSK	8-DPSK
		1Mbps	2Mbps	3Mbps
Ch00	2400MHz	**4.44** dBm	2.42 dBm	2.66 dBm
Ch39	2441MHz	4.26 dBm	2.11 dBm	2.37 dBm
Ch78	2480MHz	3.72 dBm	1.41 dBm	1.65 dBm

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4. Specific Absorption Rate (SAR)

4.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

4.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density. ρ). The equation description is as below:

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

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

SAR measurement can be either related to the temperature elevation in tissue by

$$\mathbf{SAR} = C\frac{\delta T}{\delta t}$$

, where C is the specific head capacity, δT is the temperature rise and δt the exposure duration,

or related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\sigma |E|^2}{\rho}$$

, where σ is the conductivity of the tissue, ρ is the mass density of the tissue and ***E*** is the rms electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

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5. SAR Measurement Setup

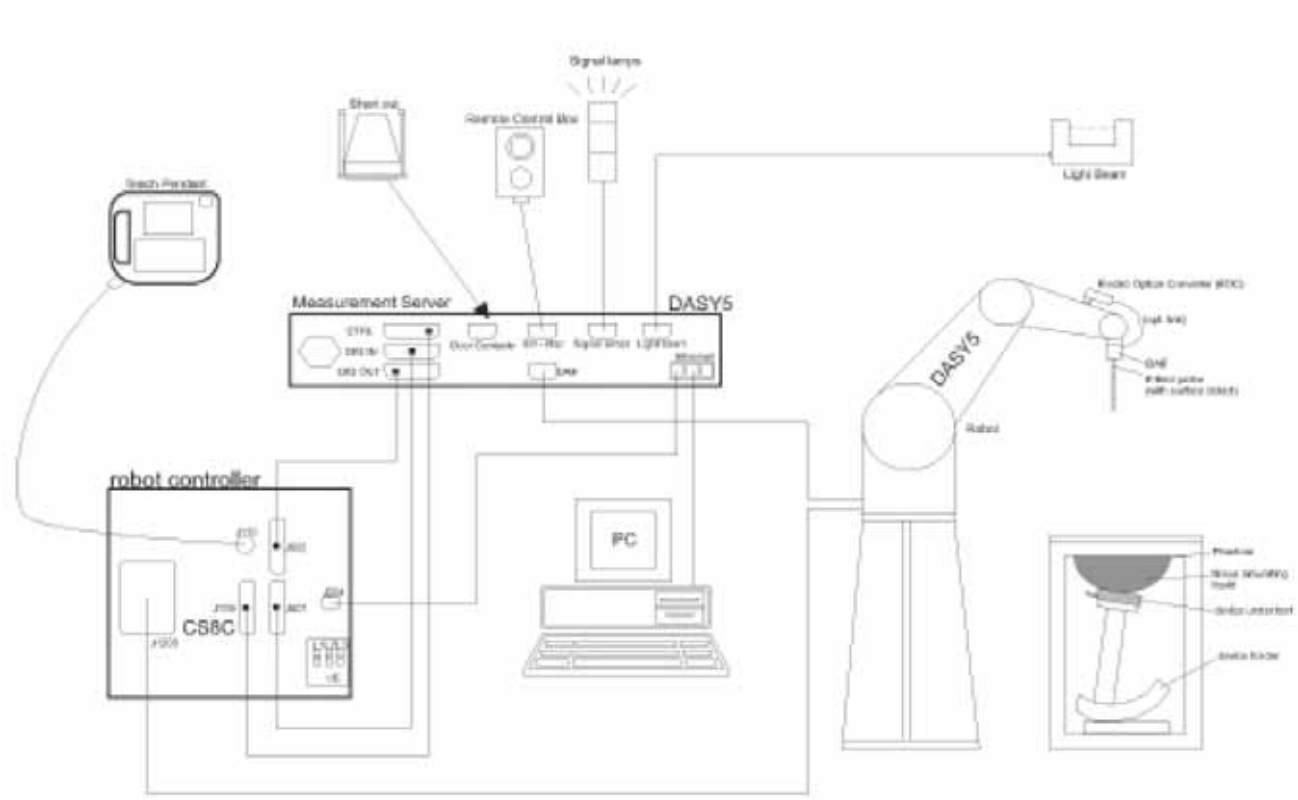

Fig. 5.1 DASY5 System

The DASY5 system for performance compliance tests is illustrated above graphically. This system consists of the following items:

- A standard high precision 6-axis robot with controller, a teach pendant and software
- A data acquisition electronic (DAE) attached to the robot arm extension
- A dosimetric probe equipped with an optical surface detector system
- The electro-optical converter (ECO) performs the conversion between optical and electrical signals
- A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the accuracy of the probe positioning
- A computer operating Windows XP
- DASY5 software
- Remove control with teach pendant and additional circuitry for robot safety such as warming lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

Some of the components are described in details in the following sub-sections.

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5.1 DASY5 E-Field Probe System

The SAR measurement is conducted with the dosimetric probe ET3DV6 (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

5.1.1 ET3DV6 E-Field Probe Specification

<ET3DV6>

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)
Frequency	10 MHz to 3 GHz
Directivity	± 0.2 dB in brain tissue (rotation around probe axis) ± 0.4 dB in brain tissue (rotation perpendicular to probe axis)
Dynamic Range	5 μ W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	± 0.2 mm repeatability in air and clear liquids on reflecting surface
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests for mobile phones and Wireless LAN Fast automatic scanning in arbitrary phantoms

Fig. 5.2 Probe Setup on Robot

5.1.2 ET3DV6 E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy shall be evaluated and within ± 0.25dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data are as below:

- **ET3DV6 sn1788**

Sensitivity	X axis : 1.72 µV		Y axis : 1.66 µV	Z axis : 1.70 µV
Diode compression point	X axis : 91 mV		Y axis : 93 mV	Z axis : 94 mV
Conversion factor (Head / Body)	**Frequency (MHz)**	**X axis**	**Y axis**	**Z axis**
	2350~2550	4.58 / 4.17	4.58 / 4.17	4.58 / 4.17
Boundary effect (Head / Body)	**Frequency (MHz)**	**Alpha**	**Depth**	
	2350~2550	0.61 / 0.61	2.39 / 2.58	

NOTE: The probe parameters have been calibrated by the SPEAG.

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5.2 DATA Acquisition Electronics (DAE)

The data acquisition electronics (DAE3) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, 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 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 is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

5.3 Robot

The DASY5 system uses the high precision robots TX90 XL type out of the newer series from Stäubli SA (France). For the 6-axis controller DASY5 system, the CS8C robot controller version from Stäubli is used. The XL robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)
- 6-axis controller

5.4 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with
400 MHz CPU
128 MB chipdisk and
128 MB RAM.

Communication with
the DAE4 electronic box
the 16-bit AD-converter system for optical detection and digital I/O interface.

The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

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5.5 SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

- Left head
- Right head
- Flat phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

The phantom can be used with the following tissue simulating liquids:
*Water-sugar based liquid
*Glycol based liquids

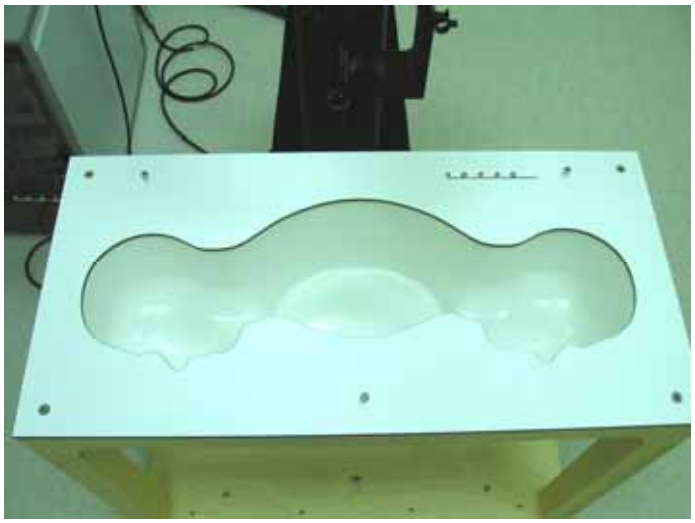

Fig. 5.3 Top View of Twin Phantom

Fig. 5.4 Bottom View of Twin Phantom

5.6 Device Holder for SAM Twin Phantom

The SAR in the Phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source in 5 mm distance, a positioning uncertainty of ±0.5mm would produce a SAR uncertainty of ± 20%. An accurate device position is therefore crucial for accurate and repeatable measurement. The position in which the devices must be measured, are defined by the standards.

The DASY5 device holder 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 (EPR).
Thus the device needs no repositioning when changing the angles.

The DASY5 device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε_r =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.

Fig. 5.5 Device Holder

5.7 Data Storage and Evaluation

5.7.1 Data Storage

The DASY5 software stores the assessed data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all the necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension .DA4. The post-processing software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of erroneous parameter settings. For example, if a measurement has been performed with an incorrect crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be reevaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type (e.g., [V/m], [A/m], [mW/g]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-less media, will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

5.7.2 Data Evaluation

The DASY5 post-processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the microvolt 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

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 components. In the direct measuring mode of the multi-meter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.
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 :

$$Vi = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with
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 :

E-field probes : $E_i = \sqrt{\frac{V_i}{Norm_i ConvF}}$

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

with
V_i = compensated signal of channel *i* (*i* = x, y, z)
$Norm_i$ = sensor sensitivity of channel i (*i* = x, y, z)
μ V/(V/m)2 for E-field Probes
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.

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with
SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

＊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 power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = \frac{E_{tot}^2}{3770} \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with
P_{pwe} = equivalent power density of a plane wave in mW/cm^2
E_{tot} = total electric field strength in V/m
H_{tot} = total magnetic field strength in A/m

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5.8 Test Equipment List

Manufacture	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	Dosimetric E-Filed Probe	ET3DV6	1788	Sep. 26, 2007	Sep. 26, 2008
SPEAG	2450MHz System Validation Kit	D2450V2	736	Jul. 12, 2007	Jul. 12, 2009
SPEAG	Data Acquisition Electronics	DAE3	577	Nov. 16, 2007	Nov. 16, 2008
SPEAG	Device Holder	N/A	N/A	NCR	NCR
SPEAG	Phantom	QD 000 P40 C	TP-1303	NCR	NCR
SPEAG	Phantom	QD 000 P40 C	TP-1383	NCR	NCR
SPEAG	Phantom	QD 0VA 001 BB	1029	NCR	NCR
SPEAG	Robot	Staubli RX90BL	F03/5W15A1/A/01	NCR	NCR
SPEAG	Software	DASY5 V5.0 Build 87	N/A	NCR	NCR
SPEAG	Software	SEMCAD V12.4 Build 52	N/A	NCR	NCR
SPEAG	Measurement Server	SE UMS 011 AA	1014	NCR	NCR
Agilent	ENA Series Network Analyzer	E5071B	MY42403579	Apr. 09, 2008	Apr. 08, 2009
Agilent	Wireless Communication Test Set	E5515C	GB46311322	Dec. 22, 2006	Dec. 22, 2008
Agilent	Dielectric Probe Kit	85070D	US01440205	NCR	NCR
Agilent	Dual Directional Coupler	778D	50422	NCR	NCR
Agilent	Power Amplifier	8449B	3008A01917	NCR	NCR
Agilent	Power Meter	E4416A	GB41292344	Feb. 21, 2008	Feb. 20, 2009
Agilent	Power Sensor	E9327A	US40441548	Feb. 21, 2008	Feb. 20, 2009

Table 5.1 Test Equipment List

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6. Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY5, the phantom must be filled with around 25 liters of homogeneous tissue simulating liquid. The liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is (head SAR)or from the flat phantom to the liquid top surface (body SAR) is 15.2cm.

The following ingredients for tissue simulating liquid are used:

- **Water**: deionized water (pure H_20), resistivity $\geqq 16M\Omega$ - as basis for the liquid
- **Sugar**: refined sugar in crystals, as available in food shops – to reduce relative permittivity
- **Salt**: pure NaCl – to increase conductivity
- **Cellulose**: Hydroxyethyl-cellulose, medium viscosity (75-125 mPa.s, 2% in water, 20°C), CAS#54290-to increase viscosity and to keep sugar in solution.
- **Preservative**: Preventol D-7 Bayer AG, D-51368 Leverkusen, CAS#55965-84-9- to prevent the spread of bacteria and molds.
- **DGMBE**: Deithlenglycol-monobuthyl ether (DGMBE), Fluka Chemie GmbH, CAS#112-34-5 – to reduce relative permittivity.

Table 6.1 gives the recipes for one liter of head and body tissue simulating liquid for frequency band 2450 MHz.

Ingredient	HSL-2450	MSL-2450
Water	550.0 ml	698.3 ml
Cellulose	0 g	0 g
Salt	0 g	0 g
Preventol D-7	0 g	0 g
Sugar	0 g	0 g
DGMBE	450.0 ml	301.7 ml
Total amount	1 liter (1.0 kg)	1 liter (1.0 kg)
Dielectric Parameters at 22°	f = 2450MHz ε_r= 39±5%, σ= 1.84±5% S/m	f = 2450MHz ε_r= 52.7±5%, σ= 1.95±5% S/m

Table 6.1 Recipes for Tissue Simulating Liquid

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.

Table 6.2 shows the measuring results for head and muscle simulating liquid.

Band	Position	Frequency (MHz)	Permittivity (ε_r)	Conductivity (σ)	Measurement Date
802.11b/g	Head	2412	53.9	1.82	Mar. 19, 2008
		2437	53.7	1.84	
		2462	53.7	1.86	
	Body	2412	54.0	1.89	Mar. 19, 2008
		2437	53.8	1.92	
		2462	53.7	1.95	
Bluetooth	Head	2402	38.0	1.80	Apr. 09, 2008
		2441	37.9	1.84	
		2480	37.7	1.88	
	Body	2402	54.0	1.88	Apr. 09, 2008
		2411	53.8	1.92	
		2480	53.7	1.98	

Table 6.2 Measuring Results for Simulating Liquid

The measuring data are consistent with $\varepsilon_r = 39.2 \pm 5\%$, $\sigma = 1.80 \pm 5\%$ for head 2450 MHz and $\varepsilon_r = 52.7 \pm 5\%$, $\sigma = 1.95 \pm 5\%$ for body 2450 MHz.

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7. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in Table 7.1

Uncertainty Distributions	Normal	Rectangular	Triangular	U-shape
Multiplying factor[(a)]	1/k (b)	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 7.1 Multiplying Factions for Various Distributions

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY5 uncertainty Budget is showed in Table 7.2.

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Error Description	Uncertainty Value ± %	Probability Distribution	Divisor	Ci (1g)	Standard Unc. (1g)	vi or Veff
Measurement Equipment						
Probe Calibration	±5.9 %	Normal	1	1	±5.9 %	∞
Axial Isotropy	±4.7 %	Rectangular	√3	0.7	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	Rectangular	√3	0.7	±3.9 %	∞
Boundary Effects	±1.0 %	Rectangular	√3	1	±0.6 %	∞
Linearity	±4.7 %	Rectangular	√3	1	±2.7 %	∞
System Detection Limits	±1.0 %	Rectangular	√3	1	±0.6 %	∞
Readout Electronics	±0.3 %	Normal	1	1	±0.3 %	∞
Response Time	±0.8 %	Rectangular	√3	1	±0.5 %	∞
Integration Time	±2.6 %	Rectangular	√3	1	±1.5 %	∞
RF Ambient Noise	±3.0 %	Rectangular	√3	1	±1.7 %	∞
RF Ambient Reflections	±3.0 %	Rectangular	√3	1	±1.7 %	∞
Probe Positioner	±0.4 %	Rectangular	√3	1	±0.2 %	∞
Probe Positioning	±2.9 %	Rectangular	√3	1	±1.7 %	∞
Max. SAR Eval.	±1.0 %	Rectangular	√3	1	±0.6 %	∞
Test Sample Related						
Device Positioning	±2.9 %	Normal	1	1	±2.9	145
Device Holder	±3.6 %	Normal	1	1	±3.6	5
Power Drift	±5.0 %	Rectangular	√3	1	±2.9	∞
Phantom and Setup						
Phantom Uncertainty	±4.0 %	Rectangular	√3	1	±2.3	∞
Liquid Conductivity (target)	±5.0 %	Rectangular	√3	0.64	±1.8	∞
Liquid Conductivity (meas.)	±2.5 %	Normal	1	0.64	±1.6	∞
Liquid Permittivity (target)	±5.0 %	Rectangular	√3	0.6	±1.7	∞
Liquid Permittivity (meas.)	±2.5 %	Normal	1	0.6	±1.5	∞
Combined Standard Uncertainty					**±10.9**	**387**
Coverage Factor for 95 %		**K=2**				
Expanded uncertainty (Coverage factor = 2)					**±21.9**	

Table 7.2 Uncertainty Budget of DASY5

8. SAR Measurement Evaluation

Each DASY5 system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY5 software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

8.1 Purpose of System Performance check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

8.2 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator at frequency 2450 MHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:

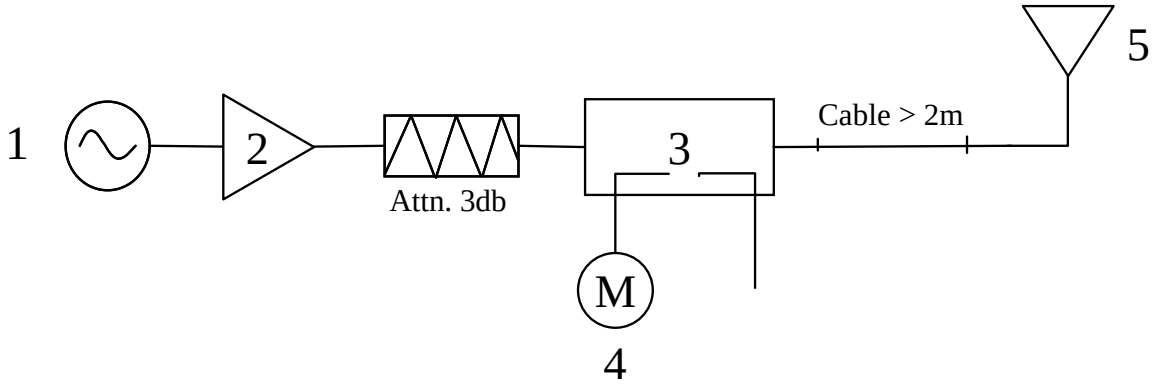

Fig. 8.1 System Setup for System Evaluation

1. Signal Generator
2. Amplifier
3. Directional Coupler
4. Power Meter
5. 2450 MHz Dipole

The output power on dipole port must be calibrated to 20dBm (100mW) before dipole is connected.

Fig 8.2 Dipole Setup

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8.3 Validation Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %. Table 8.1 shows the target SAR and measured SAR after normalized to 1W input power.

Band	Position	SAR	Target (W/kg)	Measurement data (W/kg)	Variation	Measurement Date
802.11b/g (2450 MHz)	Head	SAR (1g)	52.7	50.9	-3.4 %	Mar. 19, 2008
		SAR (10g)	24.5	24.5	0.0 %	
	Body	SAR (1g)	52.5	47.7	-9.1 %	Mar. 19, 2008
		SAR (10g)	24.4	22.9	-6.1 %	
Bluetooth (2450 MHz)	Head	SAR (1g)	52.7	50.9	-3.4 %	Apr. 09, 2008
		SAR (10g)	24.5	24.5	0.0 %	
	Body	SAR (1g)	52.5	47.7	-9.1 %	Apr. 09, 2008
		SAR (10g)	24.4	22.9	-6.1 %	

Table 8.1 Target and Measurement Data Comparison

The table above indicates the system performance check can meet the variation criterion.

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9. Description for DUT Testing Position

This DUT was tested in 6 different positions. They are right cheek, right tilted, left cheek, left tilted, Front Face with 1.5cm Gap and Rear Face with 1.5cm Gap as illustrated below:

1) " Cheek Position"
   i) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M, RE and LE) and align the center of the ear piece with the line RE-LE.
   ii) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see Fig. 9.1).

2) " Tilted Position"
   i) To position the device in the "cheek" position described above.
   ii) While maintaining the device the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see Fig. 9.2).

3) " Body Worn"
   i) To position the device parallel to the phantom surface.
   ii) To adjust the phone parallel to the flat phantom.
   iii) To adjust the distance between the EUT surface and the flat phantom to 1.5 cm.

Remark: Please refer to Appendix E for the test setup photos.

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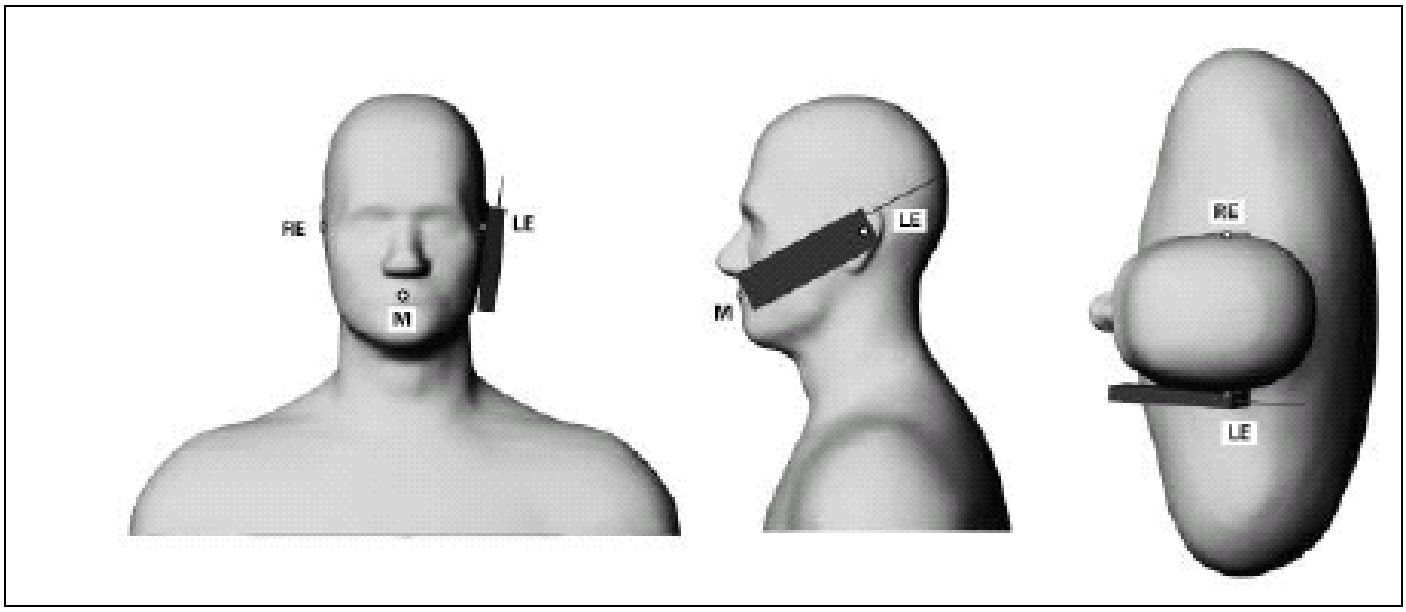

Fig. 9.1 Phone Position 1, "Cheek" or "Touch" Position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the plane for phone positioning, are indicated.

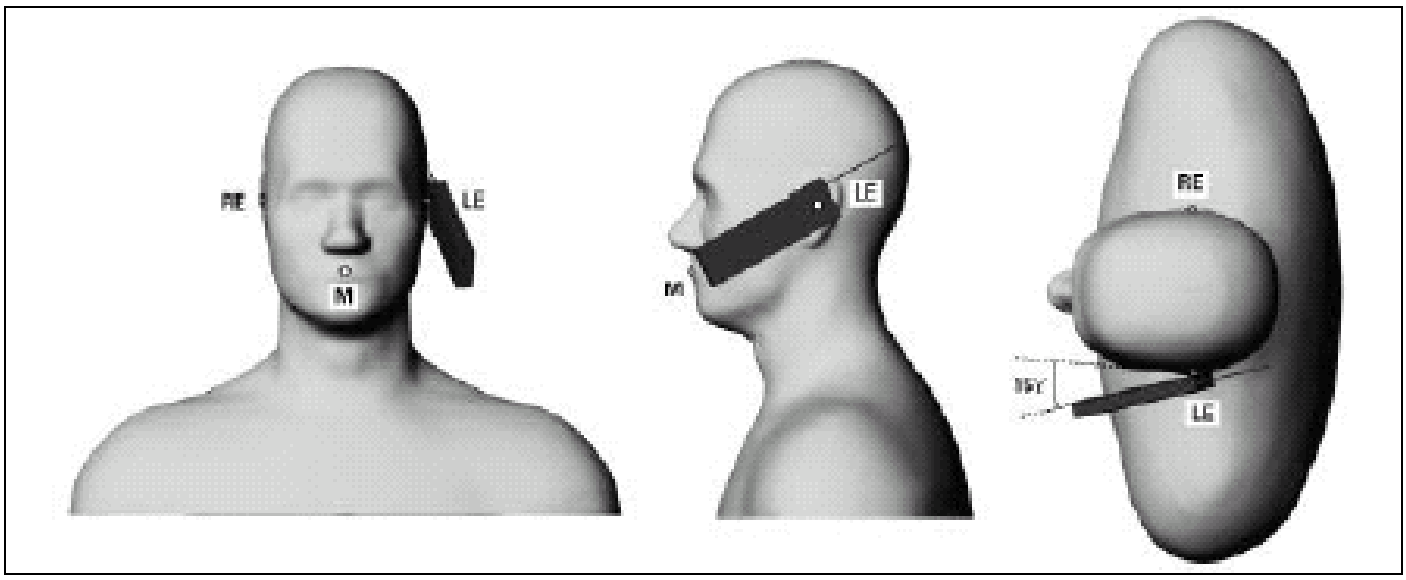

Fig. 9.2 Phone Position 2, "Tilted Position". The reference point for the right ear (RE), left ear (LE) and mouth (M), which define the plane for phone positioning, are indicated.

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10. Measurement Procedures

The measurement procedures are as follows:

- Using engineering software to transmit RF power continuously (continuous Tx)
- Linking DUT with base station emulator CMU200 in middle channel
- Setting CMU200 to allow DUT to radiate maximum output power
- Measuring output power through RF cable and power meter
- Placing the DUT in the positions described in the last section
- Setting scan area, grid size and other setting on the DASY5 software
- Taking data for the lowest, middle, and highest channel on each testing position
- Repeat the previous steps for the middle and high channels.

According to the IEEE P1528 draft standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- Power reference measurement
- Area scan
- Zoom scan
- Power reference measurement

10.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the IEEE1528-2003 standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY5 software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

Base on the Draft: SCC-34, SC-2, WG-2-Computational Dosimetry, P1528/D1.2 (Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques), a new algorithm has been implemented. The spatial-peak SAR can be computed over any required mass.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

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The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

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

10.2 Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures 5x5x7 points with step size 8, 8 and 5 mm. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 1 g.

10.3 SAR Averaged Methods

In DASY5, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. 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 5 mm.

10.4 Volume Scan Method

- Choose the worst mode of dominant transmitter on each band.
- Scan dominant transmitter and 2nd transmitter in their suitable simulating liquid by covering 2 transmitter hot area.
- Use SEMCAD postprocessor to combine and subsequently superpose these measurement data then calculate the multiband SAR value.

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11. SAR Test Results

11.1 Right Cheek

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	**1 (Low)**	**2412**	**CCK**	**15.89**	**0.163**	**0.095**	**1.6**	**Pass**
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
	Battery 2		1 (Low)	2412	CCK	15.89	0.189	0.076	1.6	Pass
P560	Battery 1		1 (Low)	2412	CCK	15.89	-0.141	0.00968	1.6	Pass
ZX1	Battery 1	WLAN 802.11g	1 (Low)	2412	OFDM	16.11	-0.129	0.044	1.6	Pass
			6 (Mid)	2437	OFDM	15.10	-	-	-	-
			11 (High)	2462	OFDM	14.27	-	-	-	-
		Bluetooth (1Mbps)	00 (Low)	2402	GFSK	4.44	-0.199	0.0000519	1.6	Pass
			39 (Mid)	2441	GFSK	4.34	-	-	-	-
			78 (High)	2480	GFSK	4.36	-	-	-	-
		Bluetooth (2Mbps)	00 (Low)	2402	π/4-DQPSK	2.42	-0.149	0.0000630	1.6	Pass
			39 (Mid)	2441	π/4-DQPSK	2.40	-	-	-	-
			78 (High)	2480	π/4-DQPSK	2.35	-	-	-	-
		Bluetooth (3Mbps)	**00 (Low)**	**2402**	**8-DPSK**	**2.64**	**0.149**	**0.000738**	**1.6**	**Pass**
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-
	Battery 2		00 (Low)	2402	8-DPSK	2.64	-0.127	0.00018	1.6	Pass
P560	Battery 1		**00 (Low)**	**2402**	**8-DPSK**	**2.64**	**0.159**	**0.00021**	**1.6**	**Pass**

11.2 Right Tilted

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	1 (Low)	2412	CCK	15.89	-0.143	0.024	1.6	Pass
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
		Bluetooth (3Mbps)	00 (Low)	2402	8-DPSK	2.64	-0.199	0.000496	1.6	Pass
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-

11.3 Left Cheek

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	1 (Low)	2412	CCK	15.89	0.168	0.07	1.6	Pass
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
P560	Battery 1		**1 (Low)**	**2412**	**CCK**	**15.89**	**-0.197**	**0.012**	**1.6**	**Pass**
ZX1	Battery 1	Bluetooth (3Mbps)	00 (Low)	2402	8-DPSK	2.64	-0.199	0.000404	1.6	Pass
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-

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11.4 Left Tilted

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	1 (Low)	2412	CCK	15.89	0.00389	0.015	1.6	Pass
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
		Bluetooth (3Mbps)	00 (Low)	2402	8-DPSK	2.64	-0.199	0.00015	1.6	Pass
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-

11.5 Front Face with 1.5cm Gap

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	1 (Low)	2412	CCK	15.89	0.021	0.019	1.6	Pass
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
	Battery 2		**1 (Low)**	**2412**	**CCK**	**15.89**	**0.036**	**0.03**	**1.6**	**Pass**
P560	Battery 2		1 (Low)	2412	CCK	15.89	-0.105	0.00257	1.6	Pass
ZX1	Battery 1	WLAN 802.11g	1 (Low)	2412	OFDM	16.11	-0.119	0.012	1.6	Pass
			6 (Mid)	2437	OFDM	15.10	-	-	-	-
			11 (High)	2462	OFDM	14.27	-	-	-	-
		Bluetooth (1Mbps)	00 (Low)	2402	GFSK	4.44	0	0.000000789	1.6	Pass
			39 (Mid)	2441	GFSK	4.34	-	-	-	-
			78 (High)	2480	GFSK	4.36	-	-	-	-
		Bluetooth (2Mbps)	00 (Low)	2402	π/4-DQPSK	2.42	-	-	-	-
			39 (Mid)	2441	π/4-DQPSK	2.40	-	-	-	-
			78 (High)	2480	π/4-DQPSK	2.35	-	-	-	-
		Bluetooth (3Mbps)	00 (Low)	2402	8-DPSK	2.64	-	-	-	-
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-
	Battery 2		00 (Low)	2402	8-DPSK	2.64	-0.199	0.0000353	1.6	Pass

11.6 Rear Face with 1.5cm Gap

Model	Battery	Mode	Chan.	Frequency (MHz)	Modulation Type	Conducted Power (dBm)	Power Drift (dB)	Measured 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Battery 1	WLAN 802.11b	1 (Low)	2412	CCK	15.89	-0.135	0.018	1.6	Pass
			6 (Mid)	2437	CCK	14.75	-	-	-	-
			11 (High)	2462	CCK	14.27	-	-	-	-
	Battery 2		1 (Low)	2412	CCK	15.89	-0.136	0.019	1.6	Pass
P560	Battery 2		**1 (Low)**	**2412**	**CCK**	**15.89**	**-0.109**	**0.00362**	**1.6**	**Pass**
ZX1	Battery 1	WLAN 802.11g	1 (Low)	2412	OFDM	16.11	-	-	-	-
			6 (Mid)	2437	OFDM	15.10	-	-	-	-
			11 (High)	2462	OFDM	14.27	-	-	-	-
		Bluetooth (1Mbps)	00 (Low)	2402	GFSK	4.44	0	0.00000355	1.6	Pass
			39 (Mid)	2441	GFSK	4.34	-	-	-	-
			78 (High)	2480	GFSK	4.36	-	-	-	-
		Bluetooth (2Mbps)	00 (Low)	2402	π/4-DQPSK	2.42	0.117	0.0000435	1.6	Pass
			39 (Mid)	2441	π/4-DQPSK	2.40	-	-	-	-
			78 (High)	2480	π/4-DQPSK	2.35	-	-	-	-
		Bluetooth (3Mbps)	00 (Low)	2402	8-DPSK	2.64	0	0.0000562	1.6	Pass
			39 (Mid)	2441	8-DPSK	2.66	-	-	-	-
			78 (High)	2480	8-DPSK	2.61	-	-	-	-
	Battery 2		**00 (Low)**	**2402**	**8-DPSK**	**2.64**	**-0.101**	**0.0000685**	**1.6**	**Pass**
P560	Battery 2		**00 (Low)**	**2402**	**8-DPSK**	**2.64**	**0**	**0.00021**	**1.6**	**Pass**

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11.7 Volume Scan

Model	Position	Mode	Channel	Power Drift (dB)	Measured 1g SAR (W/kg)	Multi Band 1g SAR (W/kg)	Limit (W/kg)	Result
ZX1	Left Cheek	GSM850	251	-0.129	0.611	0.668	1.6	Pass
		802.11b	01	-0.165	0.057			
	Left Cheek	GSM850	251	-0.129	0.611	0.612	1.6	Pass
		Bluetooth	00	0.18	0.00079			
	Left Cheek	GSM1900	512	-0.172	0.434	0.487	1.6	Pass
		802.11b	01	-0.165	0.057			
	Left Cheek	GSM1900	512	-0.172	0.434	0.435	1.6	Pass
		Bluetooth	00	0.18	0.00079			
	Left Cheek	WCDMA Band V	4233	-0.02	0.522	0.571	1.6	Pass
		802.11b	01	-0.165	0.057			
	Left Cheek	WCDMA Band V	4233	-0.02	0.522	0.522	1.6	Pass
		Bluetooth	00	0.18	0.00079			
	Left Cheek	WCDMA Band II	9400	-0.078	0.637	0.688	1.6	Pass
		802.11b	01	-0.165	0.057			
	Left Cheek	WCDMA Band II	9400	-0.078	0.637	0.638	1.6	Pass
		Bluetooth	00	0.18	0.00079			
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	-0.108	0.906	0.921	1.6	Pass
		802.11b	01	0.148	0.014			
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	-0.108	0.906	0.906	1.6	Pass
		Bluetooth	00	-0.136	0.000904			
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	-0.051	0.410	0.421	1.6	Pass
		802.11b	01	0.148	0.014			
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	-0.051	0.410	0.411	1.6	Pass
		Bluetooth	00	-0.136	0.000904			
	Rear Face with 1.5cm Gap	WCDMA Band V (RMC 12.2K)	4233	-0.191	0.361	0.374	1.6	Pass
		802.11b	01	0.148	0.014			
	Rear Face with 1.5cm Gap	WCDMA Band V (RMC 12.2K)	4233	-0.191	0.361	0.361	1.6	Pass
		Bluetooth	00	-0.136	0.000904			
	Rear Face with 1.5cm Gap	WCDMA Band II (RMC 12.2K)	9400	-0.162	0.294	0.304	1.6	Pass
		802.11b	01	0.148	0.014			
	Rear Face with 1.5cm Gap	WCDMA Band II (RMC 12.2K)	9400	-0.162	0.294	0.295	1.6	Pass
		Bluetooth	00	-0.136	0.000904			
P560	Left Cheek	GSM850	251	-0.166	0.617	0.666	1.6	Pass
		802.11b	01	-0.144	0.048			
	Left Cheek	WCDMA Band II	9400	-0.154	0.61	0.653	1.6	Pass
		802.11b	01	-0.144	0.048			
	Rear Face with 1.5cm Gap	GSM850 (GPRS10)	251	-0.107	0.652	0.667	1.6	Pass
		802.11b	01	-0.128	0.016			
	Rear Face with 1.5cm Gap	GSM1900 (GPRS10)	512	-0.023	0.458	0.471	1.6	Pass
		802.11b	01	-0.128	0.016			

Remark:
1. The worst configuration on each position is used for the volume scan.
2. Test Engineer：Gordon Lin, Jason Wang, Robert Liu, Eric Huang, and A-Rod

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12. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] IEEE Std. P1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, April 21, 2003

[3] Supplement C (Edition 01-01) to OET Bulletin 65 (Edition 97-01), “Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to RF Emissions”, June 2001

[4] IEEE Std. C95.3-2002, “IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields-RF and Microwave”, 2002

[5] IEEE Std. C95.1-1999, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, 1999

[6] Robert J. Renka, “Multivariate Interpolation Of Large Sets Of Scattered Data”, University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148

[7] DASY5 System Handbook

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Appendix A - System Performance Check Data

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

System Check_Head_2450MHz

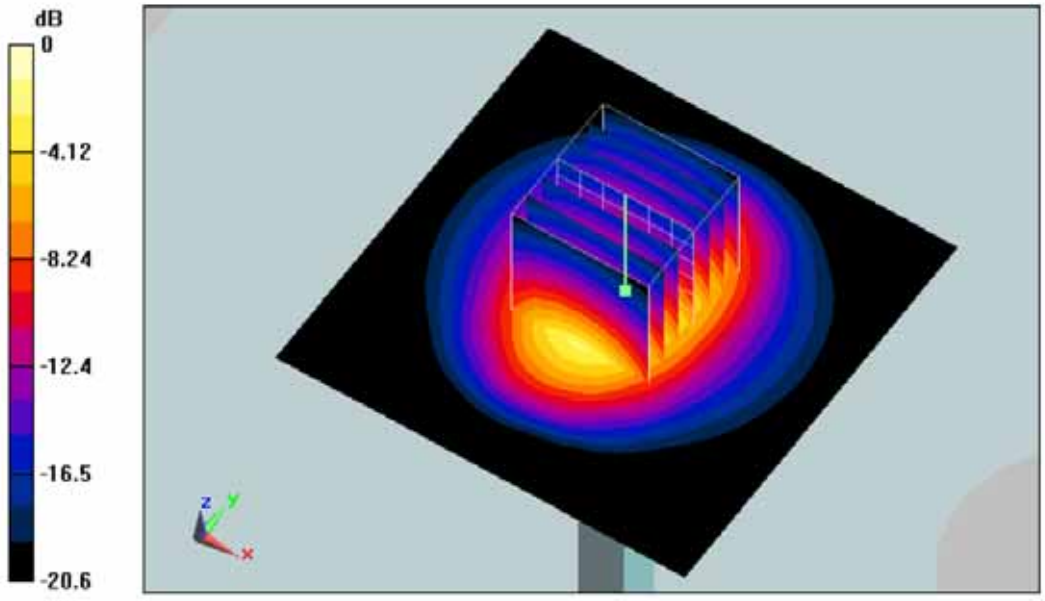
DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.85 mho/m; ε_r = 37.9; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 5.85 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.5 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) = 5.09 mW/g; SAR(10 g) = 2.45 mW/g
Maximum value of SAR (measured) = 5.81 mW/g



0 dB = 5.81mW/g

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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

System Check_Head_2450MHz

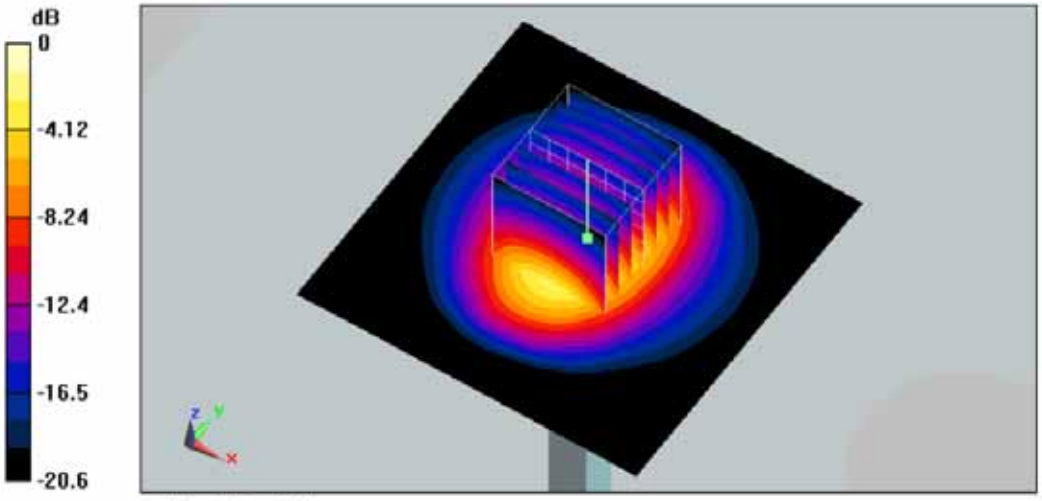
DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.85 mho/m; ε_r = 37.9; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 5.85 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.5 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 10.1 W/kg
SAR(1 g) = 5.09 mW/g; SAR(10 g) = 2.45 mW/g
Maximum value of SAR (measured) = 5.81 mW/g



0 dB = 5.81mW/g

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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

System Check_Body_2450MHz

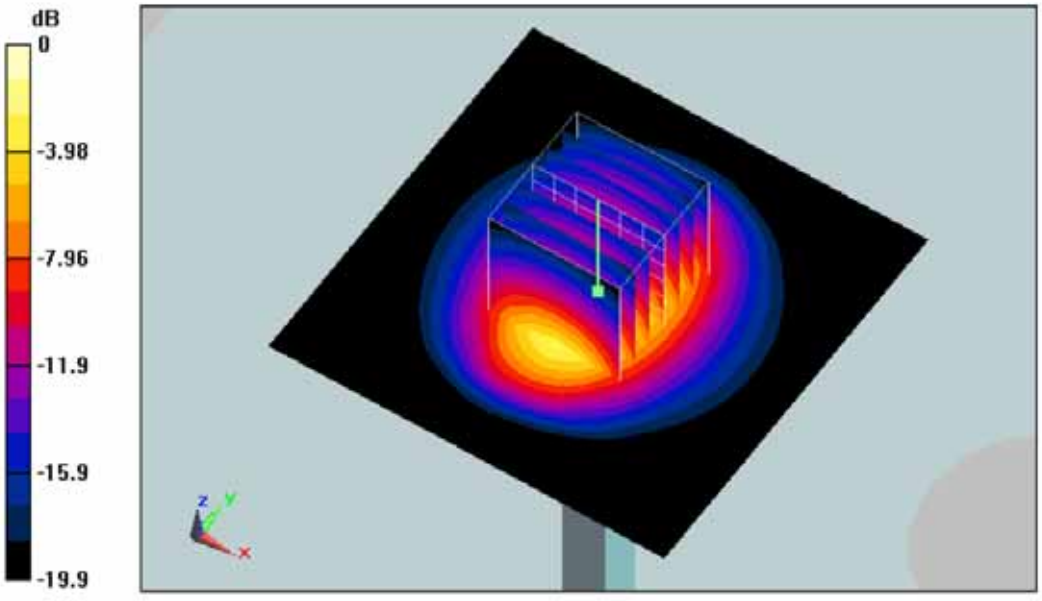
DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.93 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 5.63 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.1 V/m; Power Drift = 0.00684 dB
Peak SAR (extrapolated) = 9.59 W/kg
SAR(1 g) = 4.77 mW/g; SAR(10 g) = 2.29 mW/g
Maximum value of SAR (measured) = 5.42 mW/g



0 dB = 5.42mW/g

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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

System Check_Body_2450MHz

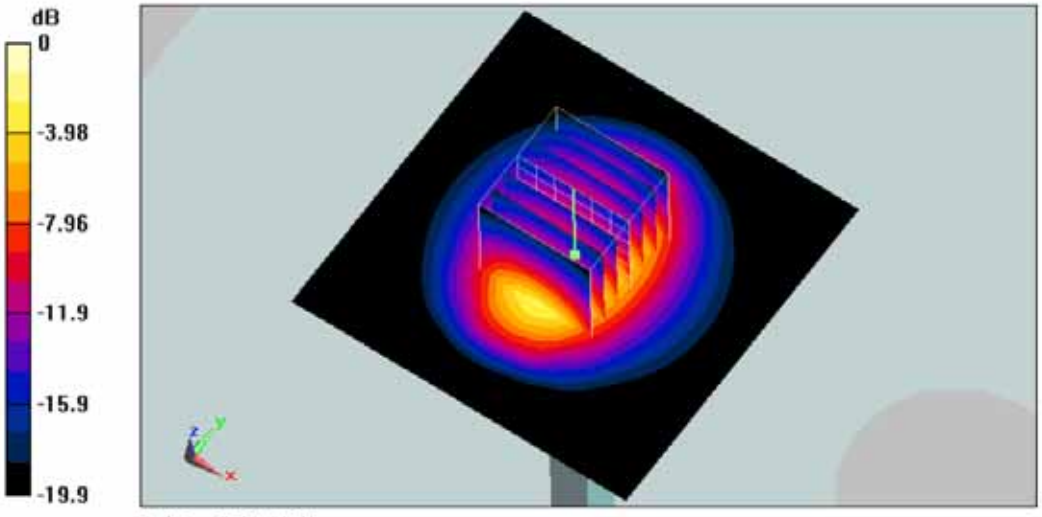
DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.93 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 5.64 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.1 V/m; Power Drift = 0.00684 dB
Peak SAR (extrapolated) = 9.6 W/kg
SAR(1 g) = 4.77 mW/g; SAR(10 g) = 2.29 mW/g
Maximum value of SAR (measured) = 5.42 mW/g



0 dB = 5.42mW/g

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Appendix B - SAR Measurement Data

<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11b Ch1_EUT1+Battery1

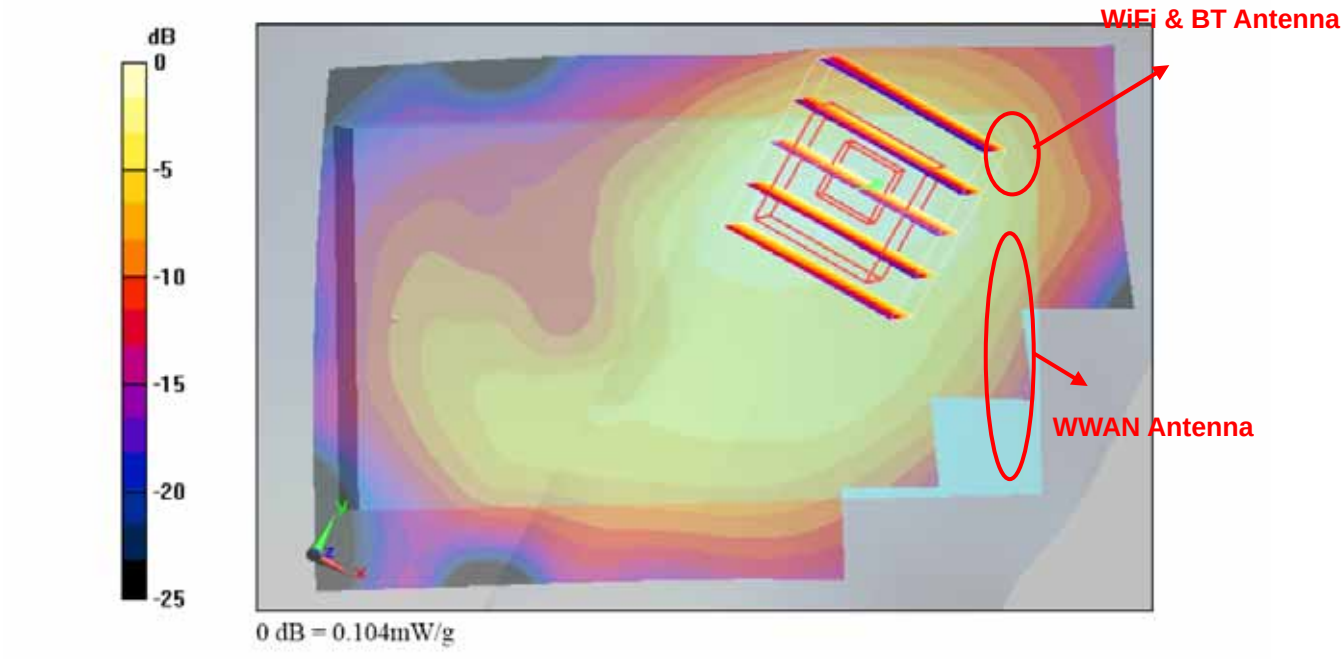
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.92 V/m; Power Drift = 0.163 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.051 mW/g
Maximum value of SAR (measured) = 0.104 mW/g



0 dB = 0.104mW/g

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<Model: P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11b Ch1_EUT2+Battery1

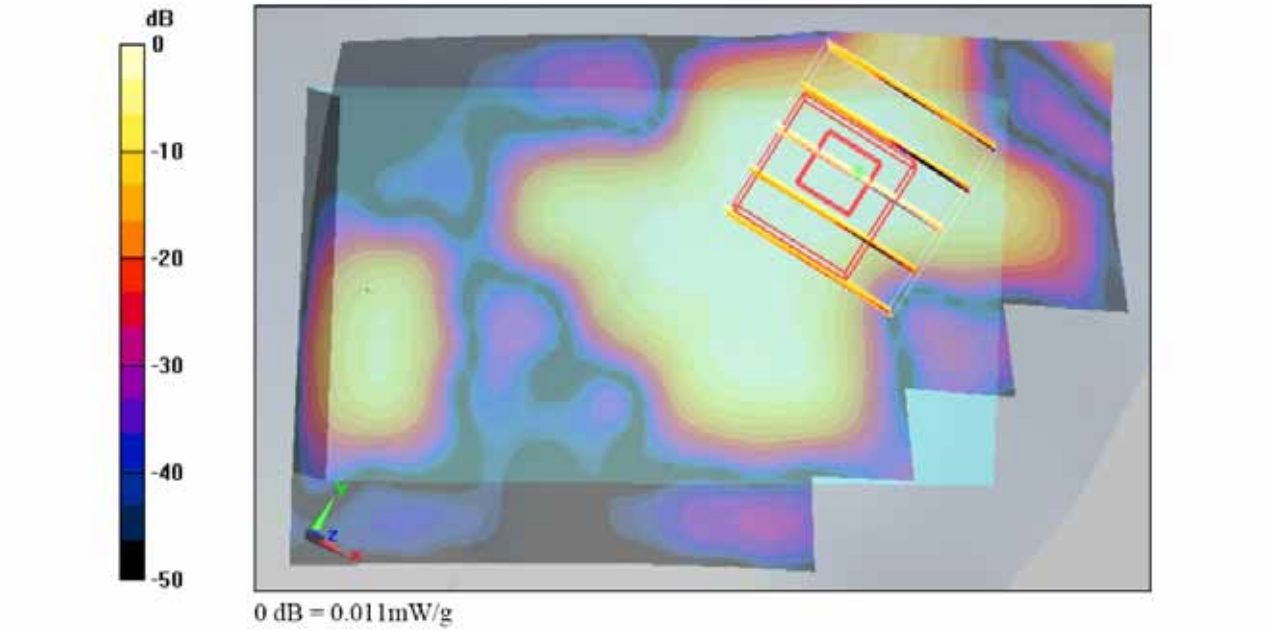
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.022 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.795 V/m; Power Drift = -0.141 dB
Peak SAR (extrapolated) = 0.017 W/kg
SAR(1 g) = 0.00968 mW/g; SAR(10 g) = 0.00469 mW/g
Maximum value of SAR (measured) = 0.011 mW/g



0 dB = 0.011mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11b Ch1_EUT1+Battery2

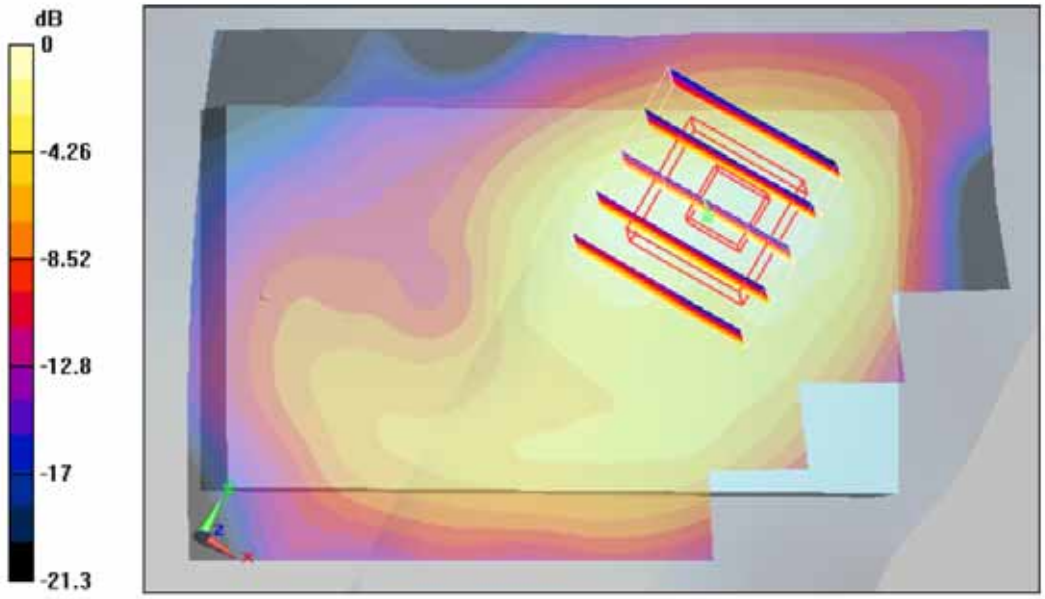
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.089 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.58 V/m; Power Drift = 0.189 dB
Peak SAR (extrapolated) = 0.140 W/kg
SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.082 mW/g



0 dB = 0.082mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11g Ch1_EUT1+Battery1

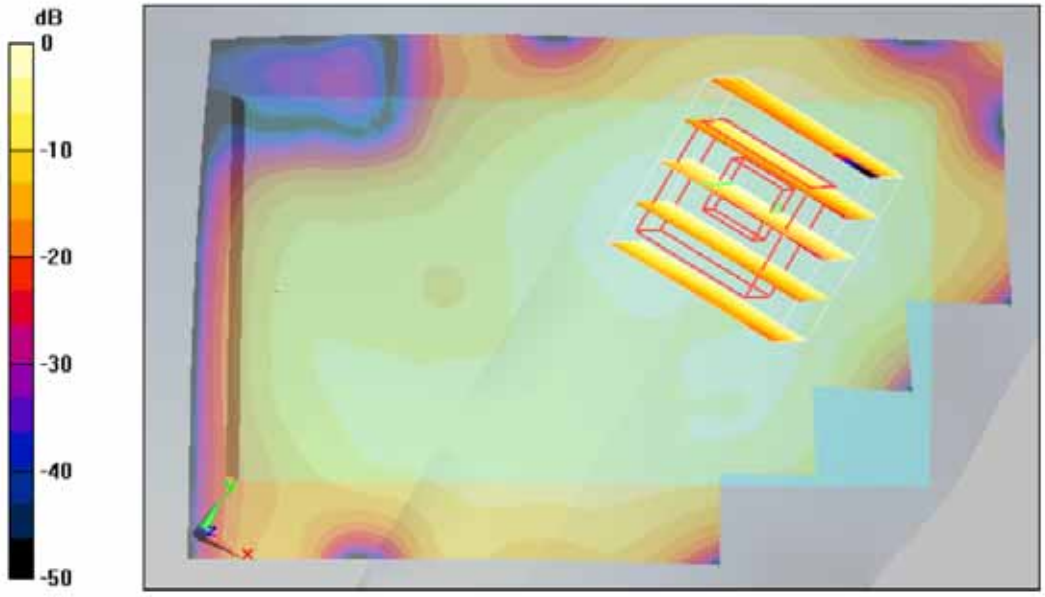
DUT: 830315

Communication System: 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.048 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.03 V/m; Power Drift = -0.129 dB
Peak SAR (extrapolated) = 0.082 W/kg
SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.023 mW/g
Maximum value of SAR (measured) = 0.048 mW/g



0 dB = 0.048mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Tilted_802.11b Ch1_EUT1+Battery1

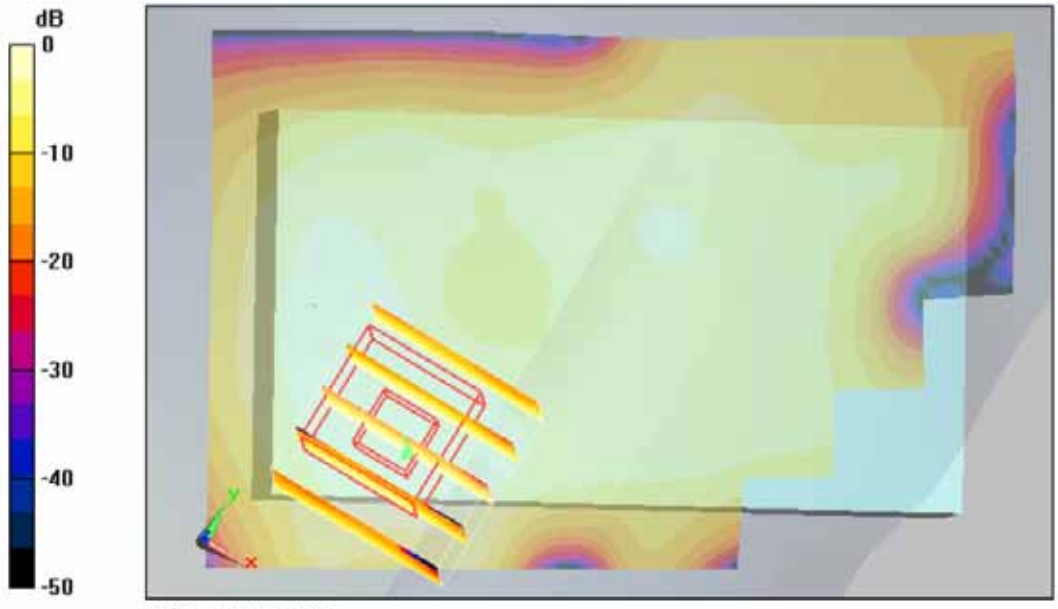
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.025 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.3 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 0.043 W/kg
SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.013 mW/g
Maximum value of SAR (measured) = 0.026 mW/g



0 dB = 0.026mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Left Cheek_802.11b Ch1_EUT1+Battery1

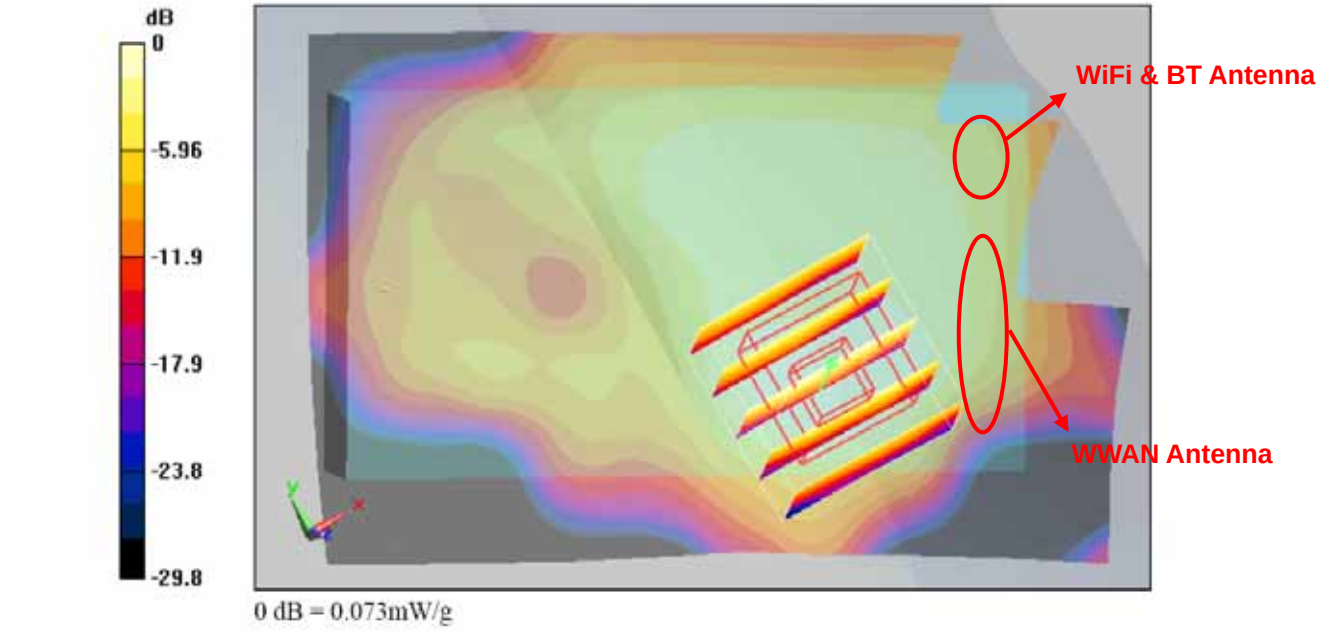
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.3 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.079 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.96 V/m; Power Drift = 0.168 dB
Peak SAR (extrapolated) = 0.126 W/kg
SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.036 mW/g
Maximum value of SAR (measured) = 0.073 mW/g



0 dB = 0.073mW/g

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<Model: P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Left Cheek_802.11b Ch1_EUT2+Battery1

DUT: 830315

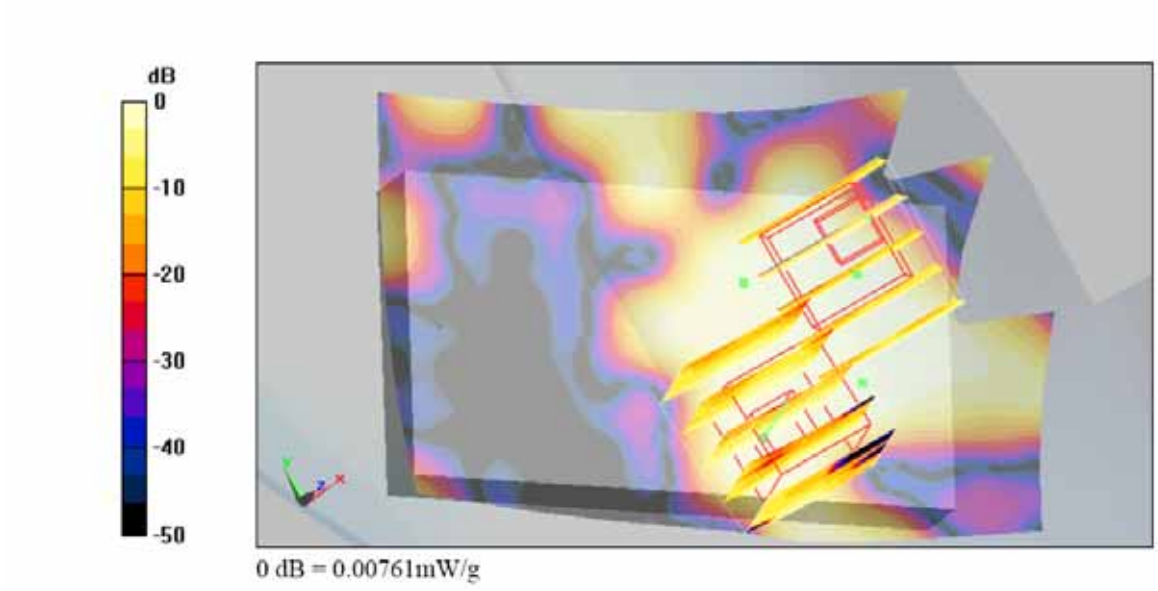
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.016 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.880 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00392 mW/g
Maximum value of SAR (measured) = 0.012 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.880 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 0.012 W/kg
SAR(1 g) = 0.00579 mW/g; SAR(10 g) = 0.00228 mW/g
Maximum value of SAR (measured) = 0.00761 mW/g



0 dB = 0.00761mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Left Tilted_802.11b Ch1_EUT1+Battery1

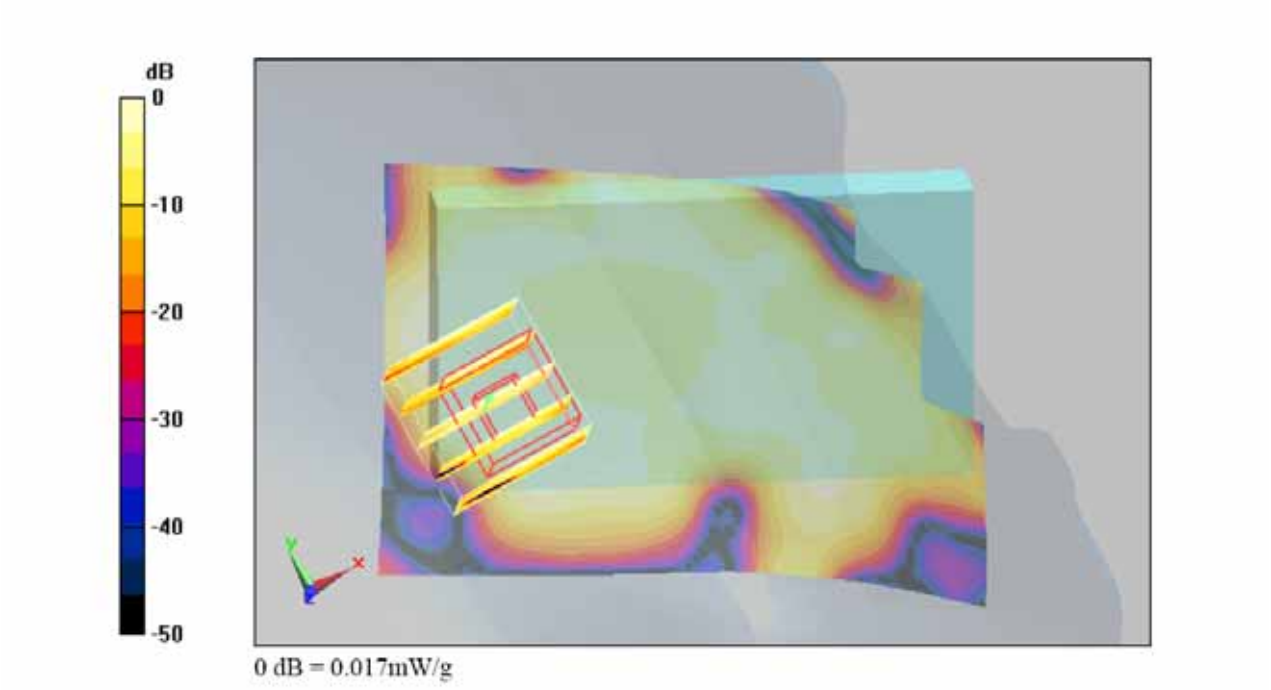
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.025 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.05 V/m; Power Drift = 0.00389 dB
Peak SAR (extrapolated) = 0.028 W/kg
SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00643 mW/g
Maximum value of SAR (measured) = 0.017 mW/g



0 dB = 0.017mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_PDA1_DH1_Battery A_PDA1

DUT: 830315

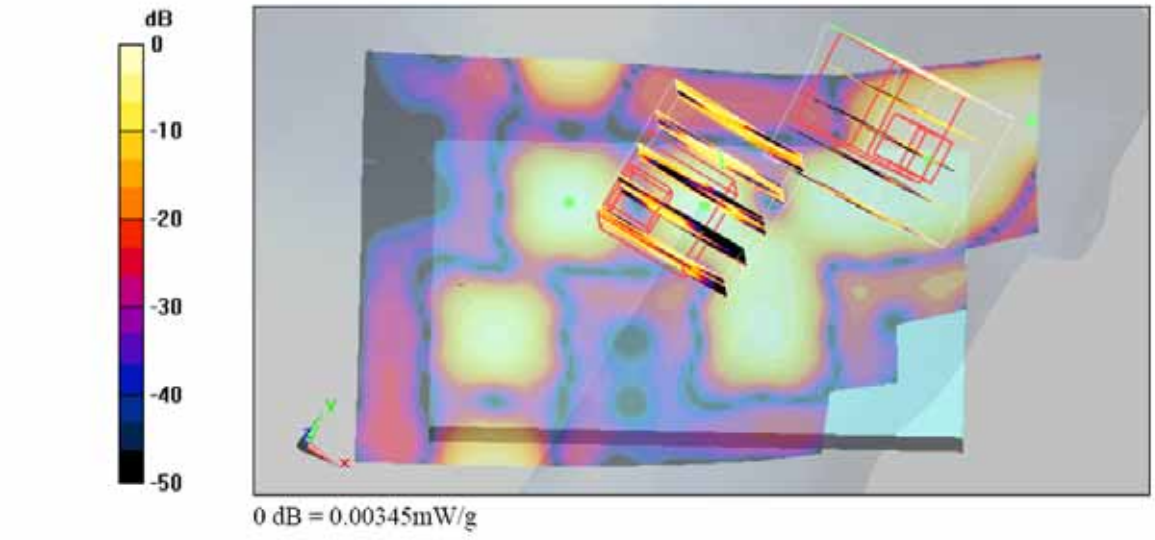
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00369 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.443 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00175 W/kg
SAR(1 g) = 5.19e-005 mW/g; SAR(10 g) = 7.94e-006 mW/g
Maximum value of SAR (measured) = 0.00175 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.443 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00279 W/kg
SAR(1 g) = 2.63e-005 mW/g; SAR(10 g) = 3.71e-006 mW/g
Maximum value of SAR (measured) = 0.00345 mW/g



0 dB = 0.00345mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_2DH1_Battery A_PDA1

DUT: 830315

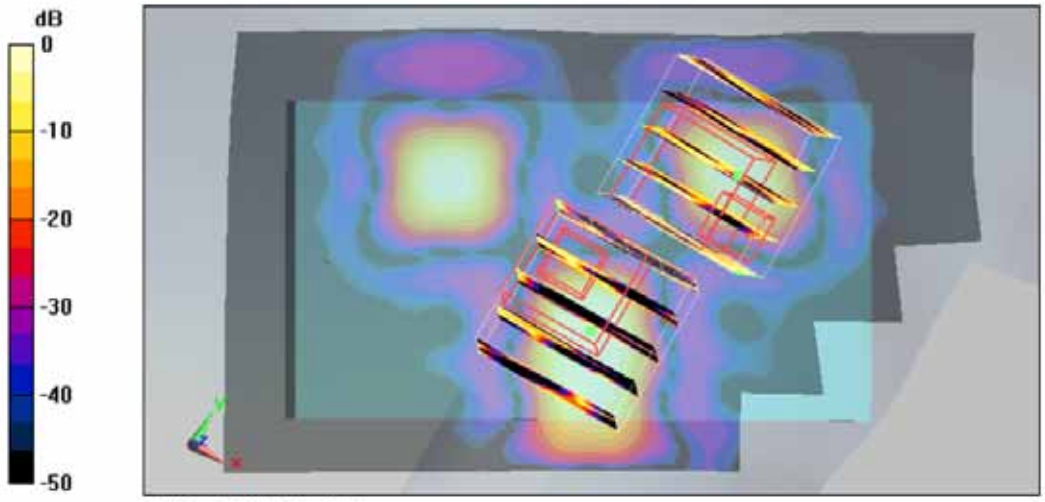
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00552 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.550 V/m; Power Drift = -0.149 dB
Peak SAR (extrapolated) = 0.00312 W/kg
SAR(1 g) = 6.33e-005 mW/g; SAR(10 g) = 8.33e-006 mW/g
Maximum value of SAR (measured) = 0.00386 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.550 V/m; Power Drift = -0.149 dB
Peak SAR (extrapolated) = 0.00213 W/kg
SAR(1 g) = 1.89e-005 mW/g; SAR(10 g) = 2.5e-006 mW/g
Maximum value of SAR (measured) = 0.00167 mW/g



0 dB = 0.00167mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_3DH3_Battery A_PDA1

DUT: 830315

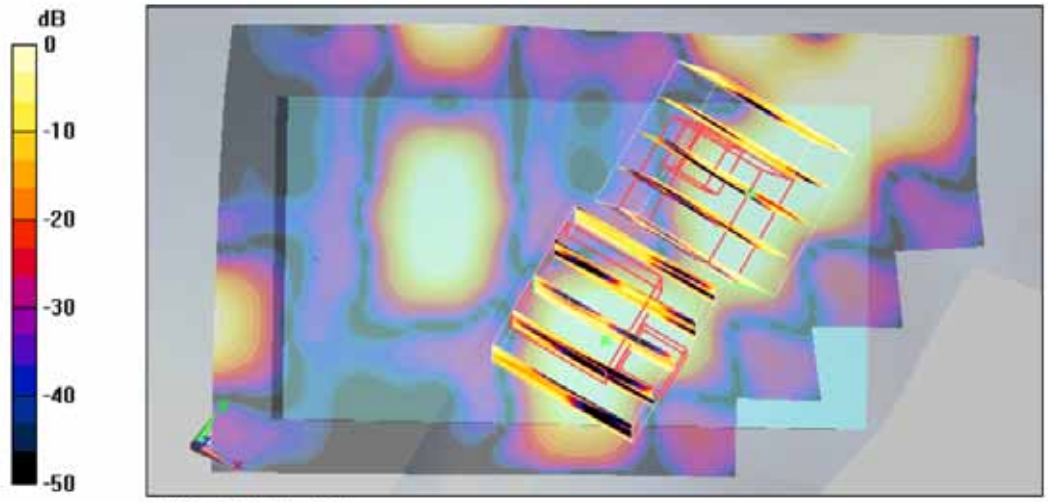
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00976 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.231 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.00716 W/kg
SAR(1 g) = 0.000738 mW/g; SAR(10 g) = 0.00015 mW/g
Maximum value of SAR (measured) = 0.00191 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.231 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.0027 W/kg
SAR(1 g) = 0.000145 mW/g; SAR(10 g) = 2.32e-005 mW/g
Maximum value of SAR (measured) = 0.0018 mW/g



0 dB = 0.0018mW/g

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<Model: P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_3DH3_Battery A_PDA2

DUT: 830315

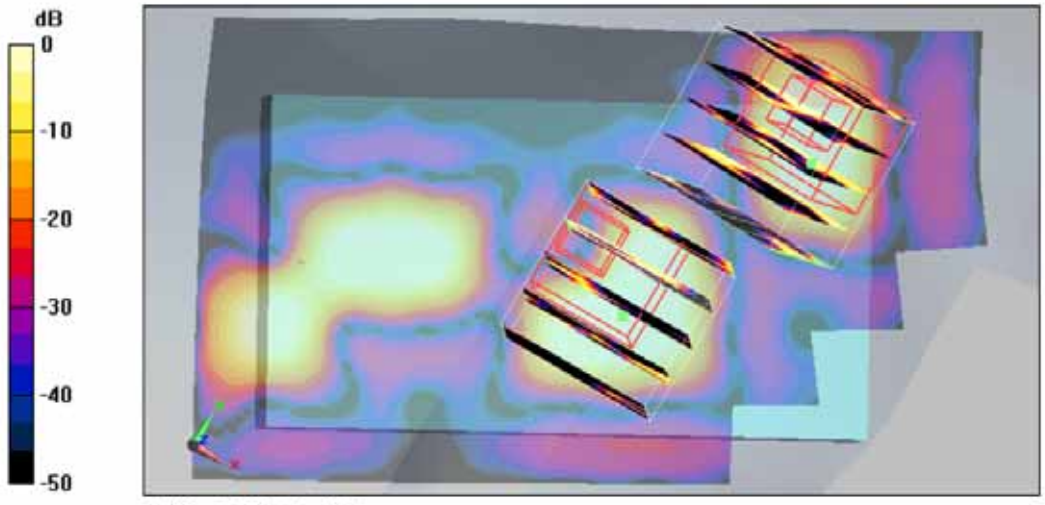
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00474 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.180 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 0.00421 W/kg
SAR(1 g) = 0.000207 mW/g; SAR(10 g) = 2.35e-005 mW/g
Maximum value of SAR (measured) = 0.00171 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.180 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 0.00105 W/kg
SAR(1 g) = 1.31e-005 mW/g; SAR(10 g) = 1.88e-006 mW/g
Maximum value of SAR (measured) = 0.00105 mW/g



0 dB = 0.00105mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_3DH3_Battery B_PDA1

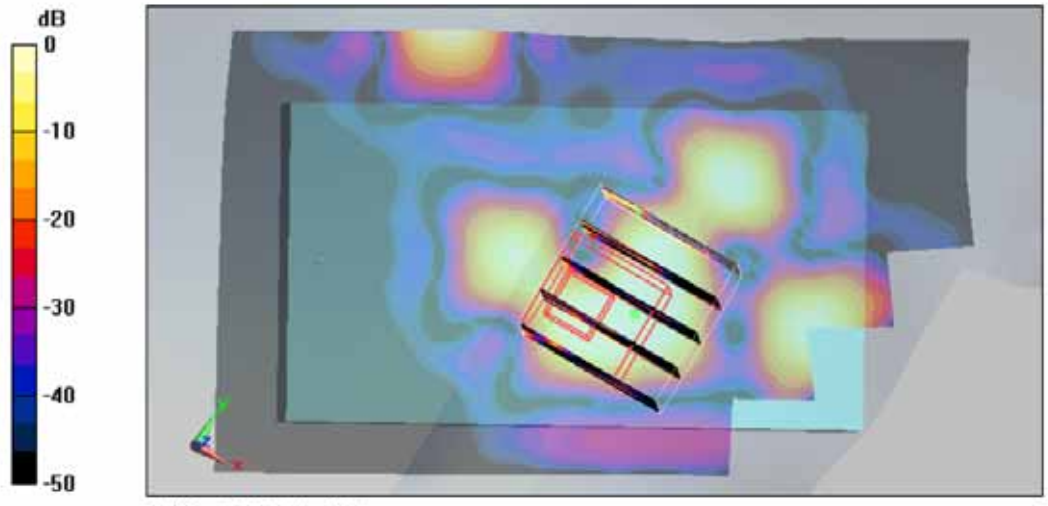
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00661 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.407 V/m; Power Drift = -0127 dB
Peak SAR (extrapolated) = 0.00261 W/kg
SAR(1 g) = 0.000179 mW/g; SAR(10 g) = 3.93e-005 mW/g
Maximum value of SAR (measured) = 0.00237 mW/g



0 dB = 0.00237mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Tilted_Bluetooth Ch00_3DH3_Battery A_PDA1

DUT: 830315

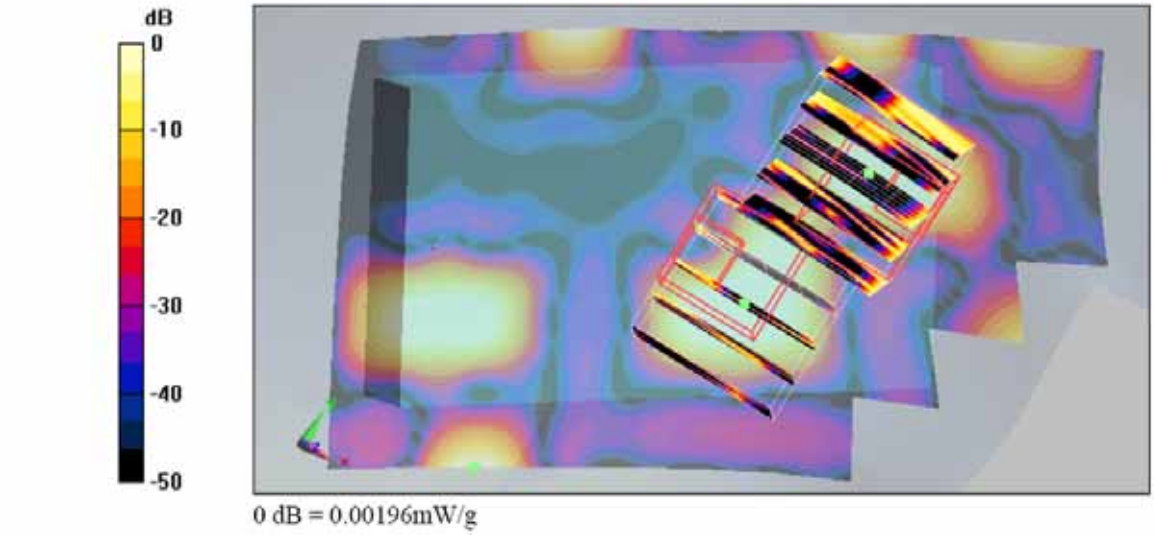
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00473 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.267 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00756 W/kg
SAR(1 g) = 0.000496 mW/g; SAR(10 g) = 7.04e-005 mW/g
Maximum value of SAR (measured) = 0.00418 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.267 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00196 W/kg
SAR(1 g) = 5.88e-005 mW/g; SAR(10 g) = 1.41e-005 mW/g
Maximum value of SAR (measured) = 0.00196 mW/g



0 dB = 0.00196mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Left Cheek_Bluetooth Ch00_3DH3_Battery A_PDA1

DUT: 830315

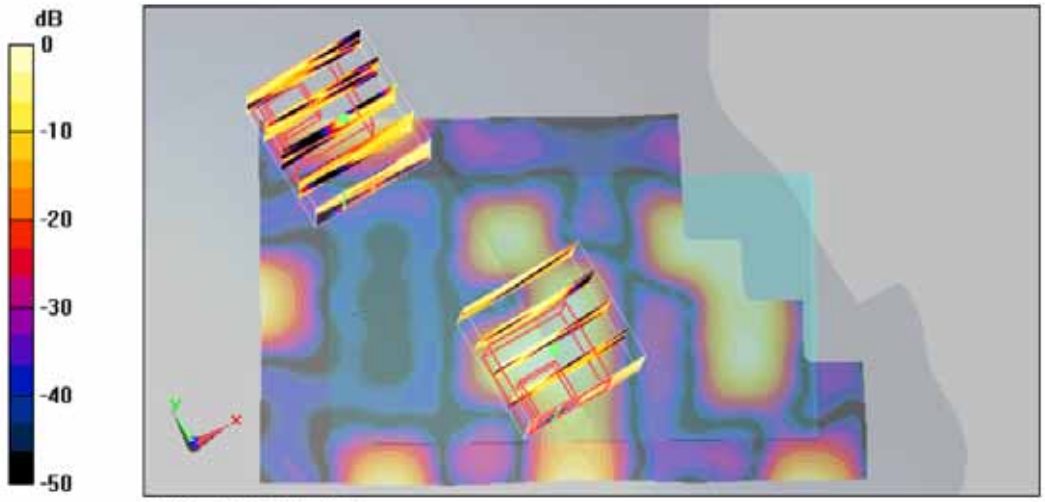
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00681 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.029 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00679 W/kg
SAR(1 g) = 0.000404 mW/g; SAR(10 g) = 4.82e-005 mW/g
Maximum value of SAR (measured) = 0.00679 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.029 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00367 W/kg
SAR(1 g) = 0.000101 mW/g; SAR(10 g) = 1.16e-005 mW/g
Maximum value of SAR (measured) = 0.00389 mW/g



0 dB = 0.00389mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Left Tilted_Bluetooth Ch00_3DH3_Battery A_PDA1

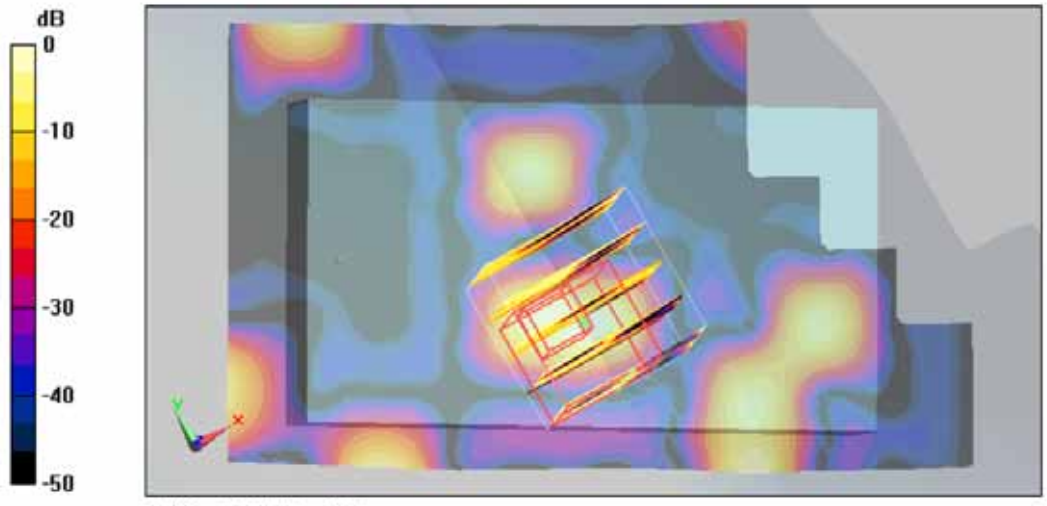
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00454 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.191 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00592 W/kg
SAR(1 g) = 0.000154 mW/g; SAR(10 g) = 4.03e-005 mW/g
Maximum value of SAR (measured) = 0.00592 mW/g



0 dB = 0.00592mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Front Face with 1.5cm Gap_EUT1+Battery1+Earphone

DUT: 830315

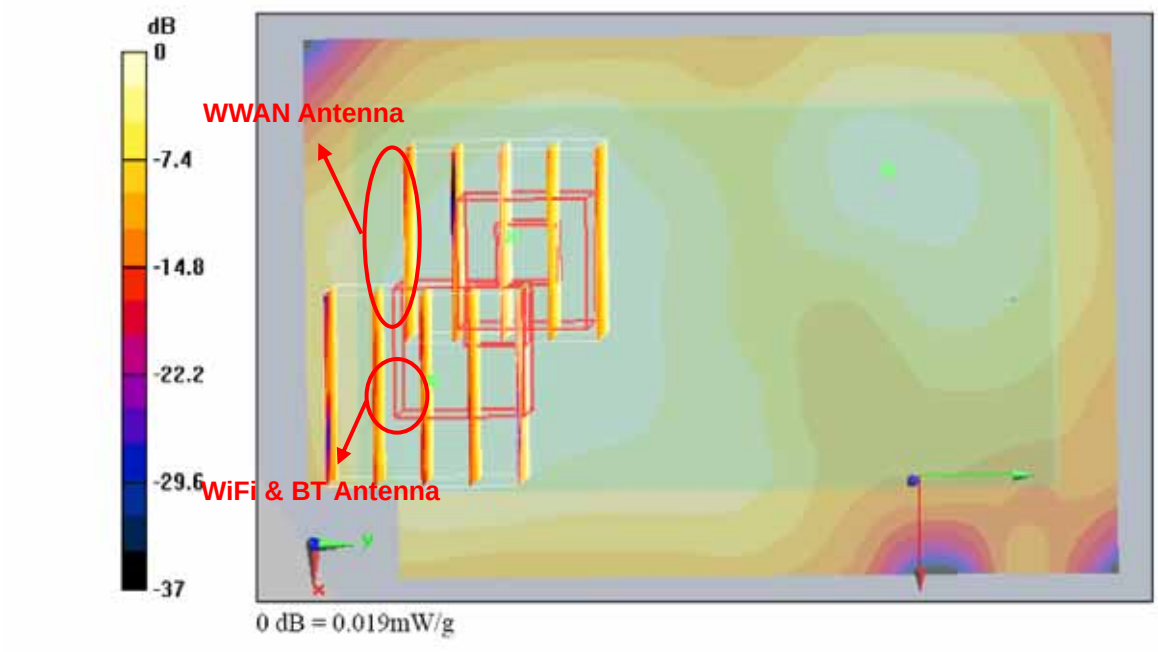
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.3 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.021 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.07 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.034 W/kg
SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.019 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.07 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.032 W/kg
SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00916 mW/g



0 dB = 0.019mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Front Face with 1.5cm Gap_EUT1+Battery2+Earphone

DUT: 830315

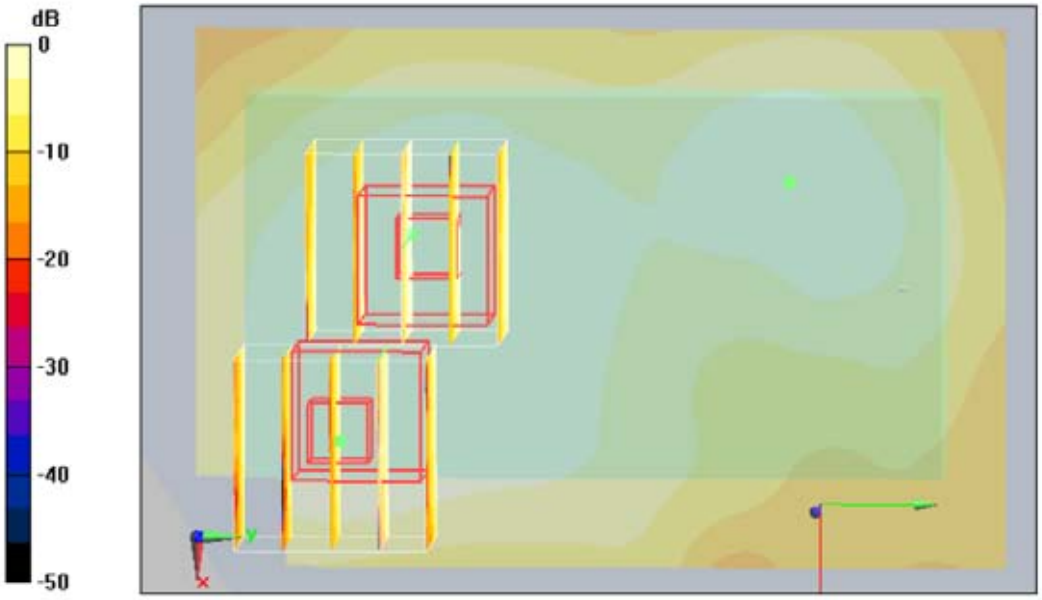
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.031 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.3 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.054 W/kg
SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.032 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.3 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.041 W/kg
SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.012 mW/g
Maximum value of SAR (measured) = 0.023 mW/g



0 dB = 0.023mW/g

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<Model: P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Front Face with 1.5cm Gap_EUT2+Battery2+Earphone

DUT: 830315

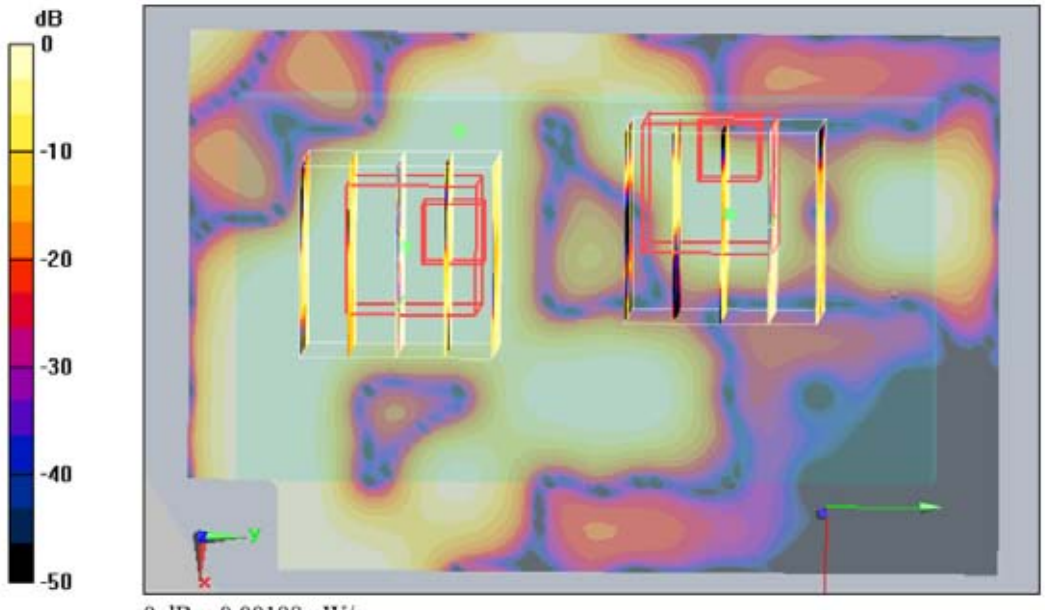
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.5℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.0043 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.701 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 0.00781 W/kg
SAR(1 g) = 0.00257 mW/g; SAR(10 g) = 0.00126 mW/g
Maximum value of SAR (measured) = 0.00285 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.701 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 0.00215 W/kg
SAR(1 g) = 0.00013 mW/g; SAR(10 g) = 1.81e-005 mW/g
Maximum value of SAR (measured) = 0.00198 mW/g



0 dB = 0.00198mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11g Ch1_Front Face with 1.5cm Gap_EUT1+Battery1+Earphone

DUT: 830315

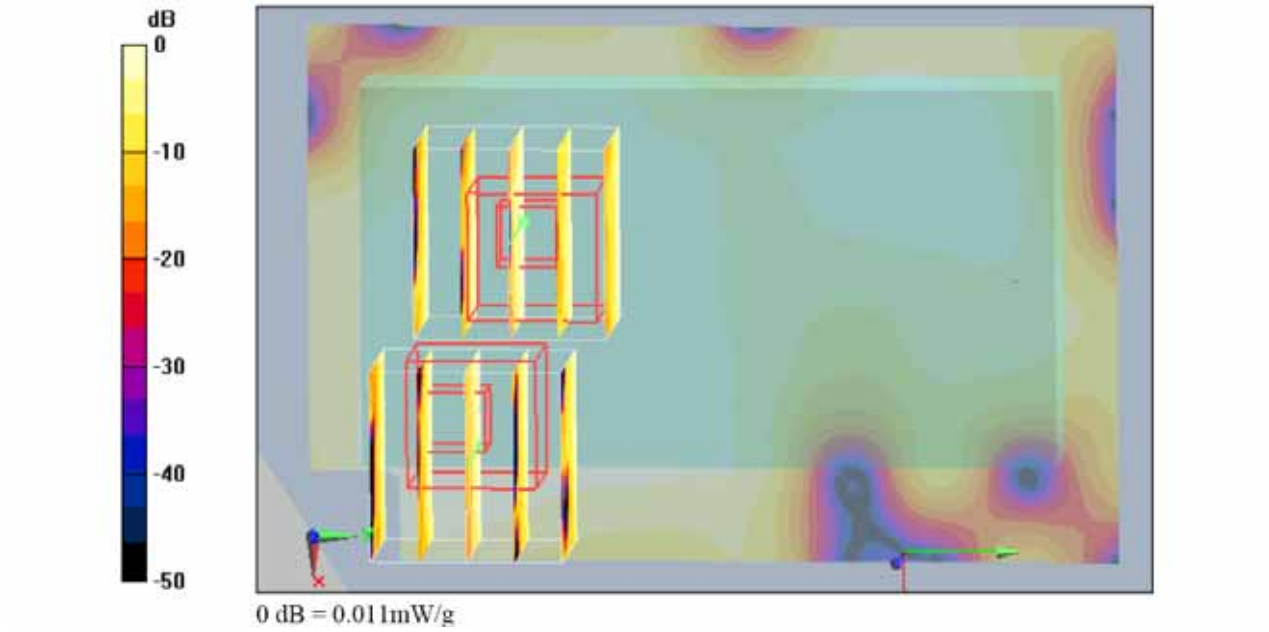
Communication System: 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.014 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.5 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 0.025 W/kg
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00692 mW/g
Maximum value of SAR (measured) = 0.013 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.5 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 0.019 W/kg
SAR(1 g) = 0.010 mW/g; SAR(10 g) = 0.00549 mW/g
Maximum value of SAR (measured) = 0.011 mW/g



0 dB = 0.011mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Rear Face with 1.5cm Gap_EUT1+Battery1+Earphone

DUT: 830315

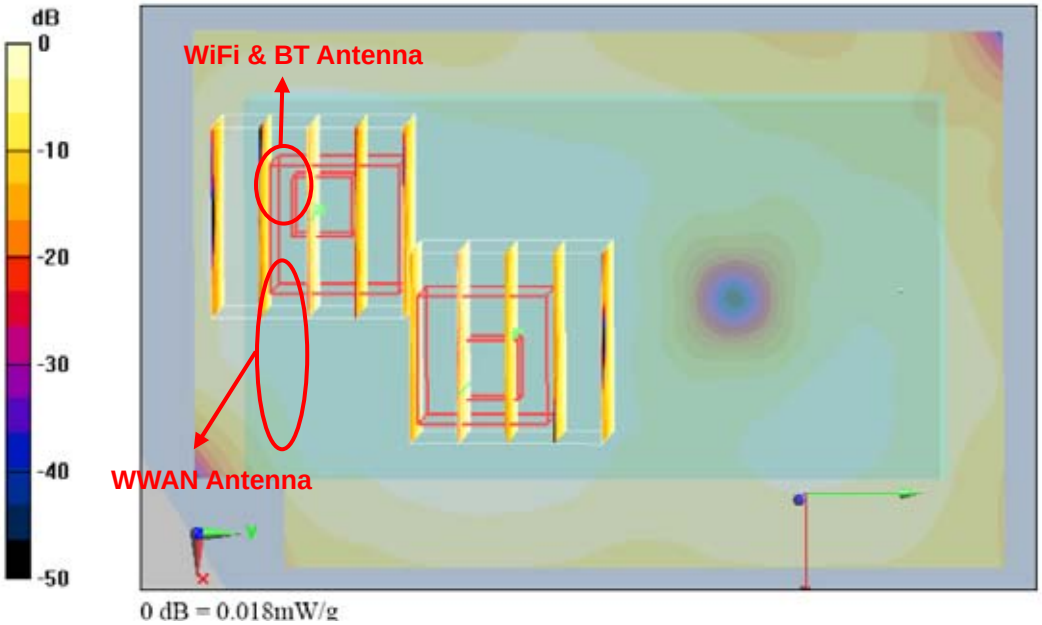
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.019 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.13 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 0.033 W/kg
SAR(1 g) = 0.018 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.019 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.13 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 0.033 W/kg
SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00941 mW/g
Maximum value of SAR (measured) = 0.018 mW/g



0 dB = 0.018mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Rear Face with 1.5cm Gap_EUT1+Battery2+Earphone

DUT: 830315

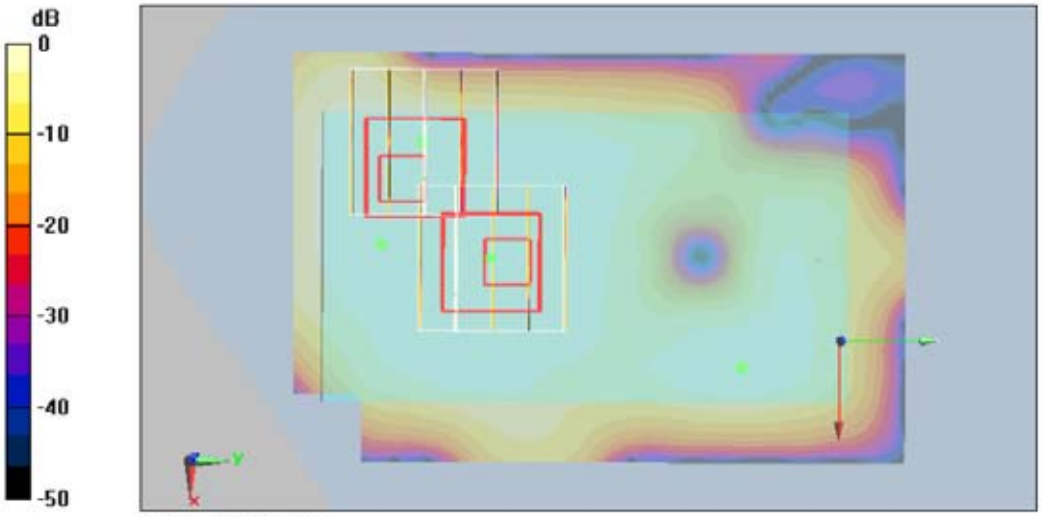
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.025 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.99 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 0.037 W/kg
SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.00953 mW/g
Maximum value of SAR (measured) = 0.020 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.99 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 0.033 W/kg
SAR(1 g) = 0.018 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.019 mW/g



0 dB = 0.019mW/g

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<Model: P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Body_802.11b Ch1_Rear Face with 1.5cm Gap_EUT2+Battery2+Earphone

DUT: 830315

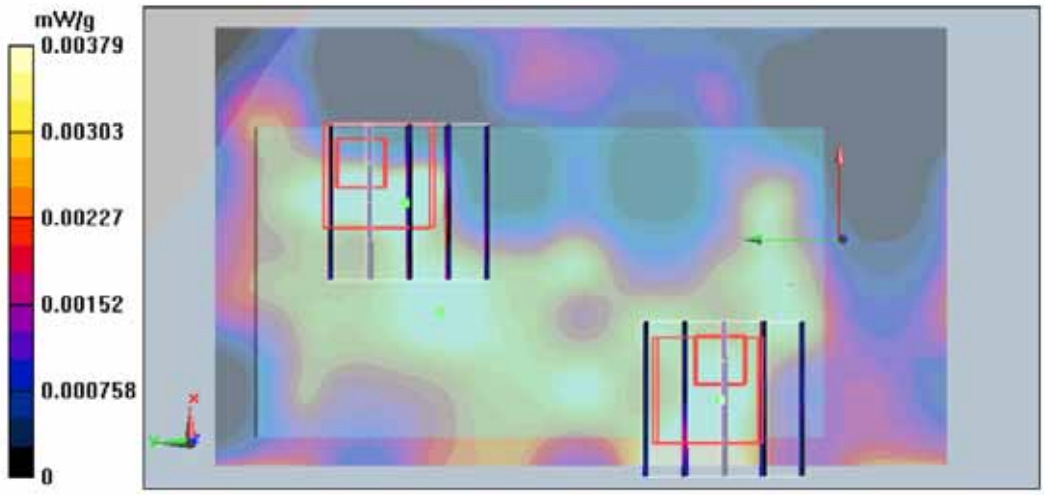
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature : 22.2 ℃; Liquid Temperature : 21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00621 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.759 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 0.013 W/kg
SAR(1 g) = 0.00362 mW/g; SAR(10 g) = 0.0015 mW/g
Maximum value of SAR (measured) = 0.00379 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.759 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 0.013 W/kg
SAR(1 g) = 0.000553 mW/g; SAR(10 g) = 6.25e-005 mW/g
Maximum value of SAR (measured) = 0.00323 mW/g



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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Front Face with 1.5cm Gap_DH1_PDA1_Battery A

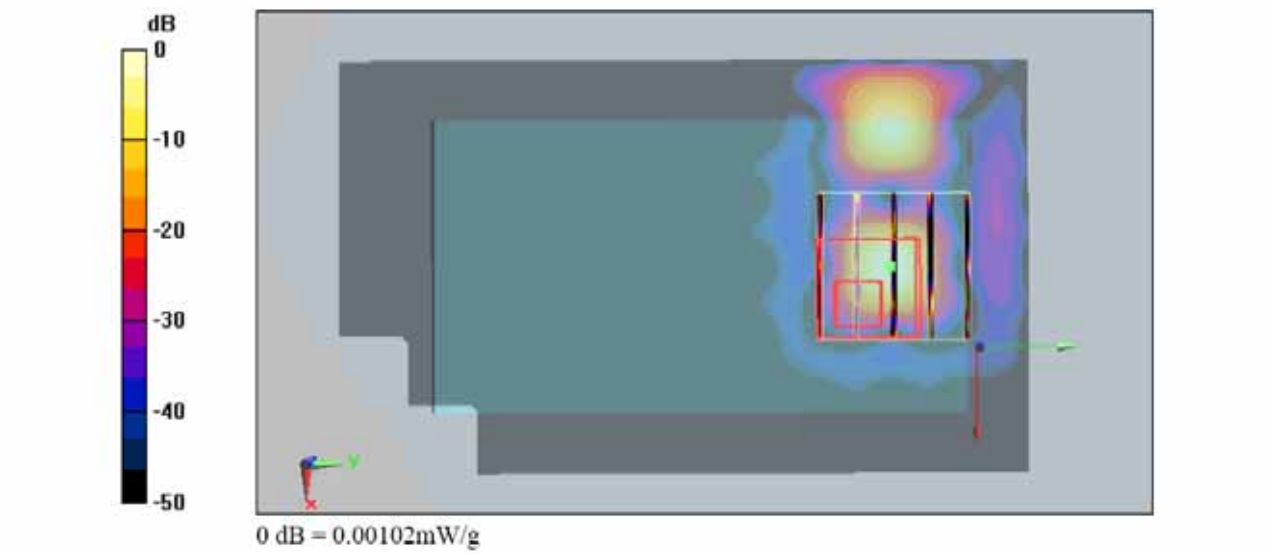
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00125 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 9.09e-005 W/kg
SAR(1 g) = 7.89e-007 mW/g; SAR(10 g) = 9.36e-008 mW/g
Maximum value of SAR (measured) = 0.00102 mW/g



0 dB = 0.00102mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Front Face with 1.5cm Gap_3DH1_PDA1_Battery B

DUT: 830315

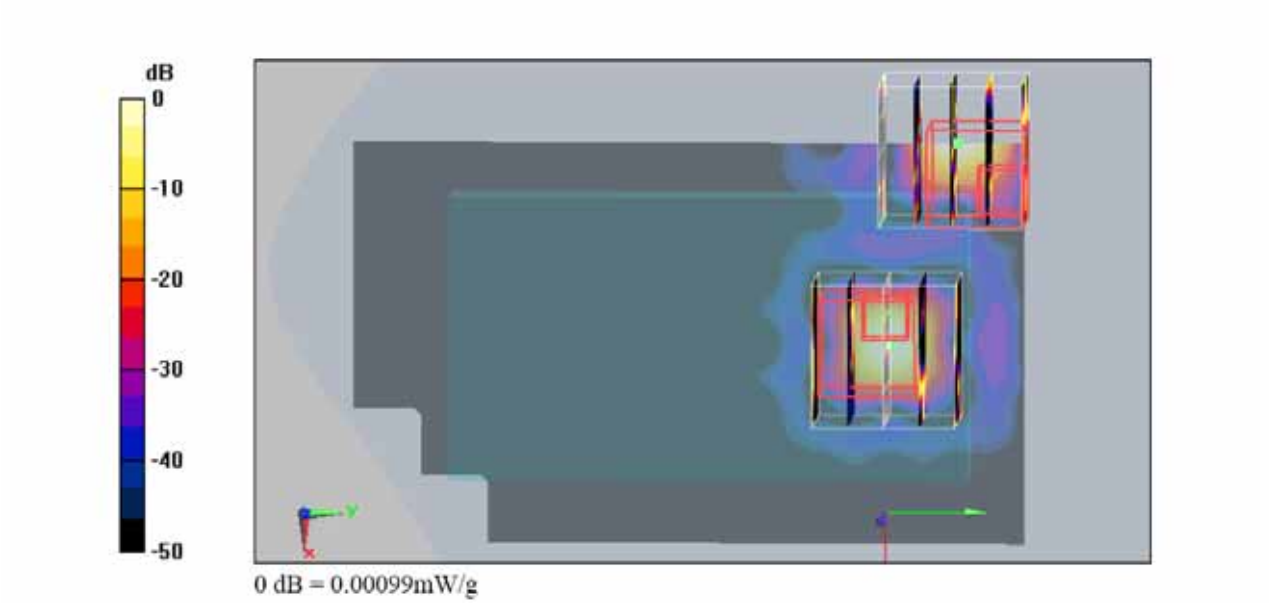
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00137 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.424 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.00104 W/kg
SAR(1 g) = 3.53e-005 mW/g; SAR(10 g) = 5.97e-006 mW/g
Maximum value of SAR (measured) = 0.00104 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.424 V/m; Power Drift = -0.199 dB
Peak SAR (extrapolated) = 0.000318 W/kg
SAR(1 g) = 3.8e-006 mW/g; SAR(10 g) = 5.45e-007 mW/g
Maximum value of SAR (measured) = 0.00099 mW/g



0 dB = 0.00099mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Rear Face with 1.5cm Gap_DH1_PDA1_Battery A

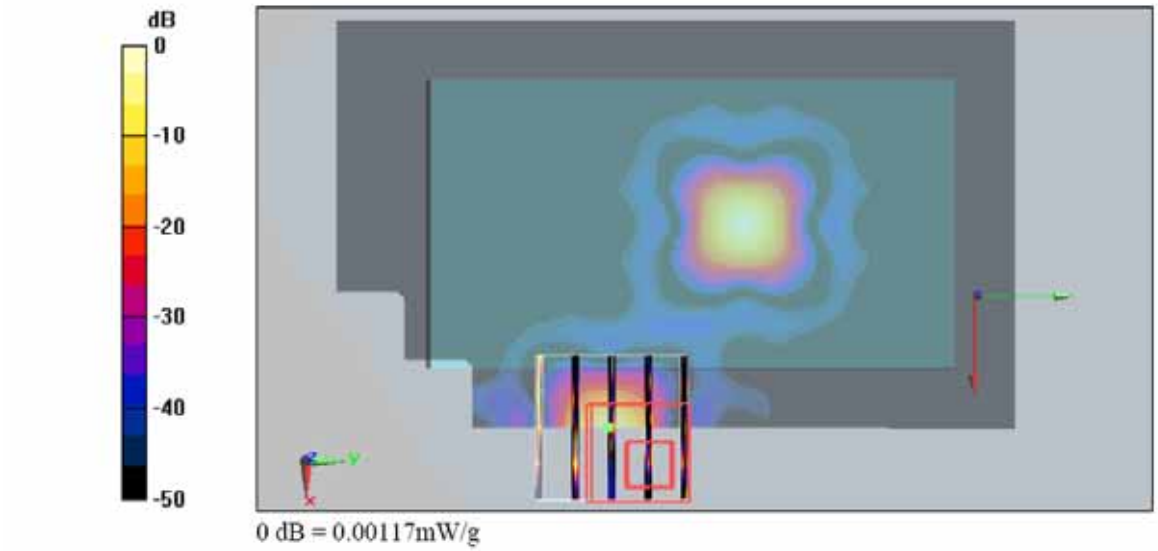
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00103 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 0.000105 W/kg
SAR(1 g) = 3.55e-006 mW/g; SAR(10 g) = 3.73e-007 mW/g
Maximum value of SAR (measured) = 0.00117 mW/g



0 dB = 0.00117mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Rear Face with 1.5cm Gap_2DH5_PDA1_Battery A

DUT: 830315

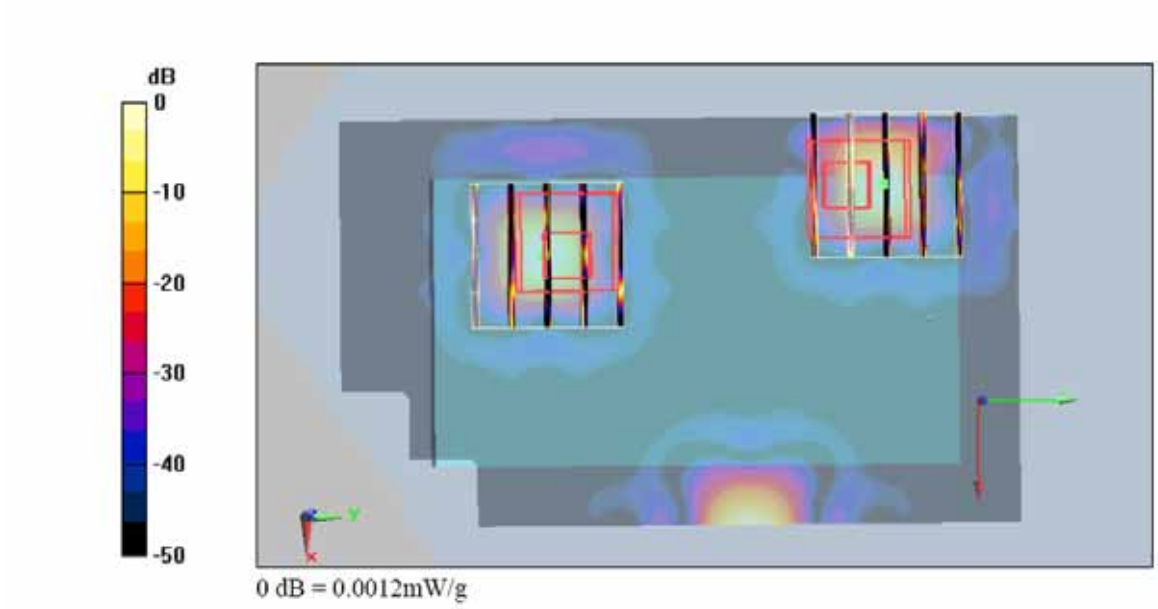
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00136 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.144 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 0.00103 W/kg
SAR(1 g) = 4.35e-005 mW/g; SAR(10 g) = 5.97e-006 mW/g
Maximum value of SAR (measured) = 0.00113 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.144 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 0.00104 W/kg
SAR(1 g) = 3.48e-005 mW/g; SAR(10 g) = 3.9e-006 mW/g
Maximum value of SAR (measured) = 0.0012 mW/g



0 dB = 0.0012mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Rear Face with 1.5cm Gap_3DH1_PDA1_Battery A

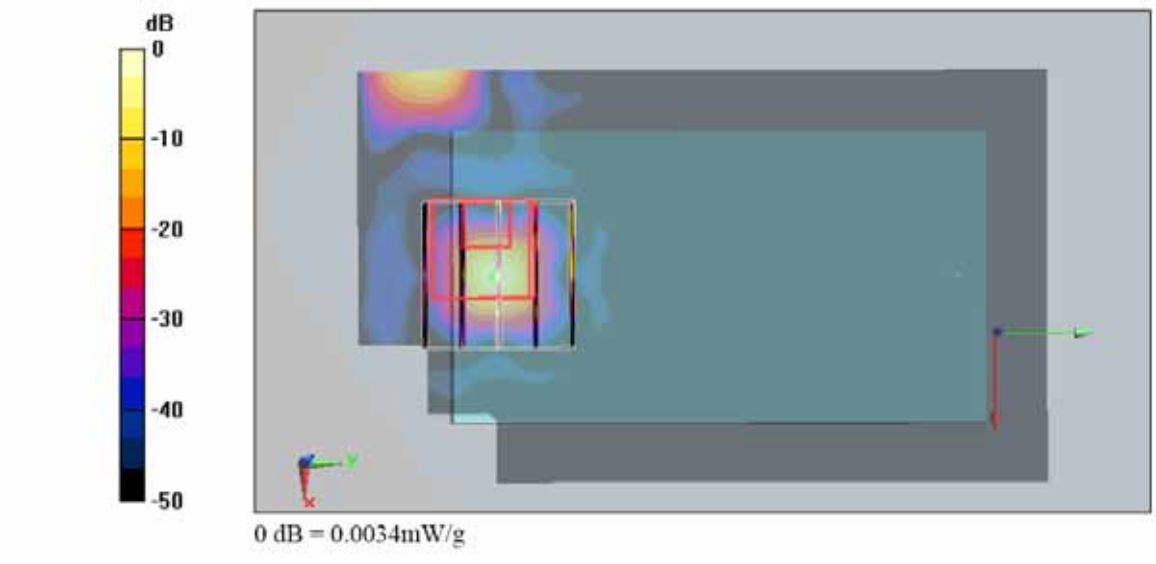
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00144 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 0.0034 W/kg
SAR(1 g) = 5.62e-005 mW/g; SAR(10 g) = 9.26e-006 mW/g
Maximum value of SAR (measured) = 0.0034 mW/g



0 dB = 0.0034mW/g

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<Model: ZX1>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Rear Face with 1.5cm Gap_3DH1_PDA1_Battery B

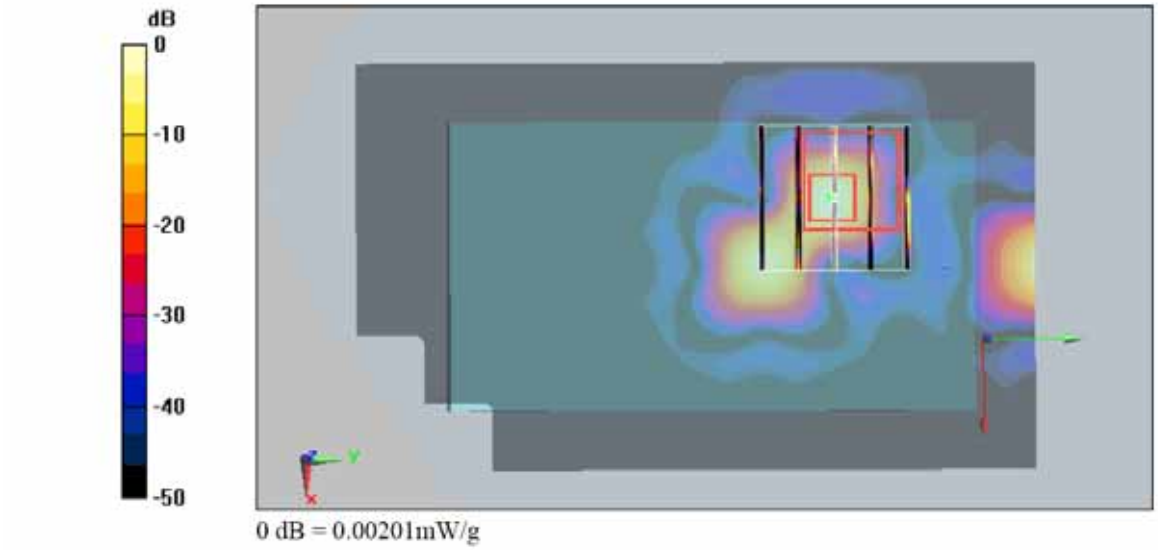
DUT: 830315

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00155 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.206 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 0.00201 W/kg
SAR(1 g) = 6.85e-005 mW/g; SAR(10 g) = 1.01e-005 mW/g
Maximum value of SAR (measured) = 0.00201 mW/g



0 dB = 0.00201mW/g

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<Model : P560>

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/9

Body_Bluetooth Ch0_Rear Face with 1.5cm Gap_3DH1_PDA2_Battery B

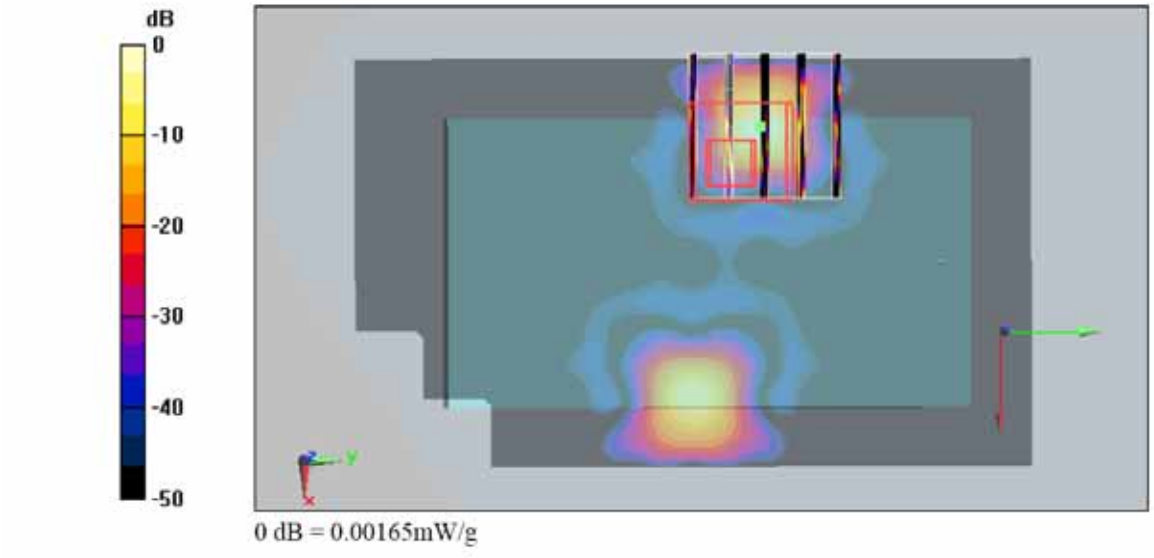
DUT: 830314

Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: MSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.88 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.1 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.17, 4.17, 4.17); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00146 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0 dB
Peak SAR (extrapolated) = 0.00326 W/kg
SAR(1 g) = 0.000212 mW/g; SAR(10 g) = 2.43e-005 mW/g
Maximum value of SAR (measured) = 0.00165 mW/g



0 dB = 0.00165mW/g

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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11b Ch1_EUT1+Battery1_2D

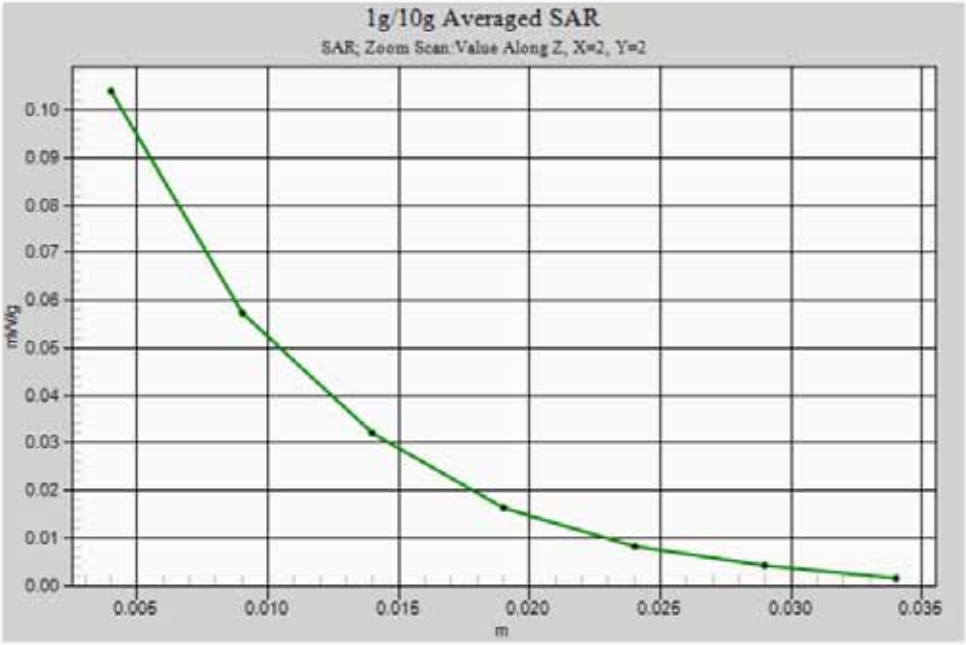
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.92 V/m; Power Drift = 0.163 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.051 mW/g
Maximum value of SAR (measured) = 0.104 mW/g



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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Right Cheek_802.11b Ch1_EUT2+Battery1_2D

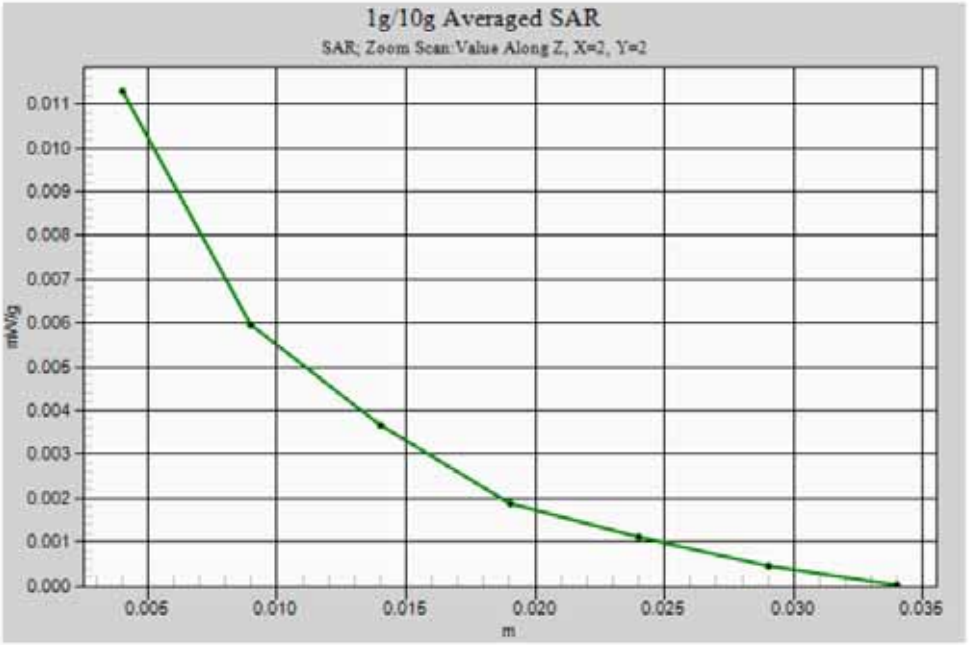
DUT: 830315

Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.022 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.795 V/m; Power Drift = -0.141 dB
Peak SAR (extrapolated) = 0.017 W/kg
SAR(1 g) = 0.00968 mW/g; SAR(10 g) = 0.00469 mW/g
Maximum value of SAR (measured) = 0.011 mW/g



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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/3/19

Left Cheek_802.11b Ch1_EUT2+Battery1_2D

DUT: 830315

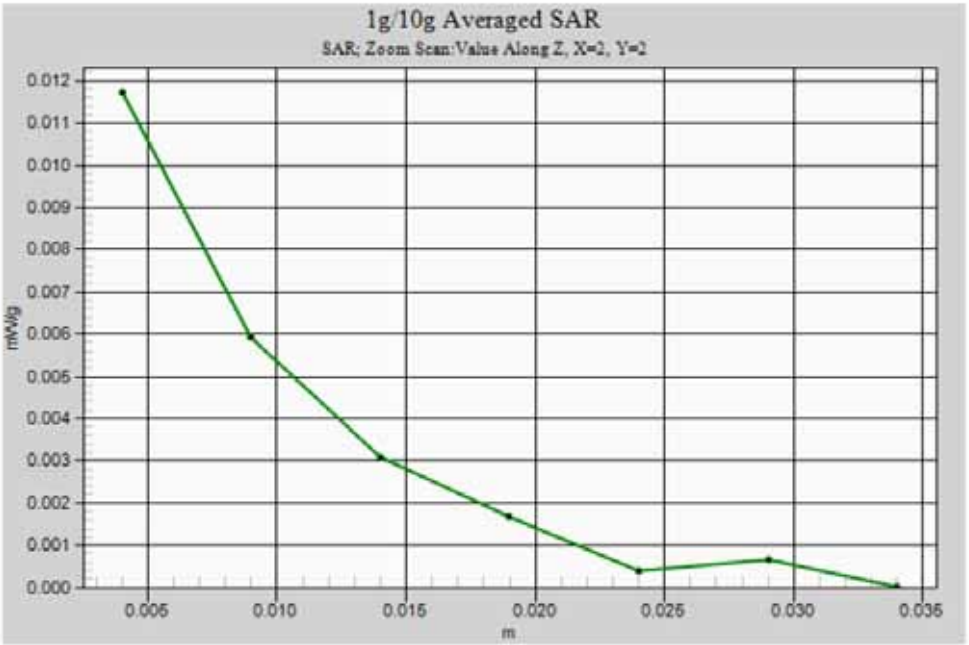
Communication System: 802.11b ; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2412 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.4 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM with CRP; Type: SAM; Serial: TP-1446
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch1/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.016 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.880 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00392 mW/g
Maximum value of SAR (measured) = 0.012 mW/g

Ch1/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.880 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 0.012 W/kg
SAR(1 g) = 0.00579 mW/g; SAR(10 g) = 0.00228 mW/g
Maximum value of SAR (measured) = 0.00761 mW/g



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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_3DH3_PDA1_2D

DUT: 830315

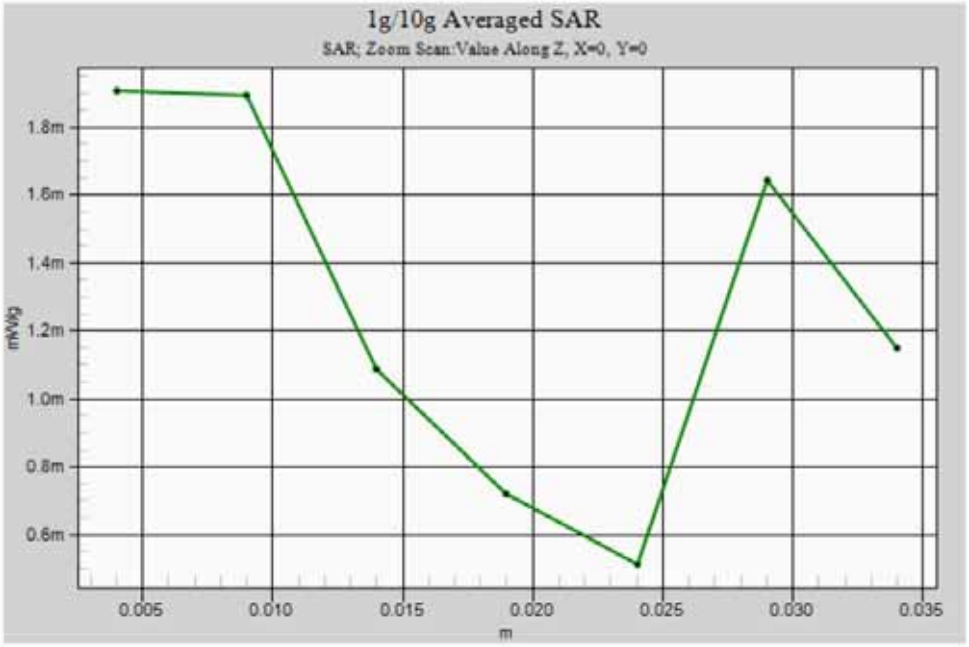
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00976 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.231 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.00716 W/kg
SAR(1 g) = 0.000738 mW/g; SAR(10 g) = 0.00015 mW/g
Maximum value of SAR (measured) = 0.00191 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.231 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.0027 W/kg
SAR(1 g) = 0.000145 mW/g; SAR(10 g) = 2.32e-005 mW/g
Maximum value of SAR (measured) = 0.0018 mW/g



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Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2008/4/7

Right Cheek_Bluetooth Ch00_3DH3_Battery A_PDA2_2D

DUT: 830315

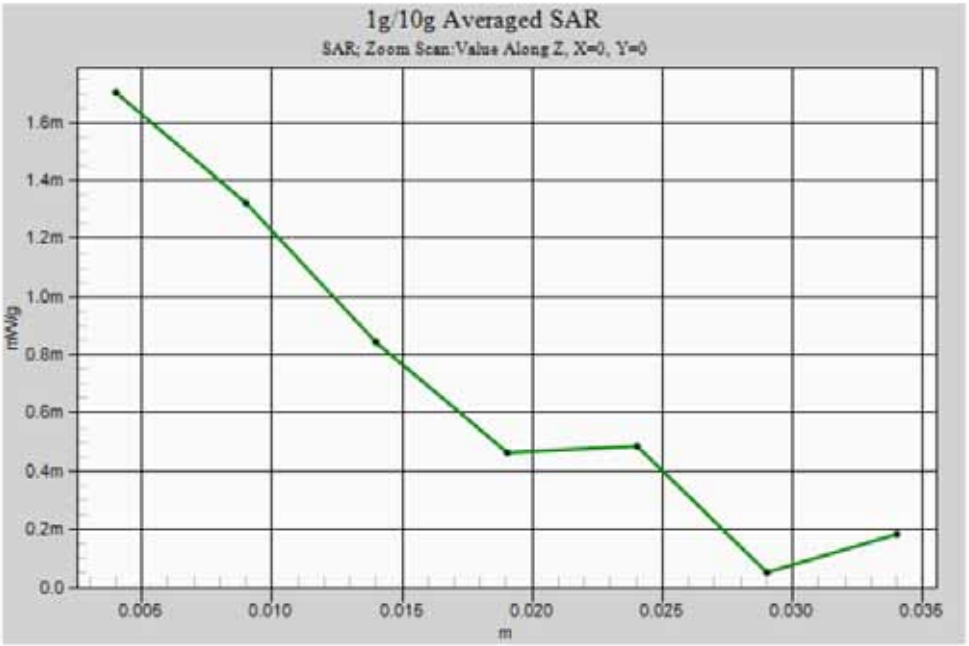
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2402 MHz; σ = 1.8 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1788; ConvF(4.58, 4.58, 4.58); Calibrated: 2007/9/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2007/11/16
- Phantom: SAM-A; Type: QD 000 P40 C; Serial: TP-1303
- Measurement SW: DASY5, V5.0 Build 91; SEMCAD X Version 12.4 Build 52

Ch0/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.00474 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.180 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 0.00421 W/kg
SAR(1 g) = 0.000207 mW/g; SAR(10 g) = 2.35e-005 mW/g
Maximum value of SAR (measured) = 0.00171 mW/g

Ch0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.180 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 0.00105 W/kg
SAR(1 g) = 1.31e-005 mW/g; SAR(10 g) = 1.88e-006 mW/g
Maximum value of SAR (measured) = 0.00105 mW/g



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