RF EXPOSURE EVALUATION

SPECIFIC ABSORPTION RATE

SAR TEST REPORT

FOR

ITRONIX CORPORATION

IX325 SERIES RUGGED TABLET PC
WITH
DUAL-BAND PCS/CELLULAR GSM GPRS/EDGE PCMCIA MODEM
AND
CO-LOCATED BLUETOOTH

MODEL: IX325A775IWLBT

FCC ID: KBCIX325A775IWLBT

IC: 1943A-IX325e

Test Report Serial Number

060605KBC-T646-S24G
Revision 0

Test Report Issue Date

December 08, 2005

Celltech Compliance Testing & Engineering Lab
(Celltech Labs Inc.)
1955 Moss Court
Kelowna, BC
Canada
V1Y 9L3

Test Report Prepared by:	Test Report Approved By:
Cheri Frangiadakis	
Cheri Frangiadakis Test Report Writer Celltech Labs Inc.	Jonathan Hughes General Manager Celltech Labs Inc.

DECLARATION OF COMPLIANCE
SAR RF EXPOSURE EVALUATION

Test Lab

CELLTECH LABS INC.
Testing and Engineering Services
1955 Moss Court
Kelowna, B.C.
Canada V1Y 9L3
Phone: 250-448-7047
Fax: 250-448-7046
e-mail: info@celltechlabs.com
web site: www.celltechlabs.com

Applicant Information

ITRONIX CORPORATION
801 South Stevens Street
Spokane, WA 99204
United States

FCC IDENTIFIER:	**KBCIX325A775IWLBT**
IC IDENTIFIER:	**1943A-IX325e**
Model(s):	**IX325A775IWLBT**
Rule Part(s):	**FCC 47 CFR §2.1093; IC RSS-102 Issue 1 (Provisional)**
Test Procedure(s):	**FCC OET Bulletin 65, Supplement C (Edition 01-01)**
FCC Device Classification:	**PCS Licensed Transmitter (PCB)**
IC Device Classification:	**2 GHz Personal Communication Services (RSS-133 Issue 3)** **800 MHz Cellular Telephones Employing New Technologies (RSS-132 Issue 1)**
Device Description:	**Rugged Tablet PC**
Internal Dominant Transmitter:	**Sierra Wireless AirCard 775 Dual-Band PCS/Cellular GSM GPRS/EDGE PCMCIA Modem**
Co-located Transmitter(s):	**MSI MS-6837 Bluetooth (simultaneous transmission)**
Modulation Type(s):	**GMSK (GPRS), 8-PSK (EDGE)**
Tx Frequency Range(s):	**1850.2 - 1909.8 MHz (PCS Band)** **824.2 - 848.8 MHz (Cellular Band)** **2402 - 2480 MHz (Bluetooth)**
Max. RF Output Power Tested:	**29.0 dBm (0.794 Watts) Peak Conducted (PCS GPRS)** **32.0 dBm (1.58 Watts) Peak Conducted (Cellular GPRS)** **4.14 dBm / 0.0026 Watts - Peak Conducted (Bluetooth)**
Max. No. of Time Slots Tested:	**4 (Class 12)**
Max. Duty Cycle Tested:	**50 % (Source-Based Time-Averaged)**
Max. SBTA RF Output Power Tested:	**26.0 dBm (0.398 Watts) Peak Conducted (PCS GPRS)** **29.0 dBm (0.794 Watts) Peak Conducted (Cellular GPRS)**
Power Source(s) Tested:	**Internal Lithium-ion Battery - 11.1 V, 3600 mAh (Model: T8M-E)** **External Second Lithium-ion Battery - 11.1 V, 3600 mAh (Model: T8S-E)** **75 W AC Power Adapter (Delta Electronics Model: ADP-75FB B)**
Antenna Type(s) Tested:	**External Monopole (AirCard 775 Modem)** **Internal PIFA (Bluetooth)**
Max. SAR Level(s) Evaluated:	**Body: 0.646 W/kg (1g average) - PCS Band - Bottom Side of Tablet PC** **Body: 1.07 W/kg (1g average) - Cellular Band - Bottom Side of Tablet PC**

Celltech Labs Inc. declares under its sole responsibility that this wireless device was compliant with the Specific Absorption Rate (SAR) RF exposure requirements specified in FCC 47 CFR §2.1093 and Health Canada's Safety Code 6. The device was tested in accordance with the measurement standards and procedures specified in FCC OET Bulletin 65, Supplement C (Edition 01-01) and Industry Canada RSS-102 Issue 1 (Provisional) for the General Population / Uncontrolled Exposure environment. All measurements were performed in accordance with the SAR system manufacturer recommendations.

I attest to the accuracy of data. All measurements were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

This test report shall not be reproduced partially, or in full, without the prior written approval of Celltech Labs Inc. The results and statements contained in this report pertain only to the device(s) evaluated.

Tested By:

Sean Johnston
Compliance Technologist
Celltech Labs Inc.

Reviewed By:

Spencer Watson
Senior Compliance Technologist
Celltech Labs Inc.

TABLE OF CONTENTS

1.0 INTRODUCTION ____ 4
2.0 DESCRIPTION of DEVICE UNDER TEST (DUT) ____ 4
3.0 SAR MEASUREMENT SYSTEM ____ 5
4.0 MEASUREMENT SUMMARY ____ 6
5.0 DETAILS OF SAR EVALUATION ____ 8
6.0 EVALUATION PROCEDURES ____ 9
7.0 SYSTEM PERFORMANCE CHECK ____ 10
8.0 SIMULATED EQUIVALENT TISSUES ____ 11
9.0 SAR SAFETY LIMITS ____ 11
10.0 ROBOT SYSTEM SPECIFICATIONS ____ 12
11.0 PROBE SPECIFICATION (ET3DV6) ____ 13
12.0 SAM PHANTOM V4.0C ____ 13
13.0 PLANAR PHANTOM ____ 13
14.0 DEVICE HOLDER ____ 13
15.0 TEST EQUIPMENT LIST ____ 14
16.0 MEASUREMENT UNCERTAINTIES ____ 15
17.0 REFERENCES ____ 17
APPENDIX A - SAR MEASUREMENT DATA ____ 18
APPENDIX B - SYSTEM PERFORMANCE CHECK DATA ____ 37
APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS ____ 46
APPENDIX D - SAR TEST SETUP PHOTOGRAPHS ____ 51
APPENDIX E - SYSTEM VALIDATION ____ 58
APPENDIX F - PROBE CALIBRATION ____ 59
APPENDIX G - SAM PHANTOM CERTIFICATE OF CONFORMITY ____ 60
APPENDIX H - PLANAR PHANTOM CERTIFICATE OF CONFORMITY ____ 61

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

1.0 INTRODUCTION

This measurement report demonstrates that ITRONIX CORPORATION Model: IX325A775IWLBT Rugged Tablet PC FCC ID: KBCIX325A775IWLBT incorporating the Sierra Wireless AirCard 775 Dual-Band PCS/Cellular GSM GPRS/EDGE PCMCIA Modem co-located with MSI MS-6837 Bluetooth, complies with the SAR (Specific Absorption Rate) RF exposure requirements specified in FCC 47 CFR §2.1093 (see reference [1]), and Health Canada's Safety Code 6 (see reference [2]) for the General Population / Uncontrolled Exposure environment. The test procedures described in FCC OET Bulletin 65, Supplement C, Edition 01-01 (see reference [3]), and IC RSS-102 Issue 1 (Provisional) (see reference [4]), were employed. A description of the product and operating configuration, detailed summary of the test results, methodology and procedures used in the evaluation, equipment used, and the various provisions of the rules are included within this test report.

2.0 DESCRIPTION of DEVICE UNDER TEST (DUT)

FCC Rule Part(s)	47 CFR §2.1093		**IC Rule Part(s)**	RSS-102 Issue 1 (Provisional)	
Test Procedure(s)	FCC OET Bulletin 65, Supplement C (01-01)				
FCC Device Classification	PCS Licensed Transmitter (PCB)			24E, 22H	
IC Device Classification	2 GHz Personal Communication Services			RSS 133 Issue 3	
	800MHz Cellular Telephones Employing New Technologies			RSS-132 Issue 1	
Device Description	Rugged Tablet PC				
LCD Display User Orientation(s)	0 Degrees Landscape		-90 Degrees Portrait		
Dominant Transmitter(s)	Sierra Wireless AirCard 775 Dual-Band PCS/Cellular GSM GPRS/EDGE PCMCIA Modem				
Co-located Transmitter(s)	MSI MS-6837 Bluetooth				
Co-located Transmit Operation	GSM GPRS/EDGE and Bluetooth co-located transmitters can transmit simultaneously				
FCC IDENTIFIER	KBCIX325A775IWLBT		**IC IDENTIFIER**	1943A-IX325e	
DUT Model(s)	IX325A775IWLBT				
Test Sample Serial No.(s)	ZZGEG5074ZZ9799	IX325 Tablet PC		Identical Prototype	
	X04122800475010	AirCard 775		Production Unit	
	BH5070000122	MSI Bluetooth		Production Unit	
Mode(s) of Operation	Dual-Band GSM	GPRS	EDGE	PCS / Cellular	
	Bluetooth	Frequency Hopping Spread Spectrum		2.4 GHz Band	
Tx Frequency Range(s)	1850.2 MHz	-	1909.8 MHz	PCS Band	
	824.2 MHz	-	848.8 MHz	Cellular Band	
	2402 MHz	-	2480 MHz	Bluetooth	
Max. Peak Conducted RF Output Power Level(s) Measured	29.1 dBm	1850.2 MHz	PCS GPRS	Source-Based Time-Averaged Cond. Power:	26.1 dBm
	29.0 dBm	1880.0 MHz	PCS GPRS	Source-Based Time-Averaged Cond. Power:	26.0 dBm
	29.2 dBm	1909.8 MHz	PCS GPRS	Source-Based Time-Averaged Cond. Power:	26.2 dBm
	31.8 dBm	824.2 MHz	Cellular GPRS	Source-Based Time-Averaged Cond. Power:	28.8 dBm
	31.9 dBm	836.6 MHz	Cellular GPRS	Source-Based Time-Averaged Cond. Power:	28.9 dBm
	32.0 dBm	848.8 MHz	Cellular GPRS	Source-Based Time-Averaged Cond. Power:	29.0 dBm
	4.14 dBm	2441 MHz	Bluetooth	Test Mode: Modulated Fixed Frequency	2441 MHz
Max. Duty Cycle Tested	50 %		Source-Based Time-Averaged		
Antenna Type(s) Tested	External	Monopole	Attached to AirCard 775	GPRS/EDGE	
	Internal	PIFA	Left Side of DUT	Bluetooth	
Antenna Positions Tested (AirCard 775 External Monopole)	Position 1	Closed 180°	Pivot Closed	Antenna 180° to card	
	Position 2	Open 180°	Pivot Open	Antenna 180° to card	
	Position 3	Open 90°	Pivot Open	Antenna 90° to card	
Power Source(s) Tested	Internal Lithium-ion Battery		11.1 V, 3600 mAh	Model: T8M-E	
	External Second Lithium-ion Battery		11.1 V, 3600 mAh	Model: T8S-E	
	Delta Electronics AC Power Adapter		75 Watts	Model: ADP-75FB B	

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

3.0 SAR MEASUREMENT SYSTEM

Celltech Labs Inc. SAR measurement facility utilizes the Dosimetric Assessment System (DASY™) manufactured by Schmid & Partner Engineering AG (SPEAG™) of Zurich, Switzerland. The DASY4 measurement system is comprised of the measurement server, robot controller, computer, near-field probe, probe alignment sensor, specific anthropomorphic mannequin (SAM) phantom, and various planar phantoms for brain and/or body SAR evaluations. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF). A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The Staubli robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the DASY4 measurement server. The DAE4 utilizes 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 DASY4 measurement server is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe-mounting device includes two different sensor systems for frontal and sidewise probe contacts. The sensor systems are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

DASY4 SAR Measurement System with planar phantom

DASY4 SAR Measurement System with SAM phantom

4.0 MEASUREMENT SUMMARY

BODY SAR EVALUATION RESULTS							Test Mode		PCS GPRS			
							Test Position		Bottom Side of Tablet PC			
Test Date	Test Mode		Freq. (MHz)	Chan.	Antenna Position	Power Source	DUT Position to Planar Phantom	Separation Distance to Planar Phantom (cm)	Cond. Power Before Test (dBm)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)	Scaled SAR 1g (W/kg) up to 29.2 dBm Cond. Pwr.
Apr 14	PCS GPRS	4 Slots	1880.0	661	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	29.0	-0.0123	0.617	**0.646**
Apr 14	PCS GPRS	4 Slots	1880.0	661	Open 180°	Internal Li-ion Battery	Bottom Side	0.0	29.0	0.00684	0.124	0.130
Apr 14	PCS GPRS	4 Slots	1880.0	661	Open 90°	Internal Li-ion Battery	Bottom Side	0.0	29.0	-0.00244	0.0438	0.0459
Apr 14	PCS GPRS	4 Slots	1880.0	661	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	29.0	0.00860	0.597	0.625
	Bluetooth - Modulated Fixed Frequency		2441	Mid	Internal				4.14			
Apr 14	PCS GPRS	4 Slots	1880.0	661	Closed 180°	AC Power	Bottom Side	0.0	29.0	0.0386	0.610	0.639
May 3	PCS GPRS	4 Slots	1880.0	661	Closed 180°	External Second Li-ion Battery	Bottom Side	0.0	29.0	0.0300	0.314	0.329
ANSI / IEEE C95.1 1999 - SAFETY LIMIT					BODY: 1.6 W/kg (averaged over 1 gram)			Spatial Peak Uncontrolled Exposure / General Population				

Test Date(s)	April 14, 2005				May 3, 2005	Test Date(s)	April 14	May 3	Unit
Dielectric Constant ε_r	1880 MHz Body					Relative Humidity	30	30	%
	IEEE Target		Date	Meas.	Dev.	Atmospheric Pressure	102.3	101.7	kPa
	53.3	± 5%	Apr. 14	50.7	-4.9%	Ambient Temperature	23.1	24.1	°C
			May 3	50.8	-4.7%				
Conductivity σ (mho/m)	1880 MHz Body					Fluid Temperature	23.1	22.6	°C
	IEEE Target		Date	Meas.	Dev.	Fluid Depth	≥ 15	≥ 15	cm
	1.52	± 5%	Apr. 14	1.56	+2.6%	ρ (Kg/m^3)	1000		
			May 3	1.51	-0.7%				

Note(s):

1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
2. If the scaled SAR levels evaluated at the mid channel were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
3. The measured SAR levels were scaled up by + 0.2 dB to the maximum conducted power level measured in PCS band (29.2 dBm - 1909.8 MHz - Channel 810).
4. The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
5. The DUT was evaluated for SAR with the internal lithium-ion battery. The maximum-scaled SAR level configuration evaluated with the internal lithium-ion battery was repeated with the external second lithium-ion battery and AC power supply to show worst-case power source as shown in the above test data table.
6. The DUT battery was fully charged prior to each SAR evaluation.
7. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported in the table above were consistent for all measurement periods.
8. The dielectric parameters (permittivity and conductivity) of the simulated tissue mixture were measured prior to the SAR evaluations (see Appendix C).
9. The SAR evaluations were performed within 24 hours of the system performance check.

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

MEASUREMENT SUMMARY (Cont.)

BODY SAR EVALUATION RESULTS							Test Mode		Cellular GPRS			
							Test Position		Bottom Side of Tablet PC			
Test Date	Test Mode		Freq. (MHz)	Chan.	Antenna Position	Power Source	DUT Position to Planar Phantom	Separation Distance to Planar Phantom (cm)	Cond. Power Before Test (dBm)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)	Scaled SAR 1g (W/kg) up to 32.0 dBm Cond. Pwr.
Apr 13	Cellular GPRS	4 Slots	836.6	190	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	31.9	0.0405	0.880	0.900
Apr 13	Cellular GPRS	4 Slots	824.2	128	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	31.8	-0.00616	0.995	1.04
Apr 13	Cellular GPRS	4 Slots	848.8	251	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	32.0	0.0145	0.748	0.748
Apr 13	Cellular GPRS	4 Slots	836.6	190	Open 180°	Internal Li-ion Battery	Bottom Side	0.0	31.9	0.000145	0.444	0.454
Apr 13	Cellular GPRS	4 Slots	836.6	190	Open 90°	Internal Li-ion Battery	Bottom Side	0.0	31.9	0.0120	0.160	0.164
Apr 13	Cellular GPRS	4 Slots	824.2	128	Closed 180°	Internal Li-ion Battery	Bottom Side	0.0	31.8	0.0193	1.02	**1.07**
	Bluetooth - Modulated Fixed Frequency		2441	Mid	Internal				4.14			
Apr 13	Cellular GPRS	4 Slots	824.2	128	Closed 180°	AC Power	Bottom Side	0.0	31.8	-0.00566	1.01	1.06
	Bluetooth - Modulated Fixed Frequency		2441	Mid	Internal				4.14			
May 9	Cellular GPRS	4 Slots	824.2	128	Closed 180°	External Second Li-ion Battery	Bottom Side	0.0	31.8	-0.0438	0.490	0.513
	Bluetooth - Modulated Fixed Frequency		2441	Mid	Internal				4.14			

ANSI / IEEE C95.1 1999 - SAFETY LIMIT			BODY: 1.6 W/kg (averaged over 1 gram)			Spatial Peak Uncontrolled Exposure / General Population		
Test Date(s)	April 13, 2005		May 9, 2005		Test Date(s)	April 13	May 9	Unit
Dielectric Constant ε_r	835 MHz Body				Relative Humidity	30	33	%
	IEEE Target	Date	Meas.	Dev.	Atmospheric Pressure	101.8	101.0	kPa
	55.2 ± 5%	Apr. 13	52.5	-4.9%	Ambient Temperature	23.2	23.4	°C
		May 9	52.6	-4.7%				
Conductivity σ (mho/m)	835 MHz Body				Fluid Temperature	21.5	21.5	°C
	IEEE Target	Date	Meas.	Dev.	Fluid Depth	≥ 15	≥ 15	cm
	0.97 ± 5%	Apr. 13	0.97	0.0%	ρ (Kg/m^3)	1000		
		May 9	0.94	-3.1%				

Note(s):
1. The measurement results were obtained with the DUT tested in the conditions described in this report. Detailed measurement data and plots showing the maximum SAR location of the DUT are reported in Appendix A.
2. If the scaled SAR levels evaluated at the mid channel were ≥ 3 dB below the SAR limit, SAR evaluation for the low and high channels was optional (per FCC OET Bulletin 65, Supplement C, Edition 01-01 - see reference [3]).
3. The measured SAR levels were scaled up by + 0.2 dB to the maximum conducted power level measured in cellular band (32.0 dBm - 848.8 MHz - Channel 251).
4. The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
5. The DUT was evaluated for SAR with the internal lithium-ion battery. The maximum-scaled SAR level configuration evaluated with the internal lithium-ion battery was repeated with the external second lithium-ion battery and AC power supply to show worst-case power source as shown in the above test data table.
6. The DUT battery was fully charged prior to each SAR evaluation.
7. The SAR evaluations were performed within 24 hours of the system performance check.

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

5.0 DETAILS OF SAR EVALUATION

The ITRONIX CORPORATION Model: IX325A775IWLBT Rugged Tablet PC FCC ID: KBCIX325A775IWLBT with the Sierra Wireless AirCard 775 Dual-Band PCS/Cellular GSM GPRS/EDGE PCMCIA Modem co-located with MSI MS-6837 Bluetooth was compliant for localized Specific Absorption Rate (Uncontrolled Exposure) based on the test provisions and conditions described below. The detailed test setup photographs are shown in Appendix D.

Body SAR Configuration

1. The DUT was tested for body SAR with the bottom side of the Tablet PC placed parallel to, and touching, the outer surface of the planar phantom. The DUT was evaluated for body SAR with the AirCard 775 antenna in the "Closed 180°" position, "Open 180°" position, and "Open 90°" position (see photos below).
2. The DUT was evaluated for body SAR with the internal lithium-ion battery. The maximum scaled SAR level configuration evaluated on the bottom side of the Tablet PC with the internal lithium-ion battery was repeated for the external second lithium-ion battery and 75 W AC power adapter in the Cellular and PCS bands to show worst-case power source as shown in the test data tables (pages 6-7).
3. Co-located transmitter evaluations were performed with the GPRS and Bluetooth transmitting simultaneously in the worst-case single-transmit GPRS test configuration for both the PCS and Cellular bands.
4. The power drifts measured by the DASY4 system for the duration of the SAR evaluations were <5% from the start power.
5. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the SAR evaluations. The temperatures reported were consistent for all measurement periods.
6. The dielectric parameters (permittivity and conductivity) of the simulated tissue mixtures were measured prior to the SAR evaluations (see Appendix C).
7. The SAR evaluations were performed within 24 hours of the system performance check.

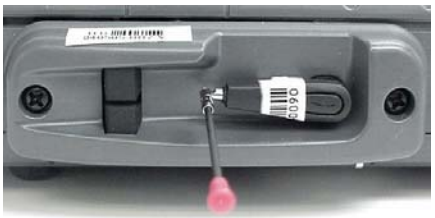
Test Modes & Power Settings

8. The conducted power levels of the DUT were measured at the antenna connector of each transmitter prior to the SAR evaluations using a Gigatronics 8652A Universal Power Meter according to the procedures described in FCC 47 CFR §2.1046.
9. The DUT was controlled in test mode via internal software. SAR measurements were performed with the DUT transmitting continuously at maximum power on 4 time slots in GPRS mode (Crest factor: 2) for both PCS and cellular bands. This is the maximum output condition as the DUT is a Class 12 multi-slot GSM GPRS/EDGE modem.
10. For the co-located simultaneous transmit tests the Bluetooth transmitter was placed in a continuous transmit operation at maximum power on a fixed frequency with the frequency hopping disabled and a modulated signal.
11. The DUT battery was fully charged prior to each SAR evaluation (DUT battery power).

Antenna "Open 90°" Position

Internal Battery

External Second Battery



Antenna "Closed 180°" Position

Antenna "Open 180°" Position

6.0 EVALUATION PROCEDURES

a. (i) The evaluation was performed in the applicable area of the phantom depending on the type of device being tested. For devices held to the ear during normal operation, both the left and right ear positions were evaluated using the SAM phantom.

(ii) For body-worn and face-held devices a planar phantom was used.

b. The SAR was determined by a pre-defined procedure within the DASY4 software. Upon completion of a reference and optical surface check, the exposed region of the phantom was scanned near the inner surface with a grid spacing of 15mm x 15mm.

An area scan was determined as follows:

c. Based on the defined area scan grid, a more detailed grid is created to increase the points by a factor of 10. The interpolation function then evaluates all field values between corresponding measurement points.

d. A linear search is applied to find all the candidate maxima. Subsequently, all maxima are removed that are >2 dB from the global maximum. The remaining maxima are then used to position the cube scans.

A 1g and 10g spatial peak SAR was determined as follows:

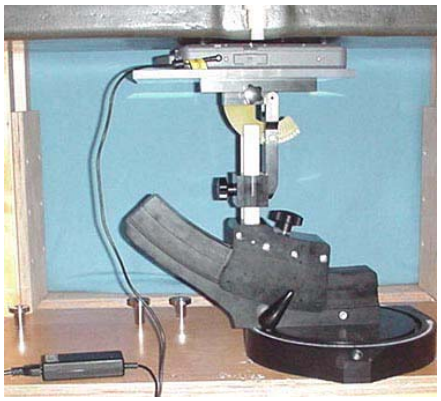
e. Extrapolation is used to find the points between the dipole center of the probe and the surface of the phantom. This data cannot be measured, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.4 mm (see probe calibration document in Appendix F). The extrapolation was based on trivariate quadratics computed from the previously calculated 3D interpolated points nearest the phantom surface.

f. Interpolated data is used to calculate the average SAR over 1g and 10g cubes by spatially discretizing the entire measured cube. The volume used to determine the averaged SAR is a 1mm grid (42875 interpolated points).

g. A zoom scan volume of 32 mm x 32 mm x 30 mm (5 x 5 x 7 points) centered at the peak SAR location determined from the area scan is used for all zoom scans for devices with a transmit frequency < 800 MHz. Zoom scans for frequencies ≥ 800 MHz are determined with a scan volume of 30 mm x 30 mm x 30 mm (7 x 7 x 7) to ensure complete capture of the peak spatial-average SAR.

DUT Test Setup with Internal Battery

DUT Test Setup with External 2nd Battery



DUT Test Setup with AC Power Adapter

7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations a daily system check was performed at the planar section of the SAM phantom with an 835MHz dipole and a 1900MHz dipole (see Appendix E for system validation procedures). The fluid dielectric parameters (permittivity and conductivity) were measured prior to the system performance checks (see Appendix C for measured fluid dielectric parameters). A forward power of 250 mW was applied to the dipole and the system was verified to a tolerance of ±10% (see Appendix B for system performance check test plots).

SYSTEM PERFORMANCE CHECK EVALUATIONS

Test Date	Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant ε_r			Conductivity σ (mho/m)			ρ (Kg/m³)	Amb. Temp. (°C)	Fluid Temp. (°C)	Fluid Depth (cm)	Humid. (%)	Barom. Press. (kPa)
		IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.						
4/13/05	835MHz Brain	2.38 ±10%	2.43	+2.1%	41.5 ±5%	40.2	-3.1%	0.90 ±5%	0.90	0.0%	1000	21.6	21.3	≥ 15	30	102.0
4/14/05	1900MHz Brain	9.93 ±10%	10.8	+8.8%	40.0 ±5%	38.5	-3.8%	1.40 ±5%	1.44	+2.9%	1000	22.7	23.1	≥ 15	30	102.4
5/03/05	1900MHz Brain	9.93 ±10%	10.2	+2.7%	40.0 ±5%	38.1	-4.8%	1.40 ±5%	1.43	+2.1%	1000	23.2	22.9	≥ 15	30	101.9
5/09/05	835MHz Brain	2.38 ±10%	2.40	+0.8%	41.5 ±5%	40.3	-2.9%	0.90 ±5%	0.88	-2.2%	1000	22.7	21.4	≥ 15	33	101.1

Note(s):
1. The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter check and the system performance check. The temperatures listed in the table above were consistent for all measurement periods.

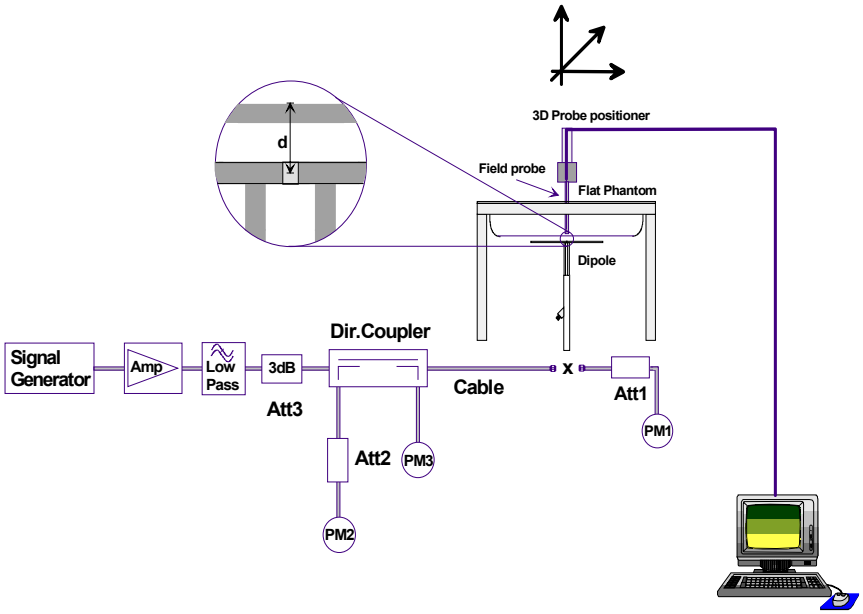


Figure 1. System Performance Check Setup Diagram

1900MHz Dipole Setup

835MHz Dipole Setup

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

8.0 SIMULATED EQUIVALENT TISSUES

The 1880MHz and 1900MHz simulated equivalent tissue mixtures consist of Glycol-monobutyl, water, and salt. The 835MHz simulated equivalent tissue mixtures consist of a viscous gel using hydroxethylcellulose (HEC) gelling agent and saline solution. Preservation with a bactericide was added and visual inspection was made to ensure air bubbles were not trapped during the mixing process. The fluids were prepared according to standardized procedures and measured for dielectric parameters (permittivity and conductivity).

1880MHz & 1900MHz TISSUE MIXTURES		
INGREDIENT	1900 MHz Brain	1880 MHz Body
	System Performance Check	DUT Evaluation
Water	55.85 %	69.85 %
Glycol Monobutyl	44.00 %	29.89 %
Salt	0.15 %	0.26 %

835MHz TISSUE MIXTURES		
INGREDIENT	835 MHz Brain	835 MHz Body
	System Performance Check	DUT Evaluation
Water	40.71 %	53.79 %
Sugar	56.63 %	45.13 %
Salt	1.48 %	0.98 %
HEC	0.99 %	--
Bactericide	0.19 %	0.10 %

9.0 SAR SAFETY LIMITS

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.60	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4.0	20.0

Notes:
1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

10.0 ROBOT SYSTEM SPECIFICATIONS

Specifications

POSITIONER: Stäubli Unimation Corp. Robot Model: RX60L
Repeatability: 0.02 mm
No. of axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: AMD Athlon XP 2400+
Clock Speed: 2.0 GHz
Operating System: Windows XP Professional

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic
Software: DASY4 software
Connecting Lines: Optical downlink for data and status info.
Optical uplink for commands and clock

DASY4 Measurement Server

Function: Real-time data evaluation for field measurements and surface detection
Hardware: PC/104 166MHz Pentium CPU; 32 MB chipdisk; 64 MB RAM
Connections: COM1, COM2, DAE, Robot, Ethernet, Service Interface

E-Field Probe

Model: ET3DV6
Serial No.(s): 1590, 1387
Construction: Triangular core fiber optic detection system
Frequency: 10 MHz to 6 GHz
Linearity: ±0.2 dB (30 MHz to 3 GHz)

Phantom(s)

Evaluation/Validation Phantom

Type: Planar Phantom
Shell Material: Fiberglass
Thickness: 2.0 ±0.1 mm
Volume: Approx. 72 liters

Validation Phantom

Type: SAM V4.0C
Shell Material: Fiberglass
Thickness: 2.0 ±0.1 mm
Volume: Approx. 25 liters

11.0 PROBE SPECIFICATION (ET3DV6)

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g. glycol)
Calibration:	In air from 10 MHz to 2.5 GHz In brain simulating tissue at frequencies of 900 MHz and 1.8 GHz (accuracy ± 8%)
Frequency:	10 MHz to >6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity:	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal to probe axis)
Dynamic Range:	5 μW/g to >100 mW/g; Linearity: ±0.2 dB
Surface Detection:	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions:	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application:	General dosimetry up to 3 GHz Compliance tests of portable devices

ET3DV6 E-Field Probe

12.0 SAM PHANTOM V4.0C

The SAM phantom V4.0C is a fiberglass shell phantom with a 2.0 mm (+/-0.2 mm) shell thickness for left and right head and flat planar area integrated in a wooden table. The shape of the fiberglass shell corresponds to the phantom defined by SCC34-SC2. The device holder positions are adjusted to the standard measurement positions in the three sections (see Appendix F for specifications of the SAM phantom V4.0C).

SAM Phantom

13.0 PLANAR PHANTOM

The planar phantom is a fiberglass shell phantom with a 2.0 mm (+/-0.2mm) thick device measurement area at the center of the phantom for SAR evaluations of devices with a larger surface area than the planar section of the SAM phantom. The planar phantom is integrated in a wooden table (see Appendix G for dimensions and specifications of the planar phantom).

Planar Phantom

14.0 DEVICE HOLDER

The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. 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. For evaluations of larger devices such as Laptop and Tablet PCs, a Plexiglas platform is attached to the device holder.

Device Holder

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

15.0 TEST EQUIPMENT LIST

TEST EQUIPMENT		ASSET NO.	SERIAL NO.	DATE CALIBRATED		CALIBRATION DUE DATE
USED	DESCRIPTION					
x	Schmid & Partner DASY4 System	-	-	-		-
x	-DASY4 Measurement Server	00158	1078	N/A		N/A
x	-Robot	00046	599396-01	N/A		N/A
x	-DAE3	00019	353	06Jul04		06Jul05
	-DAE3	00018	370	25Jan05		25Jan06
x	-ET3DV6 E-Field Probe	00016	1387	18Mar05		18Mar06
x	-ET3DV6 E-Field Probe	00017	1590	24May04		24May05
	-EX3DV4 E-Field Probe	00125	3547	21Jan05		21Jan06
	-300MHz Validation Dipole	00023	135	26Oct04		26Oct05
	-450MHz Validation Dipole	00024	136	04Nov04		04Nov05
x	-835MHz Validation Dipole	00022	411	**Brain**	30Mar05	30Mar06
				Body	12Apr05	12Apr06
	-900MHz Validation Dipole	00020	054	**Brain**	10Jun04	10Jun05
	-1800MHz Validation Dipole	00021	247	**Brain**	08Jun04	08Jun05
x	-1900MHz Validation Dipole	00032	151	**Brain**	18Jun04	18Jun05
				Body	22Apr05	22Apr06
	-2450MHz Validation Dipole	00025	150	**Brain**	30Sep04	30Sep05
				Body	22Apr05	22Apr06
	-5000MHz Validation Dipole	00126	1031	**Brain**	11Jan05	11Jan06
				Body	11Jan05	11Jan06
x	-SAM Phantom V4.0C	00154	1033	N/A		N/A
x	-Barski Planar Phantom	00155	03-01	N/A		N/A
	-Plexiglas Planar Phantom	00156	161	N/A		N/A
	-Validation Planar Phantom	00157	137	N/A		N/A
x	HP 85070C Dielectric Probe Kit	00033	N/A	N/A		N/A
x	ALS-PR-DIEL Dielectric Probe Kit	00160	260-00953	N/A		N/A
x	Gigatronics 8652A Power Meter	00110	1835801	16Apr05		16Apr06
x	Gigatronics 8652A Power Meter	00008	1835267	30Apr04		30Apr05
				29Apr05		29Apr06
	Gigatronics 8652A Power Meter	00007	1835272	18Oct04		18Oct05
x	Gigatronics 80701A Power Sensor	00013	1833713	11Oct04		11Oct05
x	Gigatronics 80701A Power Sensor	00011	1833542	08Oct04		08Oct05
x	Gigatronics 80701A Power Sensor	00109	1834366	16Apr05		16Apr06
x	HP 8753ET Network Analyzer	00134	US39170292	04May05		04May06
x	HP 8648D Signal Generator	00005	3847A00611	30Apr04		30Apr05
				29Apr05		29Apr06
x	Rohde & Schwarz SMR40 Signal Generator	00006	100104	12Apr05		12Apr06
x	Amplifier Research 5S1G4 Power Amplifier	00106	26235	N/A		N/A
x	Nextec NB00383 Microwave Power Amplifier	00151	0535	N/A		N/A

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

16.0 MEASUREMENT UNCERTAINTIES

UNCERTAINTY BUDGET FOR DEVICE EVALUATION						
Error Description	**Uncertainty Value ±%**	**Probability Distribution**	**Divisor**	**ci 1g**	**Uncertainty Value ±% (1g)**	**V_i or V_{eff}**
Measurement System						
Probe calibration	5.95	Normal	1	1	5.95	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	0.7	1.9	∞
Spherical isotropy of the probe	9.6	Rectangular	1.732050808	0.7	3.9	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	1	Rectangular	1.732050808	1	0.6	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0.8	Rectangular	1.732050808	1	0.5	∞
Integration time	2.6	Rectangular	1.732050808	1	1.5	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
Test Sample Related						
Device positioning	2.9	Normal	1	1	2.9	12
Device holder uncertainty	3.6	Normal	1	1	3.6	8
Power drift	5	Rectangular	1.732050808	1	2.9	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	2.5	Normal	1	0.64	1.6	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	2.5	Normal	1	0.6	1.5	∞
Combined Standard Uncertainty					**10.82**	
Expanded Uncertainty (k=2)					**21.64**	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

MEASUREMENT UNCERTAINTIES (Cont.)

UNCERTAINTY BUDGET FOR SYSTEM VALIDATION						
Error Description	**Uncertainty Value ±%**	**Probability Distribution**	**Divisor**	**ci 1g**	**Uncertainty Value ±% (1g)**	**V_i or V_{eff}**
Measurement System						
Probe calibration	5.95	Normal	1	1	5.95	∞
Axial isotropy of the probe	4.7	Rectangular	1.732050808	1	2.7	∞
Spherical isotropy of the probe	0	Rectangular	1.732050808	1	0.0	∞
Spatial resolution	0	Rectangular	1.732050808	1	0.0	∞
Boundary effects	1	Rectangular	1.732050808	1	0.6	∞
Probe linearity	4.7	Rectangular	1.732050808	1	2.7	∞
Detection limit	1	Rectangular	1.732050808	1	0.6	∞
Readout electronics	0.3	Normal	1	1	0.3	∞
Response time	0	Rectangular	1.732050808	1	0.0	∞
Integration time	0	Rectangular	1.732050808	1	0.0	∞
RF ambient conditions	3	Rectangular	1.732050808	1	1.7	∞
Mech. constraints of robot	0.4	Rectangular	1.732050808	1	0.2	∞
Probe positioning	2.9	Rectangular	1.732050808	1	1.7	∞
Extrapolation & integration	1	Rectangular	1.732050808	1	0.6	∞
Test Sample Related						
Dipole Positioning	2	Normal	1.732050808	1	1.2	∞
Power & Power Drift	4.7	Normal	1.732050808	1	2.7	∞
Phantom and Setup						
Phantom uncertainty	4	Rectangular	1.732050808	1	2.3	∞
Liquid conductivity (target)	5	Rectangular	1.732050808	0.64	1.8	∞
Liquid conductivity (measured)	2.5	Normal	1	0.64	1.6	∞
Liquid permittivity (target)	5	Rectangular	1.732050808	0.6	1.7	∞
Liquid permittivity (measured)	2.5	Normal	1	0.6	1.5	∞
Combined Standard Uncertainty					**9.07**	
Expanded Uncertainty (k=2)					**18.15**	

Measurement Uncertainty Table in accordance with IEEE Standard 1528-2003 (see reference [5])

17.0 REFERENCES

[1] Federal Communications Commission, “Radiofrequency radiation exposure evaluation: portable devices”, Rule Part 47 CFR §2.1093: 1999.

[2] Health Canada, “Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz”, Safety Code 6: 1999.

[3] Federal Communications Commission, “Evaluating Compliance with FCC Guidelines for Human Exposure to Radio frequency Electromagnetic Fields”, OET Bulletin 65, Supplement C (Edition 01-01), FCC, Washington, D.C.: June 2001.

[4] Industry Canada, “Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada’s Safety Code 6 for Exposure of Humans to Radio Frequency Fields”, Radio Standards Specification RSS-102 Issue 1 (Provisional): September 1999.

[5] IEEE Standard 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”: December 2003.

APPENDIX A - SAR MEASUREMENT DATA

Date Tested: 04/14/2005

Body SAR - PCS Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

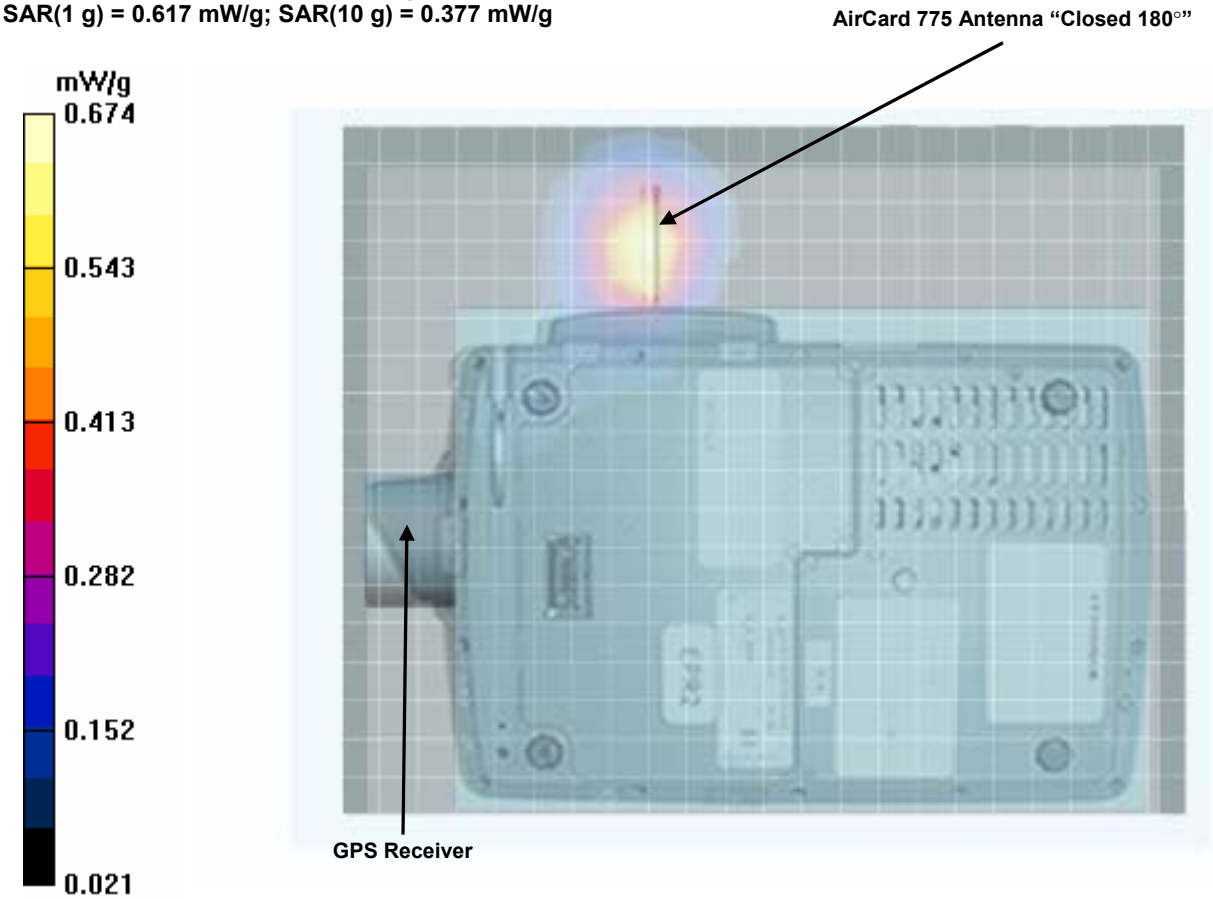
Ambient Temp: 23.1 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.3 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
Medium: M1880 (σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(4.58, 4.58, 4.58); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

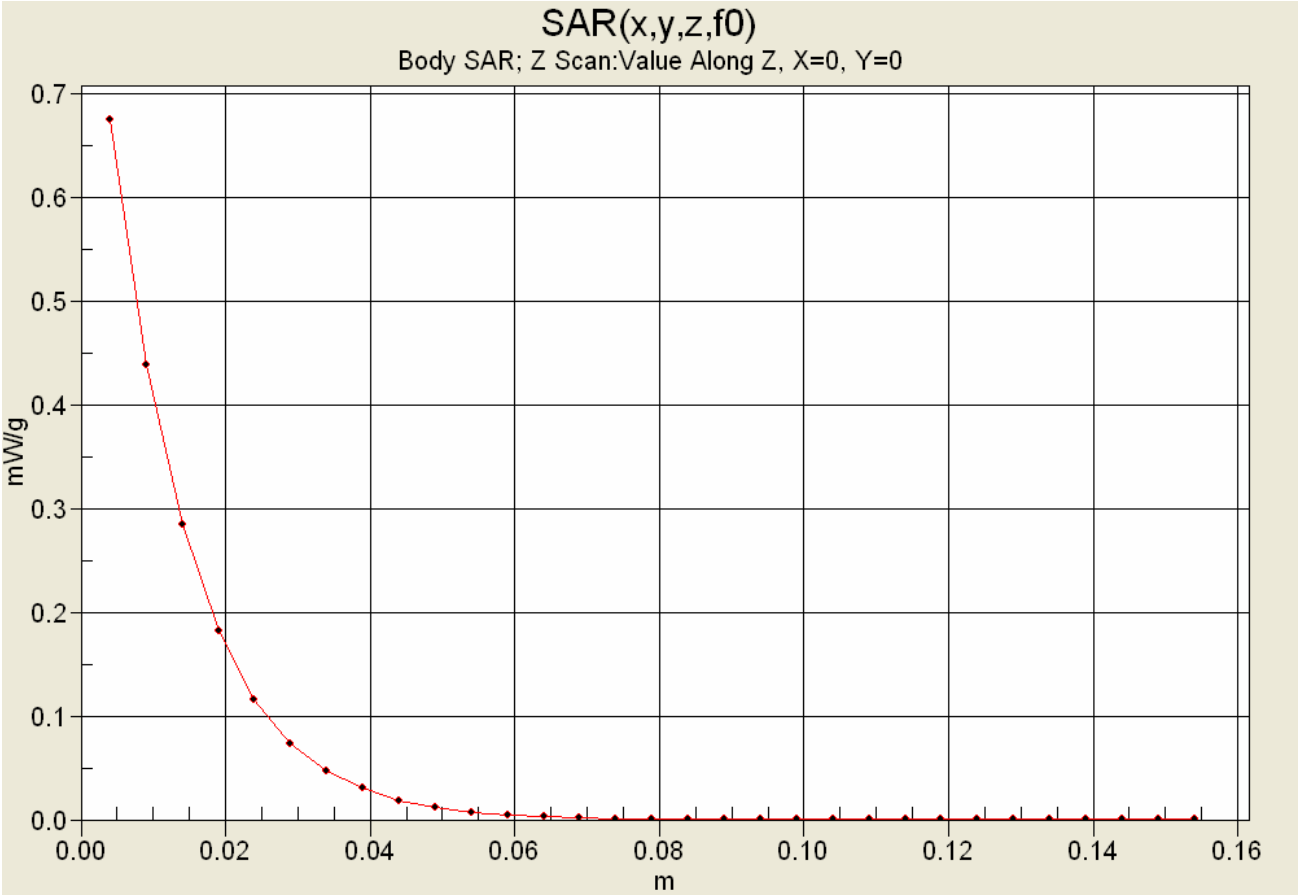
Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel /Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.0 V/m; Power Drift = -0.0123 dB
Peak SAR (extrapolated) = 0.951 W/kg
SAR(1 g) = 0.617 mW/g; SAR(10 g) = 0.377 mW/g



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 04/14/2005

Body SAR - PCS Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Open 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

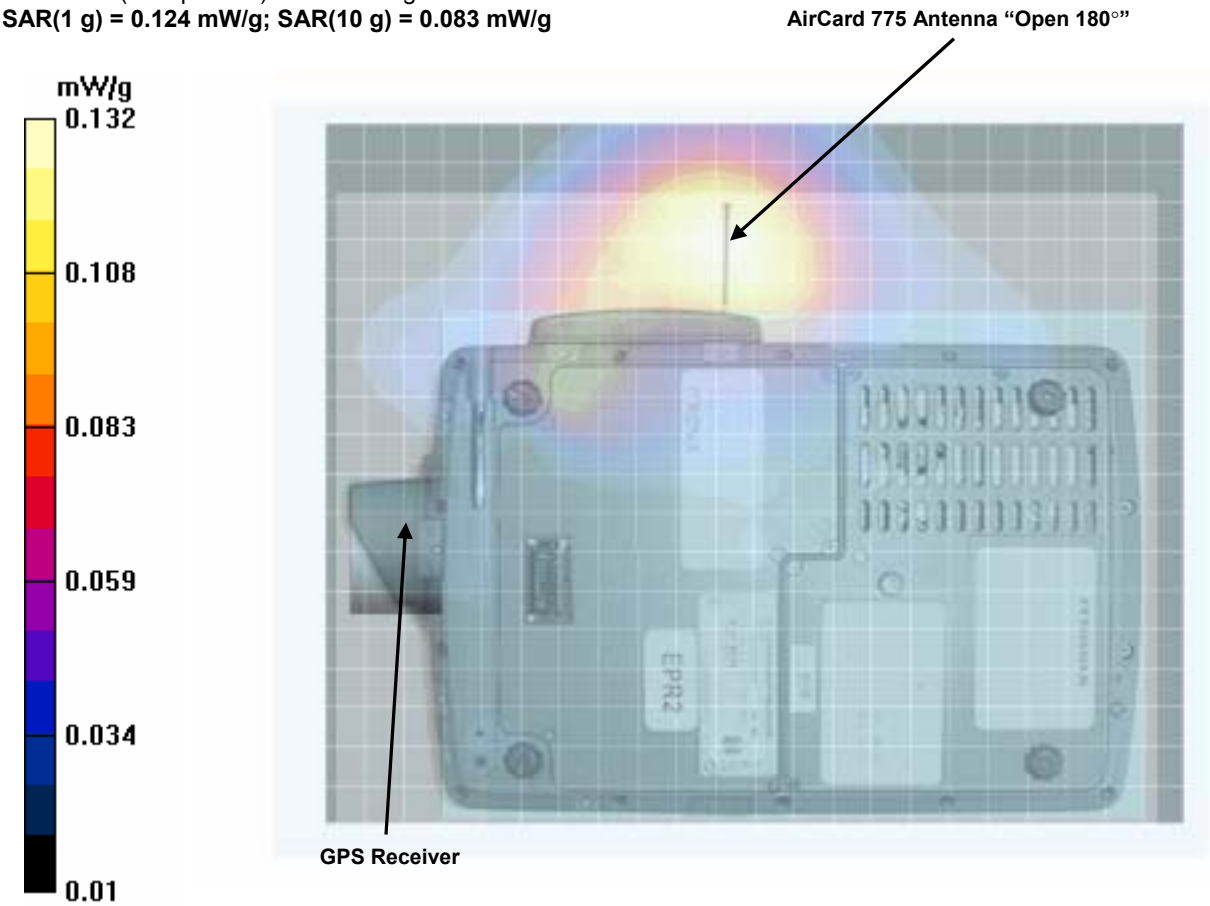
Ambient Temp: 23.1 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.3 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
Medium: M1880 (σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(4.58, 4.58, 4.58); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.87 V/m; Power Drift = 0.00684 dB
Peak SAR (extrapolated) = 0.181 W/kg
SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.083 mW/g



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 04/14/2005

Body SAR - PCS Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Open 90°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

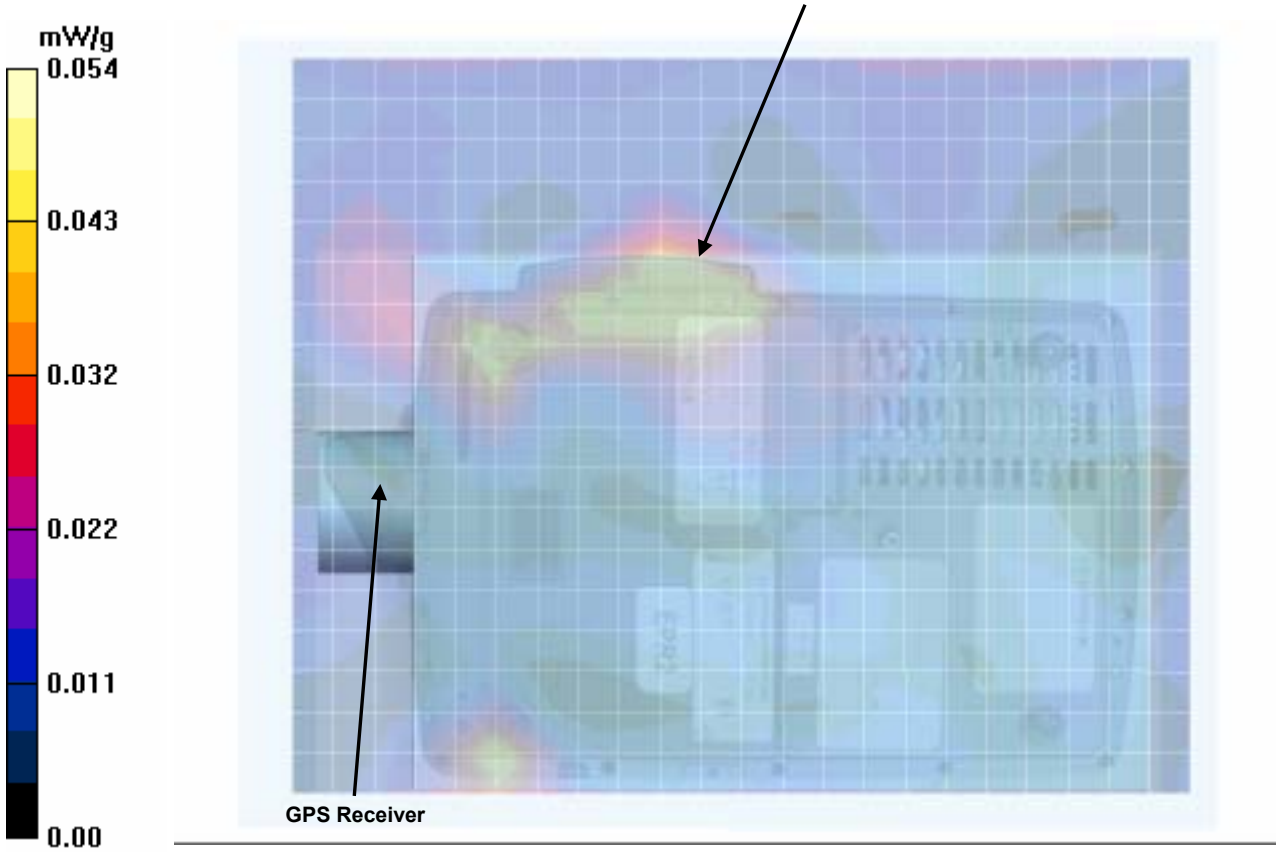
Ambient Temp: 23.1 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.3 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
Medium: M1880 (σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(4.58, 4.58, 4.58); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.82 V/m; Power Drift = -0.00244 dB
Peak SAR (extrapolated) = 0.132 W/kg
SAR(1 g) = 0.0438 mW/g; SAR(10 g) = 0.022 mW/g



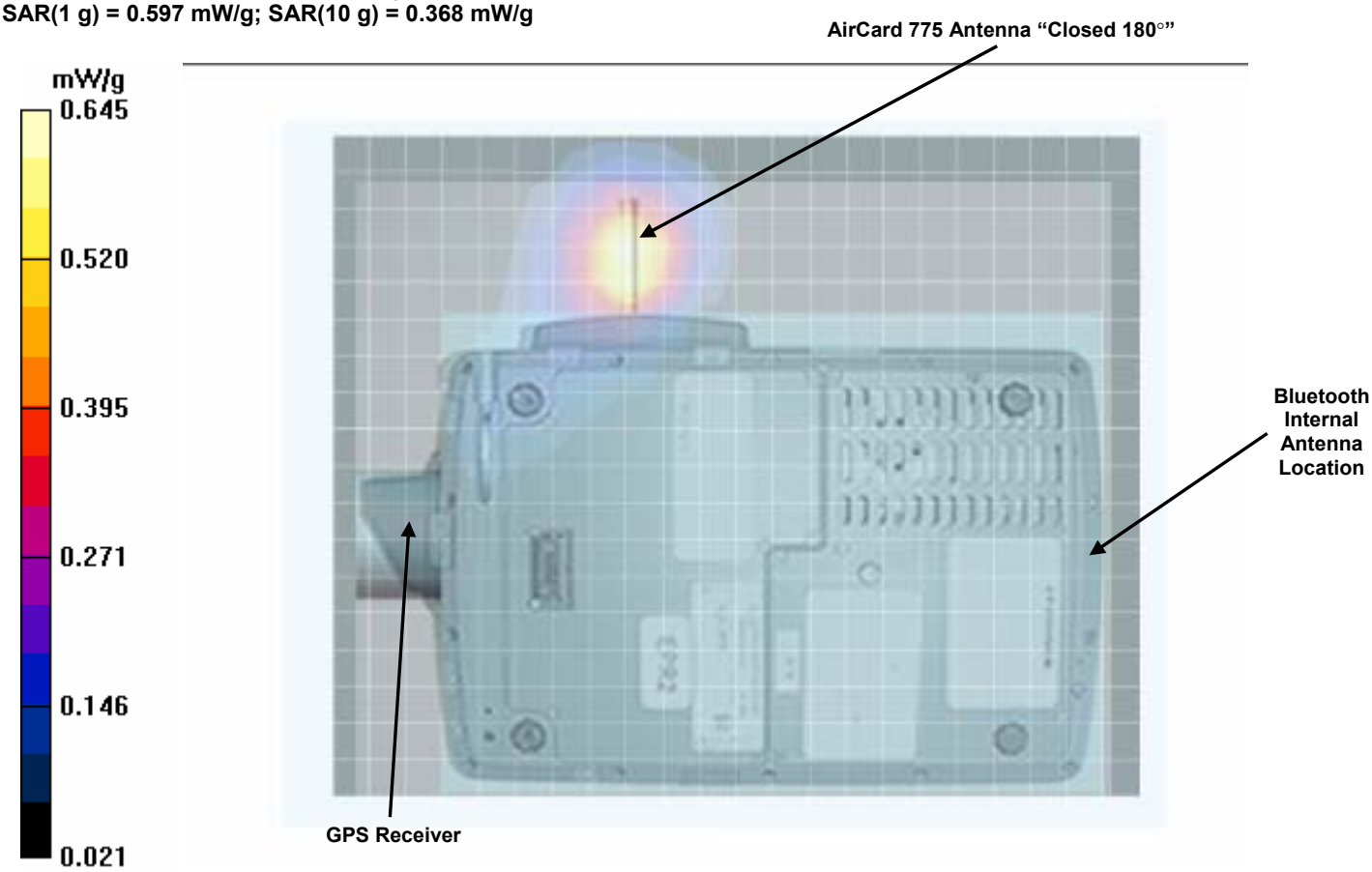
Date Tested: 04/14/2005

Body SAR - PCS Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180° Simultaneous Transmit with Co-located Bluetooth

DUT: Itronix Model: IX325A775IWLBT; Type: Rugged Tablet PC with GSM GPRS/EDGE & Bluetooth; Serial: ZZGEG5074ZZ9799
Ambient Temp: 23.1 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.3kPa; Humidity: 30%

11.1V, 3600mAh Internal Li-ion Battery Pack (Model: T8M-E)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
RF Output Power: 4.14 dBm (Peak Conducted) (Bluetooth)
Communication System: Modulated Fixed Frequency (Bluetooth)
Frequency: 2441 MHz; Duty Cycle: 1:1 (Bluetooth)
Medium: M1880 (σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3)
- Probe: ET3DV6 - SN1590; ConvF(4.58, 4.58, 4.58); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - PCS GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm
Body SAR - PCS GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.5 V/m; Power Drift = 0.00860 dB
Peak SAR (extrapolated) = 0.915 W/kg
SAR(1 g) = 0.597 mW/g; SAR(10 g) = 0.368 mW/g



Date Tested: 04/14/2005

Body SAR - PCS Band - GPRS Mode - AC Power - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

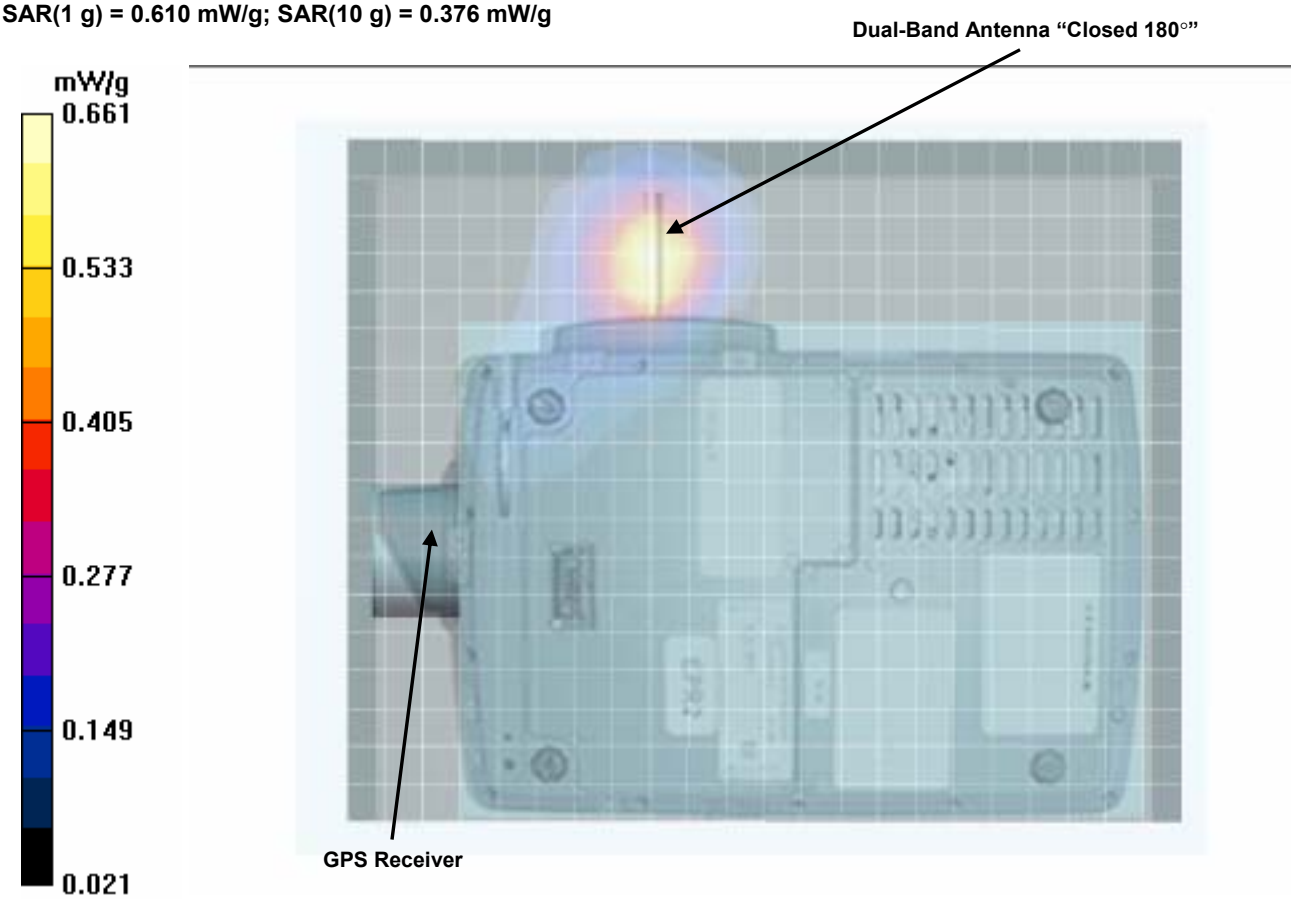
Ambient Temp: 23.1 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.3 kPa; Humidity: 30%

75 W AC Power Adapter (Delta Electronics Model: ADP-75FB B)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
Medium: M1880 (σ = 1.56 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(4.58, 4.58, 4.58); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = 0.0386 dB
Peak SAR (extrapolated) = 0.940 W/kg
SAR(1 g) = 0.610 mW/g; SAR(10 g) = 0.376 mW/g



Date Tested: 05/03/2005

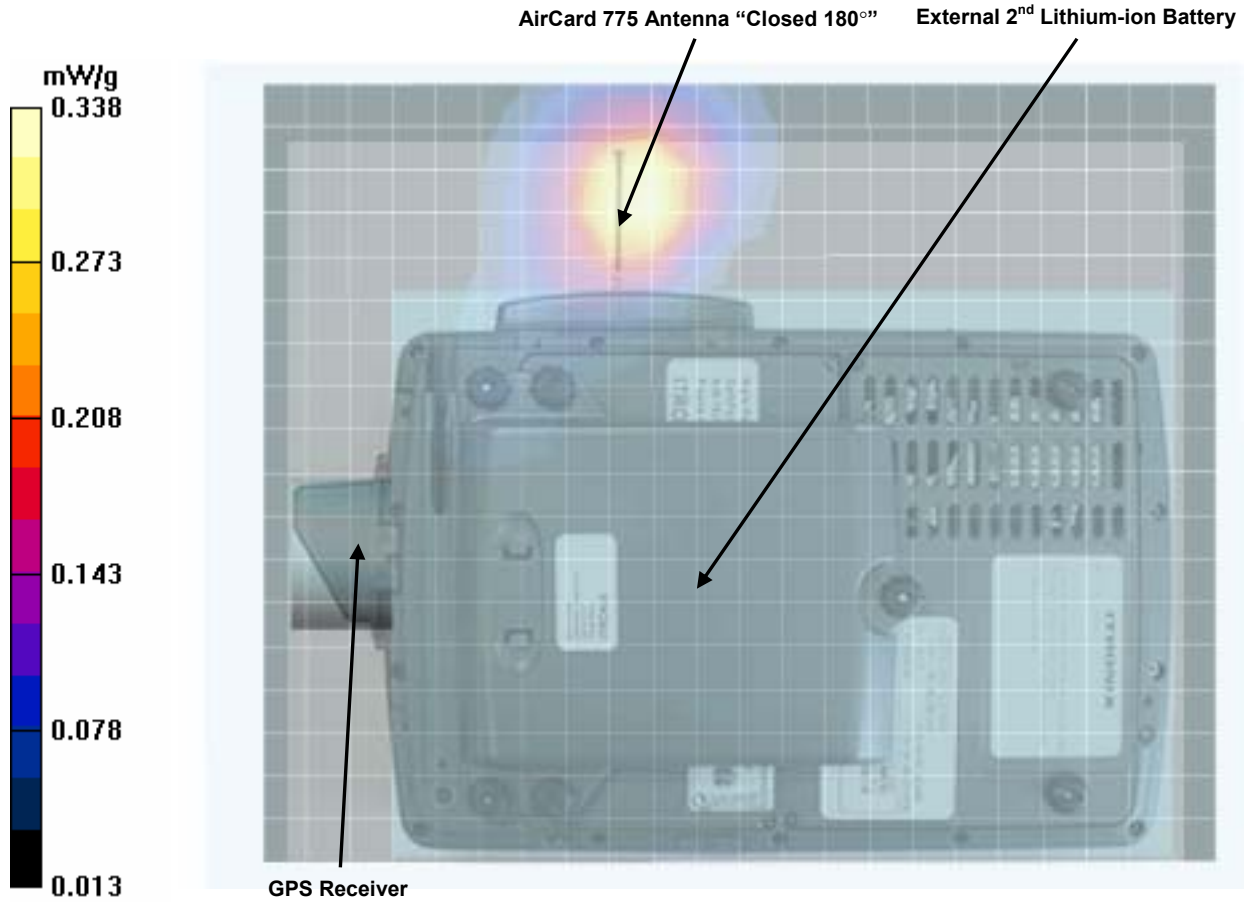
Body SAR - PCS Band - GPRS Mode - External 2nd Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

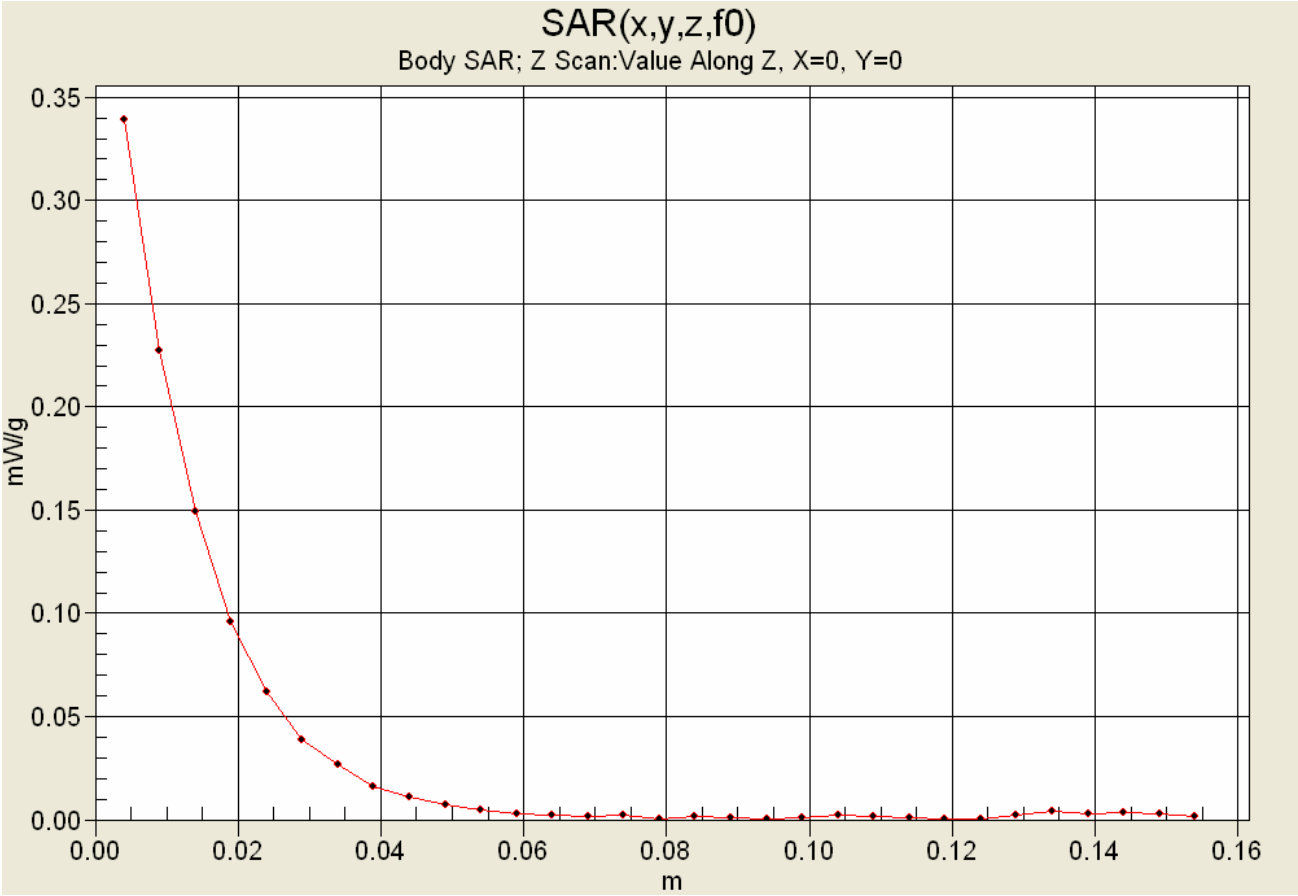
Ambient Temp: 24.1 ºC; Fluid Temp: 22.6 ºC; Barometric Pressure: 101.7 kPa; Humidity: 30%
11.1V, 3600mAh External Second Lithium-ion Battery Pack (Model: T8S-E)
RF Output Power: 29.0 dBm (Peak Conducted)
Communication System: PCS GPRS (4 Time Slots)
Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:2
Medium: M1880 (σ = 1.51 mho/m; ε_r = 50.8; ρ = 1000 kg/m^3)
- Probe: ET3DV6 - SN1387; ConvF(4.75, 4.75, 4.75); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT (External 2nd Battery) to Planar Phantom (15 mm External Battery Thickness) - **Mid Channel/Area Scan (19x23x1):** Measurement grid: dx=15mm, dy=15mm

Body SAR - PCS GPRS - 0.0 cm Separation Distance from Bottom of DUT (External 2nd Battery) to Planar Phantom (15 mm External Battery Thickness) - **Mid Channel/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = 0.0300 dB
Peak SAR (extrapolated) = 0.476 W/kg
SAR(1 g) = 0.314 mW/g; SAR(10 g) = 0.200 mW/g



Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 04/13/2005

Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

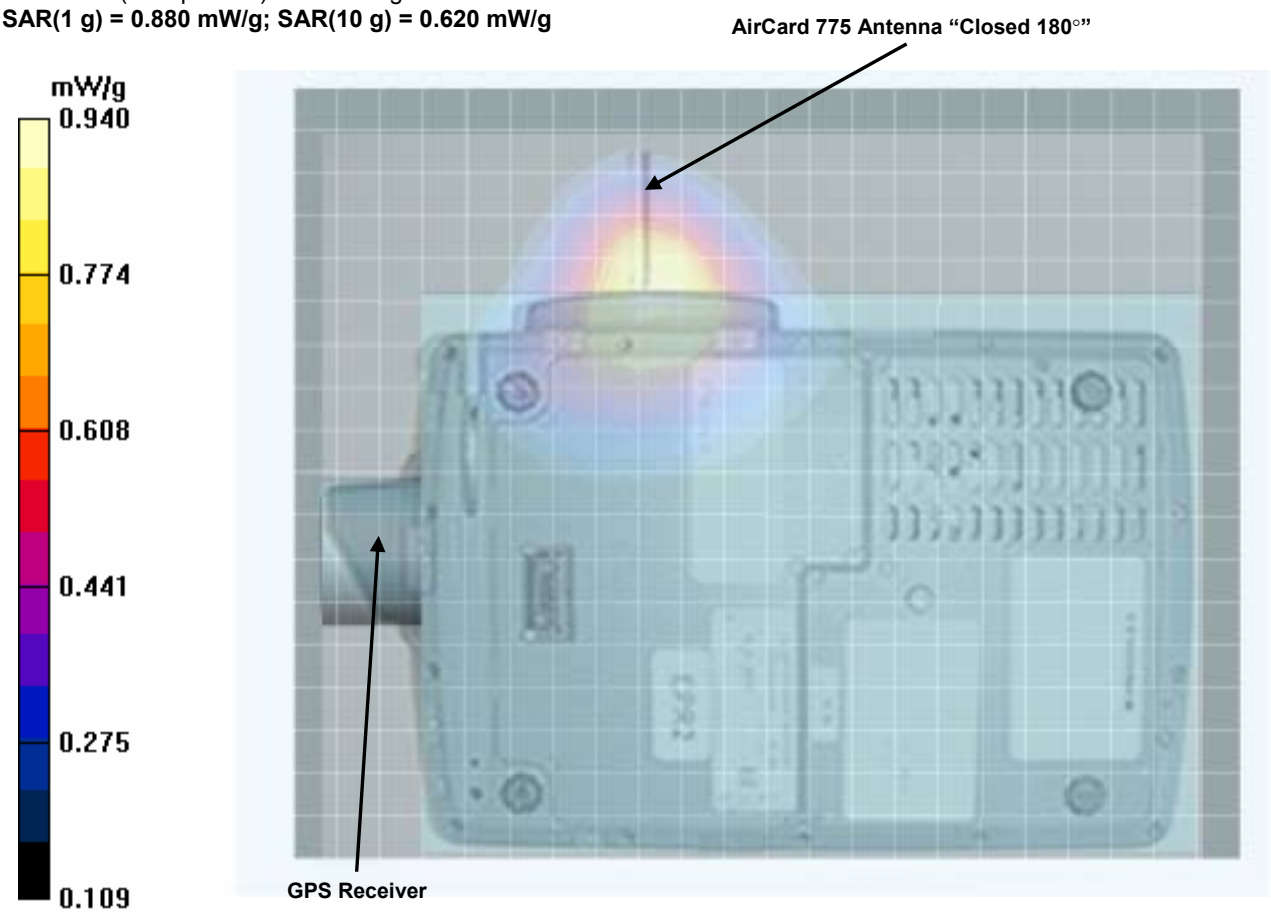
Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 31.9 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:2
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.4 V/m; Power Drift = 0.0405 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.880 mW/g; SAR(10 g) = 0.620 mW/g



Date Tested: 04/13/2005

Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

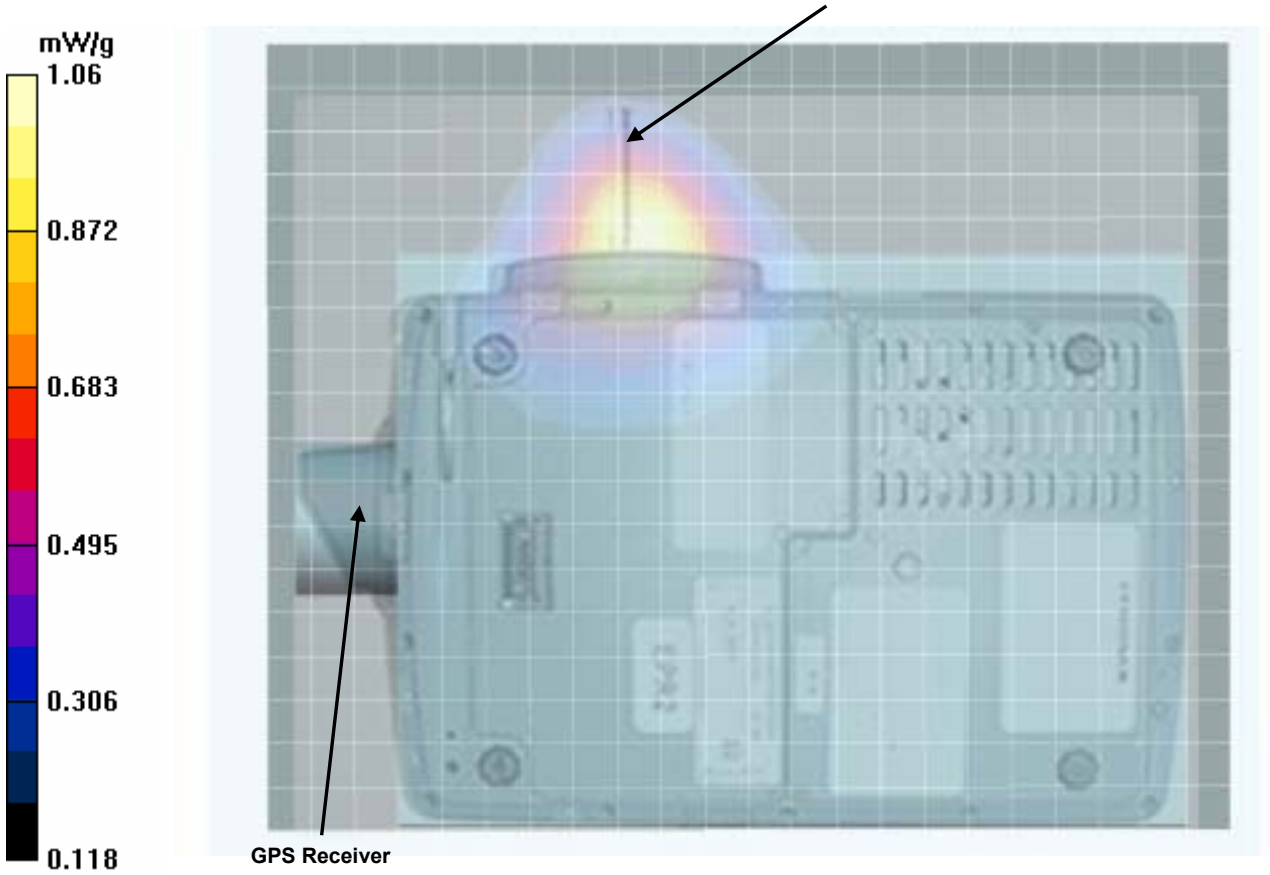
Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 31.8 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 824.2 MHz; Channel 128; Duty Cycle: 1:2
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 32.6 V/m; Power Drift = -0.00616 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.995 mW/g; SAR(10 g) = 0.699 mW/g



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 04/13/2005

Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

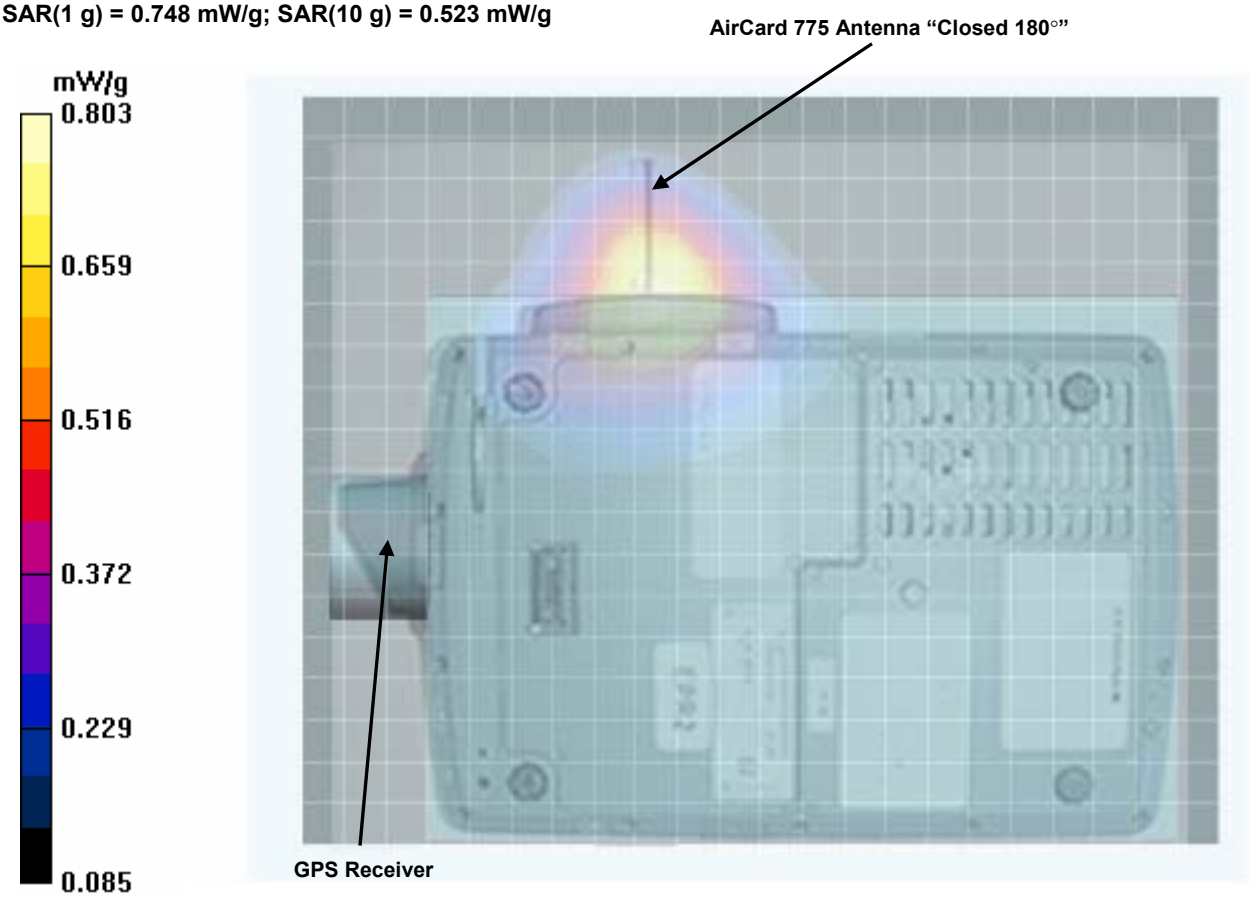
Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 32.0 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 848.8 MHz; Channel 251; Duty Cycle: 1:2
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - High Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - High Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.6 V/m; Power Drift = 0.0145 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.748 mW/g; SAR(10 g) = 0.523 mW/g



Date Tested: 04/13/2005

Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Open 180°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

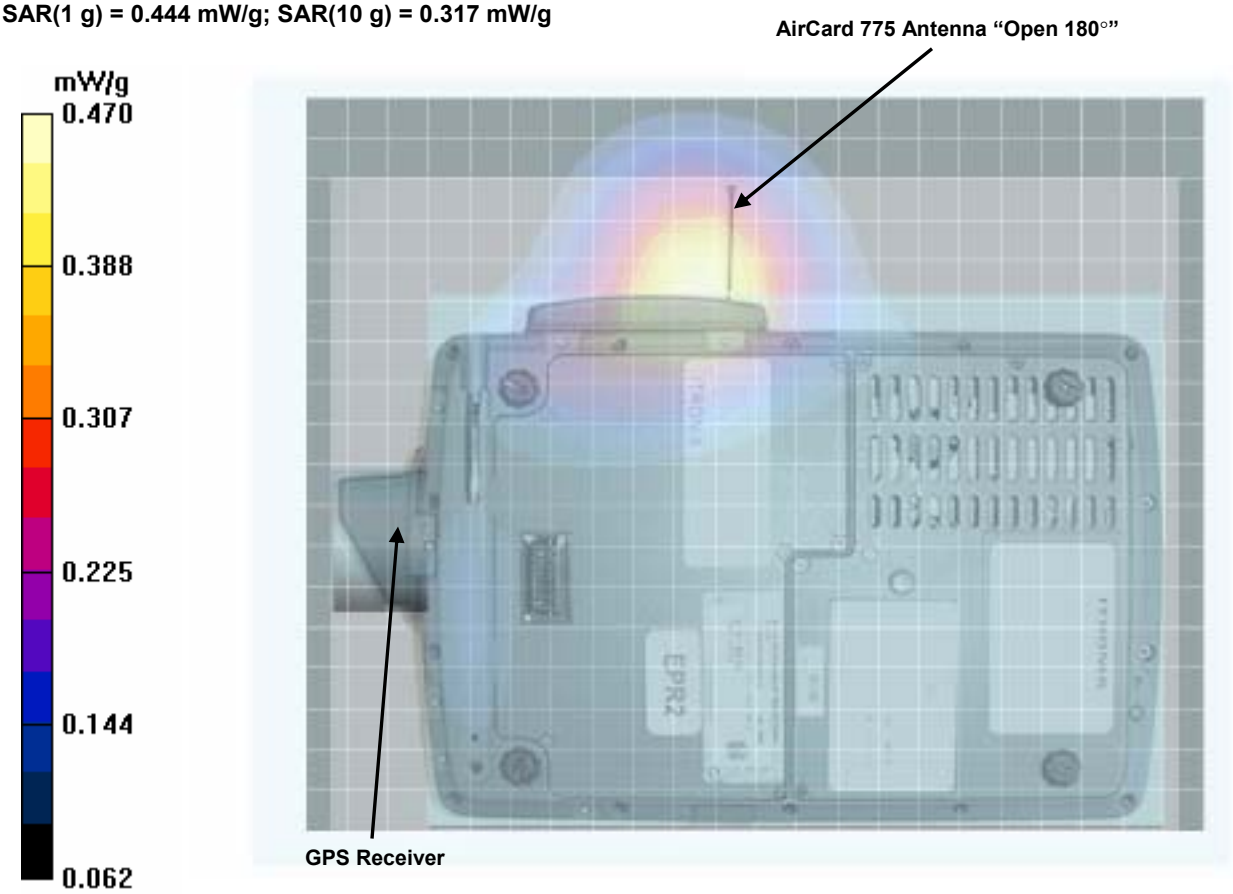
Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 31.9 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:2
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.4 V/m; Power Drift = 0.000145 dB
Peak SAR (extrapolated) = 0.588 W/kg
SAR(1 g) = 0.444 mW/g; SAR(10 g) = 0.317 mW/g



Date Tested: 04/13/2005

Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Open 90°

DUT: Itronix Model: IX325A775IWLBT; Type: Tablet PC with Dual-Band GSM GPRS/EDGE PCMCIA Modem; Serial: ZZGEG5074ZZ9799

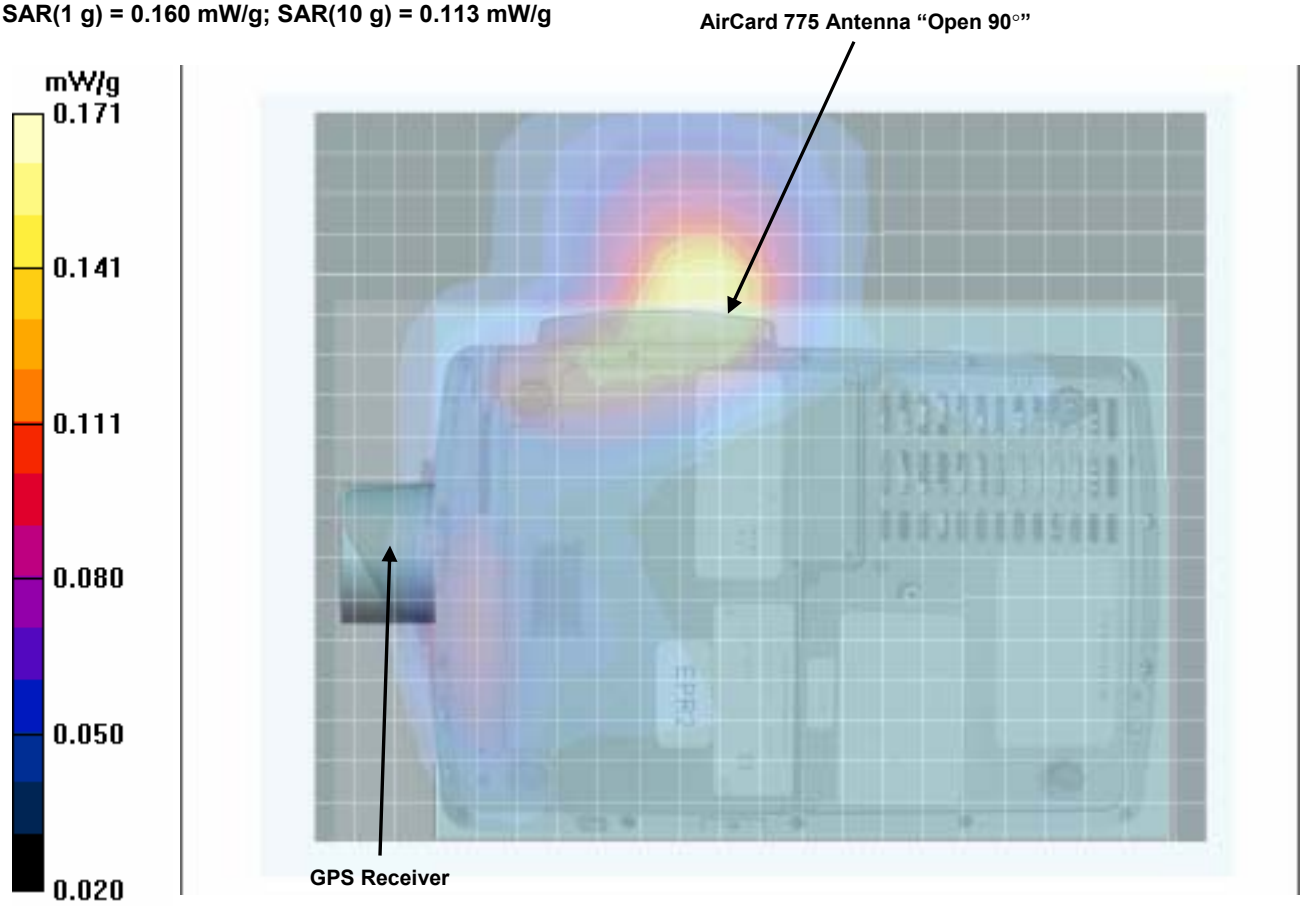
Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

11.1V, 3600mAh Internal Lithium-ion Battery Pack (Model: T8M-E)
RF Output Power: 31.9 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:2
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Mid Channel
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = 0.0120 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.113 mW/g



Date Tested: 04/13/2005

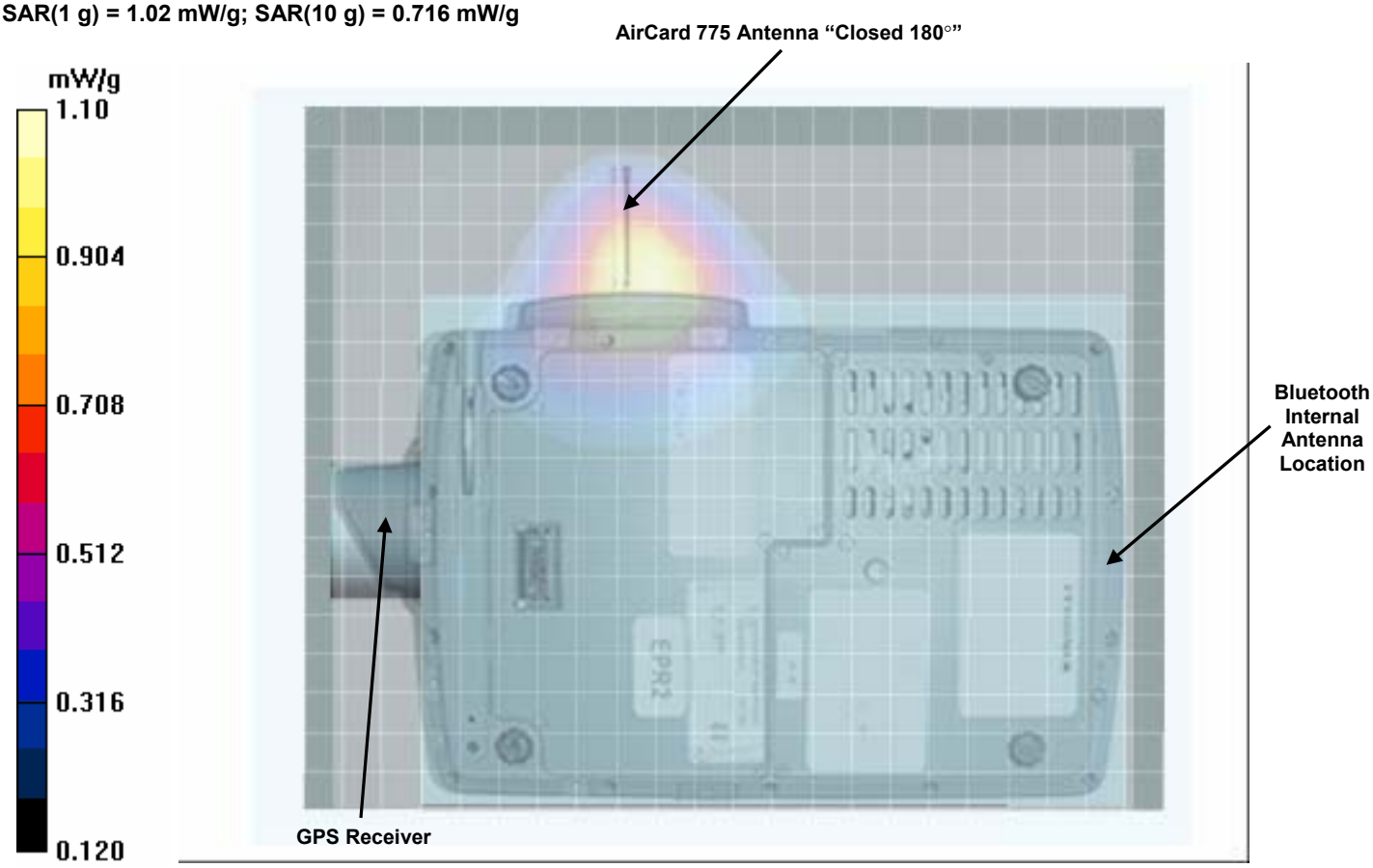
Body SAR - Cellular Band - GPRS Mode - Internal Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180° Simultaneous Transmit with Co-located Bluetooth

DUT: Itronix Model: IX325A775IWLBT; Type: Rugged Tablet PC with GSM GPRS/EDGE & Bluetooth; Serial: ZZGEG5074ZZ9799

Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%
11.1V, 3600mAh Internal Li-ion Battery Pack (Model: T8M-E)
RF Output Power: 31.8 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 824.2 MHz; Channel 128; Duty Cycle: 1:2
RF Output Power: 4.14 dBm (Peak Conducted) (Bluetooth)
Communication System: Modulated Fixed Frequency (Bluetooth)
Frequency: 2441 MHz; Duty Cycle: 1:1 (Bluetooth)
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)
- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

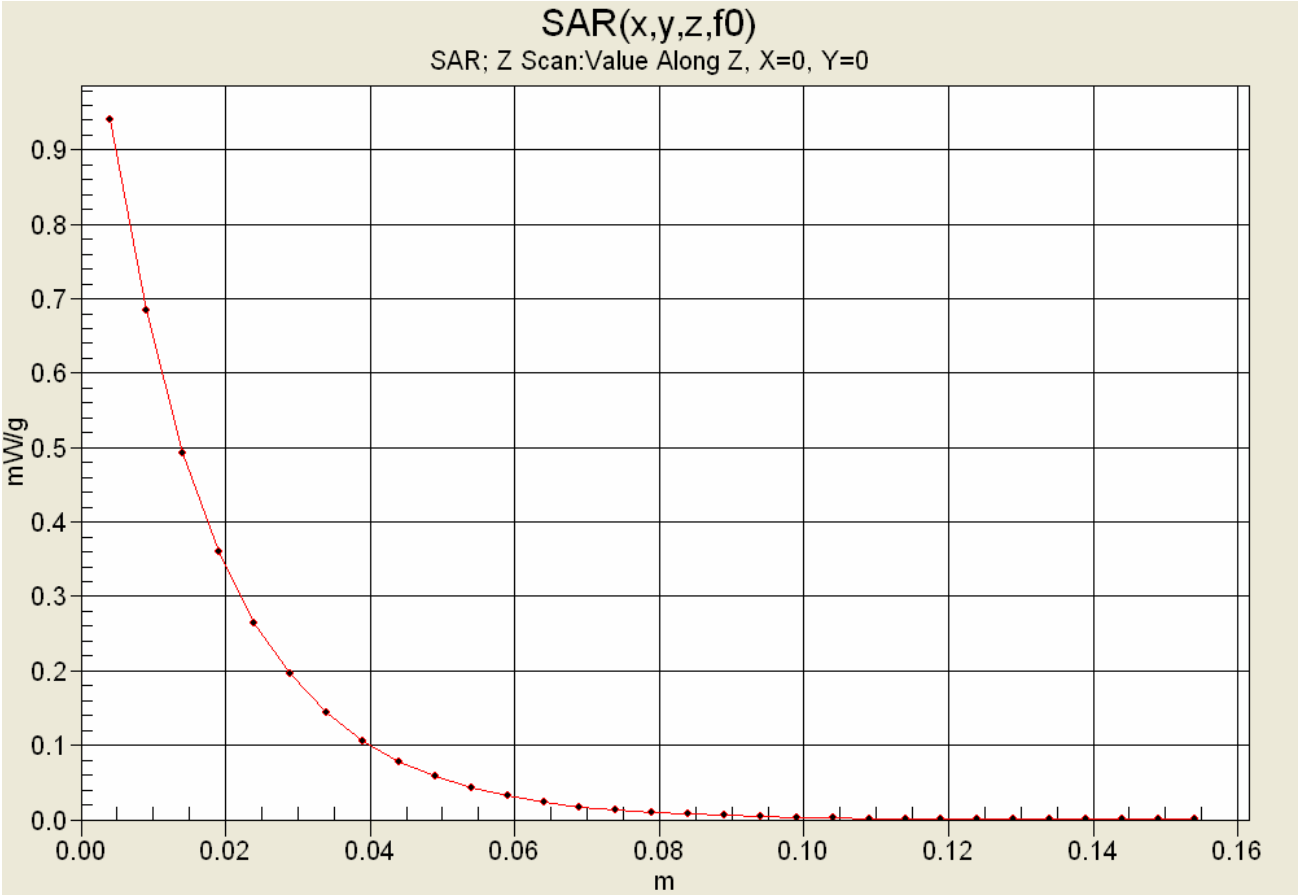
Body SAR - Cellular GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.4 V/m; Power Drift = 0.0193 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.716 mW/g



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 04/13/2005

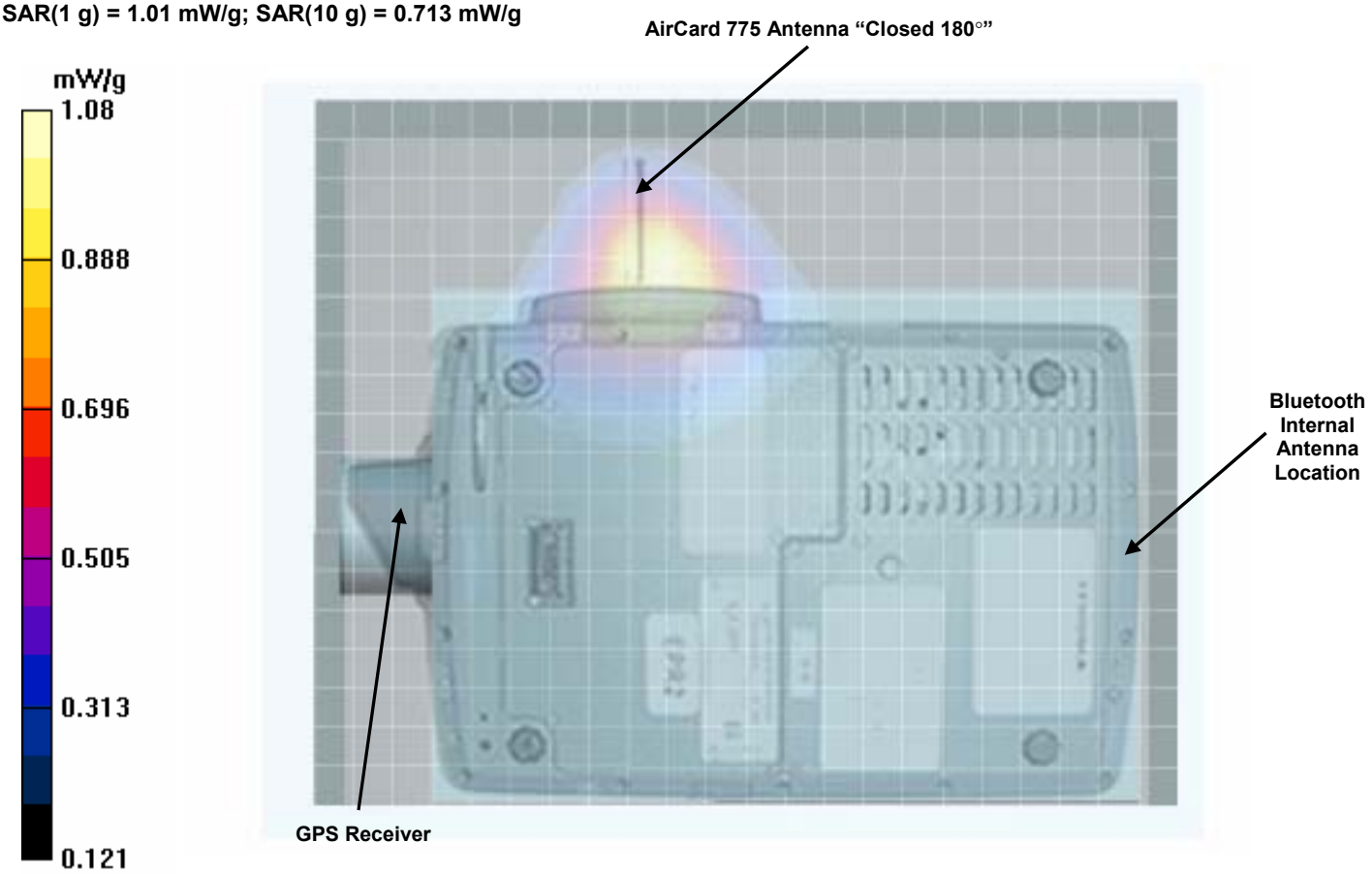
Body SAR - Cellular Band - GPRS Mode - AC Power - Bottom Side of DUT - AirCard 775 Antenna - Closed 180° Simultaneous Transmit with Co-located Bluetooth

DUT: Itronix Model: IX325A775IWLBT; Type: Rugged Tablet PC with GSM GPRS/EDGE & Bluetooth; Serial: ZZGEG5074ZZ9799

Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%
75 W AC Power Adapter (Delta Electronics Model: ADP-75FB B)
RF Output Power: 31.8 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 824.2 MHz; Channel 128; Duty Cycle: 1:2
RF Output Power: 4.14 dBm (Peak Conducted) (Bluetooth)
Communication System: Modulated Fixed Frequency (Bluetooth)
Frequency: 2441 MHz; Duty Cycle: 1:1 (Bluetooth)
Medium: M835 (σ = 0.97 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3)
- Probe: ET3DV6 - SN1590; ConvF(6.54, 6.54, 6.54); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS with Bluetooth - 0.0 cm Separation Distance from Bottom of DUT to Planar Phantom - Low Channel Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.5 V/m; Power Drift = -0.00566 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.713 mW/g



Date Tested: 05/09/2005

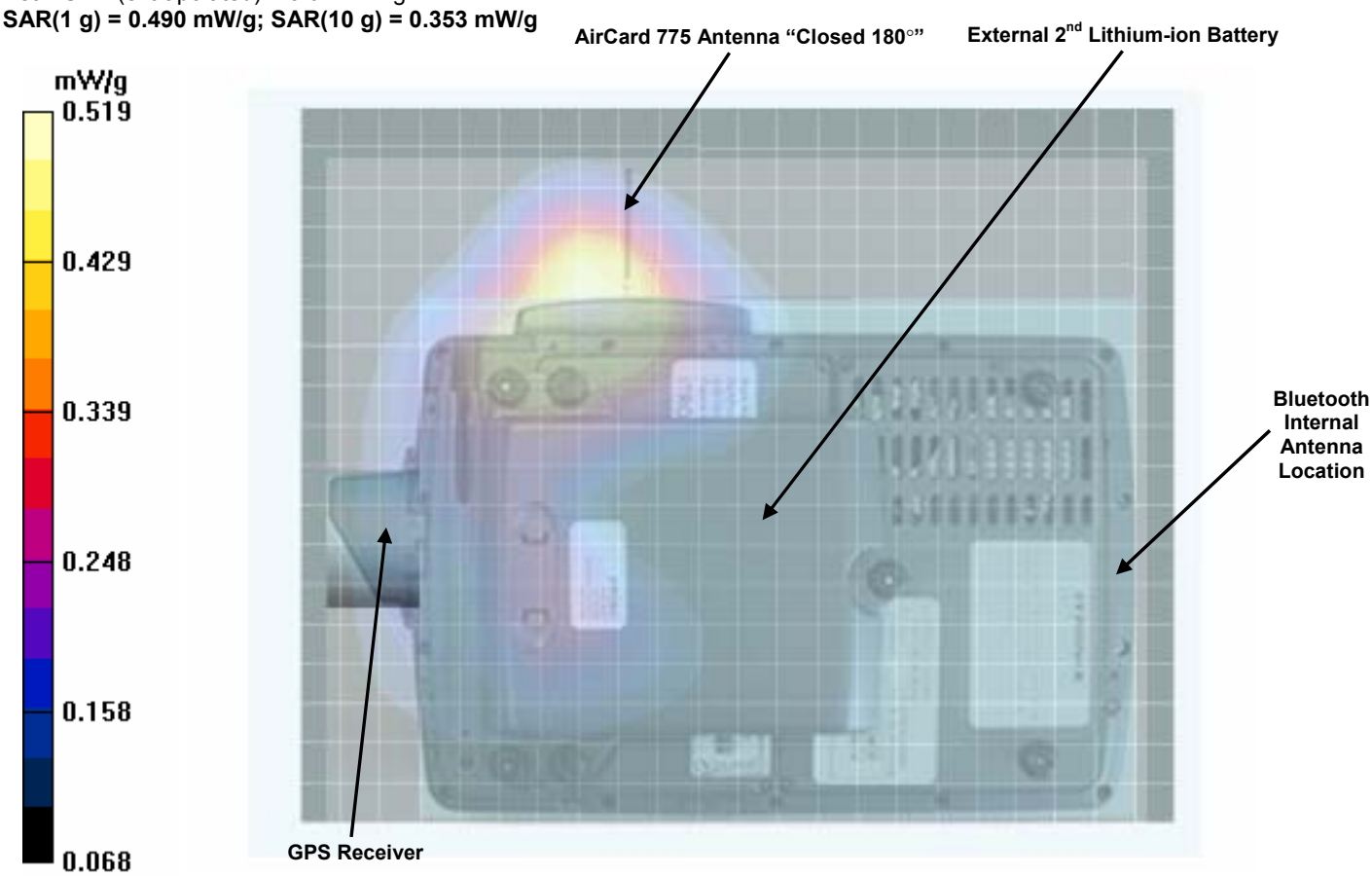
Body SAR - Cellular Band - GPRS Mode - External 2nd Battery - Bottom Side of DUT - AirCard 775 Antenna - Closed 180° Simultaneous Transmit with Co-located Bluetooth

DUT: Itronix Model: IX325A775IWLBT; Type: Rugged Tablet PC with GSM GPRS/EDGE & Bluetooth; Serial: ZZGEG5074ZZ9799

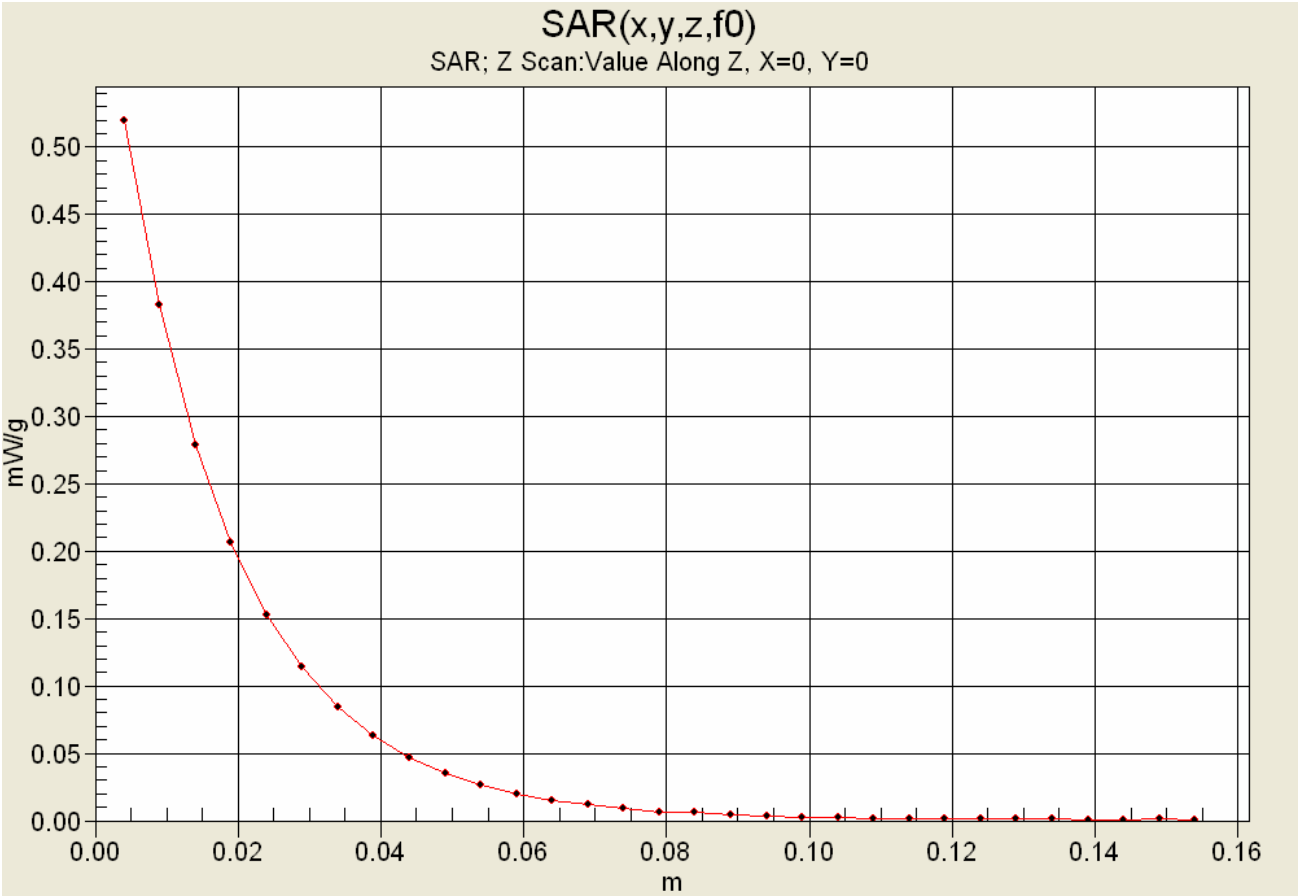
Ambient Temp: 23.4 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 101.0 kPa; Humidity: 33%
11.1V, 3600mAh External Second Li-ion Battery Pack (Model: T8S-E)
RF Output Power: 31.8 dBm (Peak Conducted)
Communication System: Cellular GPRS (4 Time Slots)
Frequency: 824.2 MHz; Channel 128; Duty Cycle: 1:2
RF Output Power: 4.14 dBm (Peak Conducted) (Bluetooth)
Communication System: Modulated Fixed Frequency (Bluetooth)
Frequency: 2441 MHz; Duty Cycle: 1:1 (Bluetooth)
Medium: M835 (σ = 0.94 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3)
- Probe: ET3DV6 - SN1387; ConvF(6.1, 6.1, 6.1); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT (External 2nd Battery) to Planar Phantom (15 mm External DUT Battery Thickness) - Low Channel/Area Scan (19x23x1): Measurement grid: dx=15mm, dy=15mm

Body SAR - Cellular GPRS - 0.0 cm Separation Distance from Bottom of DUT (External 2nd Battery) to Planar Phantom (15 mm External DUT Battery Thickness) - Low Channel/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = -0.0438 dB
Peak SAR (extrapolated) = 0.644 W/kg
SAR(1 g) = 0.490 mW/g; SAR(10 g) = 0.353 mW/g



Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

Date Tested: 04/13/2005

System Performance Check (Brain) - 835 MHz Dipole

DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Calibrated: 03/30/2005

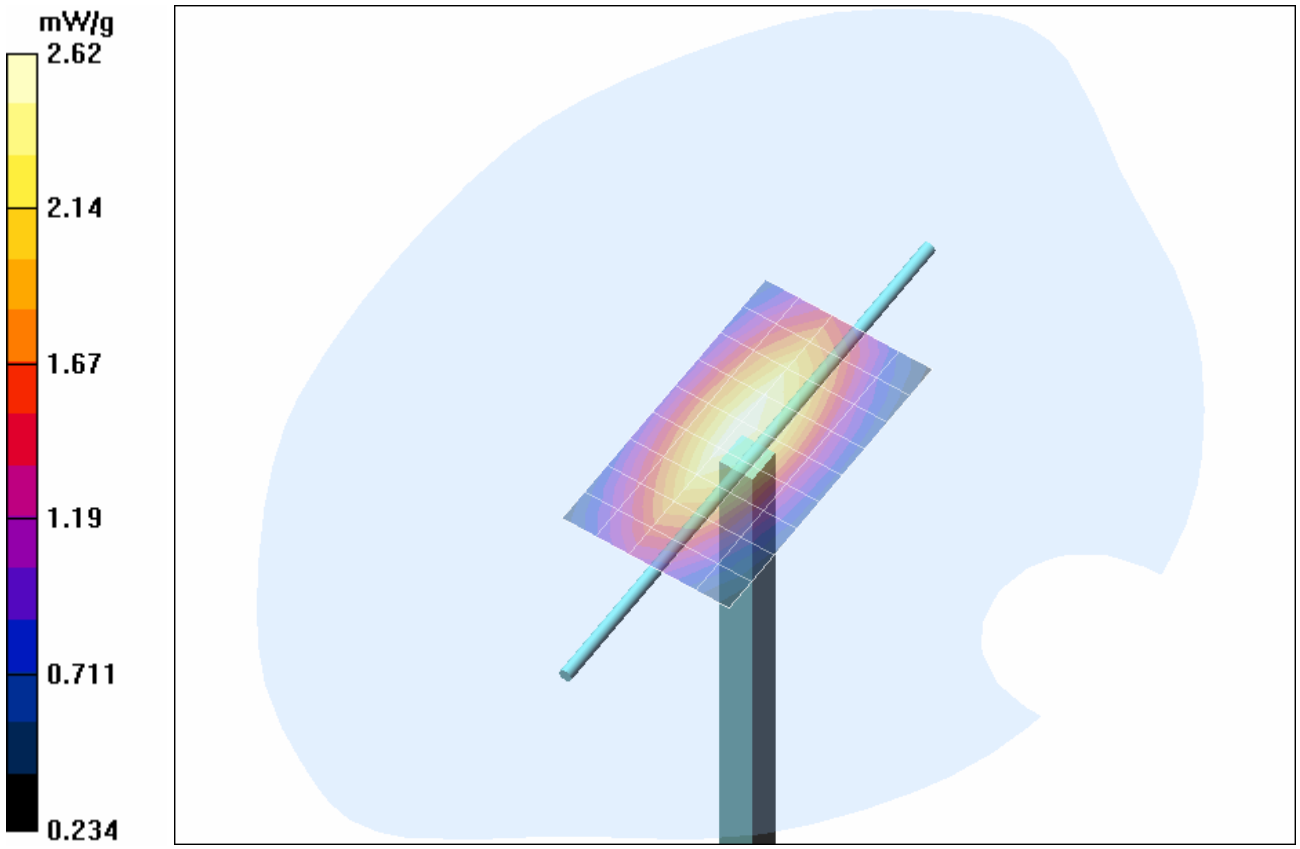
Ambient Temp: 21.6 °C; Fluid Temp: 21.3 °C; Barometric Pressure: 102.0 kPa; Humidity: 30%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL835 (σ = 0.90 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3)

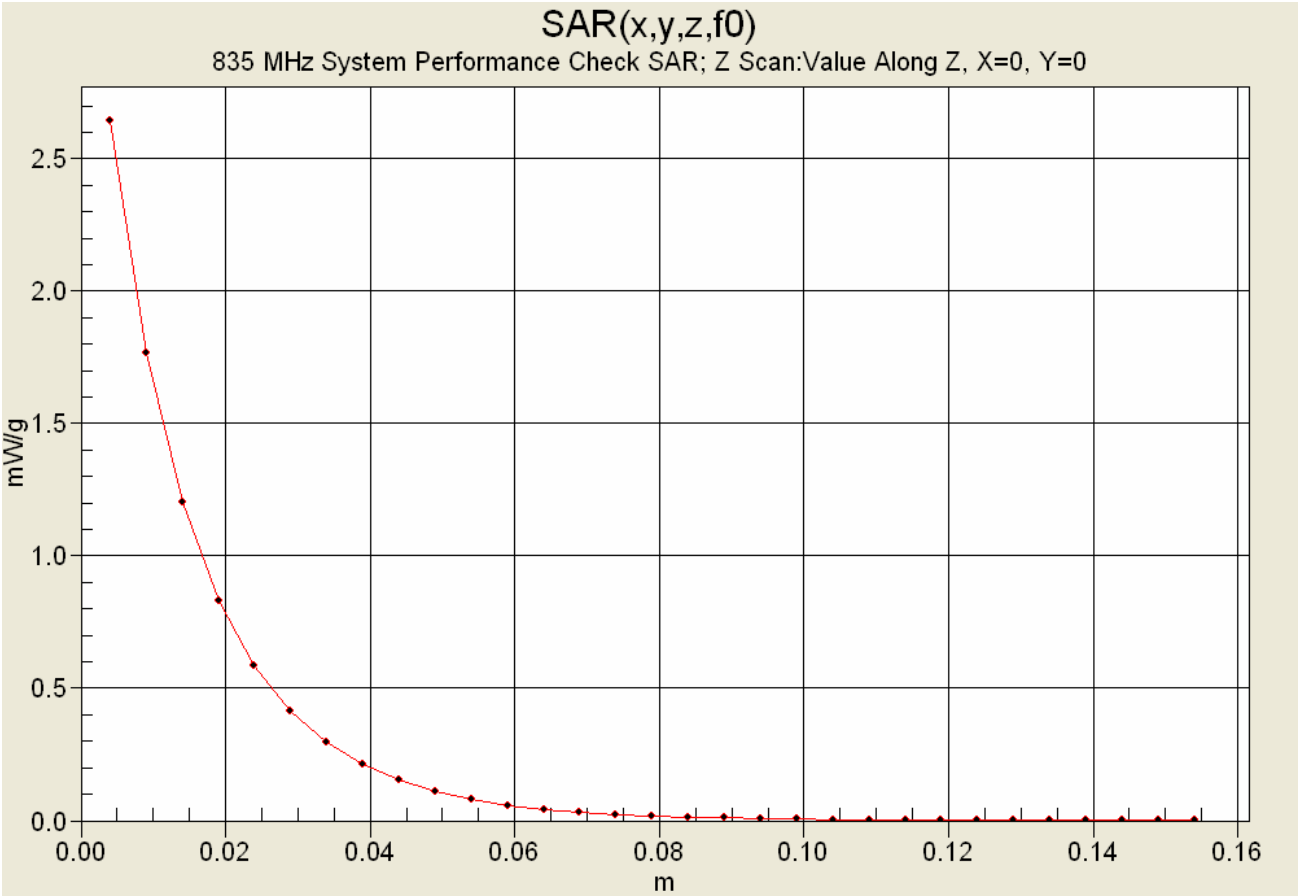
- Probe: ET3DV6 - SN1590; ConvF(6.71, 6.71, 6.71); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

835 MHz Dipole - System Performance Check/Area Scan (6x10x1):
Measurement grid: dx=10mm, dy=10mm

835 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.2 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.59 mW/g



Z-Axis Scan


SAR(x,y,z,f0)
835 MHz System Performance Check SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
2.5
2.0
1.5
1.0
0.5
0.0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

Date Tested: 04/14/2005

System Performance Check (Brain) - 1900 MHz Dipole

DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Calibrated: 06/18/2004

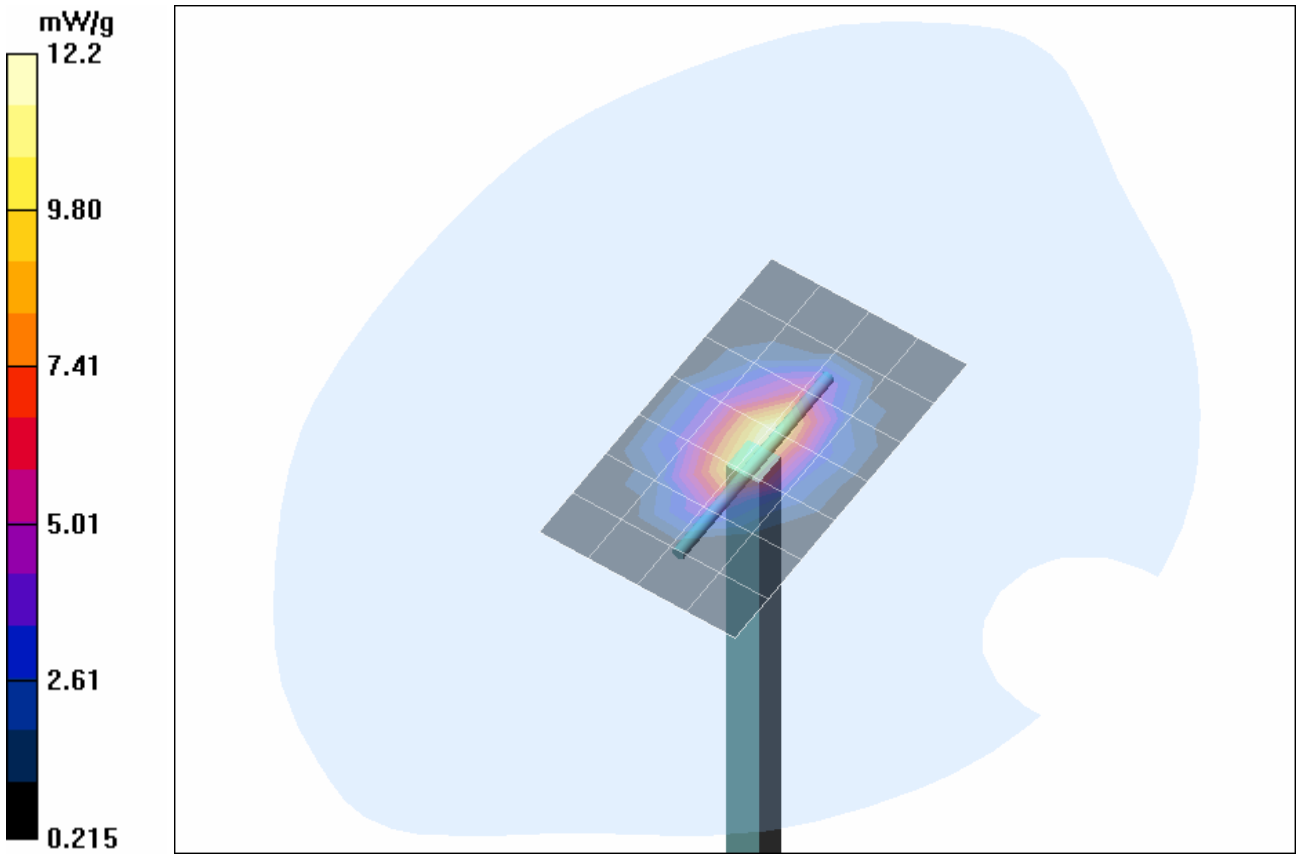
Ambient Temp: 22.7 °C; Fluid Temp: 23.1 °C; Barometric Pressure: 102.4 kPa; Humidity: 30%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900 (σ = 1.44 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3)

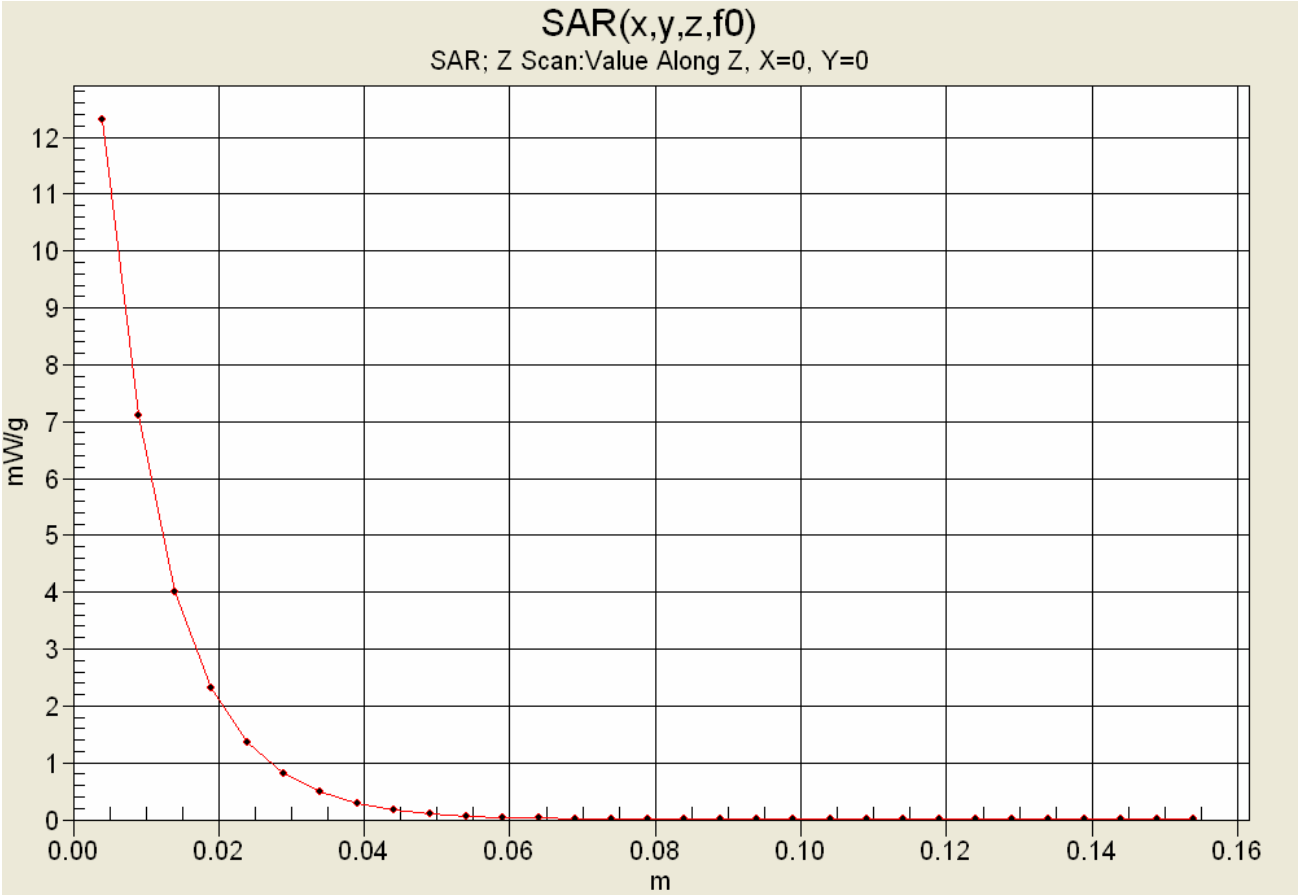
- Probe: ET3DV6 - SN1590; ConvF(5.03, 5.03, 5.03); Calibrated: 24/05/2004
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):
Measurement grid: dx=15mm, dy=15mm

1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.8 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.6 W/kg
SAR(1 g) = 10.8 mW/g; SAR(10 g) = 5.68 mW/g



Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 05/03/2005

System Performance Check (Brain) - 1900 MHz Dipole

DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Calibrated: 06/18/2004

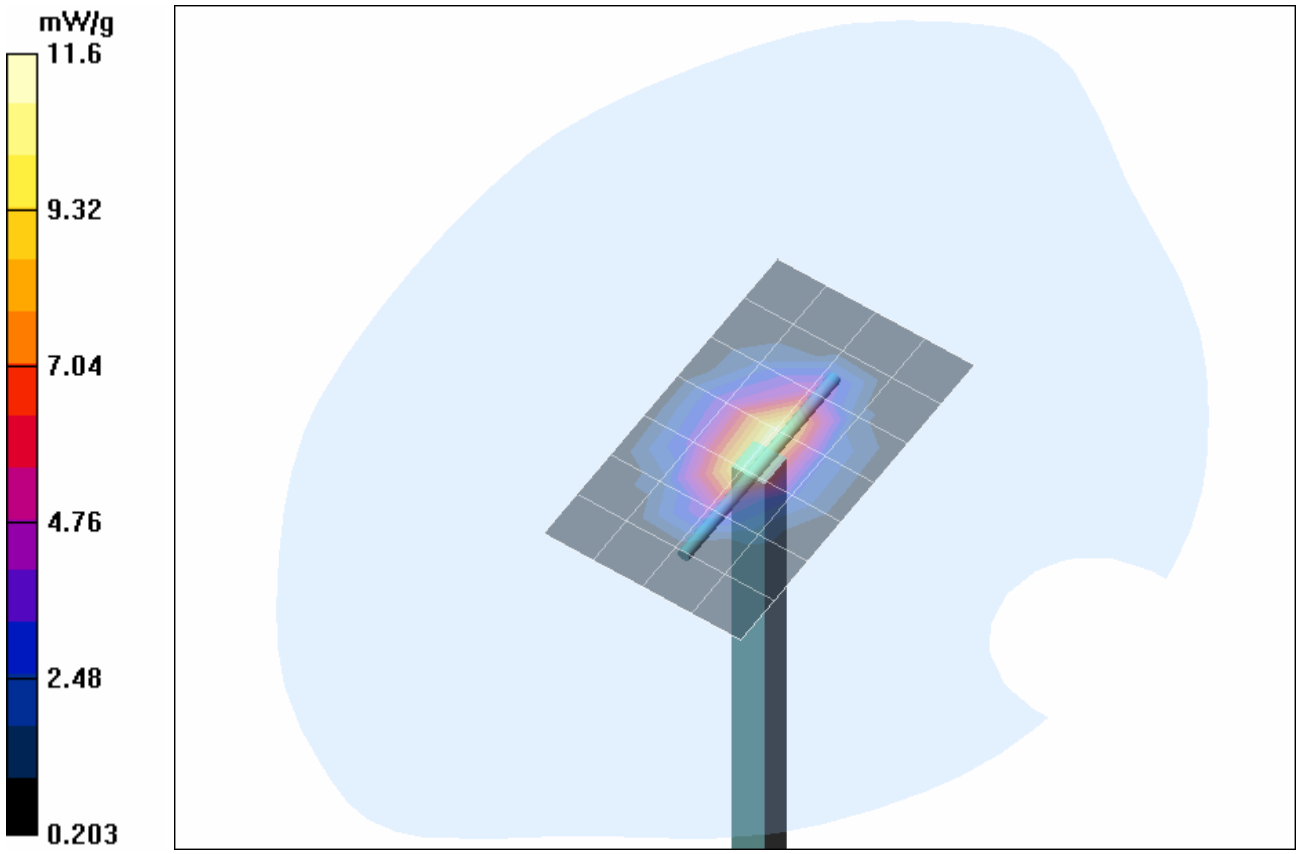
Ambient Temp: 23.2 °C; Fluid Temp: 22.9 °C; Barometric Pressure: 101.9 kPa; Humidity: 30%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900 (σ = 1.43 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3)

- Probe: ET3DV6 - SN1387; ConvF(5.18, 5.18, 5.18); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

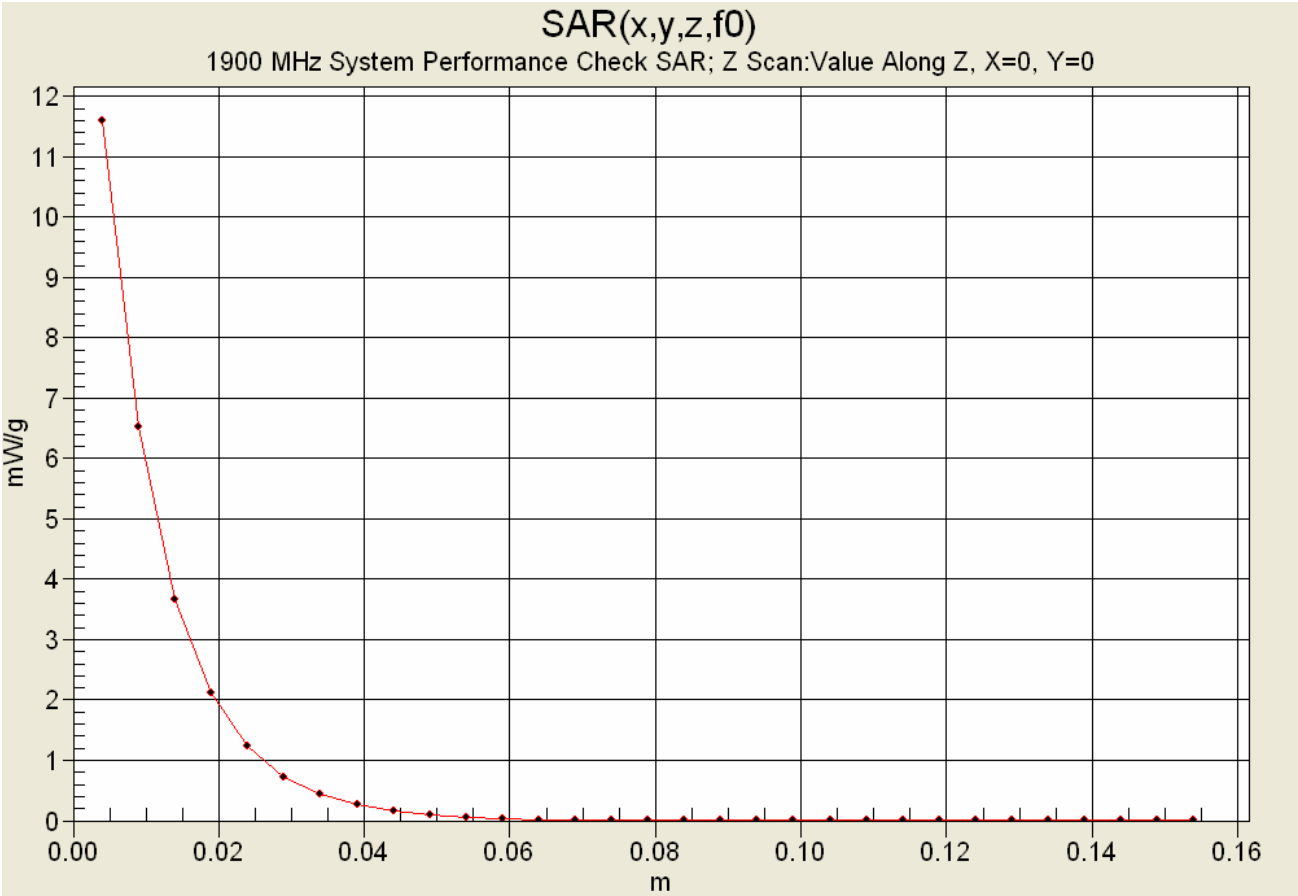
1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):
Measurement grid: dx=15mm, dy=15mm

1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.2 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 18.4 W/kg
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.31 mW/g



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Z-Axis Scan



2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

Date Tested: 05/09/2005

System Performance Check (Brain) - 835 MHz Dipole

DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Calibrated: 03/30/2005

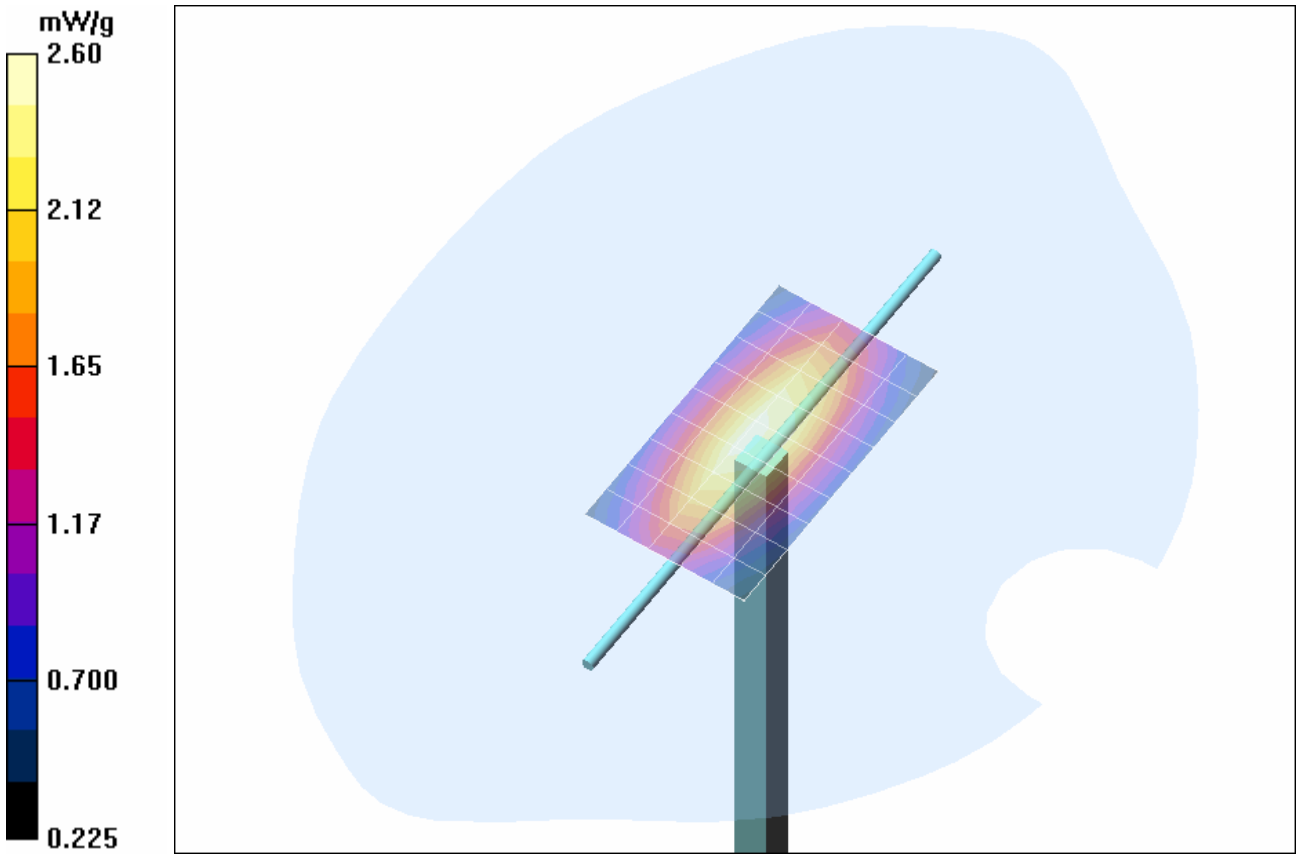
Ambient Temp: 22.7 ºC; Fluid Temp: 21.4 ºC; Barometric Pressure: 101.1 kPa; Humidity: 33%

Communication System: CW
Forward Conducted Power: 250 mW
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL835 (σ = 0.88 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3)

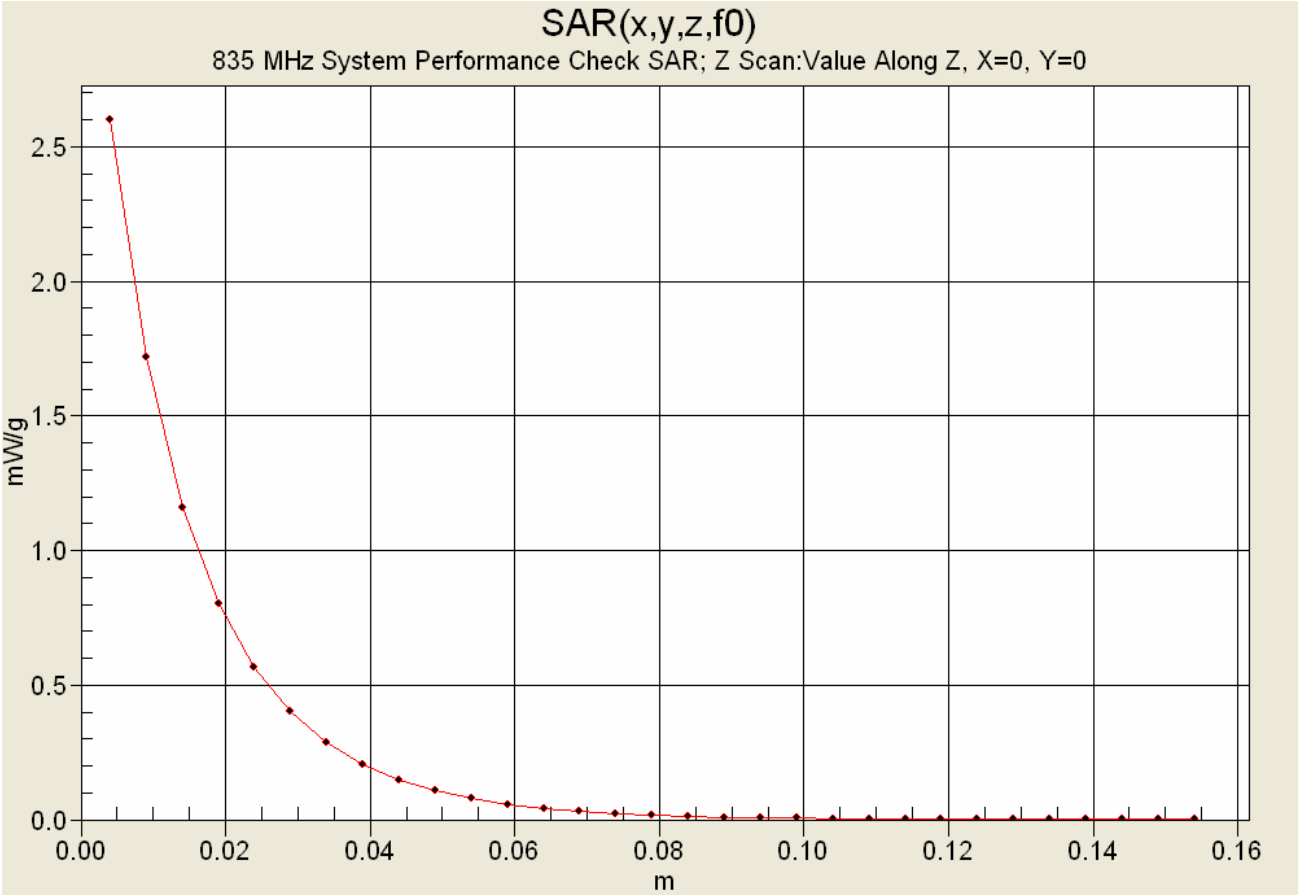
- Probe: ET3DV6 - SN1387; ConvF(6.47, 6.47, 6.47); Calibrated: 18/03/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn353; Calibrated: 06/07/2004
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

835 MHz Dipole - System Performance Check/Area Scan (6x10x1):
Measurement grid: dx=10mm, dy=10mm

835 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.3 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 3.67 W/kg
SAR(1 g) = 2.40 mW/g; SAR(10 g) = 1.55 mW/g



Z-Axis Scan


SAR(x,y,z,f0)
835 MHz System Performance Check SAR; Z Scan:Value Along Z, X=0, Y=0
mW/g
2.5
2.0
1.5
1.0
0.5
0.0
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16
m

APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS

835 MHz DUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

April 13, 2005

Frequency	e'	e''
735.000000 MHz	53.5489	21.3126
745.000000 MHz	53.4558	21.2660
755.000000 MHz	53.2924	21.2077
765.000000 MHz	53.2052	21.1498
775.000000 MHz	53.0838	21.1161
785.000000 MHz	53.0256	21.0507
795.000000 MHz	52.9522	21.0311
805.000000 MHz	52.8354	21.0041
815.000000 MHz	52.7378	20.9547
825.000000 MHz	52.6286	20.9547
835.000000 MHz	52.5260	20.8980
845.000000 MHz	52.4215	20.8704
855.000000 MHz	52.2899	20.8751
865.000000 MHz	52.1453	20.8158
875.000000 MHz	52.0428	20.8012
885.000000 MHz	51.9581	20.7386
895.000000 MHz	51.9103	20.7101
905.000000 MHz	51.7919	20.6778
915.000000 MHz	51.7076	20.6438
925.000000 MHz	51.6000	20.6196
935.000000 MHz	51.5121	20.5584

835 MHz System Performance Check

Measured Fluid Dielectric Parameters (Brain)

April 13, 2005

Frequency	e'	e''
735.000000 MHz	41.4664	19.7679
745.000000 MHz	41.3262	19.6979
755.000000 MHz	41.1612	19.6478
765.000000 MHz	41.0201	19.5826
775.000000 MHz	40.9020	19.5470
785.000000 MHz	40.8062	19.5181
795.000000 MHz	40.7079	19.5072
805.000000 MHz	40.5772	19.4621
815.000000 MHz	40.4474	19.4452
825.000000 MHz	40.3139	19.3986
835.000000 MHz	40.2022	19.3792
845.000000 MHz	40.0647	19.3470
855.000000 MHz	39.9244	19.3274
865.000000 MHz	39.7662	19.2833
875.000000 MHz	39.6483	19.2602
885.000000 MHz	39.5308	19.2080
895.000000 MHz	39.4547	19.1854
905.000000 MHz	39.3650	19.1575
915.000000 MHz	39.2345	19.1131
925.000000 MHz	39.1305	19.0818
935.000000 MHz	39.0094	19.0472

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

1880 MHz DUT Evaluation (Body)

Measured Fluid Dielectric Parameters (Muscle)

April 14, 2005

Frequency	e'	e"
1.780000000 GHz	51.1149	14.6099
1.790000000 GHz	51.0754	14.6576
1.800000000 GHz	51.0354	14.6847
1.810000000 GHz	50.9763	14.6992
1.820000000 GHz	50.9433	14.7387
1.830000000 GHz	50.9050	14.7866
1.840000000 GHz	50.8655	14.8179
1.850000000 GHz	50.8151	14.8339
1.860000000 GHz	50.7722	14.8651
1.870000000 GHz	50.7368	14.8905
1.880000000 GHz	50.7028	14.9361
1.890000000 GHz	50.6675	14.9654
1.900000000 GHz	50.6174	15.0042
1.910000000 GHz	50.5908	15.0232
1.920000000 GHz	50.5558	15.0427
1.930000000 GHz	50.5239	15.0879
1.940000000 GHz	50.4786	15.1277
1.950000000 GHz	50.4258	15.1569
1.960000000 GHz	50.3781	15.1820
1.970000000 GHz	50.3498	15.2150
1.980000000 GHz	50.2901	15.2659

1900 MHz System Performance Check

Measured Fluid Dielectric Parameters (Brain)

April 14, 2005

Frequency	e'	e"
1.800000000 GHz	38.9793	13.3811
1.810000000 GHz	38.9271	13.4208
1.820000000 GHz	38.8773	13.4472
1.830000000 GHz	38.8528	13.4885
1.840000000 GHz	38.8257	13.5134
1.850000000 GHz	38.7985	13.5412
1.860000000 GHz	38.7585	13.5559
1.870000000 GHz	38.7004	13.5731
1.880000000 GHz	38.6498	13.5859
1.890000000 GHz	38.5915	13.6037
1.900000000 GHz	38.5377	13.6220
1.910000000 GHz	38.4739	13.6555
1.920000000 GHz	38.4303	13.6767
1.930000000 GHz	38.4057	13.7126
1.940000000 GHz	38.3703	13.7434
1.950000000 GHz	38.3344	13.7806
1.960000000 GHz	38.3089	13.8141
1.970000000 GHz	38.2818	13.8341
1.980000000 GHz	38.2439	13.8583
1.990000000 GHz	38.2129	13.8780
2.000000000 GHz	38.1643	13.9180

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

1880 MHz DUT Evaluation (Body)

```
**************************************************************
Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Tue 03/May/2005
Freq     Frequency(GHz)
FCC_eH   FCC Bulletin 65 Supplement C ( June 2001) Limits for Head Epsilon
FCC_sH   FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB   FCC Limits for Body Epsilon
FCC_sB   FCC Limits for Body Sigma
Test_e   Epsilon  of  UIM
Test_s   Sigma of UIM
**************************************************************
```

Freq	FCC_eB	FCC_sB	Test_e	Test_s
1.8000	53.30	1.52	51.16	1.43
1.8100	53.30	1.52	51.06	1.44
1.8200	53.30	1.52	51.04	1.45
1.8300	53.30	1.52	51.02	1.46
1.8400	53.30	1.52	50.94	1.46
1.8500	53.30	1.52	50.82	1.47
1.8600	53.30	1.52	50.79	1.48
1.8700	53.30	1.52	50.75	1.50
1.8800	53.30	1.52	50.82	1.51
1.8900	53.30	1.52	50.69	1.52
1.9000	53.30	1.52	50.68	1.54
1.9100	53.30	1.52	50.66	1.55
1.9200	53.30	1.52	50.74	1.56
1.9300	53.30	1.52	50.73	1.57
1.9400	53.30	1.52	50.59	1.58
1.9500	53.30	1.52	50.52	1.59
1.9600	53.30	1.52	50.52	1.60
1.9700	53.30	1.52	50.48	1.62
1.9800	53.30	1.52	50.45	1.62
1.9900	53.30	1.52	50.43	1.64
2.0000	53.30	1.52	50.36	1.65

1900 MHz System Performance Check (Brain)

```
**************************************************************
Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Tue 03/May/2005
Freq     Frequency(GHz)
FCC_eH   FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH   FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e   Epsilon  of  UIM
Test_s   Sigma of UIM
**************************************************************
```

Freq	FCC_eH	FCC_sH	Test_e	Test_s
1.8000	40.00	1.40	38.63	1.31
1.8100	40.00	1.40	38.57	1.31
1.8200	40.00	1.40	38.49	1.32
1.8300	40.00	1.40	38.44	1.33
1.8400	40.00	1.40	38.42	1.34
1.8500	40.00	1.40	38.27	1.34
1.8600	40.00	1.40	38.23	1.35
1.8700	40.00	1.40	38.16	1.37
1.8800	40.00	1.40	38.16	1.38
1.8900	40.00	1.40	38.08	1.39
1.9000	40.00	1.40	38.11	1.43
1.9100	40.00	1.40	38.09	1.42
1.9200	40.00	1.40	38.12	1.42
1.9300	40.00	1.40	38.09	1.43
1.9400	40.00	1.40	37.92	1.44
1.9500	40.00	1.40	37.86	1.45
1.9600	40.00	1.40	37.75	1.45
1.9700	40.00	1.40	37.66	1.46
1.9800	40.00	1.40	37.63	1.47
1.9900	40.00	1.40	37.58	1.49
2.0000	40.00	1.40	37.65	1.50

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

835 MHz DUT Evaluation (Body)

```
*************************************************************
Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon 09/May/2005
Freq     Frequency(GHz)
FCC_eH   FCC Bulletin 65 Supplement C ( June 2001) Limits for Head Epsilon
FCC_sH   FCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eB   FCC Limits for Body Epsilon
FCC_sB   FCC Limits for Body Sigma
Test_e   Epsilon  of  UIM
Test_s   Sigma of UIM
*************************************************************
```

Freq	FCC_eB	FCC_sB	Test_e	Test_s
0.7350	55.59	0.96	53.39	0.85
0.7450	55.55	0.96	53.36	0.86
0.7550	55.51	0.96	53.29	0.87
0.7650	55.47	0.96	53.12	0.88
0.7750	55.43	0.97	53.05	0.89
0.7850	55.39	0.97	52.90	0.90
0.7950	55.36	0.97	52.87	0.90
0.8050	55.32	0.97	52.81	0.91
0.8150	55.28	0.97	52.66	0.92
0.8250	55.24	0.97	52.68	0.93
0.8350	55.20	0.97	52.56	0.94
0.8450	55.17	0.98	52.37	0.95
0.8550	55.14	0.99	52.42	0.96
0.8650	55.11	1.01	52.19	0.98
0.8750	55.08	1.02	52.01	0.98
0.8850	55.05	1.03	51.93	0.99
0.8950	55.02	1.04	51.96	1.00
0.9050	55.00	1.05	51.85	1.01
0.9150	55.00	1.06	51.83	1.02
0.9250	54.98	1.06	51.66	1.03
0.9350	54.96	1.07	51.51	1.04

835 MHz System Performance Check (Brain)

```
*************************************************************
Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Mon 09/May/2005
Freq     Frequency(GHz)
FCC_eH   FCC OET 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sH   FCC OET 65 Supplement C (June 2001) Limits for Head Sigma
Test_e   Epsilon  of  UIM
Test_s   Sigma of UIM
*************************************************************
```

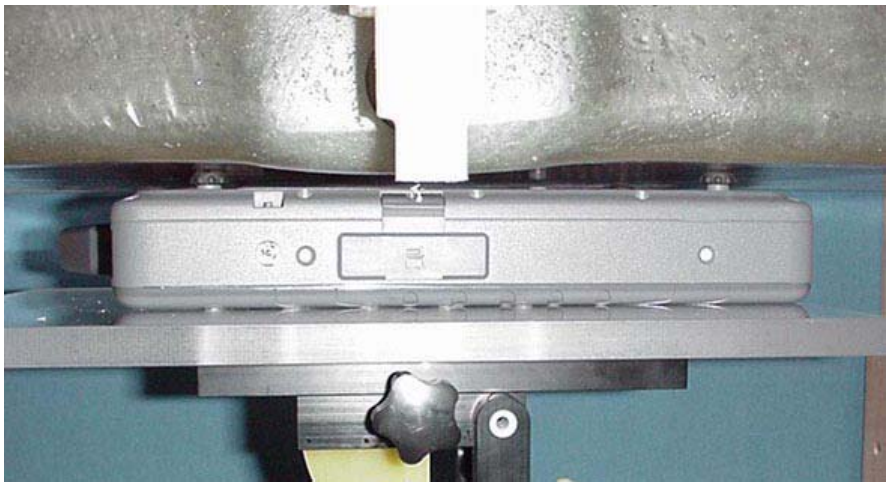
Freq	FCC_eH	FCC_sH	Test_e	Test_s
0.7350	42.02	0.89	41.59	0.79
0.7450	41.97	0.89	41.60	0.80
0.7550	41.92	0.89	41.46	0.82
0.7650	41.86	0.89	41.28	0.82
0.7750	41.81	0.90	41.16	0.82
0.7850	41.76	0.90	40.92	0.84
0.7950	41.71	0.90	40.91	0.85
0.8050	41.66	0.90	40.66	0.85
0.8150	41.60	0.90	40.67	0.87
0.8250	41.55	0.90	40.59	0.87
0.8350	41.50	0.90	40.34	0.88
0.8450	41.50	0.91	40.30	0.89
0.8550	41.50	0.92	40.23	0.90
0.8650	41.50	0.93	40.11	0.91
0.8750	41.50	0.94	39.93	0.92
0.8850	41.50	0.95	39.84	0.93
0.8950	41.50	0.96	39.73	0.94
0.9050	41.50	0.97	39.59	0.95
0.9150	41.50	0.98	39.56	0.96
0.9250	41.48	0.98	39.40	0.97
0.9350	41.46	0.99	39.29	0.97

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

APPENDIX D - SAR TEST SETUP PHOTOGRAPHS

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
(with internal battery)

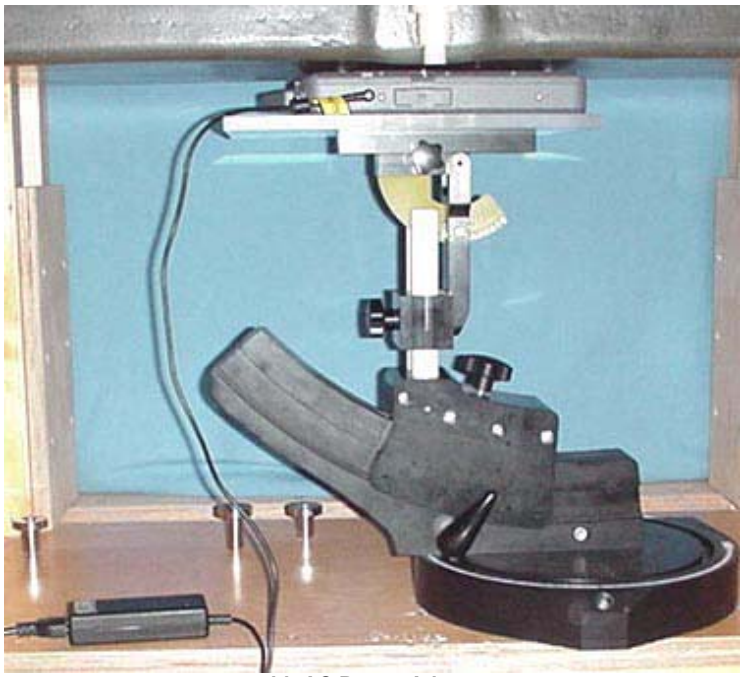


2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom

with Internal Battery

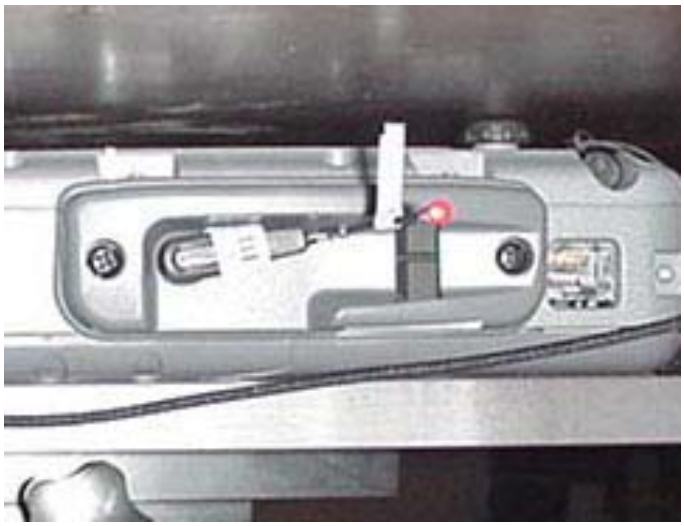


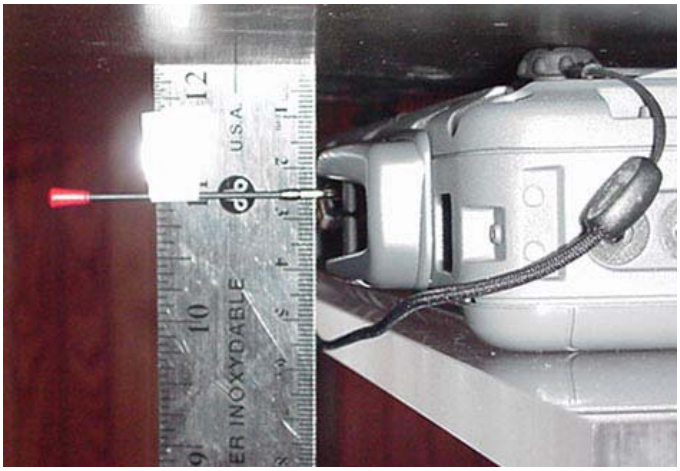
with AC Power Adapter

2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
AirCard 775 Antenna "Closed 180°"

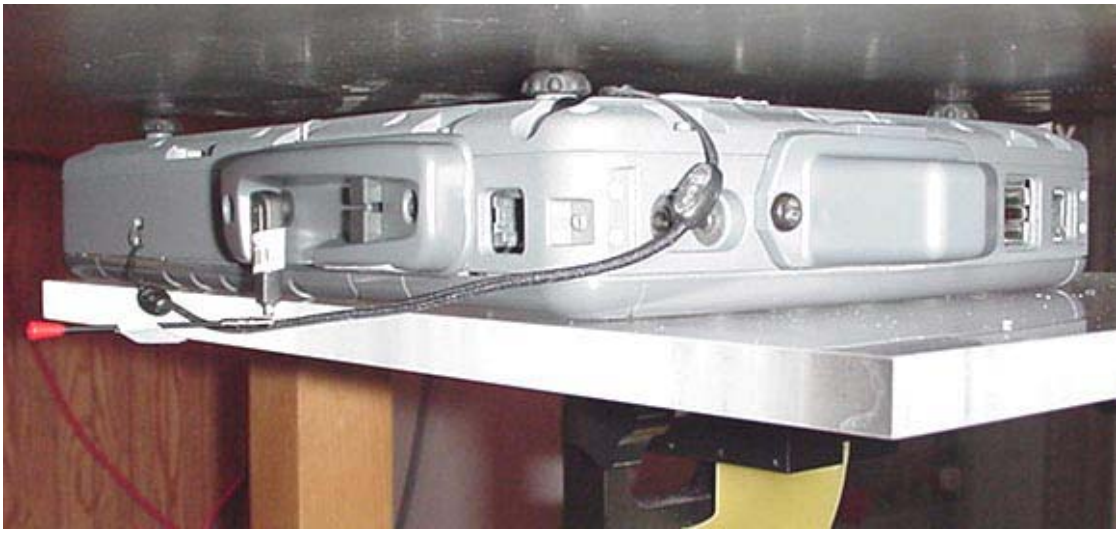


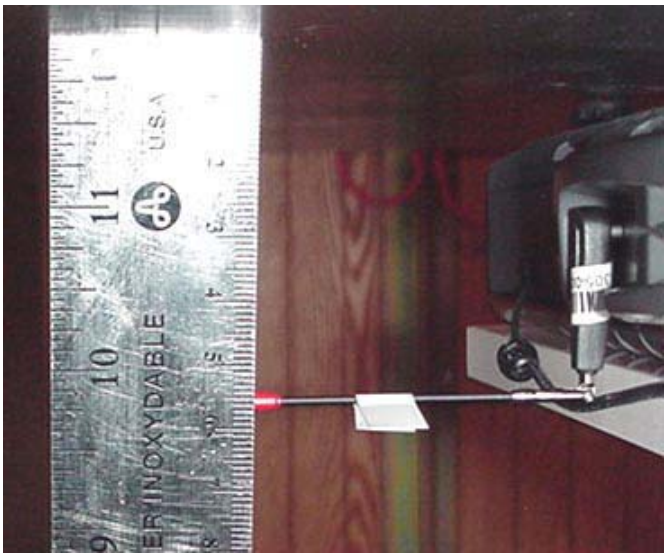


2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
AirCard 775 Antenna "Open 180°"



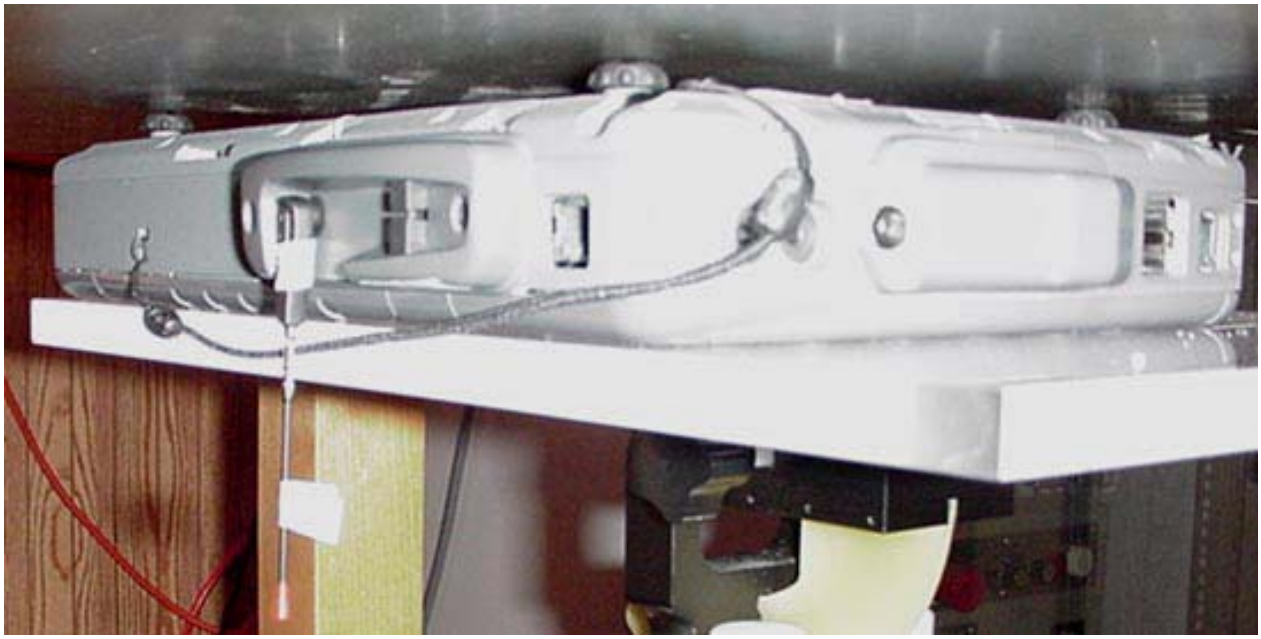


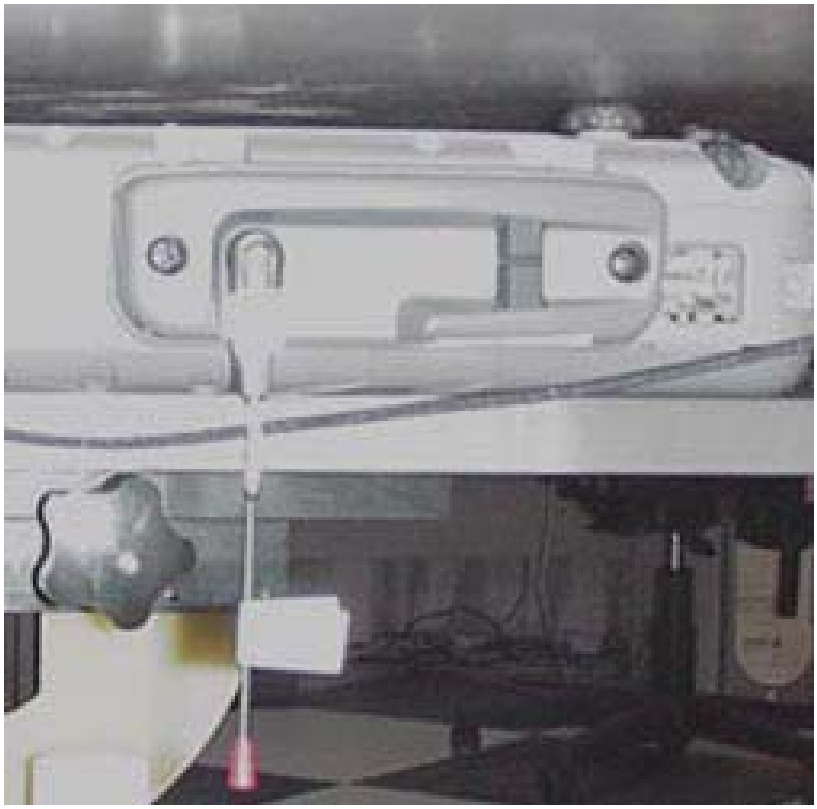
2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom

AirCard 775 Antenna "Open 90°"

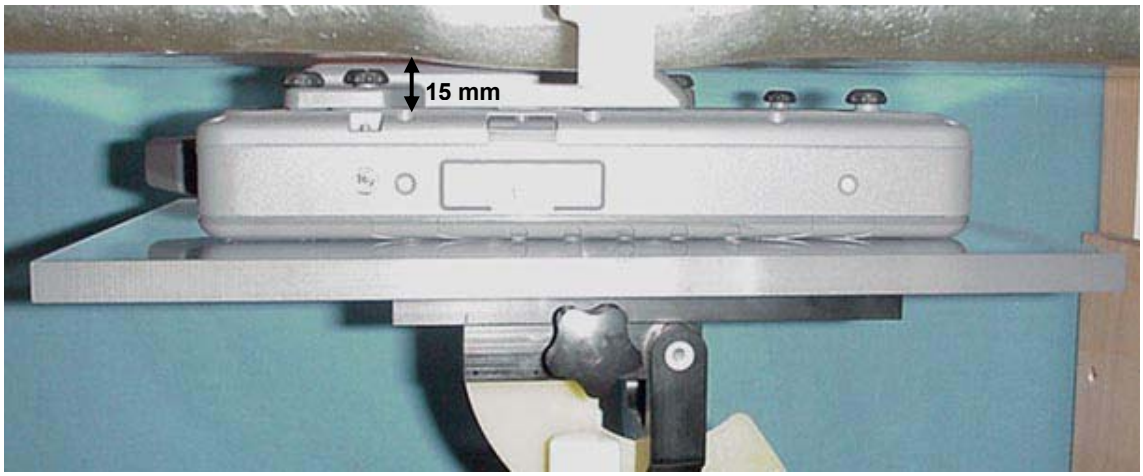


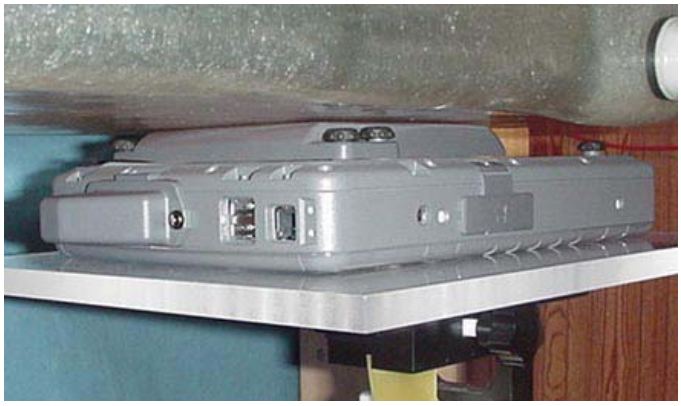


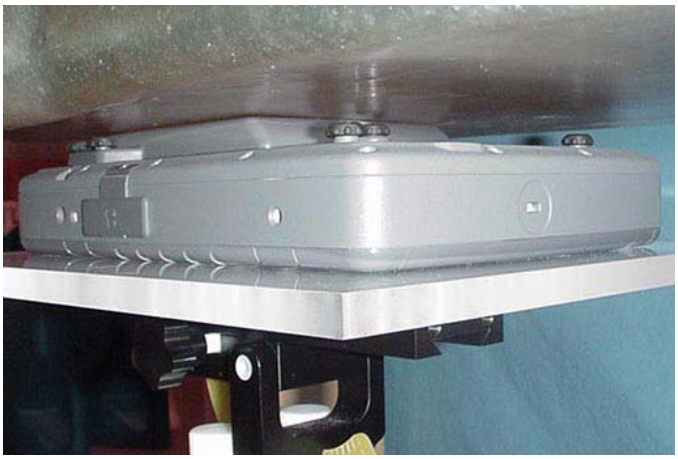
2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT (External 2nd Battery) to Planar Phantom
With External Second Lithium-ion Battery Pack (15 mm External 2nd Battery Thickness)







2005 Celltech Labs Inc. This document is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc.

APPENDIX G - SAM PHANTOM CERTIFICATE OF CONFORMITY

Schmid & Partner
Engineering AG

Zeughausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

Certificate of conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 BA
Series No	TP-1002 and higher
Manufacturer / Origin	Untersee Composites Hauptstr. 69 CH-8559 Fruthwilen Switzerland

Tests

The series production process used allows the limitation to test of first articles.
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

Test	Requirement	Details	Units tested
Shape	Compliance with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness	Compliant with the requirements according to the standards	2mm +/- 0.2mm in specific areas	First article, Samples
Material parameters	Dielectric parameters for required frequencies	200 MHz – 3 GHz Relative permittivity < 5 Loss tangent < 0.05.	Material sample TP 104-5
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards	Liquid type HSL 1800 and others according to the standard.	Pre-series, First article

Standards

[1] CENELEC EN 50361
[2] IEEE P1528-200x draft 6.5
[3] IEC PT 62209 draft 0.9
(*) The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date 18.11.2001

Signature / Stamp

Schmid & Partner
Engineering AG
Zeughausstrasse 43, CH-8004 Zurich
Tel. +41 1 245 97 00, Fax +41 1 245 97 79

APPENDIX H - PLANAR PHANTOM CERTIFICATE OF CONFORMITY

2378 Westlake Road
Kelowna, B.C. Canada
V1Z-2V2

BARSKI INDUSTRIES (1985) LTD.

Ph. # 250-769-6848
Fax # 250-769-6334
E-mail: barskiind@shaw.ca
Web: www.bcfiberglass.com

FIBERGLASS FABRICATORS

Certificate of Conformity

Item : Flat Planar Phantom Unit # 03-01
Date: June 16, 2003
Manufacturer: Barski Industries (1985 Ltd)

Test	Requirement	Details
Shape	Compliance to geometry according to drawing	Supplied CAD drawing
Material Thickness	Compliant with the requirements	2mm +/- 0.2mm in measurement area
Material Parameters	Dielectric parameters for required frequencies Based on Dow Chemical technical data	100 MHz-5 GHz Relative permittivity<5 Loss Tangent<0.05

Conformity

Based on the above information, we certify this product to be compliant to the requirements specified.

Signature: _____

Daniel Chailler

Fiberglass Planar Phantom - Top View

Fiberglass Planar Phantom - Front View

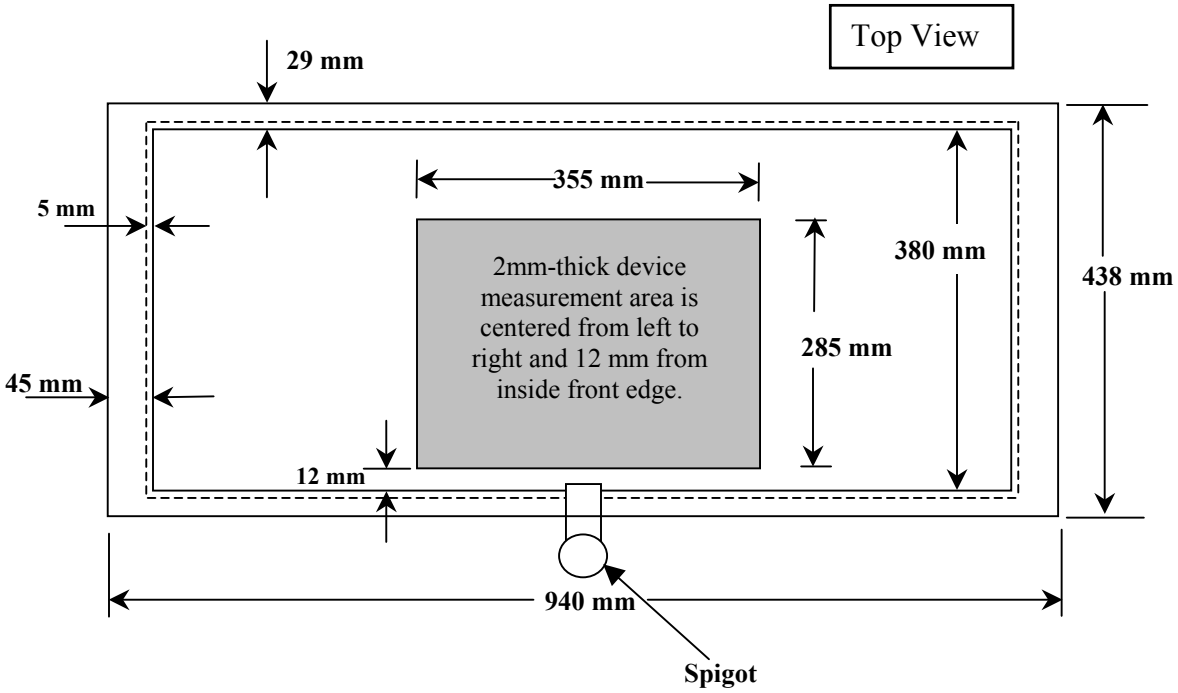
Fiberglass Planar Phantom - Back View

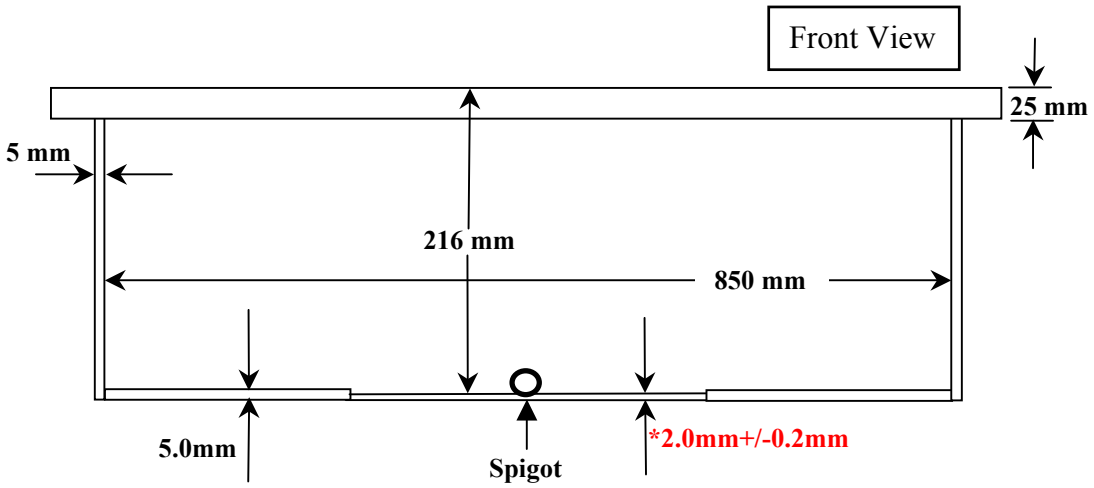
Fiberglass Planar Phantom - Bottom View

2003 Celltech Labs Inc.

Dimensions of Fiberglass Planar Phantom

(Manufactured by Barski Industries Ltd. - Unit# 03-01)





Note: Measurements that aren't repeated for the opposite sides are the same as the side measured. This drawing is not to scale.

2003 Celltech Labs Inc.