

Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

RF EXPOSURE EVALUATION

SPECIFIC ABSORPTION RATE

SAR TEST REPORT

FOR

ITRONIX CORPORATION

MODEL: IX325-AC860

IX325 SERIES RUGGED TABLET PC

WITH

DUAL-BAND GSM/GPRS/EDGE/UMTS PCMCIA MODEM

FCC ID: KBCIX325-AC860

IC: 1943A-IX325g

TEST STANDARD(S) & PROCEDURE(S) APPLIED

FCC OET Bulletin 65, Supplement C (01-01)

Industry Canada RSS-102 Issue 2

Test Report Serial No.

042406KBC-T740-S24GWC

Test Report Revision No.

Revision 1.0 (Initial Release)

Test Lab and Location

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

Test Report Prepared By:

Cheri Frangiadakis Test Report Writer Celltech Labs Inc. **Test Report Reviewed By:**

Jonathan Hughes General Manager Celltech Labs Inc.

Company:	Itronix	Corporat	ration FCC ID: KBCIX325-AC860 IC ID:			1943A-IX325g	IT	RONIX °
Model: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem								RAL DYNAMICS COMPANY
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DECLARATION OF COMPLIANCE SAR RF EXPOSURE EVALUATION

Test Lab and Location

CELLTECH LABS INCORPORATED

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Company Information

ITRONIX CORPORATION

12825 E. Mirabeau Parkway Spokane Valley, WA 99216

United States

Canada V I F 9L3	web si	te. www.ceiitec	maus.com						
FCC IDENTIFIER:	KBCIX325-	AC860							
IC IDENTIFIER:	1943A-IX32	25g							
Model(s):	IX325-AC8	60							
Rule Part(s):	FCC	47 (FR §2.109	3	IC	Health Canada Safety Code 6			
Test Procedure(s):	FCC	FCC OET Bulletin 65, Supplement C (01-01)					RSS	3-102 Issue	2
	FCC	PCS License	ed Transmit	ter (PCB)		47 CF	R Part	24 Subpart	E
Device Classification(s):	IC	2 GHz	2 GHz Personal Communication Se					RSS-133	ssue 3
	10	800 MHz Cellul	ar Telephon	es Employing Ne	ew Techno	ologies		RSS-132	ssue 2
Device Description:	Rugged Ta	blet PC							
Internal Transmitter Type:	Dual-Band	Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem Sierra Wireless Model: AirCard 860							
User Display Orientation(s):		0 Degrees I	andscape			-90	0 Degre	es Portrait	
Transmit Frequency Range(s):	1850.2 -	· 1909.8 MHz	PCS GSI	M/GPRS/EDGE	824.2	- 848.8 MH	łz C	ellular GSM	/GPRS/EDGE
Transmit Frequency Range(3).	1852.4 -	1907.5 MHz	PC	SUMTS	826.4	- 846.6 MH	łz	Cellula	r UMTS
	Conducted	PCS GPRS	28.71 dB	m 0.743 Wa	atts Cellular Gl		RS 3	2.27 dBm	1.69 Watts
Max. RF Output Power Tested:	Conducted	PCS EDGE	25.72 dB	m 0.373 Wa	atts Cellular E		SE 2	6.91 dBm	0.491 Watts
	Conducted	PCS UMTS	23.00 dB	m 0.200 Wa	atts Cellular UM		ΓS 2	4.00 dBm	0.251 Watts
Max. RF Output Power Tested:	Conducted	PCS GPRS	22.69 dB	m 0.186 Wa	atts C	ellular GPR	RS 2	5.80 dBm	0.380 Watts
(Source-Based Time Averaged)	Conducted	PCS EDGE	19.70 dB	m 0.093 Wa	ntts C	ellular EDG	SE 2	0.89 dBm	0.123 Watts
GSM Transmit Class:	Class B	can b	e connected	to GPRS and G	SM servi	ces using o	only one	service at a	time
GSM Multislot Class:	Class 10	2 Uplin	k Slots	Max. Sour	ce-Based	Time-Aver	raged D	uty Cycle:	25%
GSM Power Class:		S 850: 1		S 1900: 1		GE 850: E2			1900: E2
WCDMA Power Class:	UMT	S 850: 3		S 1900: 3	Max.	Duty Cycle			00%
WCDMA Uplink Channel(s):		1 DPCCH				1 [Channel	
Antenna Type(s) Tested:	Externa	al Hinged Monopo	ole	Sierra W	ireless		atta	ched to Air	Card 860
Battery Type(s) Tested:		Lithium-ion		11.1 V, 36	00 mAh			Model: T8	M-E
Max. SAR Level(s) Evaluated:	Body (1g)	PCS Band	GPRS:	0.624 W/kg	EDGE:	0.306	W/kg	UMTS:	0.252 W/kg
maxi Crit Lovoi(o) Livaladiod.	2005 (1g)	Cellular Band	GPRS:	0.332 W/kg	EDGE:	0.0919	W/kg	UMTS:	0.251 W/kg

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 2 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.

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Test Report Approved By:

Sean Johnston SAR Lab Manager Celltech Labs Inc.







Company:	Itronix Corporation		ion FCC ID:	KBCIX325-AC860	1943A-IX325g	IT	RONIX °	
Model:	IX325-A	25-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY
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Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

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Company:	Itronix Corporation		ion	FCC ID:	KBCIX325-AC860 IC ID:		1943A-IX325g	ITRONIX °	
Model:	odel: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem								RAL DYNAMICS COMPANY
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1.0 INTRODUCTION

This measurement report demonstrates that ITRONIX CORPORATION Model: IX325-AC860 Rugged Tablet PC FCC ID: KBCIX325-AC860, incorporating the Sierra Wireless AirCard 860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem, 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 2 (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)	Heal	th Ca	nada Safety Co	de 6	
Test Procedure(s)	FCC	OET Bulleti	n 65, Suppl	ement C (01	-01)	lı	ndustry Cana	ada R	SS-102 Issue 2		
RF Exposure Category			(Seneral Popu	ulation / Ur	ncontrolled E	nvironment				
FCC Device Classification		PCS	Licensed T	ransmitter (F	PCB)		47	CFR	Part 24 Subpart	tΕ	
IC Device Classification		2 GHz Pe	ersonal Con	nmunication	Services			RS	S 133 Issue 3		
TO Device Classification	800MH	Hz Cellular 1	elephones	Employing N	New Techn	ologies		RS	S-132 Issue 2		
Device Description		Rugged	Tablet PC		M		IX	(325-AC860			
Internal Transmitter(s)	Dua	I-Band GSM	I/GPRS/ED	GE/UMTS P	PCMCIA Modem Si			Virele	ess Model: AirCa	ard 860	
User Orientation(s)		0 Degrees Landscape					-90 De	grees	s Portrait		
FCC IDENTIFIER		KBCIX325	-AC860		IC IDEN	TIFIER		19	943A-IX325g		
Test Sample Serial No.(s)	ZZGEG	5073ZZ978	4		IX325 Tab	olet PC			Production U	Jnit	
rest dample derial No.(3)	357806	000465210		А	irCard 860) Modem			Production U	Jnit	
Transmitter Frequency Range(s)	1850.2 -	1909.8 MH	z PCS	GSM/GPR	S/EDGE	824.2 - 8	48.8 MHz	Ce	ellular GSM/GPF	RS/EDGE	
Transmitter Frequency Range(5)	1852.4 -	1852.4 - 1907.5 MHz PCS UMTS 826.4 - 846			46.6 MHz		Cellular UM	TS			
	Band	Freq.	G	PRS		EDGE	Fre	eq.	W-CDI	MA	
	Dana	MHz	dBm	Watts	dBn	n Wa	ts MI	Ηz	dBm	Watts	
		824.2	31.70	1.48	26.7	4 0.4	72 82	6.4	23.80	0.240	
Max. RF Conducted Output Power Level(s) Measured	Cellular	836.6	31.82	1.52	26.9	0.4	91 83	6.4	23.90	0.245	
		848.8	32.27	1.69	26.8	0.4	84 84	6.6	24.00	0.251	
		1850.2	28.62	0.728	25.6	0.3	64 185	2.4	22.33	0.171	
	PCS	1880.0	28.71	0.743	25.7				23.00	0.200	
		1909.8	28.50	0.708	25.5			07.5 22.70		0.186	
Max. Conducted Source-Based Time	Cellular	836.6	25.80	0.380	20.8			-			
Averaged RF Output Power Tested	PCS	1880.0	22.69	0.186	19.7						
GSM Transmit Class	Class B		can be co	nnected to b	ooth GPRS	and GSM se	ervices using	one	service at a time	9	
GSM Multislot Class	Class 10		2 Uplink S	lots	Max.	Source-Base	ed Time-Ave	raged	Duty Cycle:	25%	
GSM Power Class	GPRS 850): 1	GPR	S: 1900:	1	EDGE 85	50: E2		EDGE 1900:	E2	
WCDMA Power Class	UMTS 850): 3	UMT	S 1900:	3	Source-Bas	sed Time-Av	erage	ed Duty Cycle:	100%	
WCDMA Uplink Channel(s)		1 DF	PCCH Char	nel			1 DPI	OCH (Channel		
Modulation Type(s)		SPRS: GMS	K	E	EDGE: 8-P	SK		UM	ITS: WCDMA		
Antenna Type(s) Tested		External		Hir	nged Mond	pole	at	tache	ed to AirCard 86	0	
	Posit	ion 1	Close	d 180°	Р	ivot Closed	Aı	ntenn	a 180° to PCMC	CIA Card	
Antenna Position(s) Tested	Posit	ion 2	Ope	า 180°	F	Pivot Open			a 180° to PCMC		
	Posit	Position 3 Open 90°			Pivot Open			Antenna 90° to PCMCIA Card			
Battery Type(s) Tested	In	nternal Lithiu	m-ion Batte	ery	11.1	V, 3600 mA	h		Model: T8M-E		
Additional Battery Type(s)		nal Second I		,		V, 3600 mA			Model: T8S-E		
Testing Not Performed									act that it has ex stance from tabl		

Company:	Itronix Corporation		ion	FCC ID:	KBCIX325-AC860	KBCIX325-AC860 IC ID: 1943A-IX325g			ITRONIX °	
Model:									RAL DYNAMICS COMPANY	
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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 Electrooptical 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 planar phantom and validation dipole

Company:	Itronix	Corporatio	n FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	X325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						
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4.0 MEASUREMENT SUMMARY

						ВОГ	DY SA	R EVA	LUATI	ON R	ESULTS					
								Cellu	ılar Bar	ıd						
Test Date		Т	est Mode		Freq (MHz			enna sition	Batte Typ	-	DUT Position to Planar Phantom	t t	eparation Distance o Planar Phantom (cm)	Cond. Power Before Test (dBm)	SAR Drift During Test (dB)	Measured SAR 1g (W/kg)
May 2	GPR	S	2 Slots	Script	836.0	6 190	Close	ed 180°	Internal	Li-ion	Bottom Side	0.0 (Touch)		31.82	0.0131	0.332
May 2	GPR	s	2 Slots	Script	836.0	6 190	Oper	า 180°	Internal	Li-ion	Bottom Side	0.	0 (Touch)	31.82	-0.0280	0.0569
May 2	GPR	s	2 Slots	Script	836.0	6 190	Оре	n 90°	Internal	Li-ion	Bottom Side	0.	0 (Touch)	31.82	-0.0955	0.0207
May 3	EDG	E	2 Slots	Script	836.0	6 190	Close	ed 180°	Internal	Li-ion	Bottom Side	0.	0 (Touch)	26.91	0.0106	0.0919
May 11	UMT	s	WCDMA	Air-link	836.4	4 4182	Close	ed 180°	Internal	Li-ion	Bottom Side	0.	0 (Touch)	23.90	0.009	0.251
ANSI / I	EEE C	95.1	1999 - SAI	FETY LIN	IIT	BODY: 1.	6 W/kg (averaged	d over 1 g	ram)	Spatial Peak	- Un	controlled	Exposure	/ General I	Population
	Test D	ate(s)	May 2	, 2006	May 3,	2006	May 1	1, 2006		Test Date(s)		May 2	May 3	May 11	Unit
Dielect	tric	Flu	ıid Type	835 MH	Iz Body	835 MH	z Body	835 MH	Iz Body	Re	lative Humidity		30	30	30	%
Consta	-	IEE	E Target	Meas.	Dev.	Meas.	Dev.	Meas.	Dev.	Atmo	tmospheric Pressure		101.6	102.9	102.7	kPa
ε _r		55.2	2 ± 5%	53.2	-3.6%	53.1	-3.8%	52.7	-4.5%	Amb	ient Temperatur	re	22.4	22.5	23.2	°C
		Flu	iid Type	835 MF	Iz Body	835 MH	z Body	835 MH	Iz Body	Flu	id Temperature		22.2	22.0	21.5	°C
Conduct σ (mho	-	IEE	E Target	Meas.	Dev.	Meas.	Dev.	Meas.	Dev.		Fluid Depth		≥ 15	≥ 15	≥ 15	cm
		0.97	± 5%	0.95	-2.1%	0.97	0.0%	0.95	-2.1%		ρ (Kg /m³)		1		000	
		1.									ted in the con					Detailed
		2.									below the SAR t C, Edition 01-				for the low	and high
		3.		S and ED		odes were	e evalua	ated for	SAR at r	naximu	um power usin	g th	e proprieta	ary Sierra	Wireless	Procomm
		4.	UMTS set.	S mode v	was ev	aluated fo	or SAR	at maxii	mum pov	ver via	air-link using	the	Anritsu M	T8820A c	communica	ations test
Note(s)	5.	EDGE	and UN	ITS m	odes were	evalua	ted for S	SAR in th	e worst	t-case antenna	cor	figuration	evaluated	in GPRS	mode.
		6.	The p	ower drif	t of the	e DUT me	asured	by the D	ASY4 sy	stem d	luring the SAR	eva	luations w	as <5% fr	om the sta	art power.
		7.	The D	UT batte	ery was	s fully cha	rged pri	or to the	SAR eva	aluation	ns.					
		8.									, and during, the					k and the
		9.									re measured palyzer (see App			R evaluat	tions using	g an ALS-
		10.	The S	AR eval	uations	s were per	formed	within 2	4 hours o	f the s	ystem performa	ance	e check.			

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MEASUREMENT SUMMARY (Cont.)

						BOI	OY SAR I	EVALU	ATION R	ESULTS				
								PCS B	and					
Test Date		Test M	Mode		Freq (MHz		Antenn Positio	~	Battery Type	DUT Position to Planar Phantom	Separation Distance to Planar Phantom (cm)	Cond Powe Before Test (dBm	er Drift re During t Test	Measured SAR 1g (W/kg)
May 4	GPRS	2 SI	ots S	Script	1880	0 661	Closed 18	30° Inte	ernal Li-ion	Bottom Side	0.0 (Touch)	28.7	1 -0.135	0.624
May 4	GPRS	2 SI	ots S	Script	1880	0 661	Open 18	0° Inte	ernal Li-ion	Bottom Side	0.0 (Touch)	28.7	1 0.039	0.0626
May 4	GPRS	2 SI	ots S	Script	1880	0 661	Open 90	O° Inte	ernal Li-ion	Bottom Side	0.0 (Touch)	28.7	1 -0.040	0.0806
May 4	EDGE	2 SI	ots S	Script	1880	0 661	Closed 18	30° Inte	ernal Li-ion	Bottom Side	0.0 (Touch)	25.7	2 -0.012	0.306
May 11	UMTS	WCE	OMA A	ir-link	1880	0 9400	Closed 18	30° Inte	ernal Li-ion	Bottom Side	0.0 (Touch)	23.0	-0.207	0.252
ANSI /	IEEE C9	5.1 199	9 - SAFI	ETY LII	TIN	BODY: 1	.6 W/kg (ave	eraged ove	er 1 gram)	Spatial Peak	- Uncontrolled	Expos	ure / General	Population
	Test Da	ite(s)			May 4,	2006	May 11	, 2006	Te	est Date(s)	May 4	l	May 11	Unit
Dielec	tric	Fluid	Туре	18	380 MH	z Body	1880 MH	z Body	Relat	tive Humidity	30	30		%
Const ε _r		IEEE 1	Target	Me	leas. Dev. Meas. Dev.		Atmosp	oheric Pressure	101.6	101.6		kPa		
O 1		53.3	± 5%	5′	1.5	-3.4%	51.2	-3.9%	Ambier	nt Temperature	24.0		24.3	°C
Conduc	tivity	Fluid	Туре	18	380 MH	z Body	1880 MH	z Body	Fluid	Temperature	23.5		23.7	°C
σ (mho	_		Target		eas.	Dev.	Meas.	Dev.		uid Depth	≥ 15		≥ 15	cm
		1.52	± 5%		55	+2.0%	1.46	-3.9%	-	o (Kg/m³)			1000	
		1.								sted in the co cation of the D				Detailed
		2.								below the SAI ent C, Edition 0				w and high
		3.	GPRS Plus			modes we	ere evaluate	ed for SA	R at maxim	num power usir	ng the propriet	tary Si	erra Wireless	Procomm
		4.	UMTS set.	S mode	e was	evaluated	for SAR at	maximui	n power vi	a air-link using	the Anritsu M	1T8820	A communic	ations test
Note((s)	5.	EDGE	and I	UMTS	modes we	ere evaluate	ed for SA	R in the wo	rst-case anten	na configuration	on eva	luated in GP	RS mode.
		6.	The p		drifts r	neasured	by the DAS	SY4 syste	em for the	duration of the	SAR evaluat	ions w	ere <5% fror	n the start
		7. The DUT battery was fully charged prior to the SAR evaluations.												
		8.	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.											
		9.								ere measured Analyzer (see A		AR eva	aluations usin	g an ALS-
		10.	The S	AR ev	aluatio	ons were p	erformed v	vithin 24 l	nours of the	e system perfor	mance check			

Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						
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5.0 DETAILS OF SAR EVALUATION

The ITRONIX CORPORATION Model: IX325-AC860 Rugged Tablet PC with internal Sierra Wireless AirCard 860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem 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.

Test Configuration(s)

1. The DUT was tested for body SAR (lap-held) 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 SAR with the AirCard 860 antenna placed in the "Closed 180°" position, "Open 180°" position, and "Open 90°" position (see placement photos on next page).

Test Modes & Power Settings

- For the SAR evaluations in GPRS and EDGE modes the proprietary Sierra Wireless Procomm Plus Test Script installed in the DUT was utilized. The DUT was transmitting at maximum power in 2 time slots (25% duty cycle with a crest factor of 2).
- For the SAR evaluations in UMTS mode an air-link communication was established using the Anritsu MT8820A communications test set. The DUT was transmitting at maximum power with "all-up bits" (see below settings table).

PROCEDURES USED TO ESTABLISH TEST SIGNAL

The following settings were used to configure the Anritsu MT8820A Communications Test Set:

Instrument Information

Application: WCDMA

Standard: MX88200B 4.41 #003

Scenario: MX882050A Serial Number: 6200241241

Call Parameters

Preset: 3GPP Test Loop Mode: Mode 1

Channel Coding: Reference Measurement Channel 12.2 kbps

DTCH Data Pattern: PN9
Power Control Algorithm: Algorithm 1
TPC Step size: 1dB
Power Control Bit Pattern: All-Up Bits

 UL Channel:
 9262 / 9400 / 9538
 4132 / 4182 / 4233

 DL Channel:
 9662 / 9800 / 9938
 4357 / 4407 / 4458

- 4. The conducted power levels of the AC860 were measured at the PC card antenna connector prior to the SAR evaluations using a Gigatronics 8652A Universal Power Meter in Burst Average Power mode (GPRS/EDGE) and Modulated Average Power mode (WCDMA) according to the procedures described in FCC 47 CFR §2.1046.
- 5. The power drift of the DUT during the SAR evaluations was measured by the DASY4 system.

Test Conditions

- 6. 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.
- 7. The dielectric parameters of the simulated tissue mixtures were measured prior to the SAR evaluations using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C).

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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.

Antenna Test Positions







Antenna "Closed 180°" Position



Antenna "Open 180°" Position

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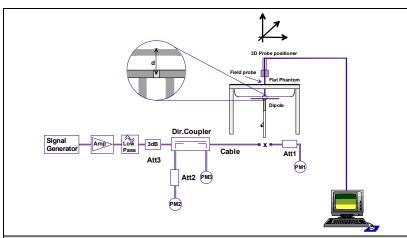


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7.0 SYSTEM PERFORMANCE CHECK

Prior to the SAR evaluations a system check was performed using a planar phantom with an 835MHz dipole and a 1900MHz dipole (see Appendix E for system validation procedures). The dielectric parameters of the simulated tissue mixtures were measured prior to the system performance check using an ALS-PR-DIEL Dielectric Probe Kit and an HP 8753ET Network Analyzer (see Appendix C). 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). See Table 1 below for the SAR system manufacturer's reference body SAR values from the DASY4 Operation Manual (see reference [6]).

	SYSTEM PERFORMANCE CHECK EVALUATIONS																
Test	Equiv. Tissue	SAR 1g (W/kg)			Dielectric Constant ε _r		Conductivity σ (mho/m)		ρ	Amb. Temp.	Fluid Temp.	Fluid Depth	Humid.	Barom. Press.			
Date	Body (MHz)		EE rget	Meas.	Dev.	IEEE Target	Meas.	Dev.	IEEE Target	Meas.	Dev.	(Kg/m³)	(°C)	(°C)	(cm)	(%)	(kPa)
5/1/06	835	2.43	±10%	2.45	+0.8%	55.2 ±5%	53.0	-4.0%	0.97 ±5%	0.96	-1.0%	1000	25.5	22.8	≥ 15	30	101.8
5/3/06	835	2.43	±10%	2.24	-7.8%	55.2 ±5%	53.1	-3.8%	0.97 ±5%	0.97	0.0%	1000	22.5	22.0	≥ 15	30	102.9
5/4/06	1900	9.95	±10%	10.2	+2.5%	53.3 ±5%	51.5	-3.4%	1.52 ±5%	1.56	-2.6%	1000	24.0	23.5	≥ 15	30	101.6
5/11/06	835	2.43	±10%	2.48	+2.1%	55.2 ±5%	52.7	-4.5%	0.97 ±5%	0.95	-2.1%	1000	23.2	21.5	≥ 15	30	102.7
5/11/06	1900	9.95	±10%	9.71	-2.4%	53.3 ±5%	51.1	-4.1%	1.52 ±5%	1.47	-3.3%	1000	24.3	23.7	≥ 15	30	102.9
	Note(s)		1.	The ambient and fluid temperatures were measured prior to, and during, the fluid dielectric parameter system performance check. The temperatures listed in the table above were consistent for all measure													
			2.	The SA	R evalua	tions were	performe	d within 2	24 hours of the	ne systen	n perforr	nance che	eck.				





Dipole	Distance	Frequency	SAR (1g)	SAR (10g)	SAR (peak)
Туре	[mm]	[MHz]	[W/kg]	[W/kg]	[W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.

Table 1. SAR System Manufacturer's	Reference Body SAR Values
------------------------------------	---------------------------

	A	
TT	A	T

1900MHz Dipole Setup

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8.0 SIMULATED EQUIVALENT TISSUES

The 1880/1900MHz simulated equivalent tissue mixture consisted of Glycol-monobutyl, water, and salt. The 835MHz simulated equivalent tissue mixture consisted of a viscous gel using 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).

1880/1900MHz TISSUE MIXTURE								
INGREDIENT	1900 MHz Body	1880 MHz Body						
INGREDIENT	System Performance Check	DUT Evaluation						
Water	69.85 %	69.85 %						
Glycol Monobutyl	29.89 %	29.89 %						
Salt	0.26 %	0.26 %						

835MHz TISSUE MIXTURE									
INGREDIENT	835 MHz Body	835 MHz Body							
INGREDIENT	System Performance Check	DUT Evaluation							
Water	53.79 %	53.79 %							
Sugar	45.13 %	45.13 %							
Salt	0.98 %	0.98 %							
Bactericide	0.10 %	0.10 %							

9.0 SAR SAFETY LIMITS

	SAR (W/kg)					
EXPOSURE LIMITS	(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				

Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.

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.

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Model:	Model: IX325-AC860 IX			5 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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10.0 ROBOT SYSTEM SPECIFICATIONS

<u>Specifications</u>				
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	Measurement Software: DASY4, V4.7 Build 44			
Contware	Postprocessing Software: SEMCAD, V1.8 Build 171			
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.	1590			
Construction	Triangular core fiber optic detection system			
Frequency	10 MHz to 6 GHz			
Linearity	±0.2 dB (30 MHz to 3 GHz)			
Phantom(s)				
Туре	Planar Phantom			
Shell Material	Fiberglass			
Thickness	2.0 ±0.1 mm			
Volume	Approx. 70 liters			

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11.0 PROBE SPECIFICATION (ET3DV6)

Construction: Symmetrical design with triangular core

Built-in shielding against static charges

PEEK enclosure material (resistant to organic solvents, 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: \pm 0.2 dB

(30 MHz to 3 GHz)

Directivity: \pm 0.2 dB in brain tissue (rotation around probe axis)

 \pm 0.4 dB in brain tissue (rotation normal to probe axis)

Dynamic Range: $5 \mu W/g$ to > 100 mW/g; Linearity: \pm 0.2 dB

Surface Detect: \pm 0.2 mm repeatability in air and clear liquids over

diffuse reflecting surfaces

Dimensions: Overall length: 330 mm

Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm

Distance from probe tip to dipole centers: 2.7 mm

Application: General dosimetry up to 3 GHz

Compliance tests of mobile phone



ET3DV6 E-Field Probe

12.0 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

13.0 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

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14.0 TEST EQUIPMENT LIST

	TEST EQUIPMENT	ASSET NO.	SERIAL NO.		TE	CALIBRATION
USED	DESCRIPTION			CALIB	RATED	DUE DATE
Х	Schmid & Partner DASY4 System	-	-		-	-
х	-DASY4 Measurement Server	00158	1078	N	/A	N/A
х	-Robot	00046	599396-01	N	/A	N/A
х	-DAE4	00019	353	15Jı	un05	15Jun06
	-DAE3	00018	370	08Fe	08Feb06 08Feb0	
	-ET3DV6 E-Field Probe	00016	1387	16M	ar06	16Mar07
х	-ET3DV6 E-Field Probe	00017	1590	20M	ay05	20May06
	-EX3DV4 E-Field Probe	00125	3547	14Fe	eb06	14Feb07
	-300MHz Validation Dipole	00023	135	250	ct05	25Oct06
	-450MHz Validation Dipole	00024	136	250	ct05	25Oct06
	925MI = Volidation Dinale	00022	411	Brain	28Mar06	28Mar07
х	-835MHz Validation Dipole	00022	411	Body	27Mar06	27Mar07
	OCOMULE Volidation Dinale	00000	054	Brain	10Jun05	10Jun06
	-900MHz Validation Dipole	00020	054	Body	10Jun05	10Jun06
	4000MH= Velideffee Direct	00004	0.47	Brain	14Jun05	14Jun06
	-1800MHz Validation Dipole	00021	247	Body	14Jun05	14Jun06
	4000MH= Velideffee Direct	00000	454	Brain	17Jun05	17Jun06
х	-1900MHz Validation Dipole	00032	151	Body	25Apr06	25Apr07
	OAEOMILE Velidation Dinale	00005	450	Brain	20Sep05	20Sep06
	-2450MHz Validation Dipole	00025	150	Body	24Apr06	24Apr07
	-5800MHz Validation Dipole	00126	1031	Brain	15Mar06	15Mar07
	-SAM Phantom V4.0C	00154	1033	N	/A	N/A
х	-Barski Planar Phantom	00155	03-01	N	/A	N/A
	-Plexiglas Side Planar Phantom	00156	161	N	/A	N/A
	-Plexiglas Validation Planar Phantom	00157	137	N	/A	N/A
х	ALS-PR-DIEL Dielectric Probe Kit	00160	260-00953	N	/A	N/A
х	Gigatronics 8652A Power Meter	00110	1835801	12A	pr06	12Apr07
	Gigatronics 8652A Power Meter	00007	1835272	03Fe	eb06	03Feb07
	Gigatronics 80701A Power Sensor	00011	1833542	03Fe	eb06	03Feb07
х	Gigatronics 80701A Power Sensor	00012	1834350	125	ep05	12Sep06
х	Gigatronics 80701A Power Sensor	00013	1833713	03F	eb06	03Feb07
	Gigatronics 80701A Power Sensor	00014	1833699	07S	ep05	07Sep06
х	HP 8753ET Network Analyzer	00134	US39170292	18A	pr06	18Apr07
х	HP 8648D Signal Generator	00005	3847A00611	N	/A	N/A
	Rohde & Schwarz SMR40 Signal Generator	00006	100104	06A	pr06	06Apr07
х	Amplifier Research 5S1G4 Power Amplifier	00106	26235	N	/A	N/A

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15.0 MEASUREMENT UNCERTAINTIES

UI	NCERTAINT	Y BUDGET FOR	R DEVICE EVAL	UATION		
Error Description	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	Uncertainty Value ±% (1g)	V _i or V _{eff}
Measurement System						
Probe calibration	5.5	Normal	1	1	5.5	∞
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 Uncertain	tv				10.58	
Expanded Uncertainty (k=2)					21.16	

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

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MEASUREMENT UNCERTAINTIES (Cont.)

UI	NCERTAINTY	BUDGET FOR	SYSTEM VALI	DATION		
Error Description	Uncertainty Value ±%	Probability Distribution	Divisor	ci 1g	Uncertainty Value ±% (1g)	V _i or V _{eff}
Measurement System						
Probe calibration	5.5	Normal	1	1	5.5	∞
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	œ
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 Uncertaint	v '		•	•	8.79	
Expanded Uncertainty (k=2)					17.57	

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

	Company:	y: Itronix Corporation		FCC ID:	KBCIX325-AC860 IC ID: 1943A-IX325g			IT	RONIX °	
I	Model: IX325-AC860 IX			25 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					A GENERAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2

16.0 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 "Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)", Radio Standards Specification RSS-102 Issue 2: November 2005.
- [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.
- [6] Schmid & Partner Engineering AG "DASY4 Manual", V4.5 March 2005.

Company:	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model: IX325-AC860 IX			325 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX A - SAR MEASUREMENT DATA

Company:	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model: IX325-AC860 IX3			(325 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	Test Report Issue Date:	October 06, 2006	
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Body SAR - Cellular Band - GPRS Mode - 836.6 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 22.4 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 31.82 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: Cellular GPRS (2 Time Slots) Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:4.16 Medium: M835 (σ = 0.95 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 190 - 836.6 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

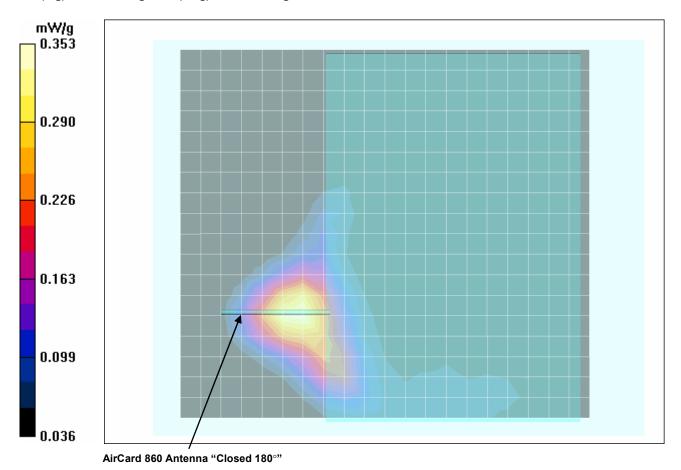
Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 190 - 836.6 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.6 V/m; Power Drift = 0.0131 dB

Peak SAR (extrapolated) = 0.453 W/kg

SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.228 mW/g

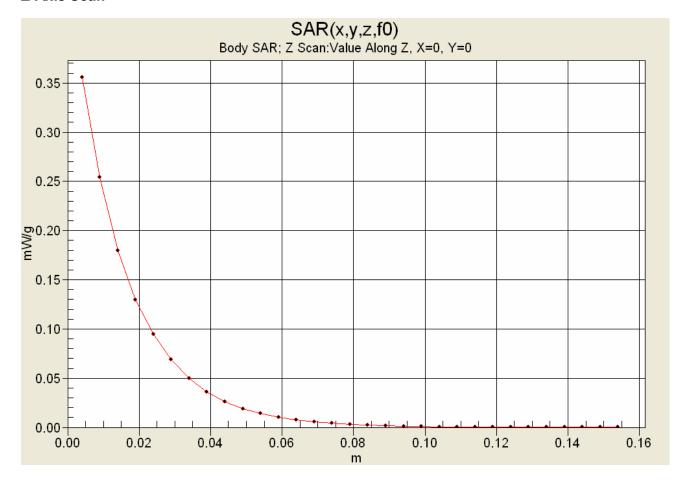


Company:	Company: Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °	
Model: IX325-AC860 IX325			IX32	25 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Z-Axis Scan



Company:	Itronix	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model: IX325-AC860 IX		IX32	325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem			A GENERAL DYNAMICS COMPANY			
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Body SAR - Cellular Band - GPRS Mode - 836.6 MHz - Bottom Side of DUT - Antenna "Open 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 22.4 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 31.82 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: Cellular GPRS (2 Time Slots) Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:4.16 Medium: M835 (σ = 0.95 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 180 - Channel 190 - 836.6 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

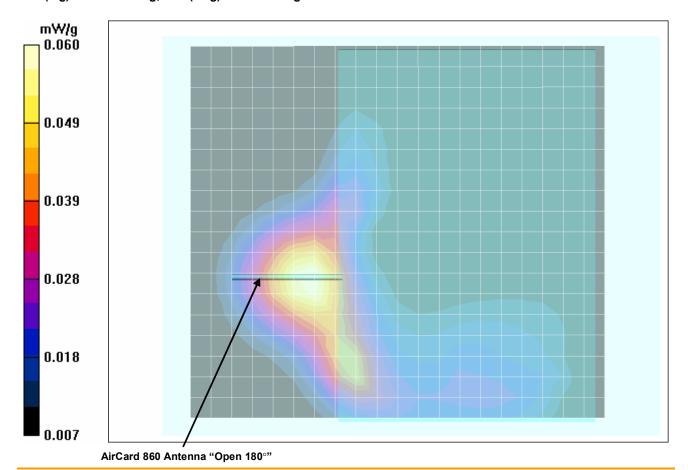
Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 180 - Channel 190 - 836.6 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.16 V/m; Power Drift = -0.0280 dB

Peak SAR (extrapolated) = 0.075 W/kg

SAR(1 g) = 0.0569 mW/g; SAR(10 g) = 0.041 mW/g



Company:	Itronix Corporation FCC ID: KBCIX325-AC		KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	Model: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Body SAR - Cellular Band - GPRS Mode - 836.6 MHz - Bottom Side of DUT - Antenna "Open 90°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 22.4 °C; Fluid Temp: 22.2 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 31.82 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: Cellular GPRS (2 Time Slots) Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:4.16 Medium: M835 (σ = 0.95 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 90 - Channel 190 - 836.6 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

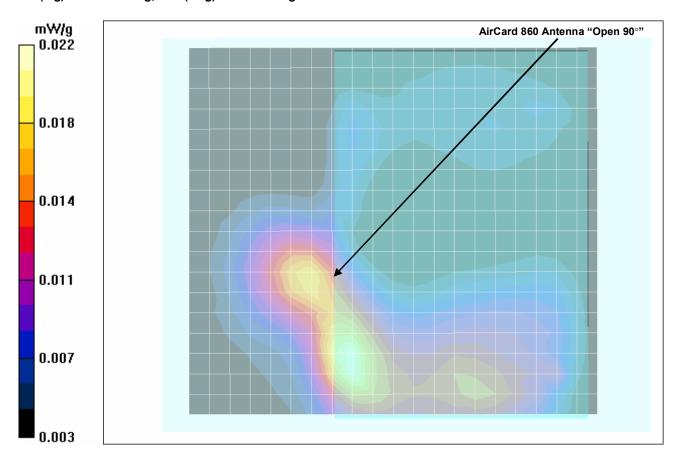
Body SAR - Cellular GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 90 - Channel 190 - 836.6 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.94 V/m; Power Drift = -0.0955 dB

Peak SAR (extrapolated) = 0.029 W/kg

SAR(1 g) = 0.0207 mW/g; SAR(10 g) = 0.015 mW/g



Company:	Itronix	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID: 1943A-IX325g		ITRONIX °	
Model:	IX325-A	X325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Body SAR - Cellular Band - EDGE Mode - 836.6 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 22.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.9 kPa; Humidity: 30%

RF Output Power: 26.91 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: Cellular EDGE (2 Time Slots) Frequency: 836.6 MHz; Channel 190; Duty Cycle: 1:4.16 Medium: M835 (σ = 0.97 mho/m; ϵ_r = 53.1; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - Cellular EDGE - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 190 - 836.6 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

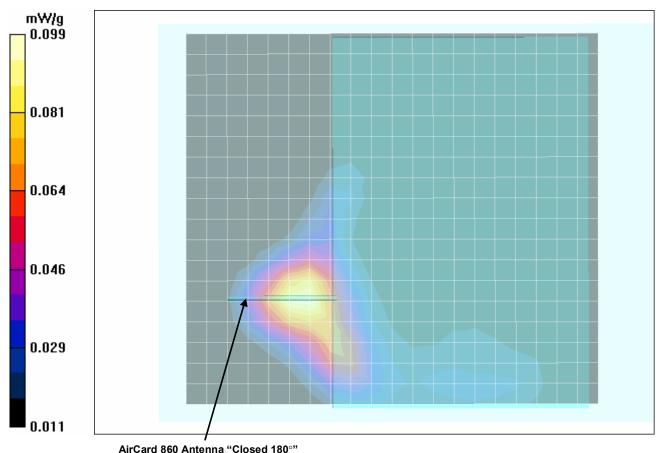
Body SAR - Cellular EDGE - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 190 - 836.6 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.2 V/m; Power Drift = 0.0106 dB

Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.0919 mW/g; SAR(10 g) = 0.064 mW/g



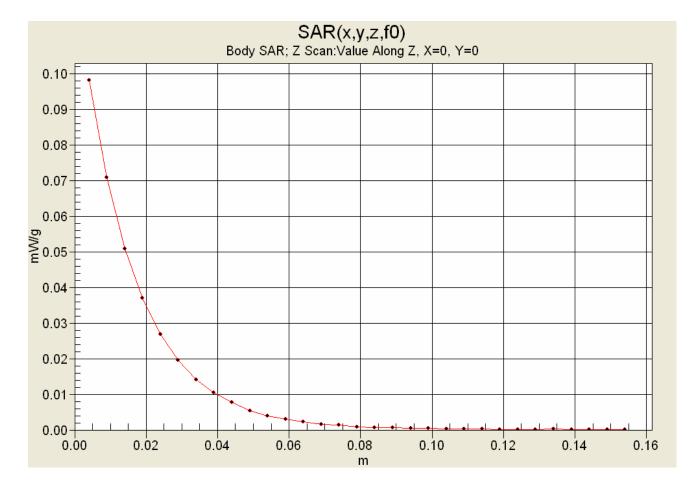
AirCard 860 Antenna "Closed 180"

Company:	Itronix	tronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	ITRONIX °	
Model:	IX325-A	IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					RAL DYNAMICS COMPANY			
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Z-Axis Scan



Company:	Itronix	Corporatio	on FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	Model: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Date Tested: 05/11/2006

Body SAR - Cellular Band - UMTS Mode - 836.4 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 102.7 kPa; Humidity: 30%

RF Output Power: 23.90 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: Cellular UMTS (WCDMA) Frequency: 836.4 MHz; Channel 4182; Duty Cycle: 1:1 Medium: M835 (σ = 0.95 mho/m; ϵ_r = 52.7; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 171

Body SAR - Cellular UMTS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 4182 - 836.4 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

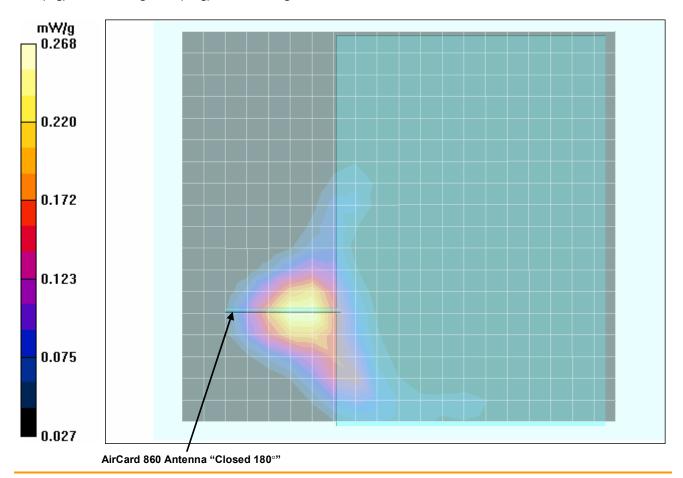
Body SAR - Cellular UMTS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 4182 - 836.4 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.8 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.173 mW/g

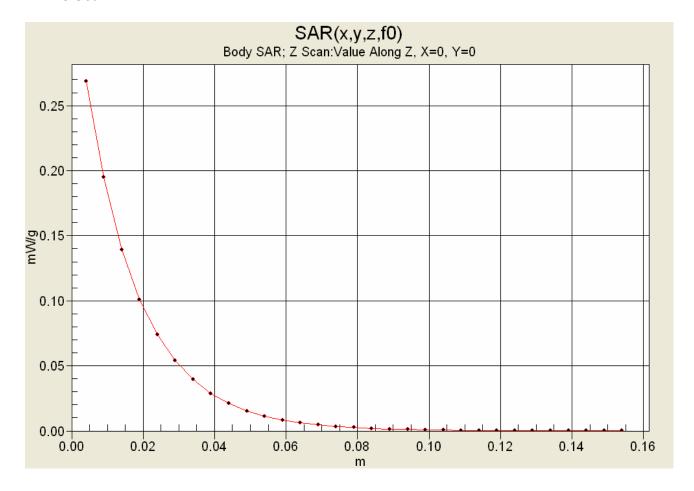


Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	ITRONIX	
Model:	Model: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY	
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Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix	onix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °	
Model:	lel: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					RAL DYNAMICS COMPANY				
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Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Body SAR - PCS Band - GPRS Mode - 1880.0 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 24.0 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 28.71 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: PCS GPRS (2 Time Slots) Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:4.16 Medium: M1900 (σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 661 - 1880 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

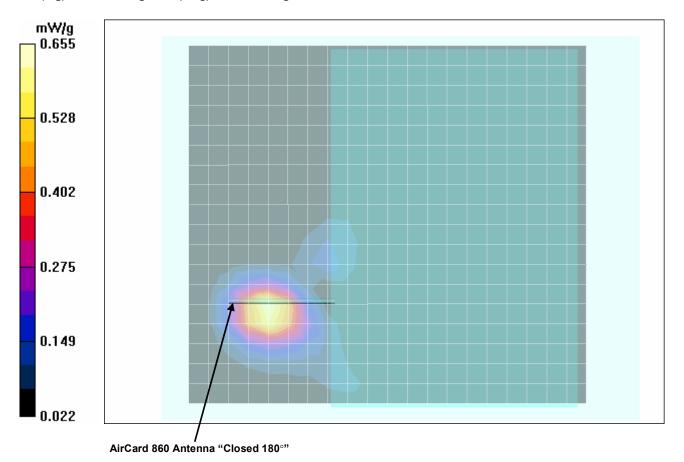
Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 661 - 1880 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.2 V/m; Power Drift = -0.135 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.624 mW/g; SAR(10 g) = 0.364 mW/g

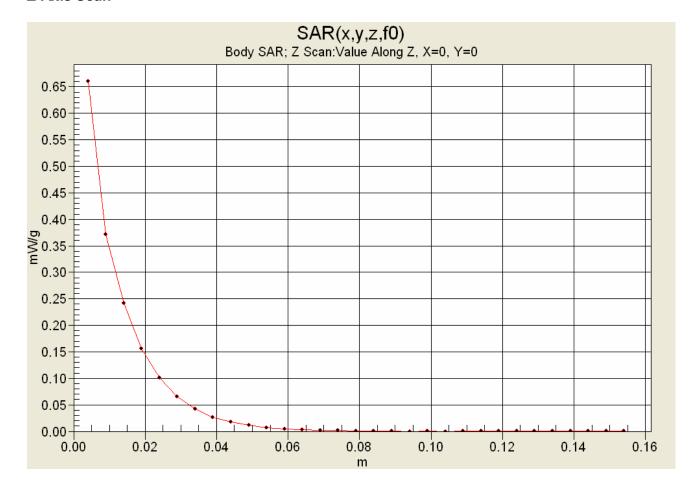


Company:	Itronix	Corporatio	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	ITRONIX °	
Model:	Model: IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Z-Axis Scan



Company:	Itronix	nix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	ITRONIX °	
Model:	IX325-A	AC860	IX32	25 Rugged Table	Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Body SAR - PCS Band - GPRS Mode - 1880.0 MHz - Bottom Side of DUT - Antenna "Open 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 24.0 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 28.71 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: PCS GPRS (2 Time Slots) Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:4.16 Medium: M1900 (σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 180 - Channel 661 - 1880 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

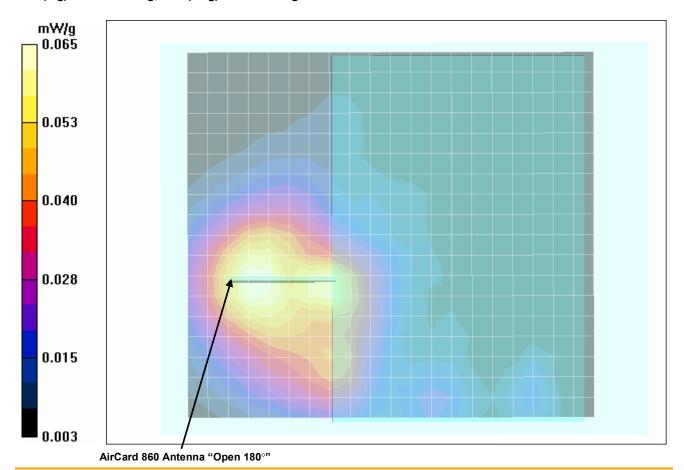
Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 180 - Channel 661 - 1880 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.42 V/m; Power Drift = 0.039 dB

Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.0626 mW/g; SAR(10 g) = 0.040 mW/g



Company:	Itronix	onix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	ITRONIX °	
Model:	IX325-A	AC860	IX325	Rugged Table	et PC with Dual-Band GS		RAL DYNAMICS COMPANY			
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Body SAR - PCS Band - GPRS Mode - 1880.0 MHz - Bottom Side of DUT - Antenna "Open 90°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 24.0 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 28.71 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: PCS GPRS (2 Time Slots) Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:4.16 Medium: M1900 (σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 90 - Channel 661 - 1880 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

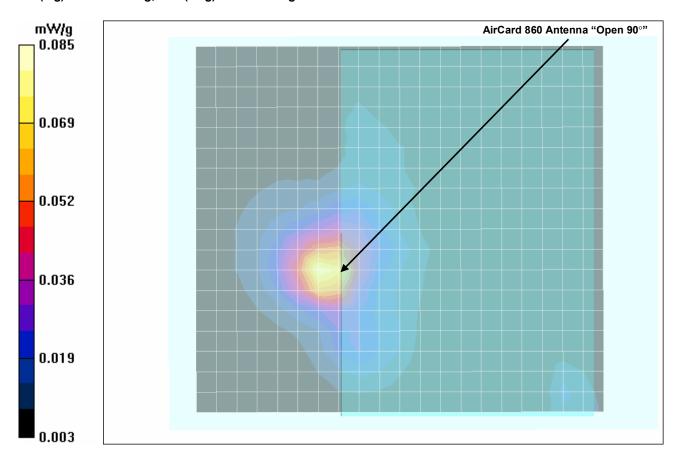
Body SAR - PCS GPRS - Bottom Side of DUT Touching Planar Phantom - Antenna Open 90 - Channel 661 - 1880 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.20 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.0806 mW/g; SAR(10 g) = 0.047 mW/g



Company:	Itronix	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	ITRONIX °	
Model:	IX325-A	AC860	IX32	25 Rugged Table		RAL DYNAMICS COMPANY				
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Body SAR - PCS Band - EDGE Mode - 1880.0 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 24.0 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

RF Output Power: 25.72 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: PCS EDGE (2 Time Slots) Frequency: 1880.0 MHz; Channel 661; Duty Cycle: 1:4.16 Medium: M1900 (σ = 1.55 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 171

Body SAR - PCS EDGE - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 661 - 1880 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

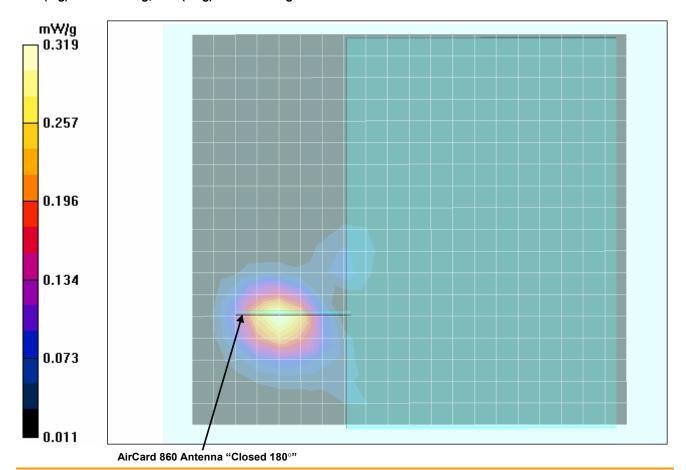
Body SAR - PCS EDGE - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 661 - 1880 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.5 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 0.601 W/kg

SAR(1 g) = 0.306 mW/g; SAR(10 g) = 0.180 mW/g



Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	ITRONIX °		
Model:	IX325-A	AC860 IX	(325 Rugged Table	5 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Date Tested: 05/11/2006

Body SAR - PCS Band - UMTS Mode - 1880.0 MHz - Bottom Side of DUT - Antenna "Closed 180°"

DUT: Itronix Model: IX325-AC860; Type: Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS; Serial: ZZGEG5073ZZ9784

Ambient Temp: 24.3 °C; Fluid Temp: 23.7 °C; Barometric Pressure: 102.9 kPa; Humidity: 30%

RF Output Power: 23.00 dBm (Conducted)

11.1V, 3600mAh Lithium-ion Battery (Model: T8M-E) Communication System: PCS UMTS (WCDMA) Frequency: 1880 MHz; Channel 9400; Duty Cycle: 1:1 Medium: M1880 (σ = 1.46 mho/m; ϵ_r = 51.2; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 171

Body SAR - PCS UMTS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 9400 - 1880 MHz Area Scan (19x21x1): Measurement grid: dx=15mm, dy=15mm

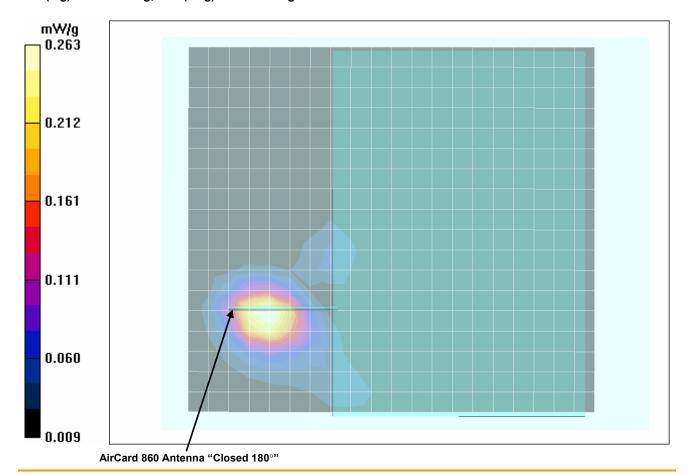
Body SAR - PCS UMTS - Bottom Side of DUT Touching Planar Phantom - Antenna Closed 180 - Channel 9400 - 1880 MHz

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.5 V/m; Power Drift = -0.207 dB

Peak SAR (extrapolated) = 0.503 W/kg

SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.148 mW/g

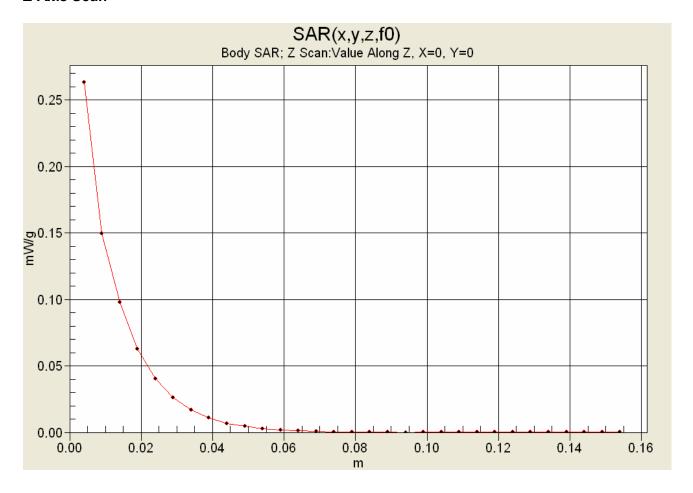


Company:	Itronix	ronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860	IVOGE Downsel Tablet DC with Dwel David COM/CDDC/EDCE/UNTO Madam						RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix	nix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860	IX32	25 Rugged Table		RAL DYNAMICS COMPANY			
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

APPENDIX B - SYSTEM PERFORMANCE CHECK DATA

Company:	Itronix Corporation			FCC ID: KBCIX325-AC860		IC ID:	1943A-IX325g	ITRONIX °	
Model:	IX325-AC860 IX32			25 Rugged Table	et PC with Dual-Band GS		RAL DYNAMICS COMPANY		
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

System Performance Check (Body) - 835 MHz Dipole

DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Validation: 03/27/2006

Ambient Temp: 25.5 °C; Fluid Temp: 22.8 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

Communication System: CW Forward Conducted Power: 250 mW Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M835 (σ = 0.96 mho/m; ε_r = 53.0; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

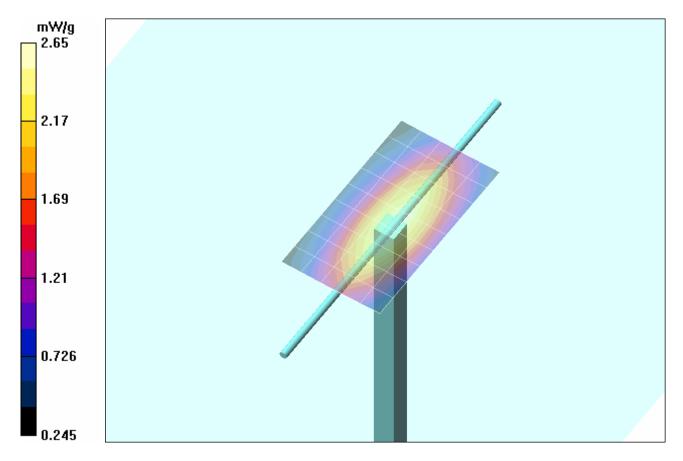
835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

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 = 53.8 V/m; Power Drift = -0.047 dB Peak SAR (extrapolated) = 3.58 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/g

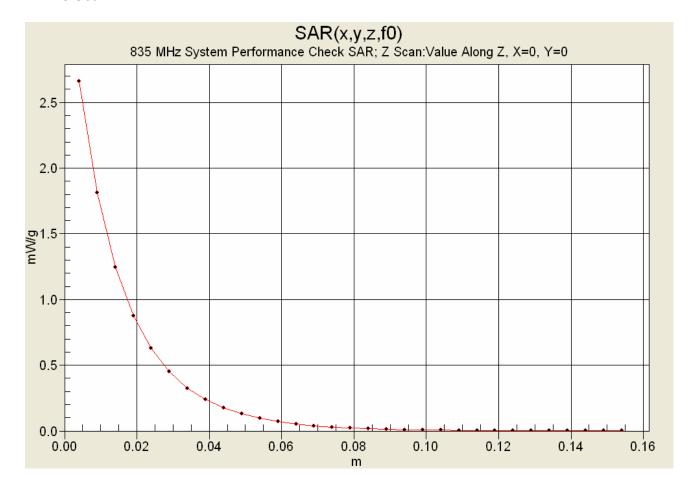


Company:	Itronix	Corporatio	n FCC ID:	KBCIX325-AC860	0 IC ID: 1943A-IX325g		ITRONIX °		
Model:	IX325-A	AC860 I	X325 Rugged Table	Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem				A GENERAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	October 06, 2006			
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix Corporation			FCC ID:	KBCIX325-AC860	IC ID:	IC ID: 1943A-IX325g		ITRONIX® A GENERAL DYNAMICS COMPANY	
Model:	IX325-A	AC860	IX32	25 Rugged Table	ed Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Date Tested: 05/03/2006

System Performance Check (Body) - 835 MHz Dipole

DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Validation: 03/27/2006

Ambient Temp: 22.5 °C; Fluid Temp: 22.0 °C; Barometric Pressure: 102.9 kPa; Humidity: 30%

Communication System: CW Forward Conducted Power: 250 mW Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M835 (σ = 0.97 mho/m; ϵ_r = 53.1; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

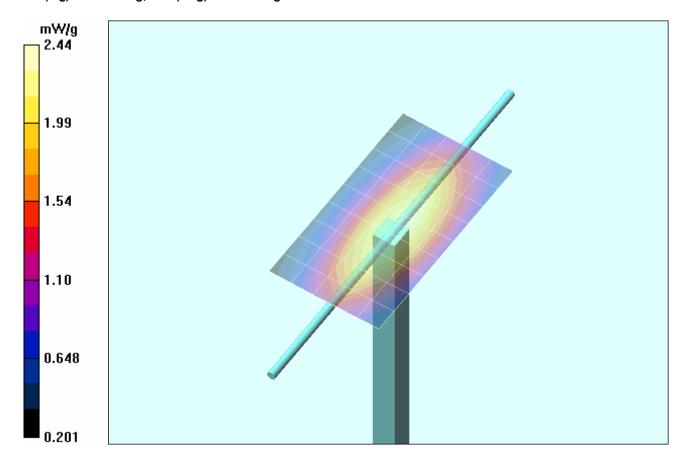
835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

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 = 50.8 V/m; Power Drift = -0.068 dB Peak SAR (extrapolated) = 3.24 W/kg

SAR(1 g) = 2.24 mW/g; SAR(10 g) = 1.47 mW/g

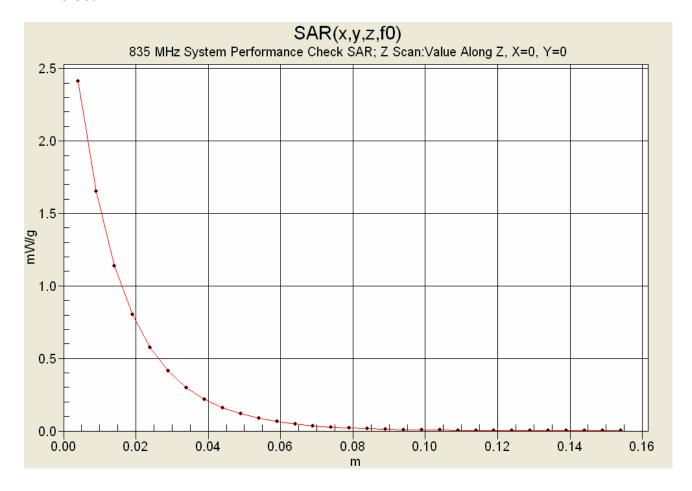


Company:	Itronix	nix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	odel: IX325-AC860 IX325 Rugg				et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix	ix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860	IX32	25 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Date Tested: 05/04/2006

System Performance Check (Body) - 1900 MHz Dipole

DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Validation: 04/25/2006

Ambient Temp: 24.0 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 30%

Communication System: CW Forward Conducted Power: 250 mW Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: M1900 (σ = 1.56 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):

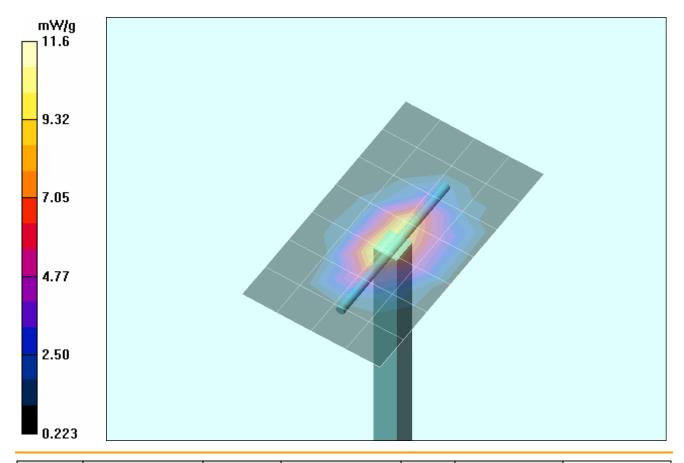
Measurement grid: dx=15mm, dy=15mm

1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 89.1 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 17.7 W/kg

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.42 mW/g

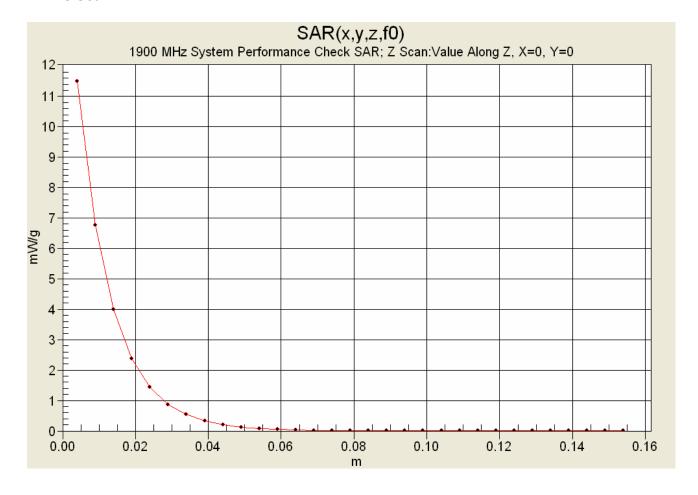


Company:	Itronix	Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-	AC860	IX32	(325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix	Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:							RAL DYNAMICS COMPANY		
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure SAR		FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Date Tested: 05/11//2006

System Performance Check (Body) - 835 MHz Dipole

DUT: Dipole 835 MHz; Model: D835V2; Type: System Performance Check; Serial: 411; Validation: 03/27/2006

Ambient Temp: 23.2 °C; Fluid Temp: 21.5 °C; Barometric Pressure: 102.7 kPa; Humidity: 30%

Communication System: CW Forward Conducted Power: 250 mW Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M835 (σ = 0.95 mho/m; ε_r = 52.7; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 171

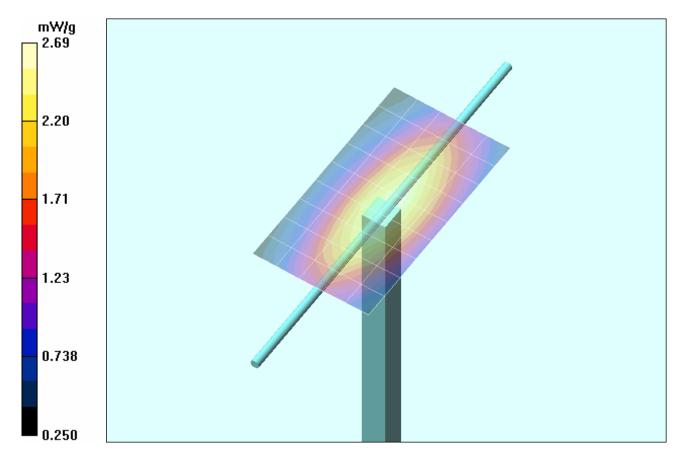
835 MHz Dipole - System Performance Check/Area Scan (6x10x1):

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 = 53.3 V/m; Power Drift = -0.085 dB Peak SAR (extrapolated) = 3.63 W/kg

SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.63 mW/g

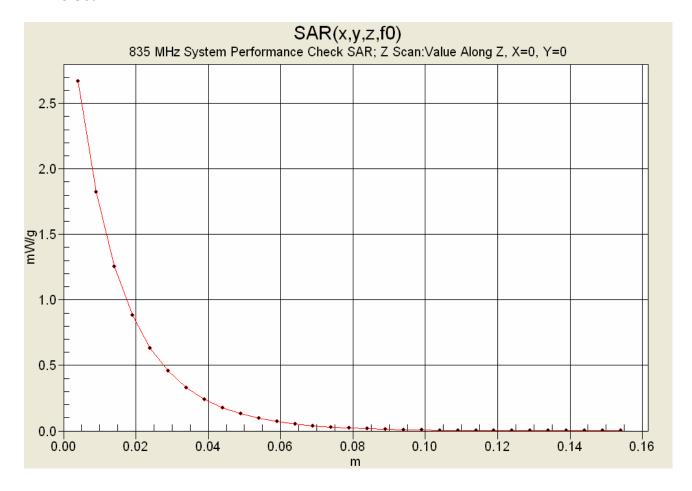


Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-AC860 IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem						RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

Z-Axis Scan



Company:	Itronix	ix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860	IX32	25 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Date Tested: 05/11/2006

System Performance Check (Body) - 1900 MHz Dipole

DUT: Dipole 1900 MHz; Model: D1900V2; Type: System Performance Check; Serial: 151; Validation: 04/25/2006

Ambient Temp: 24.3 °C; Fluid Temp: 23.7 °C; Barometric Pressure: 102.9 kPa; Humidity: 30%

Communication System: CW Forward Conducted Power: 250 mW Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: M1900 (σ = 1.47 mho/m; ϵ_r = 51.1; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

1900 MHz Dipole - System Performance Check/Area Scan (5x8x1):

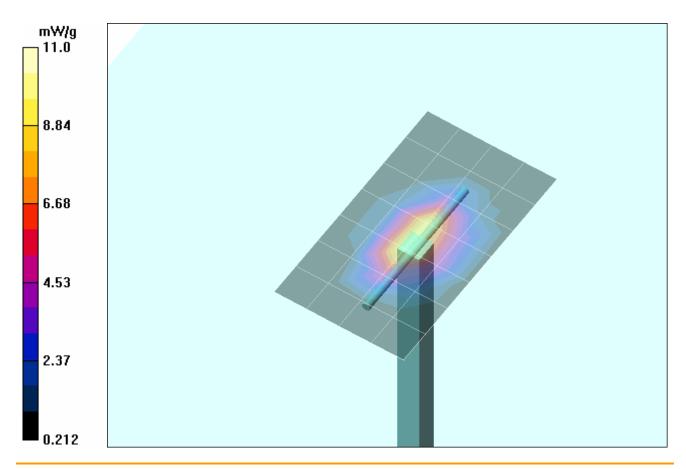
Measurement grid: dx=15mm, dy=15mm

1900 MHz Dipole - System Performance Check/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 90.3 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.71 mW/g; SAR(10 g) = 5.13 mW/g

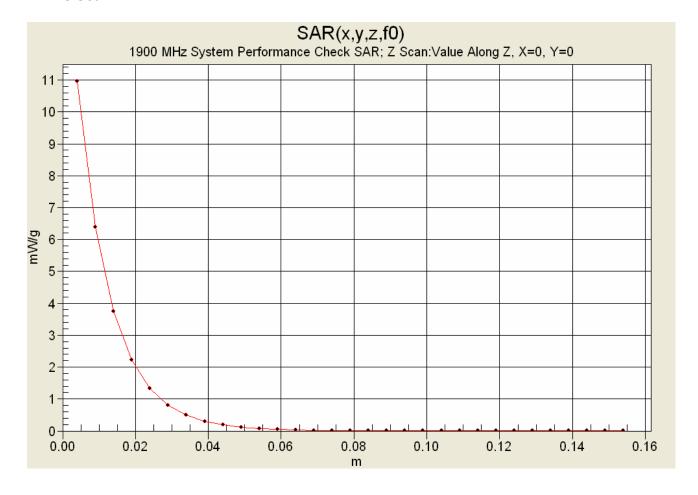


Company:	Itronix Corporation		ion	FCC ID:	KBCIX325-AC860	-AC860 IC ID: 1943A-IX325g				
Model:	IX325-A	A COCC IVOCE DOWN A TABLE A DO WHILE DOWN DOWN CORROR FOR HIMTO MANAGEMENT			RAL DYNAMICS COMPANY					
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

Z-Axis Scan



Company:	Itronix	tronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	ITRONIX °	
Model: IX325-AC860 IX3		IX32	25 Rugged Table	Rugged Tablet PC with Dual-Band GSM/GPRS/E				RAL DYNAMICS COMPANY		
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Test Report Serial No.: 042406KBC-T740-S24GWC			Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX C - MEASURED FLUID DIELECTRIC PARAMETERS

Company:	Itronix Corporation		: Itronix Corporation FCC ID: KBCIX325-AC860 IC IE		IC ID:	1943A-IX325g		RONIX °	
Model: IX325-AC860 IX3			325 Rugged Tabl	25 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem A GENERAL DYNAMICS CON					
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Test Report Serial No.: 042406KBC-T740-S24GWC			Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

835 MHz System Performance Check (Body)

Celltech Labs Inc. Test Result for UIM Dielectric Parameter Mon 01/May/2006

Mon 01/May/2006
Frequency (GHz)
FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC 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 sE	3 Test e	Test s
0.7350	55. 5 9	0.96	53.78	0.87
0.7450	55.55	0.96	53.76	0.88
0.7550	55.51	0.96	53.70	0.88
0.7650	55.47	0.96	53.71	0.89
0.7750	55.43	0.97	53.43	0.91
0.7850	55.39	0.97	53.44	0.92
0.7950	55.36	0.97	53.49	0.92
0.8050	55.32	0.97	53.34	0.93
0.8150	55.28	0.97	53.33	0.94
0.8250	55.24	0.97	53.20	0.95
0.8350	55.20	0.97	52.99	0.96
0.8450	55.17	0.98	53.08	0.97
0.8550	55.14	0.99	52.87	0.98
0.8650	55.11	1.01	52.82	0.99
0.8750	55.08	1.02	52.63	0.99
0.8850	55.05	1.03	52.55	1.00
0.8950	55.02	1.04	52.61	1.02
0.9050	55.00	1.05	52.46	1.02
0.9150	55.00	1.06	52.35	1.03
0.9250	54.98	1.06	52.25	1.04
0.9350	54.96	1.07	52.20	1.05

Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONI
Model: IX325-AC860 IX			325 Rugged Table	et PC with Dual-Band G	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPA
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Test Report Serial No.: 042406KBC-T740-S24GWC			Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

835 MHz DUT Evaluation (Body)

Celltech Labs Inc Test Result for UIM Dielectric Parameter Tue 02/May/2006

Frequency (GHz)

FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eBFCC Limits for Body Epsilon
FCC_structure FCC_structure
FCC_structure FCC_structure
FCC_structure FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_structure
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FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_structure
FCC_str

Test_e Epsilon of UIM Test s Sigma of UIM

******	*****			*****
Freq	FCC_eB	FCC_sE	3 Test_e	Test_s
0.7350	55.59	0.96	54.21	0.86
0.7450	55.55	0.96	53.90	0.87
0.7550	55.51	0.96	53.87	0.87
0.7650	55.47	0.96	53.75	0.88
0.7750	55.43	0.97	53.63	0.88
0.7850	55.39	0.97	53.47	0.89
0.7950	55.36	0.97	53.51	0.91
0.8050	55.32	0.97	53.32	0.92
0.8150	55.28	0.97	53.34	0.92
0.8250	55.24	0.97	53.23	0.94
0.8350	55.20	0.97	53.18	0.95
0.8450	55.17	0.98	53.10	0.96
0.8550	55.14	0.99	52.97	0.96
0.8650	55.11	1.01	52.96	0.97
0.8750	55.08	1.02	52.97	0.98
0.8850	55.05	1.03	52.81	0.98
0.8950	55.02	1.04	52.69	1.00
0.9050	55.00	1.05	52.69	1.00
0.9150	55.00	1.06	52.59	1.01
0.9250	54.98	1.06	52.34	1.02
0.9350	54.96	1.07	52.47	1.03

Company:	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	ITF	
Model:	IX325-AC860 IX3		IX32	IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modern			DGE/UMTS Modem	A GENERAL
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

835 MHz System Performance Check & DUT Evaluation (Body)

Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Wed 03/May/2006

Frequency (GHz)
FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Sigma
FCC_eBFCC 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_sE	3 Test_e	Test_s				
0.7350	55.59	0.96	53.88	0.87				
0.7450	55.55	0.96	53.95	0.88				
0.7550	55.51	0.96	53.82	0.89				
0.7650	55.47	0.96	53.69	0.90				
0.7750	55.43	0.97	53.53	0.91				
0.7850	55.39	0.97	53.59	0.92				
0.7950	55.36	0.97	53.44	0.93				
0.8050	55.32	0.97	53.35	0.94				
0.8150	55.28	0.97	53.29	0.95				
0.8250	55.24	0.97	53.24	0.97				
<mark>0.8350</mark>	55.20	0.97	53.14	0.97				
0.8450	55.17	0.98	52.99	0.98				
0.8550	55.14	0.99	52.73	0.99				
0.8650	55.11	1.01	52.66	1.01				
0.8750	55.08	1.02	52.69	1.02				
0.8850	55.05	1.03	52.50	1.02				
0.8950	55.02	1.04	52.41	1.03				
0.9050	55.00	1.05	52.26	1.05				
0.9150	55.00	1.06	52.22	1.06				
0.9250	54.98	1.06	52.05	1.06				
0.9350	54.96	1.07	52.06	1.07				

Con	npany:	Itronix	Itronix Corporation		FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONI
Mo	odel:	IX325-A	AC860	IX32	25 Rugged Table	PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem				RAL DYNAMICS COM
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

1900 MHz System Performance Check & 1880 MHz DUT Evaluation (Body)

Celltech Labs Inc. Test Result for UIM Dielectric Parameter Thu 04/May/2006

Frequency (GHz) FCC eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon FCC sHFCC 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

FCC eBFCC sBTest e Test s Freq 1.8000 53.30 1.52 51.84 1.47 53.30 1.52 51.88 1.8100 1.47 1.8200 53.30 1.52 51.79 1.47 1.8300 53.30 1.52 51.64 1.49 1.8400 1.52 51.67 1.51 53.30 1.8500 53.30 1.52 51.71 1.52 1.8600 53.30 1.52 51.64 1.52 1.8700 53.30 1.52 51.60 1.54 1.8800 53.30 1.52 51.45 1.55 1.52 51.44 1.8900 53.30 1.56 1.52 51.50 1.56 1.9000 53.30 1.52 51.35 1.9100 53.30 1.57 1.9200 53.30 1.52 51.38 1.60 1.9300 1.52 51.32 53.30 1.60 1.9400 53.30 1.52 51.22 1.61 1.61 1.9500 53.30 1.52 51.22 1.9600 53.30 1.52 51.19 1.63 1.9700 53.30 1.52 51.13 1.64 1.9800 1.52 51.22 1.65 53.30 1.9900 53.30 1.52 51.12 1.66 2.0000 53.30 1.52 51.08 1.67

Company:	npany: Itronix Corporation FCC ID: KBCIX325-AC860			IC ID:	1943A-IX325g	ľ	
Model:	IX325-A	AC860 IX3	25 Rugged Table	et PC with Dual-Band G	SM/GPRS/E	DGE/UMTS Modem	A G
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

835 MHz System Performance Check & DUT Evaluation (Body)

Celltech Labs Inc.
Test Result for UIM Dielectric Parameter
Thu 11/May/2006
Frequency (GHz)

Frequency (GHz)
FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon
FCC_sHFCC 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

******	*****	******	******
FCC_eB	FCC_sE	3 Test_e	Test_s
55.59	0.96	53.54	0.86
55.55	0.96	53.37	0.88
55.51	0.96	53.35	0.88
55.47	0.96	53.30	0.89
55.43	0.97	53.34	0.90
55.39	0.97	52.91	0.91
55.36	0.97	52.73	0.92
55.32	0.97	52.73	0.93
55.28	0.97	52.60	0.93
55.24	0.97	52.55	0.95
55.20	0.97	52.68	0.95
55.17	0.98	52.54	0.96
55.14	0.99	52.33	0.98
55.11	1.01	52.36	0.99
55.08	1.02	52.10	0.99
55.05	1.03	52.11	1.00
			1.01
			1.02
			1.03
54.98		51.57	1.04
54.96	1.07	51.56	1.05
	FCC_eB 55.59 55.55 55.51 55.47 55.43 55.39 55.36 55.32 55.28 55.24 55.20 55.17 55.14 55.11 55.08 55.05 55.05 55.00 55.00	FCC_eB FCC_sE 55.59	55.55 0.96 53.37 55.51 0.96 53.35 55.47 0.96 53.30 55.43 0.97 53.34 55.39 0.97 52.91 55.36 0.97 52.73 55.28 0.97 52.60 55.24 0.97 52.55 55.20 0.97 52.68 55.17 0.98 52.54 55.14 0.99 52.33 55.11 1.01 52.36 55.08 1.02 52.10 55.05 1.03 52.11 55.02 1.04 51.94 55.05 1.03 52.11 55.05 1.03 52.11 55.00 1.05 51.89 55.00 1.06 51.75 54.98 1.06 51.57

Company:	Itronix	onix Corporation FCC ID: KBCIX325-AC860 IC ID: 1943A-IX325g			IT	RONIX °	
Model:	IX325-A	AC860 IX				RAL DYNAMICS COMPANY	
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

1900 MHz System Performance Check & 1880 MHz DUT Evaluation (Body)

Celltech Labs Inc. Test Result for UIM Dielectric Parameter Thu 11/May/2006

Frequency (GHz) FCC eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon FCC sHFCC 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 eBFCC sBTest e Test s 1.8000 53.30 1.52 51.51 1.38 53.30 1.52 51.53 1.8100 1.39 1.8200 53.30 1.52 51.37 1.39 1.8300 53.30 1.52 51.40 1.41 1.8400 1.52 1.41 53.30 51.24 1.8500 1.52 51.29 1.43 53.30 1.8600 53.30 1.52 51.34 1.43 1.8700 53.30 1.52 51.24 1.44 1.8800 53.30 1.52 51.21 1.46 1.52 51.25 1.8900 53.30 1.46 1.52 1.9000 53.30 51.13 1.47 1.52 1.9100 53.30 51.08 1.48 1.9200 53.30 1.52 51.19 1.49 1.52 51.06 1.50 1.9300 53.30 1.9400 53.30 1.52 51.01 1.51 1.9500 53.30 1.52 51.09 1.53 1.9600 53.30 1.52 51.08 1.53 1.9700 53.30 1.52 51.02 1.54 1.9800 1.52 50.95 1.56 53.30 1.9900 53.30 1.52 50.95 1.57 2.0000 53.30 1.52 50.90 1.58

Company:	Itronix Corporation FCC ID: KBCIX325-AC860		ronix Corporation		IC ID:	1943A-IX325g	IT	
Model:	IX325-A	AC860	IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem		A GENER			
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006		
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0		
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2		

APPENDIX D - SAR TEST SETUP PHOTOGRAPHS

Company:	Company: Itronix Corporation		FCC ID:	FCC ID: KBCIX325-AC860 IC ID: 1943A			IT	RONIX
Model: IX325-AC860 IX			X325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem					
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

BODY SAR TEST SETUP PHOTOGRAPHS
0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
AirCard 860 Antenna "Closed 180°"









Company:	Itronix	Corporation		on FCC ID: KBCIX325-AC860 IC ID: 1943A-IX325g		IT	RONIX °		
Model:	IX325-A	AC860	IX32	5 Rugged Table	et PC with Dual-Band GS		RAL DYNAMICS COMPANY		
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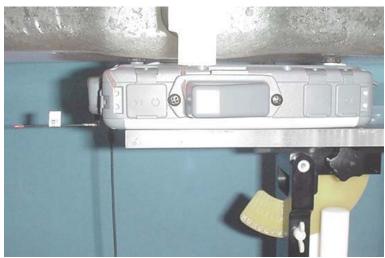


Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

BODY SAR TEST SETUP PHOTOGRAPHS

0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
AirCard 860 Antenna "Open 180"







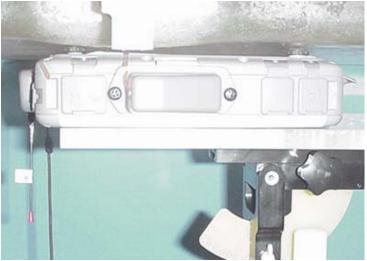
Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860 IX3	IX325 Rugged Tablet PC with Dual-Band GSM/GPRS/EDGI					RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

BODY SAR TEST SETUP PHOTOGRAPHS
0.0 cm Separation Distance from Bottom of DUT to Planar Phantom
AirCard 860 Antenna "Open 90"







Company:	Itronix	Corporation	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860 IX3	IX325 Rugged Tablet PC with Du		PC with Dual-Band GSM/GPRS/EDGE/UMTS Modem			RAL DYNAMICS COMPANY
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Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006
Date(s) of Evaluation:	May 01-04 & 11	, 2006	Report Revision No.:	Revision 1.0
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2

APPENDIX E - SYSTEM VALIDATION

Company:	Itronix	Corporati	on FCC ID:		KBCIX325-AC860 IC ID: 1943A-IX325g		IT	RONIX [®]	
Model:	IX325-A	AC860	IX32	5 Rugged Table	et PC with Dual-Band GS		RAL DYNAMICS COMPANY		
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835 MHz SYSTEM VALIDATION DIPOLE

Type:	835 MHz Validation Dipole
Asset Number:	00022
Serial Number:	411
Place of Validation:	Celltech Labs Inc.
Date of Validation:	March 27, 2006

Celltech Labs Inc. hereby certifies that the 835 MHz System Validation (Body) was performed on the date indicated above.

Performed by:	Sean Johnston
Approved by:	Spencer Watson



Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-032706-R1		
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body	

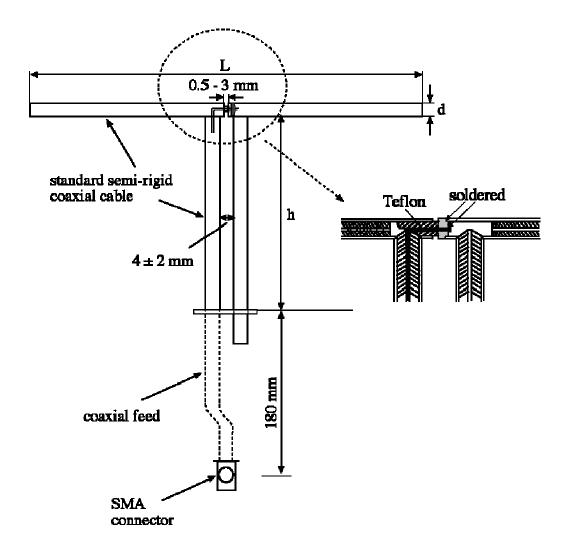
1. Validation Dipole Construction & Electrical Characteristics

The validation dipole was constructed in accordance with the IEEE Standard "Annex G (informative) Reference dipoles for use in system validation". The electrical properties were measured using an HP 8753ET Network Analyzer. The network analyzer was calibrated to the validation dipole N-type connector feed point using an HP85032E Type N calibration kit. The dipole was placed parallel to a planar phantom at a separation distance of 15.0mm from the simulating fluid using a loss-less dielectric spacer. The measured input impedance is:

Feed point impedance at 835MHz $Re{Z} = 47.627\Omega$

 $Im{Z} = -0.67188\Omega$

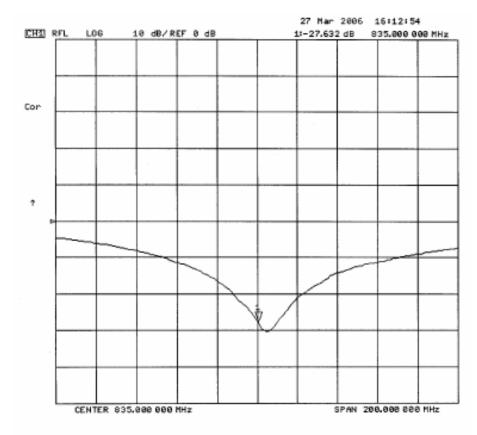
Return Loss at 835MHz -31.954dB

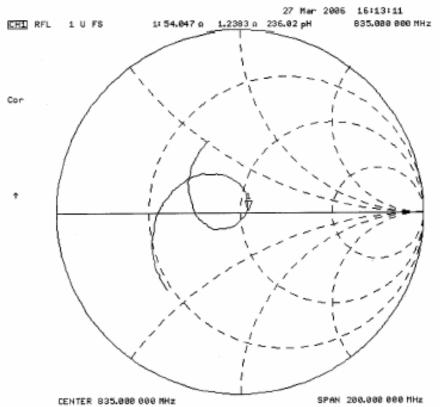




Date of Evaluation:March 27, 2006Document Serial No.:SV835B-032706-R1Evaluation Type:System ValidationValidation Dipole:835 MHzBody

2. Validation Dipole VSWR Data







Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-03	2706-R1
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

3. Validation Dipole Dimensions

Frequency (MHz)	L (mm)	h (mm)	d (mm)
300	420.0	250.0	6.2
450	288.0	167.0	6.2
835	161.0	89.8	3.6
900	149.0	83.3	3.6
1450	89.1	51.7	3.6
1800	72.0	41.7	3.6
1900	68.0	39.5	3.6
2000	64.5	37.5	3.6
2450	51.8	30.6	3.6
3000	41.5	25.0	3.6

4. Validation Phantom

The validation phantom is the SAM (Specific Anthropomorphic Mannequin) phantom manufactured by Schmid & Partner Engineering AG. The SAM phantom is a Fiberglass shell integrated in a wooden table. The shape of the shell corresponds to the phantom defined by SCC34-SC2. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Shell Thickness: $2.0 \pm 0.1 \text{ mm}$ Filling Volume: Approx. 25 liters

Dimensions: 50 cm (W) x 100 cm (L)



5. 835 MHz System Validation Setup



Body



Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-03	2706-R1
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

6. 835 MHz Validation Dipole Setup





Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-032706-R1	
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

7. Measurement Conditions

The SAM phantom was filled with 835 MHz body tissue simulant with the following parameters:

Relative Permittivity: 53.7 (-2.7% from target)

Conductivity: 0.94 mho/m (-3% from target)

Fluid Temperature: 20.8 °C Fluid Depth: \geq 15.0 cm

Environmental Conditions:

Ambient Temperature: $22.6 \,^{\circ}\text{C}$ Barometric Pressure: $101.8 \,\text{kPa}$ Humidity: $30 \,^{\circ}\text{M}$

The 835 MHz body tissue simulant consisted of the following ingredients:

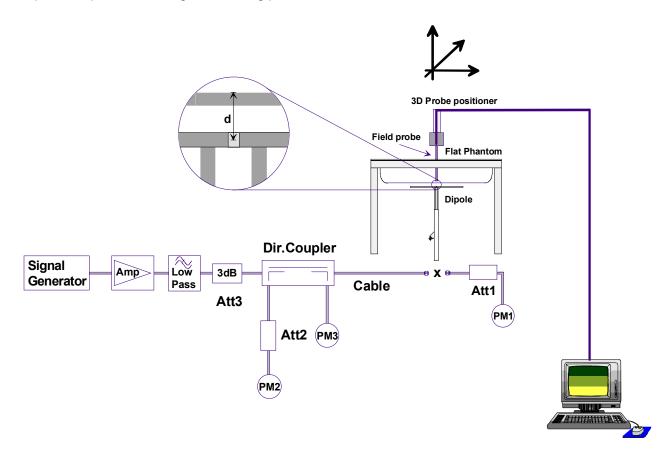
Ingredient	Percentage by weight
Water	53.79%
Sugar	45.13%
Salt	0.98%
Dowicil 75	0.10%
Target Dielectric Parameters at 22 °C	ε _r = 55.2 (+/- 5%) σ = 0.97 S/m (+/- 5%)



Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-032706-R1	
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

8. SAR Measurement

Measurements were made at the planar section of the SAM phantom using a dosimetric E-field probe ET3DV5 (S/N: 1590, conversion factor 6.47). The SAR measurement was performed with the E-field probe in mechanical detection mode only. The setup and determination of the forward power into the dipole was performed using the following procedures.



First the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the attenuation of Att1) as read by power meter PM2. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2. If the signal generator does not allow adjustment in 0.01dB steps, the remaining difference at PM2 must be taken into consideration. PM3 records the reflected power from the dipole to ensure that the value is not changed from the previous value. The reflected power should be 20dB below the forward power.

Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-032706-R1	
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

9. Validation Dipole SAR Test Results

Ten SAR measurements were performed in order to achieve repeatability and to establish an average target value (W/kg).

Validation Measurement	SAR @ 0.25W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.25W Input averaged over 10g	SAR @ 1W Input averaged over 10g	Max SAR @ 0.25W Input
Test 1	2.46	9.84	1.62	6.48	2.65
Test 2	2.46	9.84	1.62	6.48	2.66
Test 3	2.46	9.84	1.62	6.48	2.67
Test 4	2.47	9.88	1.62	6.48	2.68
Test 5	2.43	9.72	1.60	6.40	2.64
Test 6	2.43	9.72	1.59	6.36	2.63
Test 7	2.42	9.68	1.59	6.36	2.59
Test 8	2.46	9.84	1.62	6.48	2.64
Test 9	2.47	9.88	1.62	6.48	2.65
Test10	2.45	9.80	1.62	6.48	2.61
Average SAR	2.451	9.804	1.612	6.448	2.642

@ 1 W averag	arget SAR /att Input ged over n (W/kg)	Measured SAR @ 1 Watt Input averaged over 1 gram (W/kg)	Deviation from Target (%)	@ 1 Wa averag	rget SAR att Input ed over s (W/kg)	Measured SAR @ 1 Watt Input averaged over 10 grams (W/kg)	Deviation from Target (%)
9.71	+/- 10%	9.804	+1.0%	6.38	+/- 10%	6.448	+1.1%

Dipole	Distance	Frequency	SAR (1g)	SAR (10g)	SAR (peak)
Type	[mm]	[MHz]	[W/kg]	[W/kg]	[W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.



Date of Evaluation:March 27, 2006Document Serial No.:SV835B-032706-R1Evaluation Type:System ValidationValidation Dipole:835 MHzBody

835 MHz Dipole System Validation (Body) - March 27, 2006

DUT: Dipole 835 MHz; Model: D835V2; Serial: 411; Calibrated: 03/27/2006

Ambient Temp: 22.6 °C; Fluid Temp: 20.8 °C; Barometric Pressure: 101.8 kPa; Humidity: 30%

Communication System: CW

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: M835 (σ = 0.94 mho/m; ε_r = 53.7; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(6.47, 6.47, 6.47); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: SAM 4.0; Type: Fiberglas; Serial: 1033
- Measurement SW: DASY4, V4.6 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 159

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

835 MHz Dipole System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.0 V/m; Power Drift = 0.027 dB

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.65 mW/g

835 MHz Dipole System Validation/Zoom Scan 3 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.8 V/m; Power Drift = 0.029 dB

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.66 mW/g

835 MHz Dipole System Validation/Zoom Scan 4 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.5 V/m; Power Drift = 0.075 dB

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.67 mW/g

835 MHz Dipole System Validation/Zoom Scan 5 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.9 V/m; Power Drift = 0.010 dB

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.68 mW/g

835 MHz Dipole System Validation/Zoom Scan 6 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.0 V/m: Power Drift = -0.087 dB

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.64 mW/g

835 MHz Dipole System Validation/Zoom Scan 7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.6 V/m; Power Drift = -0.017 dB

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.59 mW/g

Maximum value of SAR (measured) = 2.63 mW/g

835 MHz Dipole System Validation/Zoom Scan 8 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.1 V/m; Power Drift = -0.023 dB

SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.59 mW/g

Maximum value of SAR (measured) = 2.59 mW/g

835 MHz Dipole System Validation/Zoom Scan 9 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.6 V/m; Power Drift = -0.004 dB

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.64 mW/g

835 MHz Dipole System Validation/Zoom Scan 10 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.5 V/m; Power Drift = 0.012 dB

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.65 mW/g

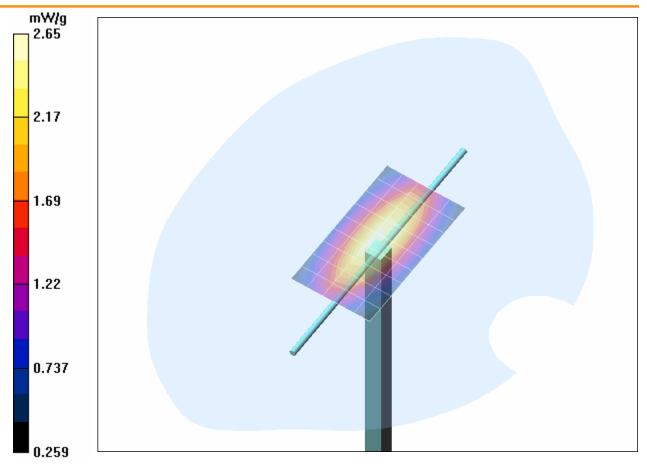
835 MHz Dipole System Validation/Zoom Scan 11 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.5 V/m; Power Drift = -0.005 dB

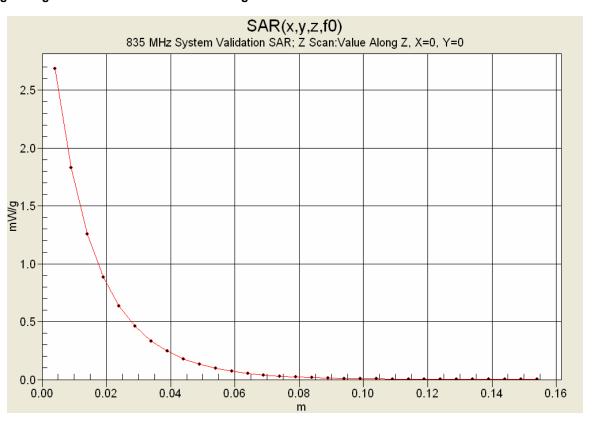
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.61 mW/g





1 g average of 10 measurements: 2.451 mW/g 10 g average of 10 measurements: 1.612 mW/g





Date of Evaluation:	March 27, 2006	Document Serial No.:	SV835B-032706-R1	
Evaluation Type:	System Validation	Validation Dipole:	835 MHz	Body

10. Measured Fluid Dielectric Parameters

835 MHz System Validation (Body)

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Mon 27/Mar/2006

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

*****	******	******	*****
FCC_eE	FCC_sE	3 Test_e	Test_s
55.59	0.96	54.23	0.86
55.55	0.96	54.00	0.87
55.51	0.96	54.00	0.88
55.47	0.96	54.04	0.89
55.43	0.97	53.97	0.90
55.39	0.97	54.01	0.90
55.36	0.97	53.96	0.91
55.32	0.97	53.85	0.92
55.28	0.97	53.79	0.93
55.24	0.97	53.69	0.94
55.20	0.97	53.68	0.94
55.17	0.98	53.35	0.95
55.14	0.99	53.18	0.96
55.11	1.01	53.25	0.98
55.08	1.02	53.26	0.98
55.05	1.03	53.11	0.99
55.02	1.04	53.11	1.00
55.00	1.05	52.96	1.01
55.00	1.06	52.91	1.02
54.98	1.06	52.93	1.03
54.96	1.07	52.58	1.03
	FCC_eE 55.59 55.55 55.51 55.47 55.43 55.39 55.36 55.24 55.20 55.17 55.14 55.08 55.05 55.02 55.00 55.00 54.98	FCC_eB FCC_sE 55.59 0.96 55.55 0.96 55.51 0.96 55.47 0.96 55.43 0.97 55.39 0.97 55.36 0.97 55.28 0.97 55.24 0.97 55.24 0.97 55.17 0.98 55.14 0.99 55.14 0.99 55.11 1.01 55.08 1.02 55.05 1.03 55.02 1.04 55.00 1.05 55.00 1.06 54.98 1.06	55.55 0.96 54.00 55.51 0.96 54.00 55.47 0.96 54.04 55.43 0.97 53.97 55.39 0.97 53.96 55.36 0.97 53.85 55.28 0.97 53.69 55.24 0.97 53.69 55.20 0.97 53.68 55.17 0.98 53.35 55.14 0.99 53.18 55.11 1.01 53.25 55.08 1.02 53.26 55.05 1.03 53.11 55.02 1.04 53.11 55.05 1.03 53.11 55.00 1.06 52.91 54.98 1.06 52.93

Body

1900 MHz SYSTEM VALIDATION DIPOLE

Type:	1900 MHz Validation Dipole
Asset Number:	00032
Serial Number:	151
Place of Validation:	Celltech Labs Inc.
Date of Validation:	April 25, 2006
Serial Number: Place of Validation:	151 Celltech Labs Inc.

Celltech Labs Inc. hereby certifies that the 1900 MHz System Validation (Body) was performed on the date indicated above.

Performed by:	Sean Johnston	
Approved by:	Spencer Watson	



Date of Evaluation:	April 25, 2006	Document Serial No.:	SV1900B-04	12506-R0
Evaluation Type:	System Validation	Validation Dipole:	1900 MHz	Body

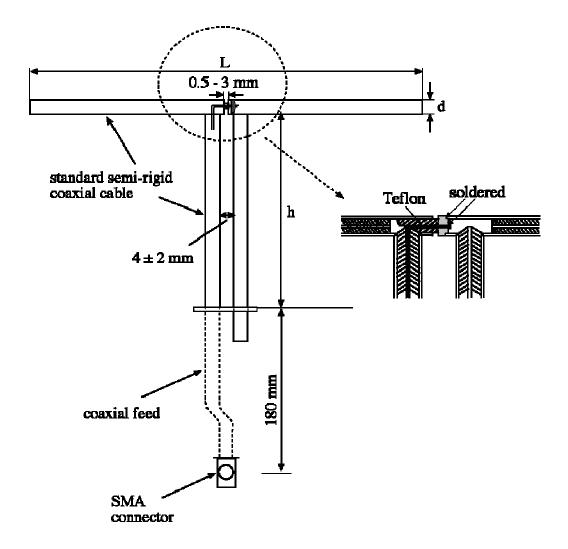
1. Dipole Construction & Electrical Characteristics

The validation dipole was constructed in accordance with the IEEE Standard "Annex G (informative) Reference dipoles for use in system validation". The electrical properties were measured using an HP 8753E Network Analyzer. The network analyzer was calibrated to the validation dipole N-type connector feed point using an HP85032E Type N calibration kit. The dipole was placed parallel to a planar phantom at a separation distance of 10.0mm from the simulating fluid using a loss-less dielectric spacer. The measured input impedance is:

Feed point impedance at 1900MHz $Re{Z} = 48.715\Omega$

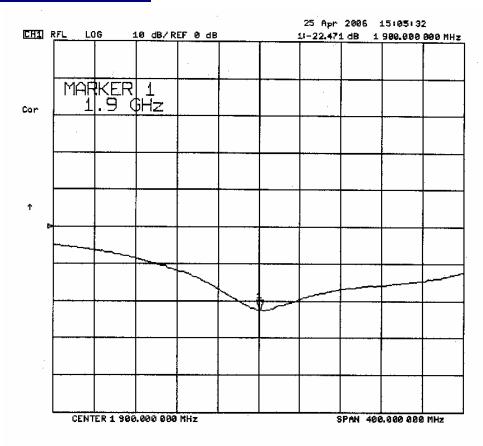
 $Im{Z} = 9.412\Omega$

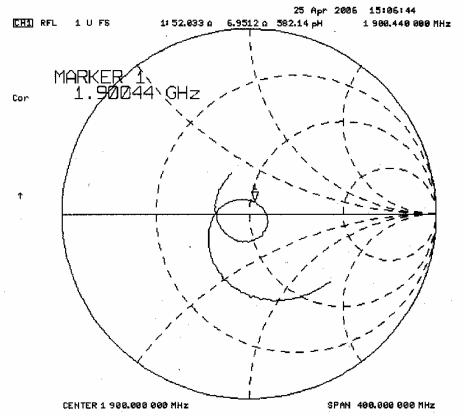
Return Loss at 1900MHz -20.371dB



Date of Evaluation: April 25, 2006 Document Serial No.: SV1900B-042506-R0 Evaluation Type: System Validation Validation Dipole: 1900 MHz Body

2. Validation Dipole VSWR Data







Date of Evaluation:	April 25, 2006	Document Serial No.:	SV1900B-04	12506-R0
Evaluation Type:	System Validation	Validation Dipole:	1900 MHz	Body

3. Validation Dipole Dimensions

Frequency (MHz)	L (mm)	h (mm)	d (mm)
300	420.0	250.0	6.2
450	288.0	167.0	6.2
835	161.0	89.8	3.6
900	149.0	83.3	3.6
1450	89.1	51.7	3.6
1800	72.0	41.7	3.6
1900	68.0	39.5	3.6
2000	64.5	37.5	3.6
2450	51.8	30.6	3.6
3000	41.5	25.0	3.6

4. Validation Phantom

The validation phantom is a Fiberglass shell planar phantom manufactured by Barski Industries Ltd. The phantom is in conformance with the requirements defined by IEEE SCC34-SC2 for the dosimetric evaluations of body-worn and lap-held operating configurations. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids.

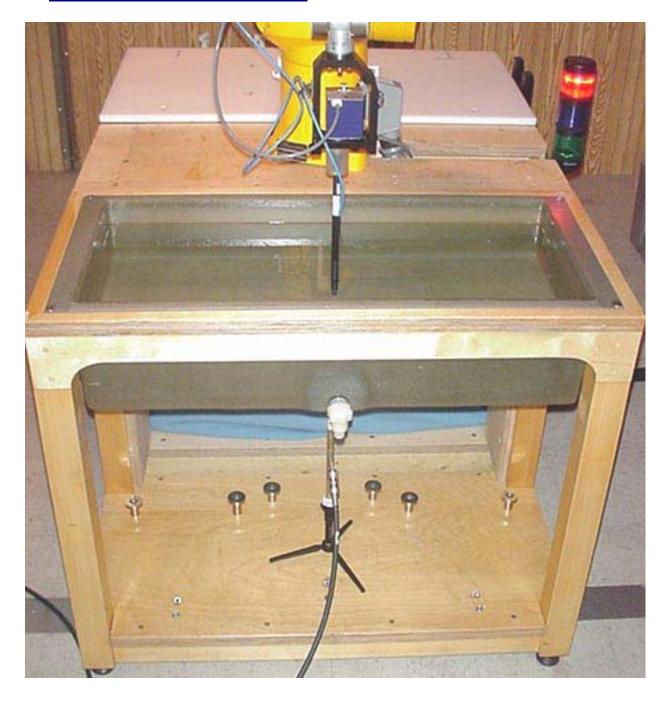
Shell Thickness: $2.0 \pm 0.1 \, \text{mm}$ Filling Volume: Approx. 72 liters

Dimensions: (L) 94 cm x (W) 44 cm x (H) 22 cm



Document Serial No.: Date of Evaluation: April 25, 2006 SV1900B-042506-R0 Evaluation Type: System Validation Validation Dipole: 1900 MHz Body

5. 1900 MHz System Validation Setup

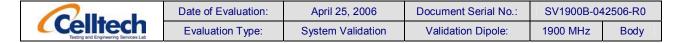




Date of Evaluation: April 25, 2006 Document Serial No.: SV1900B-042506-R0 Evaluation Type: System Validation Validation Dipole: 1900 MHz Body

6. 1900 MHz System Validation Dipole





7. Measurement Conditions

The phantom was filled with 1900 MHz Body tissue simulant:

Relative Permittivity: 51.2 (-3.9% from target)

Conductivity: 1.57 mho/m (+3.3% from target)

Fluid Temperature: 23.5 °C Fluid Depth: ≥ 15.0 cm

Environmental Conditions:

Ambient Temperature: 24.1 °C Barometric Pressure: 101.6 kPa

Humidity: 31%

The 1900 MHz Body tissue simulant consisted of the following ingredients:

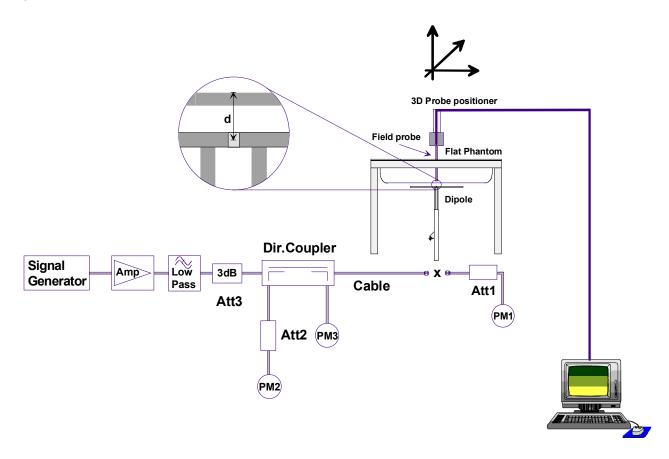
Ingredient	Percentage by weight	
Water	69.85%	
Glycol	29.89%	
Salt	0.26%	
Target Dielectric Parameters at 22 °C	$\varepsilon_{\rm r}$ = 53.3 (+/- 5%) σ = 1.52 S/m (+/- 5%)	



Date of Evaluation: April 25, 2006 Document Serial No.: SV1900B-042506-R0 **Evaluation Type:** System Validation Validation Dipole: 1900 MHz Body

8. SAR Measurement

Measurements were made using a dosimetric E-field probe ET3DV6 (S/N: 1590, conversion factor 4.85). The SAR measurement was performed with the E-field probe in mechanical detection mode only. The setup and determination of the forward power into the dipole was performed using the following procedures.



First the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the attenuation of Att1) as read by power meter PM2. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2. If the signal generator does not allow adjustment in 0.01dB steps, the remaining difference at PM2 must be taken into consideration. PM3 records the reflected power from the dipole to ensure that the value is not changed from the previous value. The reflected power should be 50dB below the forward power.



Date of Evaluation:	April 25, 2006	Document Serial No.:	SV1900B-04	12506-R0
Evaluation Type:	System Validation	Validation Dipole:	1900 MHz	Body

9. Validation Dipole SAR Test Results

Ten SAR measurements were performed in order to achieve repeatability and to establish an average target value.

Validation Measurement	SAR @ 0.25W Input averaged over 1g	SAR @ 1W Input averaged over 1g	SAR @ 0.25W Input averaged over 10g	SAR @ 1W Input averaged over 10g	Peak SAR @ 0.25W Input
Test 1	10.5	42.00	5.53	22.12	11.8
Test 2	10.4	41.60	5.53	22.12	11.7
Test 3	10.3	41.20	5.44	21.76	11.6
Test 4	10.5	42.00	5.53	22.12	11.6
Test 5	10.5	42.00	5.54	22.16	11.7
Test 6	10.4	41.60	5.47	21.88	11.6
Test 7	10.5	42.00	5.54	22.16	11.7
Test 8	10.2	40.80	5.39	21.56	11.4
Test 9	10.2	40.80	5.39	21.56	11.4
Test 10	10.5	42.00	5.54	22.16	11.7
Average	10.40	41.60	5.49	21.96	11.62

The results have been normalized to 1W (forward power) into the dipole.

@ 1 W averag	et SAR att Input ged over n (W/kg)	Measured SAR @ 1 Watt Input averaged over 1 gram (W/kg)	Deviation from Target (%)	@ 1 Wa averag	t SAR att Input ed over s (W/kg)	Measured SAR @ 1 Watt Input averaged over 10 grams (W/kg)	Deviation from Target (%)
39.8	+/- 10%	41.60	+4.52	20.8	+/- 10%	21.96	+5.58

Dipole	Distance	Frequency	SAR (1g)	SAR (10g)	SAR (peak)
Type	[mm]	[MHz]	[W/kg]	[W/kg]	[W/kg]
D300V2	15	300	3.02	2.06	4.36
D450V2	15	450	5.01	3.36	7.22
D835V2	15	835	9.71	6.38	14.1
D900V2	15	900	11.1	7.17	16.3
D1450V2	10	1450	29.6	16.6	49.8
D1500V2	10	1500	30.8	17.1	52.1
D1640V2	10	1640	34.4	18.7	59.4
D1800V2	10	1800	38.5	20.3	67.5
D1900V2	10	1900	39.8	20.8	69.6
D2000V2	10	2000	40.9	21.2	71.5
D2450V2	10	2450	51.2	23.7	97.6
D3000V2	10	3000	61.9	24.8	136.7

Table 32.1: Numerical reference SAR values for SPEAG dipoles and flat phantom filled with body-tissue simulating liquid. Note: All SAR values normalized to 1 W forward power.



Date of Evaluation:April 25, 2006Document Serial No.:SV1900B-042506-R0Evaluation Type:System ValidationValidation Dipole:1900 MHzBody

System Validation (Body) - 1900 MHz Dipole - April 25, 2006

DUT: Dipole 1900 MHz; Model: D1900V2; Serial: 151; Validation: 04/25/2006

Ambient Temp: 24.1 °C; Fluid Temp: 23.5 °C; Barometric Pressure: 101.6 kPa; Humidity: 31%

Communication System: CW

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: M1900 (σ = 1.57 mho/m; ϵ_r = 51.2; ρ = 1000 kg/m³)

- Probe: ET3DV6 SN1590; ConvF(4.85, 4.85, 4.85); Calibrated: 20/05/2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn353; Calibrated: 15/06/2005
- Phantom: Barski Industries; Type: Fiberglas Planar; Serial: 03-01
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

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

1900 MHz Dipole - System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.3 V/m; Power Drift = 0.002 dB SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.53 mW/g

Maximum value of SAR (measured) = 11.8 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 2 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.0 V/m; Power Drift = 0.027 dB SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.53 mW/g

Maximum value of SAR (measured) = 11.7 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 3 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.4 V/m; Power Drift = -0.026 dB

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.44 mW/g

Maximum value of SAR (measured) = 11.6 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 4 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.3 V/m; Power Drift = -0.060 dB

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.53 mW/g

Maximum value of SAR (measured) = 11.6 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 5 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.3 V/m; Power Drift = -0.033 dB

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.54 mW/g

Maximum value of SAR (measured) = 11.7 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 6 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.6 V/m; Power Drift = -0.060 dB

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.47 mW/g

Maximum value of SAR (measured) = 11.6 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 7 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.9 V/m; Power Drift = 0.041 dB

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.54 mW/g

Maximum value of SAR (measured) = 11.7 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 8 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.0 V/m; Power Drift = -0.074 dB

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.39 mW/g

Maximum value of SAR (measured) = 11.4 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 9 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.0 V/m; Power Drift = -0.051 dB

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.39 mW/g

Maximum value of SAR (measured) = 11.4 mW/g

1900 MHz Dipole - System Validation/Zoom Scan 10 (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

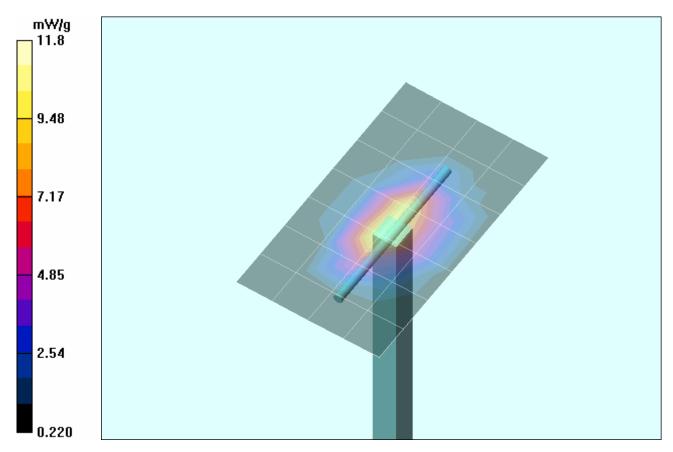
Reference Value = 87.0 V/m; Power Drift = -0.056 dB

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.54 mW/g

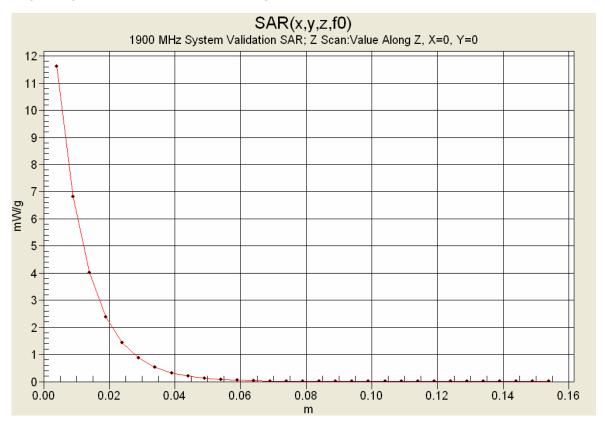
Maximum value of SAR (measured) = 11.7 mW/g



Date of Evaluation:	April 25, 2006	Document Serial No.:	SV1900B-04	42506-R0
Evaluation Type:	System Validation	Validation Dipole:	1900 MHz	Body



1 g average of 10 measurements: 10.40 mW/g 10 g average of 10 measurements: 5.49 mW/g





Date of Evaluation:	April 25, 2006	Document Serial No.:	SV1900B-04	12506-R0
Evaluation Type:	System Validation	Validation Dipole:	1900 MHz	Body

10. Measured Fluid Dielectric Parameters

1900 MHz System Validation (Body)

Celltech Labs Inc.

Test Result for UIM Dielectric Parameter

Tue 25/Apr/2006

Frequency(GHz)

FCC_eHFCC Bulletin 65 Supplement C (June 2001) Limits for Head Epsilon

FCC_sHFCC 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	_	_	B Test_e	Test_s
1.8000	53.30	1.52	51.68	1.46
1.8100	53.30	1.52	51.51	1.48
1.8200	53.30	1.52	51.45	1.49
1.8300	53.30	1.52	51.50	1.50
1.8400	53.30	1.52	51.34	1.50
1.8500	53.30	1.52	51.27	1.52
1.8600	53.30	1.52	51.21	1.53
1.8700	53.30	1.52	51.33	1.54
1.8800	53.30	1.52	51.22	1.55
1.8900	53.30	1.52	51.18	1.56
1.9000	53.30	1.52	51.20	1.57
1.9100	53.30	1.52	51.09	1.58
1.9200	53.30	1.52	51.18	1.59
1.9300	53.30	1.52	51.10	1.62
1.9400	53.30	1.52	50.95	1.62
1.9500	53.30	1.52	50.95	1.63
1.9600	53.30	1.52	50.91	1.64
1.9700	53.30	1.52	50.88	1.65
1.9800	53.30	1.52	50.81	1.67
1.9900	53.30	1.52	50.79	1.68
2.0000	53.30	1.52	50.66	1.70



Test Report Serial No.:	042406KBC-T740-	S24GWC	Test Report Issue Date:	October 06, 2006	
Date(s) of Evaluation:	May 01-04 & 11, 2006		Report Revision No.:	Revision 1.0	
Type of Evaluation:	RF Exposure	SAR	FCC 47 CFR §2.1093	IC RSS-102 Issue 2	

APPENDIX G - PLANAR PHANTOM CERTIFICATE OF CONFORMITY

Company:	Itronix	Corporat	ion	FCC ID:	KBCIX325-AC860	IC ID:	1943A-IX325g	IT	RONIX °
Model:	IX325-A	AC860	IX32	25 Rugged Table	et PC with Dual-Band GS	SM/GPRS/E	DGE/UMTS Modem		RAL DYNAMICS COMPANY
2006 Celltech	Labs Inc	This doc	cument	ment is not to be reproduced in whole or in part without the prior written permission of Celltech Labs Inc. Page 58 of 58					Page 58 of 58

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E-mail: <u>barskiind@shaw.ca</u>
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

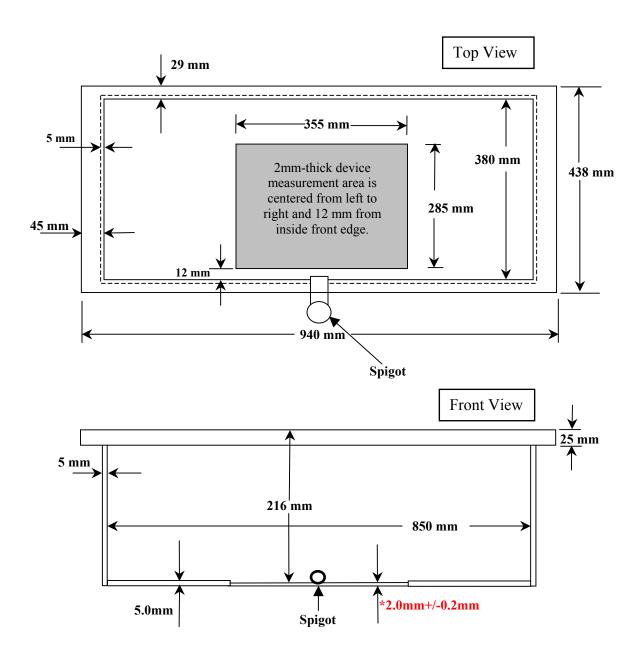


Fiberglass Planar Phantom - Bottom View



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.