

Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133	
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

ELECTROMAGNETIC COMPATIBILITY

EMC TEST REPORT

FCC 47 CFR PART 22 SUBPART H FCC 47 CFR PART 24 SUBPART E

FOR

ITRONIX CORPORATION

MODEL: IX260PLUSAC860

IX260+ SERIES RUGGED LAPTOP PC

WITH INTERNAL

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

UTILIZING AN

EXTERNAL SWIVEL DIPOLE ANTENNA

AND

VEHICLE-MOUNT ANTENNA WITH CRADLE

FCC ID: KBCIX260PLUSAC860

Test Report Serial No. 061506KBC-T756-E24G

Test Report Revision No.

Revision 1.0 (Initial Release)

Test Location

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





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Test Lab Registration(s):	est Lab Registration(s): FCC Lab Registration #714830 Industry Canad		ab File #3874

DECLARATION OF COMPLIANCE																	
Test Location	Testing 1955 Mo Kelowna	and Engi						_	ompany formation	128 Sp	325 E. Mi	ORPORATION PARTICULAR PROPERTY	way				
Phone:	250-448	3-7047		Fax	c : 2	250-4	448-70	48									
E-mail:	info@ce	elltechlab	s.com	Web	o site:	W	ww.ce	lltechla	bs.cor	n							
Lab Registration	No.(s):	FCC:	714830						IC:		IC	3874					
Rule Part(s):		FCC:	§2; §22	H; §2	24E				IC:		R	SS-132 Issue	2, RS	SS-133 Is:	sue 3		
Device Classifica	tion:	FCC:	PCS Lic	cense	ed Trar	nsmi	itter (P	CB)	IC:		80	00 MHz Cellul	ar Tel	ephones I	Employing N	lew To	echnologies
								,			2 (GHz Persona	I Com	municatio	n Services		
Device Identification	tion:	FCC:	KBCIX2	260P	LUSAC	2860)										
Device Des	cription:			Ru	gged L	apto	p PC)evi	ice	Model(s):		I	X260PLUS	AC860)
Internal Trans	mitter Ty	pe:		Sier	ra Wire	eless	s Mode	el: AirCa	ard 860) Di	ual-	-Band GSM/0	GPRS.	/EDGE/U	MTS PCMC	IA Mo	odem
Transmit Freque	encv Ran	ae(s):	GSM/G	PRS	/EDGE		Cellula	ar Banc	1 8:	24.2	2 - 8	848.8 MHz	PCS	Band	1850.2	- 190	9.8 MHz
		3 - (-)	U	UMTS Cellula		Cellula	ar Band	d 826.4 - 846.6 MHz I		PCS	S Band 1852.4 - 1907.5 MHz		7.5 MHz				
Receive Freque	ncy Rang	ge(s):				ar Banc					Band						
				JMTS			- 1	ar Banc		71.4				Band			87.5 MHz
Maximum RF	Conduct	ted	GPRS	_	Cellular Band			dBm				Band	28.63 dBm		0.729 Watts		
Output Powe	r Measur	ed:	EDGE UMTS		Cellular Band Cellular Band			26.89 dBm 24.00 dBm		+	_	489 Watts	_	Band Band	25.73 dBm	_	0.374 Watts
			UNITS	·	GPRS	-	Cellul		26.16	dDn	_	251 Watts 0.413 Wat		PCS	23.00 dBm 32.24 dBm	_	0.200 Watts 1.68 Watts
			Dipole		EDGE		Cellul		23.87			0.413 Wat		PCS	32.72 dBn	_	1.87 Watts
			Antenn	a	UMTS	-	Cellul		21.62			0.244 Wat	-	PCS	28.32 dBn	_	0.679 Watts
Max. ERP/EIR	P Measui	red:			GPRS		Cellul		6.44 0			0.004 Wat	-	PCS	15.07 dBn		0.032 Watts
			Vehicle	-	EDGE		Cellul	-	4.24 0			0.003 Wat		PCS	13.36 dBm	_	0.022 Watts
			Antenn	a	UMTS	3	Cellul	ar	-6.18	dBn	n .	0.0002 Wa		PCS	15.96 dBm	1	0.039 Watts
GSM Multis	lot Class	:	Class 1	0		_	link Slo	ots		Max	x. S	Source-Base	d Time	e-Average	ed Duty Cyc	le:	25%
GSM Power	er Class:		GPRS	850	:	1	GPR	S 1900):	1		EDGE 8	50:	E2	EDGE 1	900:	E2
WCDMA Po	wer Class	s:	UMTS 850: 3 UMTS 1900: 3		3		Transmit	Duty	Cycle:		100)%					
WCDMA Uplin	k Chann	els:	1 DPCCH Ch			annel						1 DP	DCH Chanr	el			
Modulation	Type(s)		GPRS: GMSK					Е	DG	BE:	8-PSK			UMTS: '	NCDI	MA	
Antenna Typ	e(s) Test	eq.	Exter	nal S	Swivel I	Dipo	ole		Itro	nix	Со	orporation			Model:	IX260)+
Antenna Typ	5(5) 163K		External Vehicle-Mount				ı	Max	axRad, Inc.			F	P/N: WMLPVDB800/1900				
Internal Batte	ery Option	ns:		Lithi	ium-ion	1		11.1	V, 6.6	Ah		Model: P16	P16D-M 11.1 V, 6.0 Ah Model: A2121-2			lel: A2121-2	
Power Source	e(s) Test	ed:	AC	Pow	er Ada	pter				9	0 V	Vatt			Model: A	DP-9	DAB

This wireless device has demonstrated compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC 47 CFR Rule Parts 2, 22H, 24E; Industry Canada RSS-132 Issue 2, RSS 133 Issue 3; and ANSI TIA/EIA-603-C-2004.

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

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

Test Report Approved By:

Spencer Watson EMC Manager Celltech Labs Inc.

Company:	Itronix Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITRONIX °
					A GENERAL DYNAMICS COMPANY	
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

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TEST SUMMARY								
	Referenced Standard(s): FCC CFR Title 47 Parts 2, 22 & 24							
<u>Appendix</u>	Test Description	Procedure Reference	<u>Limit Reference</u>	Test Start Date	Test End Date	Result		
Α	Conducted RF Output Power	FCC 97-114, §2.1046	N/A	25Apr06	25Apr06	N/A		
В	Effective Radiated Power Effective Isotropic Radiated Power	ANSI/TIA/EIA-603-C	§22.913 §24.232(b)	21Jun06	11Jul06	Pass		
С	Radiated Spurious Emissions	ANSI/TIA/EIA-603-C	§22.917 (a), §24.238 (a)	12Jul06	27Jul06	Pass		
D	Maximum Permissible Exposure	FCC CFR 47 § 2.1091 IEEE Std C95.1-1999	§1.1310 Table 1 (b)	27Jun06	27Jun06	Pass		
	Referenced Stand	ard(s): IC RSS-132 Issue	e 2 & RSS-133 Issu	ie 3				
Α	Conducted RF Output Power	ANSI/TIA/EIA-603-C	N/A	25Apr06	25Apr06	N/A		
В	Effective Radiated Power Effective Isotropic Radiated Power	ANSI/TIA/EIA-603-C	RSS-132 §4.4 RSS-133 §6.4	21Jun06	11Jul06	Pass		
С	Radiated Spurious Emissions	ANSI/TIA/EIA-603-C	RSS-132 §4.5 RSS-133 §6.5	12Jul06	27Jul06	Pass		
D	Maximum Permissible Exposure	RSS-102 Issue 2	Safety Code 6 2.2.1(a) Table 5	27Jun06	27Jun06	Pass		

REVISION LOG

Revision	Description	Description Implemented By	
1.0	Initial Release	Jonathan Hughes	August 22, 2006

SIGNATORIES

Prepared By:	Spenser Watson	August 09, 2006
Name/Title:	Spencer Watson / EMC Manager	Date
Reviewed By:	GR.	August 22, 2006
Name/Title:	Jonathan Hughes / General Manager	Date

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem							
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

1.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the Itronix Corporation Model: IX260PLUSAC860 Rugged Laptop PC utilizing the Sierra Wireless AirCard 860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem. The PCMCIA Modem was connected to an external swivel dipole antenna located on the upper right side edge of the LCD display. The DUT also has provision for an optional vehicle cradle utilizing a MaxRad vehicle-mount antenna. Measurement results were obtained for both antenna configurations and are presented in this report. The measurement results were applied against the applicable EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communication Commission Code of Federal Regulations Title 47 Parts 2, 22 Subpart H, and 24 Subpart E; and Industry Canada Radio Standards Specification RSS-132 Issue 2, and RSS-133 Issue 3.

2.0 REFERENCES

2.1 Normative References

2.1 Normative References					
ANSI/ISO 17025:1999	General Requirements for competence of testing and calibration laboratories				
IEEE/ANSI C63.4:2003	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz				
IEEE/ANSI Std C95.1:1999	American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields				
ANSI/TIA/EIA-603-C:2004	Land Mobile FM or PM Communication Equipment Measurement and Performance Standards				
CFR Title 47 Part 2:2005	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations				
CFR Title 47 Part 22:2005	Code of Federal Regulations Title 47: Telecommunication Part 22: Public Mobile Services				
CFR Title 47 Part 24:2005	Code of Federal Regulations Title 47: Telecommunication Part 24: Personal Communication Services				
IC Spectrum Management & Telecommunications Policy	Radio Standards Specification RSS-102 Issue 2 - Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) RSS-132 Issue 2 - 800 MHz Cellular Telephones Employing New Technologies RSS-133 Issue 3 - 2 GHz Personal Communication Services RSS-212 Issue 1 (Provisional) - Test Facilities & Test Methods for Radio Equipment RSS-Gen Issue 1 - General Requirements and Information for the Certification of Radiocommunication Equipment				

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:								
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Operating in the Bands 824 - 849 MHz and 869 - 894 MHz

SRSP-503 Issue 6 - Technical Requirements for Cellular Radiotelephone Systems



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3.0 TERMS AND DEFINITIONS

AV Average

CDMA Code Division Multiple Access
CFR Code of Federal Regulations

dB decibel

dBm dB referenced to 1 mW dBuV dB referenced to 1 uV DUT Device under Test dBc dB down from carrier EBW Emission Bandwidth

EDGE Enhanced Data Rates for GSM Evolution
EIRP Effective Isotropic Radiated Power
EMC Electromagnetic Compatibility
ERP Effective Radiated Power

FCC Federal Communication Commission
FHSS Frequency Hopping Spread Spectrum
GSM Global Systems for Mobile Communication

GPRS General Packet Radio Service

HP Hewlett Packard
HPF High Pass Filter
Hpol Horizontal Polarization

Hz Hertz

IC Industry Canada

kHz kilohertz

LNA Low Noise Amplifier

m meter MHz Megahertz

Mbps megabits per second not applicable not available

PK Peak

PPSD Peak Power Spectral Density

QP Quasi-peak

RBW Resolution Bandwidth R&S Rohde & Schwarz

RSS Radio Standard Specification

SA Spectrum Analyzer

UMTS Universal Mobile Telecommunications System

VBW Video Bandwidth Vpol Vertical Polarization

WCDMA Wide CDMA



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4.0 FACILITIES AND ACCREDITATIONS

The facilities used in collecting the test results outlined in this report are located at 1955 Moss Court, Kelowna, British Columbia, Canada, V1Y 9L3. The radiated and conducted emissions sites conform with the requirements set forth in ANSI C63.4 and are filed and listed with the FCC under Registration Number 714830 and Industry Canada under File Number IC 3874.

5.0 GENERAL INFORMATION

5.1 Applicant Information

Company Name:	Itronix Corporation
Address:	12825 E. Mirabeau Parkway
	Spokane Valley, WA 99216
	United States

5.2 DUT Description

The DUT consisted of the IX260+ Rugged Laptop PC utilizing the internal Sierra Wireless AirCard 860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem connected to an external swivel dipole antenna located on the upper right side edge of the LCD display. The DUT also utilizes an optional vehicle cradle for operation with a vehicle-mounted MaxRad dipole antenna and a 17-foot attached cable.

Device:	IX260+ R	IX260+ Rugged Laptop PC				
Model:	IX260PLU	IX260PLUSAC860 Serial Number: ZZGEG4196ZZ646			ZZGEG4196ZZ6467	
Identifier(s):	FCC ID:	FCC ID: KBCIX260PLUSAC860				
Battery Options:	Battery Options: Lithium-ion		11.1 V, 6.6 Ah Model: P16D-M		Model: P16D-M	11.1 V, 6.0 Ah Model: A2121-2
Power Source Tested: Delta Electronics 90 Watt AC-DC Power			Power	Supply (Model ADP-9	0AB Rev B)	
Accessories Tested:	IX260	IX260+ Vehicle Cradle		P/	N: 60-0134-003	Serial No.: ZZCWA5024ZM0212

Internal Transmitter: Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem						
Manufacturer/Model:	Sierra V	Vireless AirCard 860 Serial Number: 3		357806000465210		
Rule Part(s) Tested:	FCC:	§2.1091; §22.913, §22.917; §24	§2.1091; §22.913, §22.917; §24.232(b), §24.238			
rtaio i art(o) rootoa.	IC:	RSS-132 Issue 2, RSS-133 Issue 3				
	FCC:	PCS Licensed Transmitter (PCB)				
Device Classification(s):	IC:	800 MHz Cellular Telephones e	ellular Telephones employing New Technologies (RSS-132)			
	13.	2 GHz Personal Communication Services (RSS-133)				

Antenna Type 1:	External Swivel Dipole Antenna	Antenna Type 2:	MaxRad Vehicle-Mount	
Model:	IX260+	Part No.:	WMLPVDB800/1900	
Gain:	+2.6 dBi	Gain:	+ 3 dBi	

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITRONIX	
DUT Type:								
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

5.3 Mode(s) of Operation Tested

Of the three modes, GPRS, EDGE and UMTS, GPRS and EDGE were considered similar in modulation type, channel frequency and relative power level. G-TEM measurements were made in all three modes of operation and the worst case for GPRS and EDGE was chosen for prescan measurements.

5.3.1 Dual-Band GPRS

Customer supplied software was used to set the GPRS mode to the appropriate channel and power level for the specific measurement. Between GPRS and EDGE modes, GPRS was found to have higher radiated emissions when tested in a G-TEM and therefore prescan measurements were made with the GPRS modem set to each of the low, mid and high channels in each band. Final measurements were made of all significant emissions. The following settings where used for each channel.

5.3.1.1 Cellular GPRS

Transmit Frequency Range: 824.2 - 848.8 MHz Ch. 128 (824.200 MHz), Ch. 190 (836.600 MHz) & Ch. 251 (848.800 MHz)	
Power Gain Settings:	The proprietary Sierra Wireless Procomm Plus test script was utilized to set the RF output power to maximum
Modulation Type:	GMSK

5.3.1.2 PCS GPRS

Transmit Frequency Range: 1850.2 - 1909.8 MHz Ch. 512 (1850.2 MHz), Ch. 661 (1880.0) & Ch. 810 (1909.8 MHz)	
Power Gain Settings:	The proprietary Sierra Wireless Procomm Plus test script was utilized to set the RF output power to maximum
Modulation Type:	GMSK

5.3.2 Dual-Band EDGE

Customer supplied software was used to set the EDGE mode to the appropriate channel and power level for the specific measurement. Of GPRS and EDGE, GPRS was found to have higher radiated emissions when tested in a G-TEM and therefore prescan measurements were not made in EDGE mode. The following settings where used for each channel during G-TEM testing and all other tests performed.

5.3.2.1 Cellular EDGE

Transmit Frequency Range: 824.2 - 848.8 MHz Ch. 128 (824.200 MHz), Ch. 190 (836.600 MHz) & Ch. 251 (848.800 MHz)	
Power Gain Settings:	The proprietary Sierra Wireless Procomm Plus test script was utilized to set the RF output power to maximum
Modulation Type:	8-PSK



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5.3.2.2 PCS EDGE

Transmit Frequency Range: 1850.2 - 1909.8 MHz Ch. 512 (1850.2 MHz), Ch. 661 (1880.0 MHz) & Ch. 810 (1909.8 MHz)	
Power Gain Settings:	The proprietary Sierra Wireless Procomm Plus test script was utilized to set the RF output power to maximum
Modulation Type:	8-PSK

5.3.3 Dual-Band UMTS

The Anritsu MT8820A Radio Communications Test Set was used to set the UMTS mode to the appropriate channel and power level for the specific measurement via air-link. Prescan measurements were made with the UMTS mode set to the low, mid and high channels for each band. Final measurements were made of all significant emissions. The following settings where used for each channel.

5.3.3.1 Cellular UMTS

Transmit Frequency Range: 826.4 - 846.6 MHz Ch. 4132 (826.4 MHz), Ch. 4182 (836.4 MHz) & Ch. 4233 (846.6 MHz)	
Power Gain Settings:	The maximum output power setting was established using the Anritsu 8820A Radio Communications Test Set in "All Up Bits" power control mode
Modulation Type:	WCDMA

5.3.3.2 PCS UMTS

Transmit Frequency Range:	1852.4 - 1907.5 MHz Ch. 9262 (1852.4 MHz), Ch. 9400 (1880.0 MHz) & Ch. 9538 (1907.5 MHz)
Power Gain Settings: The maximum output power setting was established using the Anritsu 8820A F Communications Test Set in "All Up Bits" power control mode	
Modulation Type:	WCDMA

5.4 Configuration Description

The DUT was configured, as described by the client as being representative of what would be delivered to a final customer. Because the swivel dipole antenna orientation could be user configured, prescan evaluations were made to determine the configuration that resulted in the highest emissions. A "horizontal, pointing forward" orientation (facing user) was used for both cellular and PCS bands. More specific details may be included in each appendix.

5.4.1 Configuration Justification

The DUT was tested in a configuration described by the client as being typical of normal use. The system could be utilized as a standalone Laptop PC as well as installed in a vehicle cradle utilizing the vehicle-mount antenna. Both configurations were investigated and the results reported herein.

6.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criteria is the limit set forth in the reference standards. A DUT is considered to have passed the requirements, if the data collected during the described measurement procedure is no greater than the specified limits as defined. The pass/fail statements made in this report only apply to the unit tested.

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem								
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APPENDICES





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Appendix A - Conducted RF Output Power Measurement

A.1 REFERENCES	
Normative Reference Standard	FCC CFR 47 §2.1046 (a)
Procedure Reference	FCC 97-114

		ITS
A.2		

A.2.1 FCC CFR 47

FCC CFR 47 §2.1046 (a) For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedures to give the values of current and voltage on the circuit elements specified in §2.1033(c) (8).

*ERP and EIRP limits are specified in Appendix B.

A.3 ENVIRONMENTAL CONDITIONS		
Temperature	25 +/- 5 °C	
Humidity	40 +/- 10 %	
Barometric Pressure	101 +/- 3 kPa	

A.4 EQUIPMENT I	A.4 EQUIPMENT LIST						
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE		
00110	Gigatronics	8652A	Power Meter	12Apr06	12Apr07		
00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07		
00012	Gigatronics	80701A	Power Sensor	12Sept05	12Sept06		
00102	Pasternack	PE7015-3010	30 dB Attenuator	n/a*	n/a*		
00208	Anritsu	MT8820A	Radio Communications Test Set	06Jun06	06Jun07		
00078	Pasternack	PE2214-20	Directional Coupler 1-18 GHz	n/a*	n/a*		

^{*}Verified with power meter prior to use





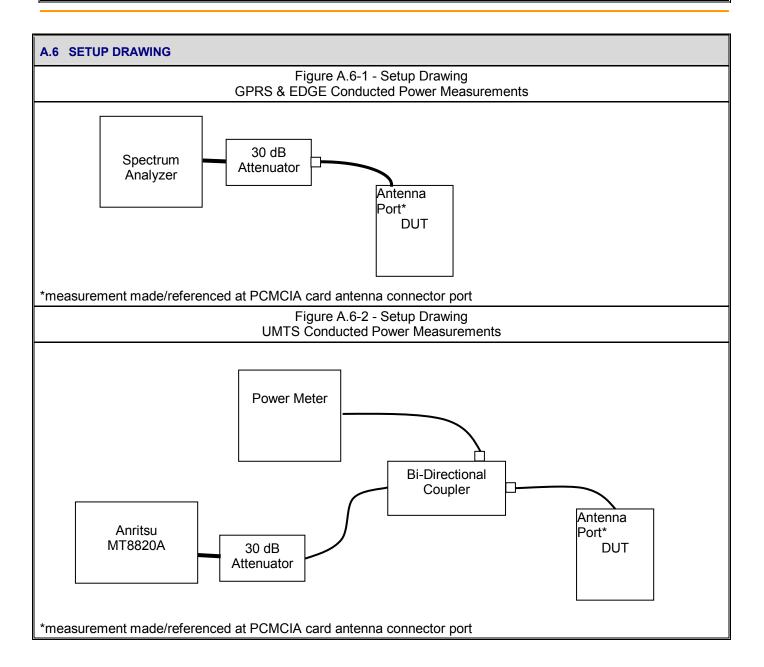
Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

A.5 MEASUREMENT EC	A.5 MEASUREMENT EQUIPMENT SETUP				
Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in A.6.				
Measurement Equipment Settings - GPRS and EDGE	Power Meter Settings: Mode - BAP Frequency compensation set for carrier frequency Offset set appropriately for attenuator characteristics				
Measurement Procedure - GPRS and EDGE	The RF conducted output power levels for both PCS and cellular bands in both GPRS and EDGE modes were measured at the DUT antenna connector port using a Gigatronics 8652A Universal Power Meter in burst average power mode. An offset was entered into the power meter to correct for the losses of the attenuator and cable installed between the transmitter output port and the power sensor input. The proprietary Sierra Wireless Procomm Plus test script was used to set the DUT to transmit at maximum output power level as described in section 5.3 of this report. All subsequent tests were performed using the same device setup procedures.				
Measurement Equipment Settings - UMTS	Power Meter Settings: Mode - MAP Frequency compensation set for carrier frequency Offset set appropriately for attenuator characteristics				
Measurement Procedure - UMTS	The RF conducted output power levels for both PCS and cellular bands were measured at the DUT antenna connector port using a Gigatronics 8652A Universal Power Meter in modulated average power mode. An offset was entered into the power meter to correct for the losses of the directional coupler and cable installed between the transmitter output port and the power sensor input. The Anritsu Radio Communications Test Set was utilized to set the DUT to transmit at maximum output power level as described in section 5.3 of this report. All subsequent tests were performed using the device setup procedures.				
PROCEDURES USED TO ESTABLISH TEST SIGNAL (UMTS)	The following settings were used to configure the Anritsu MT8820A Communications Test Set: Instrument Information				

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:								
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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		



Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:	Lapto	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem						
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Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133	
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

A.7 DUT OPERATING DESCRIPTION

Power measurements were made in the cellular and PCS bands, with the DUT set appropriately as described in section 5.3.

A.8 TEST RESULTS					
Mode	Channel	Frequency	Conduct	Conducted Power	
	128	824.2 MHz	+31.75 dBm	1.50 Watts	
Cellular GPRS	190	836.6 MHz	+31.84 dBm	1.53 Watts	
	251	848.8 MHz	+32.28 dBm	1.69 Watts	
	128	824.2 MHz	+26.68 dBm	0.466 Watts	
Cellular EDGE	190	836.6 MHz	+26.89 dBm	0.489 Watts	
	251	848.8 MHz	+26.72 dBm	0.470 Watts	
	4132	826.4 MHz	+23.80 dBm	0.240 Watts	
Cellular UMTS	4182	836.4 MHz	+23.90 dBm	0.245 Watts	
	4233	846.6 MHz	+24.00 dBm	0.251 Watts	
	512	1850.2 MHz	+28.42 dBm	0.695 Watts	
PCS GPRS	661	1880.0 MHz	+28.63 dBm	0.729 Watts	
	810	1909.8 MHz	+28.54 dBm	0.714 Watts	
	512	1850.2 MHz	+25.53 dBm	0.357 Watts	
PCS EDGE	661	1880.0 MHz	+25.73 dBm	0.374 Watts	
	810	1909.8 MHz	+25.55 dBm	0.359 Watts	
	9262	1852.4 MHz	+22.33 dBm	0.171 Watts	
PCS UMTS	9400	1880.0 MHz	+23.00 dBm	0.200 Watts	
	9538	1907.5 MHz	+22.70 dBm	0.186 Watts	

A.9 PASS/FAIL

There is no pass/fail criterion for this measurement.

A.10 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson EMC Manager Celltech Labs Inc.

April 25, 2006

Date

Spenier Watson

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:	Lapto	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem						
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Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

Appendix B - Effective Radiated Power / Effective Isotropic Radiated Power Measurement

B.1 REFERENCES	
Normative Reference Standard	FCC CFR 47 §22.913 (a), FCC CFR 47 §24.232 (b)
Procedure Reference	ANSI/TIA/EIA-603-C

B.2 LIMITS	
B.2.1 FCC CFR 4	7
FCC CFR 47 §22.913 (a)	(a) Maximum ERP The ERP of mobile transmitters and auxiliary transmitters must not exceed 7 Watts.
FCC CFR 47 §24.232 (b)	(b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

B.3 ENVIRONMENTAL CONDITIONS				
Temperature	25 +/- 5 °C			
Humidity	40 +/- 10 %			
Barometric Pressure	101 +/- 3 kPa			

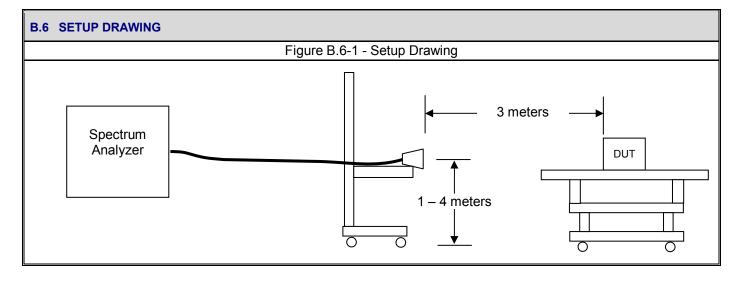
B.4 EQUIPMENT	LIST				
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00072	EMCO	2075	Mini-mast	n/a	n/a
00073	EMCO	2080	Turn Table	n/a	n/a
00071	EMCO	2090	Multi-Device Controller	n/a	n/a
00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
00055	EMCO	3121C	Dipole Antenna	04Apr06	04Apr07
00034	ETS	3115	Double Ridged Guide Horn	11Aug05	11Aug07
00035	ETS	3115	Double Ridged Guide Horn	03Apr06	03Apr08
00161	Waveline	899	Standard Gain Horn Antenna	n/a	n/a
00051	HP	8566B	Spectrum Analyzer RF Section	04Apr06	04Apr07
00049	HP	85650A	Quasi-peak Adapter	04Apr06	04Apr07
00047	HP	85685A	RF Preselector	05Apr06	05Apr07
00048	Gore	65474	Microwave Cable	16Aug05	16Aug06
00006	R&S	SMR 20	Signal Generator (10MHz-40GHz)	06Apr06	06Apr07
00114	Amplifier Research	DC7154	Directional Coupler (0.8-4.2 GHz)	n/a	n/a
00078	Pasternack	PE2214-20	Directional Coupler (1-18 GHz)	n/a	n/a
00106	Amplifier Research	5S1G4	Power Amplifier (5W, 800MHz-4.2GHz)	n/a	n/a
00041	Amplifier Research	10W1000C	Power Amplifier (0.5 – 1 GHz)	n/a	n/a
00110	Gigatronics	8652A	Power Meter	12Apr06	12Apr07
00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
00208	Anritsu	MT8820A	Radio Communication Test Set	06Jun06	06Jun07

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:	Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem							AL DYNAMICS COMPANY
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

B.5 MEASUREMENT EQUIPMENT SETUP							
MEASUREMENT EQUIPMENT	For the field strength measurements, the measurement equipment was connected as shown in B.6. A number of antennas were used to cover the applicable frequency range tested. The ranges in which each antenna was used are as follows. For the final substitutions, the DUT was replaced with the appropriate antenna and fed from a CW signal source sufficient to replicate the received field strength of the emission being investigated.						
CONNECTIONS	Frequency F	Range	RX Antenna	TX Antenna			
	30 MHz - 1	GHz	Bilog	Dipole			
	1 GHz - 18	GHz	ETS 3115 Horn	ETS 3115 Horn			
	For the spurious out-of-band emissions, the spectrum analyzer was set to the following settings:						
MEASUREMENT	Mode	RBW	VBW	Detector			
EQUIPMENT SETTINGS		kHz	kHz				
	Cellular	100	300	Peak			
	PCS	1000	1000	Peak			



Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:								AL DYNAMICS COMPANY
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

B.7 SETUP PHOTOGRAPHS

Photograph B.7-1 - Bilog Receive Antenna with DUT Swivel Dipole Antenna Configuration



Photograph B.7-2 - Horn Receive Antenna with DUT Swivel Dipole Antenna Configuration



Photograph B.7-3 - Dipole Substitution Setup



Photograph B.7-4 - Horn Substitution Setup



Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem							AL DYNAMICS COMPANY
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	24E Industry Canada RSS-132, RSS		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

SETUP PHOTOGRAPHS (CONTINUED)

Photograph B.7-5 - Bilog Receive Antenna with DUT Vehicle-Mount Antenna Configuration



Photograph B.7-6 - Horn Receive Antenna with DUT Vehicle-Mount Antenna Configuration



Photograph B.7-7 - Dipole Substitution Setup



Photograph B.7-8 - Horn Substitution Setup



B.8 DUT OPERATING DESCRIPTION

Measurements were made for the low, mid and high channels transmitting in each of the modulation types for both the cellular and PCS bands at maximum power level as described in Appendix A. Each antenna configuration (External Swivel Dipole and Vehicle-Mount) was evaluated.

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	
DUT Type:								L DYNAMICS COMPANY
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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-1	
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

B.9 TEST RESULTS

B.9.1 Carrier Levels (Attached Swivel Dipole Antenna)

B.9.1.1 Cellular GPRS Carrier Levels

Celltech

Project Number: 756
Company: Itronix
Product: IX260

Itronix IX260+ with AC860 Standard: FCC22.913 Test Start Date: 21-Jun-06

Test End Date: 21-Jun-06

Configur	ration	Polarity	Distance	Carrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP	ERP Limit		Pass/ Fail	Measured E Le	ERP Carrier vel
Orientation	Accessory		m	Ca	MHz	dBuV/m	dBuV	dBm	dBd	dBm Watts		dB		dBm	milliWatts
Portable GPRS Cellular Band Radiated Carrier Power Levels															
Antenna Horiz	None	Н	3	128	824.2000	128.92	102.40	26.86	-1.45	38.45	7.00	13.04	PASS	25.41	347.82
Antenna Horiz	None	٧	3	128	824.2000	126.02	99.50	27.36	-1.45	38.45	7.00	12.54	PASS	25.91	390.27
Antenna Horiz	None	Н	3	190	836.6000	129.16	102.30	27.15	-1.35	38.45	7.00	12.65	PASS	25.80	380.43
Antenna Horiz	None	٧	3	190	836.6000	125.76	98.90	27.01	-1.35	38.45	7.00	12.79	PASS	25.66	368.37
Antenna Horiz	None	Н	3	251	848.8000	129.32	102.20	27.34	-1.25	38.45	7.00	12.36	PASS	26.09	406.48
Antenna Horiz	None	٧	3	251	848.8000	125.92	98.80	27.41	-1.25	38.45	7.00	12.29	PASS	26.16	413.09

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.1.2 PCS GPRS Carrier Levels

Celltech

 Project Number:
 756
 Standard:
 FCC24.232b

 Company:
 Itronix
 Test Start Date:
 21-Jun-06

 Product:
 IX260+ with AC860
 Test End Date:
 21-Jun-06

Configu	ration	Polarity	Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP	Limit	Margin	Pass/F ail		EIRP Carrier evel
Orientation	Accessory		m	Ca	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliWatts
	Portable GPRS PCS Band Radiated Carrier Power Levels														
Antenna Horiz	None	Н	3	512	1850.2000	128.71	95.90	23.23	8.72	33.01	2.00	1.06	PASS	31.95	1566.84
Antenna Horiz	None	٧	3	512	1850.2000	123.11	90.30	16.76	8.72	33.01	2.00	7.53	PASS	25.48	353.20
Antenna Horiz	None	Н	3	661	1880.0000	123.67	90.70	18.05	8.76	33.01	2.00	6.20	PASS	26.81	479.29
Antenna Horiz	None	٧	3	661	1880.0000	115.37	82.40	8.98	8.76	33.01	2.00	15.27	PASS	17.74	59.37
Antenna Horiz	None	Н	3	810	1909.8000	127.54	94.40	23.45	8.79	33.01	2.00	0.77	PASS	32.24	1675.62
Antenna Horiz	None	>	3	810	1909.8000	119.44	86.30	14.00	8.79	33.01	2.00	10.22	PASS	22.79	190.18

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada I	ab File #3874

B.9.2 Carrier Levels (Attached Swivel Dipole Antenna)

B.9.2.1 Cellular EDGE Carrier Levels



 Project Number:
 756
 Standard:
 FCC22.913

 Company:
 Itronix
 Test Start Date:
 21-Jun-06

 Product:
 IX260+ with AC860
 Test End Date:
 21-Jun-06

Configuration		Polarity	Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP	Limit	Margin	Pass/ Fail		ERP Carrier
Orientation	Accessory		m	ပိ	MHz	dBuV/m	dBuV	dBm	dBd	dBm	Watts	dB		dBm	milliWatts
Portable EDGE Cellular Band Radiated Carrier Power Levels															
Antenna Horiz	None	Н	3	128	824.2000	127.12	100.60	25.05	-1.45	38.45	7.00	14.85	PASS	23.60	229.28
Antenna Horiz	None	٧	3	128	824.2000	122.12	95.60	23.42	-1.45	38.45	7.00	16.48	PASS	21.97	157.53
Antenna Horiz	None	Н	3	190	836.6000	127.16	100.30	25.11	-1.35	38.45	7.00	14.69	PASS	23.76	237.84
Antenna Horiz	None	٧	3	190	836.6000	123.06	96.20	24.25	-1.35	38.45	7.00	15.55	PASS	22.90	195.11
Antenna Horiz	None	Н	3	251	848.8000	127.12	100.00	25.12	-1.25	38.45	7.00	14.58	PASS	23.87	243.80
Antenna Horiz	None	٧	3	251	848.8000	122.62	95.50	24.13	-1.25	38.45	7.00	15.57	PASS	22.88	194.11

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.2.2 PCS EDGE Carrier Levels



 Project Number:
 756
 Standard:
 FCC24.232b

 Company:
 Itronix
 Test Start Date:
 21-Jun-06

 Product:
 IX260+ with AC860
 Test End Date:
 21-Jun-06

Configu	Configuration		Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Limit		EIRP Limit		Margin	Pass/F ail		EIRP Carrier evel
Orientation	Accessory		m	Ca	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliW atts		
					Portable	EDGE PC	S Band Radi	ated Carri	er Power	Levels							
Antenna Horiz	None	Н	3	512	1850.2000	129.31	96.50	23.83	8.72	33.01	2.00	0.46	PASS	32.55	1798.97		
Antenna Horiz	None	٧	3	512	1850.2000	120.91	88.10	14.45	8.72	33.01	2.00	9.84	PASS	23.17	207.50		
Antenna Horiz	None	Н	3	661	1880.0000	128.37	95.40	23.96	8.76	33.01	2.00	0.29	PASS	32.72	1868.96		
Antenna Horiz	None	٧	3	661	1880.0000	120.57	87.60	14.74	8.76	33.01	2.00	9.51	PASS	23.50	223.67		
Antenna Horiz	None	Н	3	810	1909.8000	122.54	89.40	18.41	8.79	33.01	2.00	5.81	PASS	27.20	525.02		
Antenna Horiz	None	٧	3	810	1909.8000	114.64	81.50	9.07	8.79	33.01	2.00	15.15	PASS	17.86	61.12		

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

B.9.3 Carrier Levels (Attached Swivel Dipole Antenna)

B.9.3.1 Cellular UMTS Carrier Levels

Celltech Testry and Engineering Services Lie
 Project Number:
 756
 Standard:
 FCC22.913

 Company:
 Itronix
 Test Start Date:
 26-Jun-06

 Product:
 IX260+ with AC860
 Test End Date:
 26-Jun-06

Configuration		Polarity	Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Limit		Margin	Pass/ Fail		ERP Carrier evel
Orientation	Accessory		m	ပိ	MHz	dBuV/m	dBuV	dBm	dBd	dBm	Watts	dB		dBm	milliWatts
	Portable WCDMA Cellular Band Radiated Carrier Power Levels														
Antenna Horiz	None	Н	3	4132	826.4000	124.26	97.70	22.10	-1.43	38.45	7.00	17.78	PASS	20.67	116.71
Antenna Horiz	None	V	3	4132	826.4000	117.16	90.60	18.32	-1.43	38.45	7.00	21.56	PASS	16.89	48.88
Antenna Horiz	None	Н	3	4182	836.4000	124.56	97.70	22.37	-1.35	38.45	7.00	17.43	PASS	21.02	126.51
Antenna Horiz	None	V	3	4182	836.4000	117.66	90.80	18.85	-1.35	38.45	7.00	20.95	PASS	17.50	56.25
Antenna Horiz	None	Н	3	4233	846.6000	124.89	97.80	22.89	-1.27	38.45	7.00	16.83	PASS	21.62	145.30
Antenna Horiz	None	V	3	4233	846.6000	117.39	90.30	18.93	-1.27	38.45	7.00	20.79	PASS	17.66	58.38

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.3.2 PCS UMTS Carrier Levels



 Project Number:
 756
 Standard:
 FCC24.232b

 Company:
 Itronix
 Test Start Date:
 26-Jun-06

 Product:
 IX260+ with AC860
 Test End Date:
 26-Jun-06

Configu	Configuration		Distance	Carrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP	Limit	Margin	Pass/F ail		EIRP Carrier evel
Orientation	Accessory		m	Çs	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliW atts
	Portable WCDMA PCS Band Radiated Carrier Power Levels														
Antenna Horiz	None	Н	3	9262	1852.4000	124.42	91.60	18.96	8.72	33.01	2.00	3.82	PASS	27.68	586.53
Antenna Horiz	None	٧	3	9262	1852.4000	115.92	83.10	9.18	8.72	33.01	2.00	12.32	PASS	17.90	61.70
Antenna Horiz	None	Н	3	9400	1880.0000	122.77	89.80	17.40	8.76	33.01	2.00	5.47	PASS	26.16	412.67
Antenna Horiz	None	٧	3	9400	1880.0000	113.97	81.00	7.58	8.76	33.01	2.00	14.27	PASS	16.34	43.01
Antenna Horiz	None	Н	3	9538	1907.5000	123.62	90.50	19.53	8.79	33.01	2.00	4.62	PASS	28.32	679.05
Antenna Horiz	None	V	3	9538	1907.5000	115.02	81.90	9.47	8.79	33.01	2.00	13.22	PASS	18.26	66.97

Note

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006		
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0		
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874			

B.9.4 Carrier Levels (MaxRad Vehicle-Mount Antenna)

B.9.4.1 Cellular GPRS Carrier Levels

Project Number: 756 Standard: FCC22.913
Company: Itronix Test Start Date: 11-Jul-06
Product: IX260+ with AC860 Test End Date: 11-Jul-06

Conf	guration	Polarity	Distance	rrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Limit		ERP Limit		Margin	Pass/ Fail		ERP Carrier
Orientation	Accessory		m	Ca	MHz	dBuV/m	dBuV	dBm	dBd	dBm	Watts	dB		dBm	milliWatts		
					Mobile G	PRS Cellula	ar Band Radi	ated Carri	er Power	Levels							
N/A	Vehicle Cradle	Н	3	128	824.2000	100.12	73.60	1.03	-1.45	38.45	7.00	38.87	PASS	-0.42	0.91		
N/A	Vehicle Cradle	٧	3	128	824.2000	104.62	78.10	4.61	-1.45	38.45	7.00	35.29	PASS	3.16	2.07		
N/A	Vehicle Cradle	Н	3	190	836.6000	98.76	71.90	-0.64	-1.35	38.45	7.00	40.44	PASS	-1.99	0.63		
N/A	Vehicle Cradle	٧	3	190	836.6000	105.66	78.80	6.11	-1.35	38.45	7.00	33.69	PASS	4.76	2.99		
N/A	Vehicle Cradle	Н	3	251	848.8000	100.82	73.70	2.55	-1.25	38.45	7.00	37.15	PASS	1.30	1.35		
N/A	Vehicle Cradle	V	3	251	848.8000	107.02	79.90	7.69	-1.25	38.45	7.00	32.01	PASS	6.44	4.41		

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

Product:

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.4.2 PCS GPRS Carrier Levels

Celltech Testog and Engineering Services Lab Project Number: 756 Company: Itronix

Itronix IX260+ with AC860 Standard: FCC24.232b

Test Start Date: 11-Jul-06
Test End Date: 11-Jul-06

Config	juration	Polarity	Distance	Carrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Limit		Margin	Pass/F ail		EIRP Carrier vel
Orientation	Accessory		m	Ca	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliWatts
	Mobile GPRS PCS Band Radiated Carrier Power Levels														
N/A	Vehicle Cradle	Н	3	512	1850.2000	96.11	63.30	-7.67	8.72	33.01	2.00	31.96	PASS	1.05	1.27
N/A	Vehicle Cradle	٧	3	512	1850.2000	102.21	69.40	-3.03	8.72	33.01	2.00	27.32	PASS	5.69	3.71
N/A	Vehicle Cradle	Н	3	661	1880.0000	97.97	65.00	-7.45	8.76	33.01	2.00	31.70	PASS	1.31	1.35
N/A	Vehicle Cradle	٧	3	661	1880.0000	108.57	75.60	2.18	8.76	33.01	2.00	22.07	PASS	10.94	12.41
N/A	Vehicle Cradle	Н	3	810	1909.8000	103.24	70.10	-2.52	8.79	33.01	2.00	26.74	PASS	6.27	4.24
N/A	Vehicle Cradle	٧	3	810	1909.8000	113.34	80.20	6.28	8.79	33.01	2.00	17.94	PASS	15.07	32.15

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0		
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874			

B.9.5 Carrier Levels (MaxRad Vehicle-Mount Antenna)

B.9.5.1 Cellular EDGE Carrier Levels

Celltech Resig and Engineering Services Lat
 Project Number:
 756
 Standard:
 FCC22.913

 Company:
 Itronix
 Test Start Date:
 11-Jul-06

 Product:
 IX260+ with AC860
 Test End Date:
 11-Jul-06

Confi	guration	Polarity	Distance	Carrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Limit		Margin	Pass/ Fail		ERP Carrier
Orientation	Accessory		m		MHz	dBuV/m	dBuV	dBm	dBd	dBm	Watts	dB		dBm	milliWatts
Mobile EDGE Cellular Band Radiated Carrier Power Levels															
N/A	Vehicle Cradle	П	3	128	824.2000	96.72	70.20	-2.33	-1.45	38.45	7.00	42.23	PASS	-3.78	0.42
N/A	Vehicle Cradle	٧	3	128	824.2000	101.72	75.20	1.74	-1.45	38.45	7.00	38.16	PASS	0.29	1.07
N/A	Vehicle Cradle	Н	3	190	836.6000	95.86	69.00	-2.48	-1.35	38.45	7.00	42.28	PASS	-3.83	0.41
N/A	Vehicle Cradle	٧	3	190	836.6000	103.96	77.10	4.41	-1.35	38.45	7.00	35.39	PASS	3.06	2.02
N/A	Vehicle Cradle	Н	3	251	848.8000	97.02	69.90	-1.25	-1.25	38.45	7.00	40.95	PASS	-2.50	0.56
N/A	Vehicle Cradle	٧	3	251	848.8000	104.82	77.70	5.49	-1.25	38.45	7.00	34.21	PASS	4.24	2.65

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.5.2 PCS EDGE Carrier Levels



Project Number: 756
Company: Itron
Product: IX26

Itronix IX260+ with AC860 Standard: Test Start FCC24.232b

Test Start Date: 11-Jul-06
Test End Date: 11-Jul-06

Config	guration	Polarity	Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Limit		Margin	Pass/F ail		EIRP Carrier evel
Orientation	Accessory		m	Car	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliW atts
Mobile EDGE PCS Band Radiated Carrier Power Levels															
N/A	Vehicle Cradle	Н	3	512	1850.2000	93.21	60.40	-12.62	8.72	33.01	2.00	36.91	PASS	-3.90	0.41
N/A	Vehicle Cradle	٧	3	512	1850.2000	101.91	69.10	-4.82	8.72	33.01	2.00	29.11	PASS	3.90	2.45
N/A	Vehicle Cradle	Н	3	661	1880.0000	97.27	64.30	-7.15	8.76	33.01	2.00	31.40	PASS	1.61	1.45
N/A	Vehicle Cradle	٧	3	661	1880.0000	107.07	74.10	0.68	8.76	33.01	2.00	23.57	PASS	9.44	8.78
N/A	Vehicle Cradle	Н	3	810	1909.8000	102.44	69.30	-1.93	8.79	33.01	2.00	26.15	PASS	6.86	4.85
N/A	Vehicle Cradle	٧	3	810	1909.8000	110.14	77.00	4.57	8.79	33.01	2.00	19.65	PASS	13.36	21.69

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

B.9.6 Carrier Levels (MaxRad Vehicle-Mount Antenna)

B.9.6.1 Cellular UMTS Carrier Levels

Celltech Testry and Engineering Services Lat
 Project Number:
 756
 Standard:
 FCC22.913

 Company:
 Itronix
 Test Start Date:
 11-Jul-06

 Product:
 IX260+ with AC860
 Test End Date:
 11-Jul-06

Config	guration	Polarity	Distance	arrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Limit		Margin	Pass/ Fail		ERP Carrier evel
Orientation	Accessory		m	Car	MHz	dBuV/m	dBuV	dBm	dBd	dBm	Watts	dB		dBm	milliWatts
Mobile WCDMA Cellular Band Radiated Carrier Power Levels															
N/A	Vehicle Cradle	Н	3	4132	826.4000	89.06	62.50	-10.04	-1.43	38.45	7.00	49.92	PASS	-11.47	0.07
N/A	Vehicle Cradle	٧	3	4132	826.4000	92.46	65.90	-7.56	-1.43	38.45	7.00	47.44	PASS	-8.99	0.13
N/A	Vehicle Cradle	Н	3	4182	836.4000	88.56	61.70	-9.81	-1.35	38.45	7.00	49.61	PASS	-11.16	0.08
N/A	Vehicle Cradle	V	3	4182	836.4000	93.16	66.30	-6.37	-1.35	38.45	7.00	46.17	PASS	-7.72	0.17
N/A	Vehicle Cradle	Н	3	4233	846.6000	89.39	62.30	-8.84	-1.27	38.45	7.00	48.56	PASS	-10.11	0.10
N/A	Vehicle Cradle	V	3	4233	846.6000	94.39	67.30	-4.91	-1.27	38.45	7.00	44.63	PASS	-6.18	0.24

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

B.9.6.2 PCS UMTS Carrier Levels

Celltech

 Project Number:
 756
 Standard:
 FCC24.232b

 Company:
 Itronix
 Test Start Date:
 11-Jul-06

 Product:
 IX260+ with AC860
 Test End Date:
 11-Jul-06

Config	juration	Polarity	Distance	Carrier Channel	Frequency	Corrected Field Strength	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Limit		EIRP Limit		Margin	Pass/F ail		EIRP Carrier evel
Orientation	Accessory		m	င်ဒ	MHz	dBuV/m	dBuV	dBm	dBi	dBm	Watts	dB		dBm	milliWatts		
Mobile WCDMA PCS Band Radiated Carrier Power Levels																	
N/A	Vehicle Cradle	Н	3	9262	1852.4000	92.52	59.70	-12.92	8.72	33.01	2.00	35.72	PASS	-4.20	0.38		
N/A	Vehicle Cradle	٧	3	9262	1852.4000	101.22	68.40	-5.52	8.72	33.01	2.00	27.02	PASS	3.20	2.09		
N/A	Vehicle Cradle	Н	3	9400	1880.0000	95.97	63.00	-8.45	8.76	33.01	2.00	32.27	PASS	0.31	1.07		
N/A	Vehicle Cradle	٧	3	9400	1880.0000	106.97	74.00	0.58	8.76	33.01	2.00	21.27	PASS	9.34	8.58		
N/A	Vehicle Cradle	Н	3	9538	1907.5000	100.82	67.70	-3.23	8.79	33.01	2.00	27.42	PASS	5.56	3.60		
N/A	Vehicle Cradle	V	3	9538	1907.5000	112.72	79.60	7.17	8.79	33.01	2.00	15.52	PASS	15.96	39.44		

Note:

Measured ERP Carrier Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBd)

The DUT was measured in 3 orientations with respect to the receive antenna, only the orientation with the highest Radiated Power results is shown here.

Company: Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860

DUT Type: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem

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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133	
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

B.10 PASS/FAIL

In reference to the results outlined in B.9, the DUT passes the requirements as stated in the reference standards.

B.11 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson EMC Manager Celltech Labs Inc.

July 12, 2006

Spenier Watson

Date



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Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

Appendix C - Radiated Spurious Emissions Measurement

C.1 REFERENCES	
Normative Reference Standard	FCC CFR 47 §22.917(a), FCC CFR 47 §24.238(a)
Procedure Reference	ANSI/TIA/EIA-603-C

C.2 LIMITS	
C.2.1 FCC CFR 47	
FCC CFR 47 §22.917 & §24.238	(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

C.3 ENVIRONMENTAL CONDITION	C.3 ENVIRONMENTAL CONDITIONS								
Temperature	25 +/- 5 °C								
Humidity	40 +/- 10 %								
Barometric Pressure	101 +/- 3 kPa								

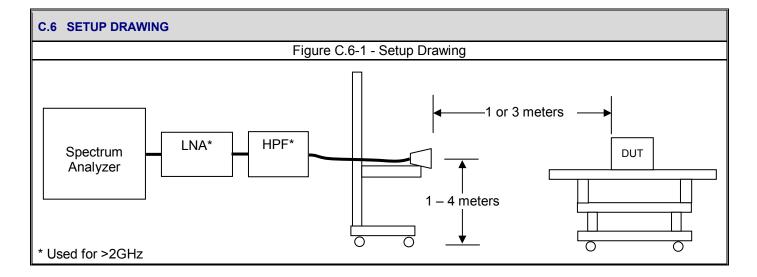
C.4 EQUIPMENT I	LIST				
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00072	EMCO	2075	Mini-mast	n/a	n/a
00073	EMCO	2080	Turn Table	n/a	n/a
00071	EMCO	2090	Multi-Device Controller	n/a	n/a
00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
00055	EMCO	3121C	Dipole Antenna	04Apr06	04Apr07
00034	ETS	3115	Double Ridged Guide Horn	11Aug05	11Aug07
00035	ETS	3115	Double Ridged Guide Horn	03Apr06	03Apr08
00161	Waveline	899	Standard Gain Horn Antenna	n/a	n/a
00051	HP	8566B	Spectrum Analyzer RF Section	04Apr06	04Apr07
00049	HP	85650A	Quasi-peak Adapter	04Apr06	04Apr07
00047	HP	85685A	RF Preselector	05Apr06	05Apr07
00048	Gore	65474	Microwave Cable	16Aug05	16Aug06
00115	Miteq	J54-00102600-35-5A	LNA	18Apr06	18Apr07
00006	R&S	SMR 20	Signal Generator (10MHz-40GHz)	06Apr06	06Apr07
00114	Amplifier Research	DC7154	Directional Coupler (0.8-4.2 GHz)	n/a	n/a
00078	Pasternack	PE2214-20	Directional Coupler (1-18 GHz)	n/a	n/a
00106	Amplifier Research	5S1G4	Power Amplifier (5W, 800MHz-4.2GHz)	n/a	n/a
00041	Amplifier Research	10W1000C	Power Amplifier (0.5 – 1 GHz)	n/a	n/a
00110	Gigatronics	8652A	Power Meter	12Apr06	12Apr07
00011	Gigatronics	80701A	Power Sensor	03Feb06	03Feb07
00208	Anritsu	MT8820A	Radio Communication Analyzer	06Jun06	06Jun07

Company:	Itronix	nix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860					ITI	RONIX [®]
DUT Type:								AL DYNAMICS COMPANY
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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

MEASUREMENT	number of antennas were used antenna was used are shown appropriate antenna and fed from	For the field strength measurements, the measurement equipment was connected as shown in C.6. A number of antennas were used to cover the applicable frequency range tested. The ranges in which each antenna was used are shown below. For the final substitutions, the DUT was replaced with the appropriate antenna and fed from a CW signal source sufficient to replicate the received field strength of the emission being investigated.									
EQUIPMENT CONNECTIONS	Frequency F	Range	RX Antenna	TX Antenna							
	30 MHz - 1	GHz	Bilog	Dipole							
	1 GHz - 18	GHz	ETS 3115 Horn	ETS 3115 Horn							
	18 GHz - 20	GHz	Waveline 899 Horn	Waveline 899 Horn							
	For the spurious out-of-band emissions, the spectrum analyzer was set to the following settings:										
	Mode	RBW	VBW	Detector							
MEASUREMENT		kHz	kHz	20100101							
EQUIPMENT	Cellular < 1 GHz	100	300	Peak*							
SETTINGS	Cellular > 1 GHz	1000	1000	Peak*							
	PCS	1000	1000	Peak*							



C.7 DUT OPERATING DESCRIPTION

Measurements were made for the low, mid and high channels transmitting in each of the modulation types for both the cellular and PCS bands at maximum power level as described in Appendix A. Each antenna configuration (External Swivel Dipole and Vehicle-Mount) was evaluated.

Company:	Itronix Corporation FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860						ITI	RONIX °
DUT Type:								L DYNAMICS COMPANY
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

C.8 TEST RESULTS

The spurious measurements detailed in this section are referenced to the carrier levels set forth in Appendix B of this report:

C.8.1 Spurious Emissions (Attached Swivel Dipole Antenna)

C.8.1.1 Cellular GPRS Spurious Emissions

Project Number: 756 Company:

Itronix

IX260+ with AC860

Standard:

FCC22.917 24-Jul-06

Test Start Date: Test End Date:

27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	128	1648.61	65.11	33.50	n/a	n/a	n/a	84.4*	19.3*	PASS*
Н	3	none	128	1648.26	42.81	11.20	n/a	n/a	n/a	84.4*	41.6*	PASS*
Н	3	none	128	2472.43	67.37	55.30	n/a	n/a	n/a	84.4*	17.0*	PASS*
Н	3	none	128	2472.60	41.07	29.00	n/a	n/a	n/a	84.4*	43.3*	PASS*
Н	3	none	128	3296.53	36.99	30.10	n/a	n/a	n/a	84.4*	47.4*	PASS*
Н	3	none	190	1674.06	69.85	38.10	n/a	n/a	n/a	84.4*	14.5*	PASS*
Н	3	none	190	1673.91	44.55	12.80	n/a	n/a	n/a	84.4*	39.8*	PASS*
Н	3	none	190	2510.84	69.31	57.10	n/a	n/a	n/a	84.4*	15.1*	PASS*
Н	3	none	190	2511.00	40.71	28.50	n/a	n/a	n/a	84.4*	43.7*	PASS*
Н	3	none	190	3348.29	38.87	31.80	n/a	n/a	n/a	84.4*	45.5*	PASS*
Н	3	none	251	1697.68	71.92	40.00	n/a	n/a	n/a	84.4*	12.4*	PASS*
Н	3	none	251	1697.50	45.32	13.40	n/a	n/a	n/a	84.4*	39.0*	PASS*
Н	3	none	251	2546.58	63.71	51.30	n/a	n/a	n/a	84.4*	20.7*	PASS*
Н	3	none	251	2546.52	39.41	27.00	n/a	n/a	n/a	84.4*	45.0*	PASS*
Н	3	none	251	3395.51	38.32	31.10	n/a	n/a	n/a	84.4*	46.0*	PASS*
V	3	none	128	1649.27	53.72	22.10	n/a	n/a	n/a	84.4*	30.7*	PASS*
V	3	none	128	2472.34	65.77	53.70	n/a	n/a	n/a	84.4*	18.6*	PASS*
V	3	none	128	2472.55	41.17	29.10	n/a	n/a	n/a	84.4*	43.2*	PASS*
V	3	none	128	3296.80	39.40	32.50	n/a	n/a	n/a	84.4*	45.0*	PASS*
V	3	none	190	1674.15	62.25	30.50	n/a	n/a	n/a	84.4*	22.1*	PASS*
V	3	none	190	1673.94	42.25	10.50	n/a	n/a	n/a	84.4*	42.1*	PASS*
V	3	none	190	2510.88	67.61	55.40	n/a	n/a	n/a	84.4*	16.8*	PASS*
V	3	none	190	2510.88	40.21	28.00	n/a	n/a	n/a	84.4*	44.2*	PASS*
V	3	none	190	3347.89	43.07	36.00	n/a	n/a	n/a	84.4*	41.3*	PASS*
V	3	none	251	1697.50	61.92	30.00	n/a	n/a	n/a	84.4*	22.4*	PASS*
V	3	none	251	1697.50	42.42	10.50	n/a	n/a	n/a	84.4*	41.9*	PASS*
V	3	none	251	2546.55	67.21	54.80	n/a	n/a	n/a	84.4*	17.2*	PASS*
V	3	none	251	2546.32	40.51	28.10	n/a	n/a	n/a	84.4*	43.9*	PASS*
V	3	none	251	3395.42	38.72	31.50	n/a	n/a	n/a	84.4*	45.6*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.

FCC ID: KBCIX260PLUSAC860 Model(s): IX260PLUSAC860 **Itronix Corporation** Company: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem **DUT Type:**



Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

C.8.1.2 PCS GPRS Spurious Emissions

Project Number: 756 Company:

Product:

Itronix IX260+ with AC860

FCC24.238

Test Start Date: Test End Date:

24-Jul-06 27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	512	3700.16	43.11	34.60	n/a	n/a	n/a	82.2*	39.1*	PASS*
Н	3	none	512	5550.31	45.69	31.60	n/a	n/a	n/a	82.2*	36.5*	PASS*
Н	1	none	512	7400.80	50.50	39.98	n/a	n/a	n/a	91.8*	41.3*	PASS*
Н	3	none	661	3759.73	43.09	34.50	n/a	n/a	n/a	82.2*	39.1*	PASS*
Н	3	none	661	5639.73	43.75	29.60	n/a	n/a	n/a	82.2*	38.5*	PASS*
Н	1	none	661	7520.00	50.71	39.81	n/a	n/a	n/a	91.8*	41.1*	PASS*
Н	3	none	810	3819.80	44.83	35.90	n/a	n/a	n/a	82.2*	37.4*	PASS*
Н	3	none	810	5729.44	49.51	35.50	n/a	n/a	n/a	82.2*	32.7*	PASS*
Н	1	none	810	7639.20	50.24	39.23	n/a	n/a	n/a	91.8*	41.5*	PASS*
٧	3	none	512	3700.19	43.51	35.00	n/a	n/a	n/a	82.2*	38.7*	PASS*
٧	3	none	512	5550.60	45.09	31.00	n/a	n/a	n/a	82.2*	37.1*	PASS*
٧	1	none	512	7401.00	50.23	39.71	n/a	n/a	n/a	91.8*	41.5*	PASS*
٧	3	none	661	3759.99	44.49	35.90	n/a	n/a	n/a	82.2*	37.7*	PASS*
٧	3	none	661	5640.00	44.35	30.20	n/a	n/a	n/a	82.2*	37.9*	PASS*
٧	1	none	661	7510.90	51.48	40.60	n/a	n/a	n/a	91.8*	40.3*	PASS*
٧	3	none	810	3819.59	42.93	34.00	n/a	n/a	n/a	82.2*	39.3*	PASS*
٧	3	none	810	5729.58	51.71	37.70	n/a	n/a	n/a	82.2*	30.5*	PASS*
٧	1	none	810	7639.60	54.31	43.30	n/a	n/a	n/a	91.8*	37.5*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.





Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

C.8.1.3 Cellular UMTS Spurious Emissions

Project Number: Company:

Itronix Product:

IX260+ with AC860

Standard: FCC22.917 24-Jul-06

Test Start Date: 27-Jul-06 Test End Date:

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	4132	1651.81	65.43	33.80	n/a	n/a	n/a	84.4*	18.9*	PASS*
Н	3	none	4132	1651.81	45.83	14.20	n/a	n/a	n/a	84.4*	38.5*	PASS*
Н	3	none	4132	2478.63	64.69	52.60	n/a	n/a	n/a	84.4*	19.7*	PASS*
Н	3	none	4132	2478.63	44.19	32.10	n/a	n/a	n/a	84.4*	40.2*	PASS*
Н	3	none	4132	3296.53	37.99	31.10	n/a	n/a	n/a	84.4*	46.4*	PASS*
Н	3	none	4182	1673.06	67.95	36.20	n/a	n/a	n/a	84.4*	16.4*	PASS*
Н	3	none	4182	1672.91	47.35	15.60	n/a	n/a	n/a	84.4*	37.0*	PASS*
Н	3	none	4182	2510.84	65.31	53.10	n/a	n/a	n/a	84.4*	19.1*	PASS*
Н	3	none	4182	2511.00	42.51	30.30	n/a	n/a	n/a	84.4*	41.9*	PASS*
Н	3	none	4182	3345.60	37.56	30.50	n/a	n/a	n/a	84.4*	46.8*	PASS*
Н	3	none	4233	1694.68	66.40	34.50	n/a	n/a	n/a	84.4*	18.0*	PASS*
Н	3	none	4233	1694.50	51.30	19.40	n/a	n/a	n/a	84.4*	33.1*	PASS*
Н	3	none	4233	2546.58	61.51	49.10	n/a	n/a	n/a	84.4*	22.9*	PASS*
Н	3	none	4233	2546.52	41.61	29.20	n/a	n/a	n/a	84.4*	42.8*	PASS*
Н	3	none	4233	3386.40	36.82	29.60	n/a	n/a	n/a	84.4*	47.6*	PASS*
V	3	none	4132	1649.27	52.62	21.00	n/a	n/a	n/a	84.4*	31.8*	PASS*
V	3	none	4132	2480.23	62.39	50.30	n/a	n/a	n/a	84.4*	22.0*	PASS*
V	3	none	4132	2480.23	47.89	35.80	n/a	n/a	n/a	84.4*	36.5*	PASS*
V	3	none	4132	3305.60	37.21	30.30	n/a	n/a	n/a	84.4*	47.2*	PASS*
V	3	none	4182	1673.15	61.65	29.90	n/a	n/a	n/a	84.4*	22.7*	PASS*
٧	3	none	4182	1672.94	50.35	18.60	n/a	n/a	n/a	84.4*	34.0*	PASS*
V	3	none	4182	2510.88	60.91	48.70	n/a	n/a	n/a	84.4*	23.5*	PASS*
V	3	none	4182	2510.88	44.51	32.30	n/a	n/a	n/a	84.4*	39.9*	PASS*
V	3	none	4182	3345.60	39.96	32.90	n/a	n/a	n/a	84.4*	44.4*	PASS*
V	3	none	4233	1694.30	63.00	31.10	n/a	n/a	n/a	84.4*	21.4*	PASS*
V	3	none	4233	1694.40	50.60	18.70	n/a	n/a	n/a	84.4*	33.8*	PASS*
V	3	none	4233	2541.55	64.29	51.90	n/a	n/a	n/a	84.4*	20.1*	PASS*
V	3	none	4233	2541.32	42.59	30.20	n/a	n/a	n/a	84.4*	41.8*	PASS*
V	3	none	4233	3386.40	37.42	30.20	n/a	n/a	n/a	84.4*	47.0*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.

FCC ID: KBCIX260PLUSAC860 **Itronix Corporation** Model(s): IX260PLUSAC860 Company: Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem **DUT Type:**

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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

Test Start Date:

C.8.1.4 PCS UMTS Spurious Emissions

Project Number: 756 Company: Itronix

Product:

IX260+ with AC860

FCC24.238

Test End Date: 27-Jul-06

24-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	9262	3704.56	42.09	33.60	n/a	n/a	n/a	82.2*	40.1*	PASS*
Н	3	none	9262	5556.80	46.83	32.60	n/a	n/a	n/a	82.2*	35.4*	PASS*
Н	1	none	9262	7409.60	50.52	39.97	n/a	n/a	n/a	91.8*	41.2*	PASS*
Н	3	none	9400	3759.43	44.09	35.50	n/a	n/a	n/a	82.2*	38.1*	PASS*
Н	3	none	9400	5639.33	44.75	30.60	n/a	n/a	n/a	82.2*	37.5*	PASS*
Н	1	none	9400	7520.00	51.66	40.76	n/a	n/a	n/a	91.8*	40.1*	PASS*
Н	3	none	9538	3816.80	45.80	36.90	n/a	n/a	n/a	82.2*	36.4*	PASS*
Н	3	none	9538	5724.44	50.50	36.50	n/a	n/a	n/a	82.2*	31.7*	PASS*
Н	1	none	9538	7630.00	51.13	40.13	n/a	n/a	n/a	91.8*	40.6*	PASS*
٧	3	none	9262	3703.19	44.50	36.00	n/a	n/a	n/a	82.2*	37.7*	PASS*
٧	3	none	9262	5556.10	46.41	32.20	n/a	n/a	n/a	82.2*	35.8*	PASS*
٧	1	none	9262	7409.60	50.77	40.22	n/a	n/a	n/a	91.8*	41.0*	PASS*
٧	3	none	9400	3759.99	43.49	34.90	n/a	n/a	n/a	82.2*	38.7*	PASS*
٧	3	none	9400	5640.00	45.35	31.20	n/a	n/a	n/a	82.2*	36.9*	PASS*
٧	1	none	9400	7520.00	51.14	40.24	n/a	n/a	n/a	91.8*	40.6*	PASS*
٧	3	none	9538	3816.59	42.90	34.00	n/a	n/a	n/a	82.2*	39.3*	PASS*
٧	3	none	9538	5724.08	51.69	37.70	n/a	n/a	n/a	82.2*	30.5*	PASS*
٧	1	none	9538	7630.00	51.06	40.06	n/a	n/a	n/a	91.8*	40.7*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.





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Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

C.8.2 Spurious Emissions (Vehicle-Mount Antenna)

C.8.2.1 Cellular GPRS Spurious Emissions (Mobile)

Celltech

Project Number: 756 Company: Itronix

Product: IX260+ with AC860

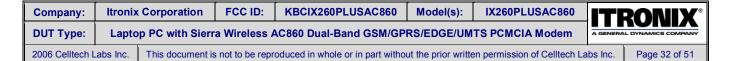
Standard:

FCC22.917

Test Start Date: 24-Jul-06
Test End Date: 27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	128	1648.40	52.31	20.70	n/a	n/a	n/a	84.4*	32.1*	PASS*
Н	3	none	128	2472.60	54.17	42.10	n/a	n/a	n/a	84.4*	30.2*	PASS*
Η	3	none	128	3296.80	37.90	31.00	n/a	n/a	n/a	84.4*	46.5*	PASS*
Н	3	none	190	1673.20	53.95	22.20	n/a	n/a	n/a	84.4*	30.4*	PASS*
Н	3	none	190	2510.85	51.51	39.30	n/a	n/a	n/a	84.4*	32.9*	PASS*
Η	3	none	190	3346.40	37.86	30.80	n/a	n/a	n/a	84.4*	46.5*	PASS*
Н	3	none	251	1697.60	53.22	21.30	n/a	n/a	n/a	84.4*	31.1*	PASS*
Τ	3	none	251	2546.07	51.01	38.60	n/a	n/a	n/a	84.4*	33.4*	PASS*
Η	3	none	251	3395.20	36.92	29.70	n/a	n/a	n/a	84.4*	47.4*	PASS*
V	3	none	128	1648.40	53.51	21.90	n/a	n/a	n/a	84.4*	30.9*	PASS*
٧	3	none	128	2472.88	52.47	40.40	n/a	n/a	n/a	84.4*	31.9*	PASS*
٧	3	none	128	3297.03	38.90	32.00	n/a	n/a	n/a	84.4*	45.5*	PASS*
٧	3	none	190	1673.20	65.15	33.40	n/a	n/a	n/a	84.4*	19.2*	PASS*
٧	3	none	190	1673.20	46.15	14.40	n/a	n/a	n/a	84.4*	38.2*	PASS*
٧	3	none	190	2510.88	52.91	40.70	n/a	n/a	n/a	84.4*	31.5*	PASS*
٧	3	none	190	3347.79	38.07	31.00	n/a	n/a	n/a	84.4*	46.3*	PASS*
٧	3	none	251	1697.65	64.52	32.60	n/a	n/a	n/a	84.4*	19.8*	PASS*
٧	3	none	251	1697.65	46.12	14.20	n/a	n/a	n/a	84.4*	38.2*	PASS*
٧	3	none	251	2546.39	54.31	41.90	n/a	n/a	n/a	84.4*	30.1*	PASS*
٧	3	none	251	3395.40	38.12	30.90	n/a	n/a	n/a	84.4*	46.2*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.





Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS	S-132, RSS-133
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

C.8.2.2 PCS GPRS Spurious Emissions (Mobile)

Product:

Project Number: 756 Company: Itronix

IX260+ with AC860

FCC24.238

Test Start Date: 24-Jul-06 Test End Date: 27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	512	3700.40	48.01	39.50	n/a	n/a	n/a	82.2*	34.2*	PASS*
Н	3	none	512	5550.60	54.09	40.00	n/a	n/a	n/a	82.2*	28.1*	PASS*
Н	1	none	512	7400.55	52.92	42.40	n/a	n/a	n/a	91.8*	38.8*	PASS*
Н	3	none	661	3760.00	47.69	39.10	n/a	n/a	n/a	82.2*	34.5*	PASS*
Н	3	none	661	5640.00	52.25	38.10	n/a	n/a	n/a	82.2*	30.0*	PASS*
Н	1	none	661	7520.50	52.46	41.56	n/a	n/a	n/a	91.8*	39.3*	PASS*
Н	3	none	810	3819.60	48.33	39.40	n/a	n/a	n/a	82.2*	33.9*	PASS*
Н	3	none	810	5729.85	53.61	39.60	n/a	n/a	n/a	82.2*	28.6*	PASS*
Н	1	none	810	7639.50	54.45	43.44	n/a	n/a	n/a	91.8*	37.3*	PASS*
٧	3	none	512	3700.29	47.11	38.60	n/a	n/a	n/a	82.2*	35.1*	PASS*
٧	3	none	512	5550.60	54.69	40.60	n/a	n/a	n/a	82.2*	27.5*	PASS*
٧	1	none	512	7401.20	55.58	45.06	n/a	n/a	n/a	91.8*	36.2*	PASS*
٧	3	none	661	3760.00	47.99	39.40	n/a	n/a	n/a	82.2*	34.2*	PASS*
٧	3	none	661	5640.00	53.65	39.50	n/a	n/a	n/a	82.2*	28.6*	PASS*
٧	1	none	661	7520.25	53.64	42.74	n/a	n/a	n/a	91.8*	38.1*	PASS*
٧	3	none	810	3819.12	47.72	38.80	n/a	n/a	n/a	82.2*	34.5*	PASS*
٧	3	none	810	5729.55	56.21	42.20	n/a	n/a	n/a	82.2*	26.0*	PASS*
٧	1	none	810	7639.50	56.45	45.44	n/a	n/a	n/a	91.8*	35.3*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.





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IX260PLUSAC860



Test Report Serial No.:	061506KBC-T756-E24G	Report Issue Date:	August 22, 2006	
Date(s) of Evaluation:	June 21 - July 27, 2006	Report Revision No.:	Revision 1.0	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

C.8.2.3 Cellular UMTS Spurious Emissions (Mobile)

Celltech

Refig and Engineering Services Lat

Project Number: 756 Company: Itronix

Product: IX260+ with AC860

Standard: FCC22.917
Test Start Date: 24-Jul-06

Test Start Date: 24-Jul-06
Test End Date: 27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	4132	1652.80	53.03	21.40	n/a	n/a	n/a	84.4*	31.3*	PASS*
Н	3	none	4132	2478.80	60.39	48.30	n/a	n/a	n/a	84.4*	24.0*	PASS*
Н	3	none	4132	3305.60	45.51	38.60	n/a	n/a	n/a	84.4*	38.9*	PASS*
Н	3	none	4182	1672.80	51.35	19.60	n/a	n/a	n/a	84.4*	33.0*	PASS*
Н	3	none	4182	2509.20	51.30	39.10	n/a	n/a	n/a	84.4*	33.1*	PASS*
Н	3	none	4182	3345.60	46.56	39.50	n/a	n/a	n/a	84.4*	37.8*	PASS*
Н	3	none	4233	1693.20	52.89	21.00	n/a	n/a	n/a	84.4*	31.5*	PASS*
Н	3	none	4233	2539.80	51.78	39.40	n/a	n/a	n/a	84.4*	32.6*	PASS*
Н	3	none	4233	3386.40	45.92	38.70	n/a	n/a	n/a	84.4*	38.5*	PASS*
٧	3	none	4132	1652.80	53.43	21.80	n/a	n/a	n/a	84.4*	30.9*	PASS*
٧	3	none	4132	2477.14	59.08	47.00	n/a	n/a	n/a	84.4*	25.3*	PASS*
٧	3	none	4132	3305.60	45.51	38.60	n/a	n/a	n/a	84.4*	38.9*	PASS*
٧	3	none	4182	1669.73	56.33	24.60	n/a	n/a	n/a	84.4*	28.0*	PASS*
٧	3	none	4182	2509.20	52.60	40.40	n/a	n/a	n/a	84.4*	31.8*	PASS*
٧	3	none	4182	3345.60	45.96	38.90	n/a	n/a	n/a	84.4*	38.4*	PASS*
٧	3	none	4233	1691.04	55.57	23.70	n/a	n/a	n/a	84.4*	28.8*	PASS*
٧	3	none	4233	2539.80	54.08	41.70	n/a	n/a	n/a	84.4*	30.3*	PASS*
٧	3	none	4233	3386.40	45.92	38.70	n/a	n/a	n/a	84.4*	38.5*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.





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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874	

C.8.2.4 PCS UMTS Spurious Emissions (Mobile)

Product:

Celltech

Project Number: 756 Company: Itron

Itronix IX260+ with AC860 Standard:

FCC24.238

Test Start Date: 24-Jul-06
Test End Date: 27-Jul-06

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Maximized SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m			MHz	dBuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	9262	3704.80	47.39	38.90	n/a	n/a	n/a	82.2*	34.8*	PASS*
Н	3	none	9262	5557.20	55.04	40.80	n/a	n/a	n/a	82.2*	27.2*	PASS*
Н	1	none	9262	7409.60	50.68	40.13	n/a	n/a	n/a	91.8*	41.1*	PASS*
Н	3	none	9400	3760.00	46.39	37.80	n/a	n/a	n/a	82.2*	35.8*	PASS*
Н	3	none	9400	5640.00	53.75	39.60	n/a	n/a	n/a	82.2*	28.5*	PASS*
Н	1	none	9400	7520.00	50.70	39.80	n/a	n/a	n/a	91.8*	41.1*	PASS*
Н	3	none	9538	3817.69	52.61	43.70	n/a	n/a	n/a	82.2*	29.6*	PASS*
Н	3	none	9538	5722.50	54.09	40.10	n/a	n/a	n/a	82.2*	28.1*	PASS*
Н	1	none	9538	7630.00	51.17	40.17	n/a	n/a	n/a	91.8*	40.6*	PASS*
٧	3	none	9262	3704.80	47.49	39.00	n/a	n/a	n/a	82.2*	34.7*	PASS*
٧	3	none	9262	5557.20	53.34	39.10	n/a	n/a	n/a	82.2*	28.9*	PASS*
٧	1	none	9262	7409.60	49.98	39.43	n/a	n/a	n/a	91.8*	41.8*	PASS*
٧	3	none	9400	3760.00	48.19	39.60	n/a	n/a	n/a	82.2*	34.0*	PASS*
٧	3	none	9400	5640.00	54.05	39.90	n/a	n/a	n/a	82.2*	28.2*	PASS*
٧	1	none	9400	7520.00	50.99	40.09	n/a	n/a	n/a	91.8*	40.8*	PASS*
٧	3	none	9538	3817.68	57.31	48.40	n/a	n/a	n/a	82.2*	24.9*	PASS*
٧	3	none	9538	5722.50	53.09	39.10	n/a	n/a	n/a	82.2*	29.1*	PASS*
٧	1	none	9538	7630.00	51.08	40.08	n/a	n/a	n/a	91.8*	40.7*	PASS*

^{*}The emissions reported above represent the highest emissions or noise floor measured within the frequency band of 30MHz and the 10th harmonic of the carrier with field strengths within 20 dB of the theoretical limit. All other emissions attributed to the EUT had field strengths greater than 20 dB below the theoretical limit and substitutions were not made.



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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

C.9 PASS/FAIL

In reference to the results shown in C.8, the DUT passes the requirements as stated in the reference standards as follows:

FCC 22.917 (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

FCC 24.238 (a): Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

C.10 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson EMC Manager Celltech Labs Inc.

July 28, 2006

Spencer Watson

Date



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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

Appendix D - Maximum Permissible Exposure Calculation

D.1 REFERENCES	
Normative Reference Standard	FCC CFR 47§1.1310 IEEE Std C95.1-1999
Procedure Reference	FCC CFR 47§2.1091

D.2 LIMITS							
	Frequency	Power Density					
FCC CFR 47§1.1310 Table 1(b)	300 - 1500 MHz	f/1500 mW/cm ²					
	1500 - 100,000 MHz	1.0 mW/cm ²					

D.3 ENVIRONMENTAL CONDITIONS					
Temperature	na				
Humidity	na				
Barometric Pressure	na				

D.4 MEASUREMENT EQUIPMENT SETUP				
MEASUREMENT EQUIPMENT	The results described herein were determined by calculations, so no measurement equipment was used. The power measurements for each radio used in these calculations were made as described in Appendix A of this report.			
MEASUREMENT EQUIPMENT SETTINGS	n/a			

D.5 DUT OPERA	D.5 DUT OPERATING DESCRIPTION							
Dual-Band GPRS	The maximum GPRS RF conducted output power in each band used for these calculations was measured on Channel 251 for Cellular and Channel 661 for PCS.							
Dual-Band EDGE	The maximum EDGE RF conducted output power in each band used for these calculations was measured on Channel 190 for Cellular and Channel 661 for PCS.							
Dual-Band UMTS	The maximum UMTS RF conducted output power in each band used for these calculations was measured on Channel 4233 for Cellular and Channel 9400 for PCS.							

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:							L DYNAMICS COMPANY	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	E Industry Canada RSS-132, R		
Test Lab Registration(s):	ration(s): FCC Lab Registration #714830 Industry Canada Lab File #		ab File #3874	

D.6 TEST RESULTS

D.6.1 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular GPRS Mode)

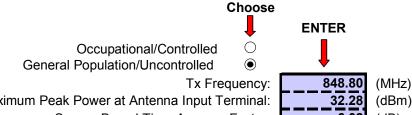
Prediction of MPE Limit
OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = \frac{PG}{4\pi R^2} \qquad \begin{array}{l} \textbf{S= power density} \\ \textbf{P= power input to the antenna} \\ \textbf{G= power gain of the antenna in the direction of interest relative to an isotropic radiator} \\ \textbf{R= distance to the center of radiation of the antenna} \\ \textbf{SL= power density limit} \end{array}$$

Ratio of Time On versus Total Transmit Time





Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor:
Antenna gain:

-6.02 (dB)

-6.02 (dB)

S (mw/cm^2) at 20cm

0.15282675

Formulae:

 $S = \frac{PG}{4\pi R^2}$ where: S = Power Density LimitP = Power Output of the Device

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Power Output of the Device (W) = 10 * log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))

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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	E Industry Canada RSS-132, R		
Test Lab Registration(s):	ration(s): FCC Lab Registration #714830 Industry Canada Lab File #		ab File #3874	

D.6.2 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - PCS GPRS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

G= power gain of the antenna in the direction of

interest relative to an isotropic radiator R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25

(dBi)

Choose

 \bigcirc

(

Occupational/Controlled General Population/Uncontrolled

ENTER

1880.00

Tx Frequency:

(MHz) Maximum Peak Power at Antenna Input Terminal: 28.63 (dBm) Source-Based Time-Average Factor: 6.02 (dB)

Antenna gain: SL= 1.00 (mW/cm²)

P= 182.3644 (mW) 1.82 (numeric)

R =5.14 (cm)

> S (mw/cm^2) at 20cm

> > 0.065947658

Formulae:

S = PG

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))



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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.3 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular EDGE Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$
 S= powe

 $S = \frac{PG}{4\pi R^2}$ S= power density P= power input to the antenna G= power gain of the antenna in the direction of interest relative to an isotropic radiator R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25

Choose

Occupational/Controlled General Population/Uncontrolled

ENTER

Tx Frequency: Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain: 836.60 (MHz) 26.89 (dBm) (dB) (dBi)

SL= 0.56 (mW/cm²) P= **122.1631** (mW) 1.82 (numeric)

5.63 (cm)

> S (mw/cm^2) at 20cm

> > 0.044177321

Formulae:

where: S = Power Density Limit P = Power Output of the Device

G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX®
DUT Type:							AL DYNAMICS COMPANY	
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.4 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - PCS EDGE Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$
 S= power density

 $S = \frac{PG}{4\pi R^2} \qquad \begin{array}{l} \text{S= power density} \\ \text{P= power input to the antenna} \\ \text{G= power gain of the antenna in the direction of} \\ \text{interest relative to an isotropic radiator} \end{array}$

R= distance to the center of radiation of the antenna **SL=** power density limit

Ratio of Time On versus Total Transmit Time

0.25

ENTER

Choose

(cm)

 \bigcirc Occupational/Controlled General Population/Uncontrolled

Tx Frequency:

Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain:

1880.00 (MHz) (dBm) -6.02 (dB) (dBi)

3.68

S (mw/cm^2) at 20cm

0.033822007

Formulae:

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	SUNIX.
DUT Type:						AL DYNAMICS COMPANY		
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.5 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - Cellular UMTS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

P= power input to the antenna

G= power gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna **SL=** power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

Occupational/Controlled General Population/Uncontrolled

ENTER

 \bigcirc

Tx Frequency: 846.60

(MHz) (dBm)

Maximum Peak Power at Antenna Input Terminal: Source-Based Time-Average Factor:

Antenna gain:

0.00 (dB) 2.60 (dBi)

SL= 0.56 (mW/cm²) P= 251.1886 (mW) 1.82 (numeric)

8.03 R =(cm)

> S (mw/cm^2) at 20cm

> > 0.090836286

Formulae:

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain

R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX®
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.6 Calculations:

Swivel Dipole Antenna (Max. Measured Conducted Power - PCS UMTS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

 $S = \frac{PG}{4\pi R^2} \qquad \begin{array}{l} \textbf{S=} \ \, \text{power density} \\ \textbf{P=} \ \, \text{power input to the antenna} \\ \textbf{G=} \ \, \text{power gain of the antenna in the direction of} \\ \end{array}$ interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

 \bigcirc

Occupational/Controlled General Population/Uncontrolled

Maximum Peak Power at Antenna Input Terminal:

(

1880.00

ENTER

(MHz) (dBm)

Source-Based Time-Average Factor: Antenna gain:

Tx Frequency:

23.00 0.00 (dB) (dBi)

SL= 1.00 (mW/cm²) P= 199.5262 (mW) 1.82 G= (numeric)

5.38 R = (cm)

> S (mw/cm^2) at 20cm

> > 0.072153826

Formulae:

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	SUNIX.
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.7 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular GPRS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

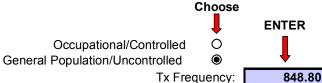
P= power input to the antenna $4\pi R^2$ G= power gain of the antenna in the direction of interest relative to an isotropic radiator interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25



Maximum Peak Power at Antenna Input Terminal: Source-Based Time-Average Factor:

(dBm) (dB) (dBi)

(MHz)

Antenna gain and Cable Loss:

S (mw/cm^2) at 20cm

0.108442464

Formulae:

$$S = \frac{PG}{4\pi R^2}$$

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))



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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.8 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS GPRS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

 $S = \frac{PG}{4\pi R^2} \qquad \begin{array}{l} \textbf{S=} \quad \text{power density} \\ \textbf{P=} \quad \text{power input to the antenna} \\ \textbf{G=} \quad \text{power gain of the antenna in the direction of interest relative to an isotropic radiator} \\ & \qquad \qquad \end{array}$

R= distance to the center of radiation of the antenna SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25



0

Occupational/Controlled General Population/Uncontrolled

ENTER

• 1880.00 Tx Frequency: (MHz)

Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain and Cable Loss:

28.63 (dBm) (dB) (dBi)

$$R = 3.90$$
 (cm)

S (mw/cm^2) at 20cm

0.037948916

Formulae:

S = PG

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain

R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITI	RONIX °
DUT Type:							AL DYNAMICS COMPANY	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.9 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular EDGE Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

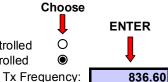
 $\frac{1}{4\pi R^2}$ **P=** power input to the antenna **G=** power gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25



Occupational/Controlled General Population/Uncontrolled

Maximum Peak Power at Antenna Input Terminal: Source-Based Time-Average Factor:

(MHz) 26.89 (dBm) -6.02 (dB) (dBi)

$$R = 4.74$$
 (cm)

Antenna gain and Cable Loss:

S (mw/cm^2) at 20cm

0.031347245

Formulae:

$$S = PG \over 4\pi R^2$$

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain R = Distance from Antenna

$$R = \sqrt{\frac{PG}{4\pi S}}$$

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))
Power Output of the Device (W) = 10 * log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))



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Test Standard(s):	FCC 47 CFR §2, §22H, §24E	Industry Canada RSS-132, RSS-133		
Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.10 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS EDGE Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

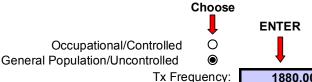
 $\frac{1}{4\pi R^2}$ **P=** power input to the antenna **G=** power gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

0.25



Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain and Cable Loss: 1880.00 (MHz) (dBm) -6.02 (dB) (dBi)

$$R = 2.79$$
 (cm)

S (mw/cm^2) at 20cm

0.019462534

Formulae:

$$S = PG$$

$$4\pi R^2$$

where: S = Power Density Limit

P = Power Output of the Device

G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))
Power Output of the Device (W) = 10 * log (RF Output Power (dBm) + Source-Based Time Average Factor (dB))



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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874		

D.6.11 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - Cellular UMTS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

 $\frac{}{4\pi R^2} \quad \begin{array}{l} \textbf{P=} \quad \text{power input to the antenna} \\ \textbf{G=} \quad \text{power gain of the antenna} \end{array}$ **G=** power gain of the antenna in the direction of

interest relative to an isotropic radiator R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

Occupational/Controlled General Population/Uncontrolled

0

846.60 Tx Frequency:

ENTER

(MHz) 24.00 (dBm)

Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain and Cable Loss:

0.00

(dB) (dBi)

SL= **0.56** (mW/cm²) P= 251.1886 (mW) 1.29 G= (numeric)

R = 6.76 (cm)

> S (mw/cm^2) at 20cm

> > 0.064455409

Formulae:

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain

R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITRONIX °	
DUT Type:	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem							
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

D.6.12 Calculations:

Vehicle-Mount Antenna (Max. Measured Conducted Power - PCS UMTS Mode)

Prediction of MPE Limit OET Bulletin 65, Edition 97-01

Equation from page 18

$$S = PG$$

S= power density

 $\frac{1}{4\pi R^2}$ **P=** power input to the antenna **G=** power gain of the antenna **G= G=** power gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the center of radiation of the antenna

SL= power density limit

Ratio of Time On versus Total Transmit Time

1.00

Choose

Occupational/Controlled General Population/Uncontrolled

0

1880.00 Tx Frequency:

ENTER

(MHz) (dBm)

Maximum Peak Power at Antenna Input Terminal:

Source-Based Time-Average Factor: Antenna gain and Cable Loss: 23.00 0.00 (dB) 0.20 (dBi)

SL= **1.00** (mW/cm²) P= 199.5262 (mW) 1.05 G= (numeric)

R = 4.08 (cm)

> S (mw/cm^2) at 20cm

> > 0.041520193

Formulae:

where: S = Power Density Limit

P = Power Output of the Device G = Numeric Antenna Gain R = Distance from Antenna

Source-Based Time-Average Factor = 10 * log (Time On / (Time On + Time Off))

Company:	Itronix	Corporation	FCC ID:	KBCIX260PLUSAC860	Model(s):	IX260PLUSAC860	ITRONIX °	
DUT Type:	Laptop PC with Sierra Wireless AC860 Dual-Band GSM/GPRS/EDGE/UMTS PCMCIA Modem							
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Test Lab Registration(s):	FCC Lab Registration #714830	Industry Canada L	ab File #3874

D.7 PASS/FAIL

In reference to the results outlined in D6 the DUT passes the requirements as stated in the reference standards as follows:

1) The DUT must comply with the minimum spacing requirement of 20 cm to ensure an exposure of not more than f/1500 mW/cm² for frequencies between 300 and 1500 MHz and 1 mW/cm² for frequencies between 1500 and 100,000 MHz.

D.8 SIGN-OFF

I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson EMC Manager Celltech Labs Inc.

June 27, 2006

Date

Spenser Watson



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