

Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# **ELECTRO-MAGNETIC COMPATIBILITY**

# **EMC TEST REPORT**

FOR

## **ITRONIX CORPORATION**

## **IX325 SERIES RUGGED TABLET PC**

**INCLUDING** 

## **DUAL-BAND PCS/CELLULAR CDMA PCMCIA MODEM**

**WITH** 

## **EXTERNAL HINGED DIPOLE ANTENNA**

AND

## **VEHICLE-MOUNT ANTENNA WITH CRADLE**

FCC ID: KBCIX325A580IWLBT

IC: 1943A-IX325f

Test Report Serial Number

100305KBC-T675-S24C

**Test Report Issue No.** 

E675C-012306-R0

## **Test Lab**

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



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			DECLAF	RATION O	F CON	IPLIANC	E		
Test Lab	CELLTECH LABS INC. Testing and Engineering Services 1955 Moss Court Kelowna, B.C. Canada V1Y 9L3			Applie Inform		ITRONIX CORPORATI 12825 E. Mirabeau Par Spokane Valley, WA 99 United States	kway		
Phone:	250-448-70								
Fax:	250-448-70	•			_			_	
e-mail:	info@cellted				L			=	
web site:	www.celltec		<b>500</b>	744000	10	0074	-		
Laboratory Ro	egistration N		FCC:	714830	IC:	3874			
Rule Part(s):		FCC:		and CDMA		2H; §24E			
		IC:		and CDMA	_		RSS-132 Issue 2	_	
Doving Classi	FC		Dual-B	and CDMA	PCS Licensed Transmitter (PCB)				
Device Classi	Device Classification:		Dual-Band CDMA			800 MHz Cellular Telephones Employing New Technologies 2 GHz Personal Communication Services			
Device Identif	fication:	FCC ID:	KBCIX32	5A580IWLBT	IC:	IC: 1943A-IX325f			
DUT Descript	ion:								
Model(s):		IX325A580	IWLBT						
Device Descri	iption:	Rugged Ta	ablet PC						
RF Exposure	Category:	Portable (v	vith externa	lly-mounted a	ntenna)	Mobile	(with vehicle cradle and	vehicle antenna)	
Internal Trans	smitter(s):	Sierra Wire	eless AirCa	rd 580 Dual-B	and CDN	1A PCMCIA	Modem		
Tx Frequency	Range(s):	Dual Ban	4 CDMV	Cellular	824.7	824.70 - 848.31 MHz			
TXTTEQUETICS	rtange(s).	Duai Daii	u obiviA	PCS	1851	.25 - 1908.7	75 MHz		
				Cellular	С	onducted	+23.24 dBm	0.211 Watts	
Max. RF Outp		Dual Ban	d CDMA	Ochalai		ERP	+23.10 dBm	0.204 Watts	
Power Measu	red:	Duai Daii	a obivirt	PCS	С	onducted	+23.98 dBm	0.250 Watts	
				. 33		EIRP	+28.99 dBm	0.793 Watts	
Antenna Type	e(s) Tested:		eless Hinge				Vehicle-Mount (P/N: WMI	_PVDB800/1900)	
Power Source	e(s) Tested:	Stationary	: 75 Watt A	C Power Ada	oter (Mod	lel: ADP-75	FB B)		
Tonor Gourde	(3) .0000	11.1 V Inte	ernal Lithiur	m-ion Battery,	3600 m/	h (Model:	Г8М-Е)		

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 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.

Tested By:

for Russell Pipe

Senior Compliance Technologist Celltech Labs Inc.

Spenier Watson

Reviewed By:

Duane M. Friesen EMC Manager Celltech Labs Inc.



Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>
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Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	A ITPONIV
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325A580IWLBT	ITRONIX*
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TEST SUMMARY									
Referenced Standard: FCC CFR Title 47 Part 2, 22H									
Appendix	Test Description Procedure Reference Limit Reference		Test Start Date	Test End Date	Result				
В	Conducted RF Output Power	§2.1046	§2.1046	10Dec05	10Dec05	Pass			
С	Conducted TX Spurious Emissions	§22.917(b)	§22.917(a)	10Dec05	10Dec05	Pass			
Е	Effective Radiated Power	ANSI/TIA/EIA-603-C	§22.913	31Oct05	09Dec05	Pass			
F	Radiated TX Spurious Emissions	ANSI/TIA/EIA-603-C	§22.917 (e)	7Oct05	31Oct05	Pass			
	Referenced	Standard: FCC CFR Title	e 47 Part 2, 24E						
G	Conducted RF Output Power	§2.1046	§2.1046	10Dec05	10Dec05	Pass			
Н	Conducted TX Spurious Emissions	§24.238(b)	§24.238(a)	10Dec05	10Dec05	Pass			
J	Effective Isotropic Radiated Power	ANSI/TIA/EIA-603-C	§24.232(b)	25Oct05	08Dec05	Pass			
K	Radiated TX Spurious Emissions	ANSI/TIA/EIA-603-C	§24.238 (a)	25Oct05	31Oct05	Pass			
	Referen	ced Standard: IC RSS-1	32 Issue 2						
В	Conducted RF Output Power	RSS-Gen §4.6	SRSP-503 §5.1	10Dec05	10Dec05	Pass			
С	Conducted TX Spurious Emissions	RSS-Gen §4.7	RSS-132 §4.5	10Dec05	10Dec05	Pass			
D	Conducted RX Spurious Emissions	RSS-Gen §4.8	RSS-Gen §6 (b)	10Dec05	10Dec05	Pass			
Е	Effective Radiated Power	ANSI/TIA/EIA-603-C	SRSP-503 §5.1	31Oct05	09Dec05	Pass			
F	Radiated TX Spurious Emissions	RSS-Gen §4.7	RSS-132 §4.5	7Oct05	31Oct05	Pass			
	Referen	ced Standard: IC RSS-1	33 Issue 3						
G	Conducted RF Output Power	ANSI/TIA/EIA-603-C	SRSP-510 §5.1.2	10Dec05	10Dec05	Pass			
Н	Conducted TX Spurious Emissions	RSS-Gen §4.7	RSS-133 §6.5	10Dec05	10Dec05	Pass			
I	Conducted RX Spurious Emissions	RSS-133 §4.5	RSS-133 §6.7 (b)	10Dec05	10Dec05	Pass			
J	Effective Isotropic Radiated Power	ANSI/TIA/EIA-603-C	RSS-133 §6.4	25Oct05	08Dec05	Pass			
K	Radiated TX Spurious Emissions	RSS-Gen §4.7	RSS-133 §6.5	25Oct05	31Oct05	Pass			

# **REVISION LOG**

Issue No.	Description	Implemented By	Implementation Date
E675C-012306-R0	Initial Release	Jonathan Hughes	23Jan06

# **SIGNATORIES**

Prepared By:		December 16, 2005
Name/Title	Duane M. Friesen, C.E.T. / EMC Manager	Date
Approved By:	GH-	January 23, 2006
Name/Title	Jonathan Hughes / General Manager	Date

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Table	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325A580IWLBT		ITRONIX <sup>®</sup>
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Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #3874			

## **1.0 SCOPE**

This report outlines the measurements made and results collected during electromagnetic emissions testing of the Itronix Corporation Model: IX325A580IWLBT Rugged Tablet PC with the internal Sierra Wireless AirCard 580 Dual-Band CDMA PCMCIA Modem. The AirCard 580 Modem was connected to an external hinged dipole antenna mounted on the broadband hatch and connected through an RF switch and cable to the PCMCIA Card. 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 Specifications 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: 2004	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations Part 22: Public Mobile Services Part 24: Personal Communication Services					
IC Spectrum Management & Telecommunications Policy	Radio Standards Specification RSS-132 Issue 2 - 800 MHz Cellular Telephones Employing New Technologies RSS-133 Issue 3 - 2 GHz Personal Communication Services RSS-102 Issue 2 - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of					

Humans to Radio Frequency Fields

ı	Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	(A) ITPONIV	
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325A580IWLBT		ITRONIX*
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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

EIRP Effective Isotropic Radiated Power

EDGE Enhanced Data Rates for CDMA Evolution

EMC Electromagnetic Compatibility ERP Effective Radiated Power

FCC Federal Communication Commission FHSS Frequency Hopping Spread Spectrum

CDMA Global Systems for a Mobility 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
VBW Video Bandwidth
Vpol Vertical Polarization

WLAN Wireless Local Area Network

# 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.

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325A580IWLBT		ITRONIX
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Lab Registration(s): FCC Registration #71483			Industry Can	ada Lab File #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 IX325A580IWLBT Rugged Tablet PC containing a Sierra Wireless AirCard 580 Dual-Band CDMA PCMCIA Modem connected to either an external hinged dipole antenna mounted on the broadband hatch (portable configuration) or through the mounting cradle and 17 feet of cable to a vehicular mounted antenna (mobile configuration). Photographs of the DUT placement and construction are shown in Appendix A.

Device:	Rugged T	Rugged Tablet PC with externally-mounted antenna, and vehicle cradle with vehicle antenna							
Model:	IX325A58	IX325A580IWLBT							
Serial Number(s):	ZZGEG5073ZZ9782								
Identifier(s):	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f					
Power Source(s)	Stationary: 75 Watt AC Power Adapter (Model: ADP-75FB B)								
Tested:	Portable: 1	11.1V Lithium-ion Battery, 3.6	Ah (Mode	el: A2121-2)					

Device:	Dual-Band	Dual-Band PCS/Cellular CDMA PCMCIA Modem			
Model:	Sierra Wir	Sierra Wireless AirCard 580			
Serial Number:	60209FB5	60209FB5			
Rule Part(s):	FCC:	§22.913; §22.917; §24.232; §24.238			
raio i art(5).	IC:	RSS-132 Issue 2; RSS-133 Issue 3			
	FCC:	PCS Licensed Transmitter (PCB)			
Classification(s):	IC:	800 MHz Cellular Telephones employing New Technologies (RSS-132)			
		2 GHz Personal Communication Services (RSS-133)			
Power Source:	Powered from the internal PC power supply				

Device:	External Hinged Dipole Antenna	Model:	Sierra Wireless AirCard 580 Antenna
Device:	IX325 Vehicle Dock (cradle)	Model:	Itronix IX325 VEH DOC
Device:	Vehicle-Mount Antenna	Model:	MaxRad 3dBi Gain (P/N: WMLPVDB800/1900)

# **5.3 Co-Located Equipment**

Device:	GPS Receiver Module (Receive only)
Model:	Leadtek Model LR9805
Device:	GPS Antenna (Receive only)
Model:	Sarantel 101401040/2004UK

Applicant:	Itro	onix Corporation FCC ID: KBCIX32		KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDONIY.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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# 5.4 Cable Descriptions

ROU	JTING	Length	Model	Terminations		Terminations		Terminations		Terminations Shield Type Shield Termination		Suppression
From	То	m		End 1	End 2		End 1	End 2				
PC modem port	Unterminated	1.0	n/a	RJ-11	RJ-11	None	na	na	None			
PC Ethernet Port	Ethernet Hub	1.0	n/a	RJ-45	RJ-45	None	na	na	None			

## **5.5 Support Equipment**

The following equipment was used in support of the DUT.

Co-located Support Equipment List						
Manufacturer	Model Description					
D-Link	DE-809TC/	Ethernet hub				
YNG YUH	YP-040	Hub power supply				
MLi	699	Speakers				
Polk Audio	n/a	Speaker-microphone				
	K8255	Keyboard				
Sanwa Supply	MA-MBUSB	Mouse				

# **5.6 Clock Frequencies**

# 5.6.1 <u>DUT Clock Frequencies</u>

Device:	Rugged Tablet PC
Clocks:	n/a
Device:	Dual-Band PCS/Cellular CDMA PCMCIA Modem
Clocks:	n/a
Device:	Hinged Dipole Antenna
Clocks:	None

# 5.6.2 Co-Located Clock Frequencies

Device:	Peripherals
Clocks:	n/a

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV.
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## 5.7 Mode(s) of Operation Tested

## 5.7.1 Dual-Band CDMA Modem

Customer supplied software was used to set the Sierra Wireless AirCard 580 modem to the appropriate channel and power level for the specific measurement. Measurements were made with the modem set to the low, mid and high channel in each band or on a worst-case channel for the measurement, as determined by prescan evaluations. The following settings were used for each channel.

## 5.7.1.1 Cellular CDMA

Transmitter Frequency Range:	824.70 - 848.31 MHz Ch. 1013 (824.70 MHz) (low), Ch. 363 (835.89 MHz) (mid) & Ch. 777 (848.31 MHz) (high) measured unless otherwise noted
Software Power Gain Settings:	Set by manufacturer software or CDMA test set communications for "all ups"
Modulation Type(s):	QPSK

## 5.7.1.2 PCS CDMA

Transmitter Frequency Range:	1851.25 - 1908.75 MHz Ch. 25 (1851.25 MHz) (low), Ch 600 (1880.00 MHz) (mid) & Ch. 1175 (1908.75 MHz) (high) measured unless otherwise noted	
Software Power Gain Settings: Set by manufacturer software or CDMA test set communications for "all ups"		
Modulation Type(s):	QPSK	

#### 5.7.2 DUT Exercising Software Description

The DUT was configured and exercised during the RF conducted output power measurements using customer supplied test software "Directed Test Version 2.8", that allowed an operator to place the Dual-Band CDMA modem in an "all ups" mode. The modem manufacturer described this mode as one in which the modem transmitted at its maximum power level. For all radiated testing, the "all ups" mode was initiated with a call being connected with a CDMA test set through an antenna placed near the DUT.

## 5.8 Configuration Description

The DUT was configured in each of two configurations, as described by the client as being representative of what would be delivered to a final customer. The first was a portable configuration, which utilized the attached hinged dipole antenna, the second a mobile configuration where the tablet PC was installed in a vehicular cradle and utilized a mobile antenna mounted on the vehicle. Because the hinged dipole antenna orientation could be user configured and the tablet PC could be oriented in a number of positions in its portable configuration, prescan evaluations were made to determine the configuration that resulted in the highest emissions. A "face up, vertical antenna" orientation was determined for the cellular band whereas a "face up, horizontal antenna" was worst-case for the PCS band. The mobile configuration was tested with the tablet PC installed in the vehicle cradle, attached to the vehicle antenna thru a typical 17' cable. Both configurations were investigated and the results reported herein. For the RF conducted measurements, a cable utilized internally to the unit to connect the card to the antenna port was used to connect the measurement equipment to the internal modem card. More specific details may be included in each appendix.

## 5.8.1 Configuration Justification

The DUT was tested in a configuration described by the client as being typical of normal use.

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# 6.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criterion 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 within the specified limits as defined. The pass/fail statements made in this report only apply to the unit tested.

Applicant:	Itror	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITPONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX	
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Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# **APPENDICES**

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		TRONIX <sup>®</sup>
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Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874		

## **Appendix A - Photographs**

## **A.1. DUT PHOTOGRAPHS**

Photograph A.1-1 - Tablet PC in the worst-case Cellular Portable Configuration



Photograph A.1-2 - Tablet PC in the worst-case PCS Portable Configuration



Photograph A.1-3 - Tablet PC in the Mobile Configuration Photograph A.1-4 - AirCard 580 PCMCIA Modem Card





Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	A ITPOULY!
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT	(ITRONIX)
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Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# Appendix B - Cellular Band Conducted TX RF Output Power Measurement

B.1. REFERENCES	
Normative Reference Standard	FCC CFR 47 §2.1046
Procedure Reference	FCC CFR 47 §2.1046

B.2. LIMITS				
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 limits are specified in Appendix E.				

B.3. ENVIRONMENTAL CONDITIONS	
Temperature	25 ± 5 ℃
Humidity	35 <u>+</u> 5 %RH
Barometric Pressure	uncontrolled

B.4. EQUIPMENT LIST					
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06
00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06
00102	Pasternack	PE7014-30	30dB attenuator	na	na*

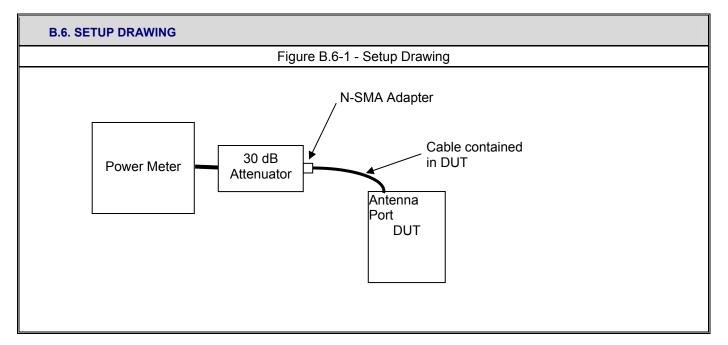
<sup>\*</sup>Attenuator offset in power meter

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet	PC with Sierra Wireless	C with Sierra Wireless AirCard 580 Dual-Band CDMA Modem		em Model: IX325A580IWLBT		(ITRONIX)	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

B.5. MEASUREMENT	B.5. MEASUREMENT EQUIPMENT SETUP					
Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in B.6.					
Measurement Equipment Settings	Power Meter Settings: Mode - MAP Frequency compensation set for carrier frequency Offset set appropriately to compensate for attenuator					
Measurement Procedure	The RF conducted power levels were measured at the DUT antenna connector port using a Gigatronics 8652A Universal Power Meter in mean average power mode. An offset was entered into the power meter to correct for the loss of the attenuator installed between the output port and the power sensor input. The DUT test software was used to set it to transmit in the CDMA "always up" power control mode.					



## **B.7. DUT OPERATING DESCRIPTION**

Power measurements were made for each of the three Cellular test channels (Channel 1013, 363, & 777), with the AirCard 580 modem set appropriately as described in section 5.7.

ĺ	Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		
	Rugged Tablet	Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem			Model:	IX325A580IWLBT		TRONIX'
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Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

B.8. TEST RESULTS					
Mode	Channel	Frequency	Conducte	ed Power	
Mode	Chamie	MHz	dBm	watts	
	1013	824.700 MHz	+23.24	0.211	
Cellular CDMA	363	835.890 MHz	+22.96	0.198	
	777	848.310 MHz	+23.19	0.208	

## **B.9. PASS/FAIL**

There is no pass/fail criterion for this measurement. The ERP values, applied to appropriate regulatory requirements are outlined in Appendix E.

## **B.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.

Duane M. Friesen
EMC Manager
Celltech Labs Inc.

10Dec05 Date

Applicant:	Itronix Corporation FCC ID: KBCIX325A580IWLBT		FCC ID: KBCIX325A580IWLBT		1943A-IX325f
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT
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Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

## Appendix C - Conducted Cellular TX Spurious Emissions Measurement

C.1. REFERENCES	
Normative Reference Standard	FCC CFR 47 §22.917(a)
Procedure Reference	FCC CFR 47 §22.917(b)

C.2. LIMITS	
FCC CFR 47 §22.917	(a) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB

C.3. ENVIRONMENTAL CONDITIONS							
Temperature	25 <u>+</u> 5 °C						
Humidity	35 <u>+</u> 5 %RH						
Barometric Pressure	uncontrolled						

C	C.4. EQUIPMENT LIST											
ID	ASSET MANUFACTURER MODEL DESCRIPTION LAST CAL											
1	00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06						
2	00102	Pasternack	PE7015-3030	30dB attenuator	na	na*						
3	na	Itronix	na	Cable & SMA adapter	na	na*						

<sup>\*</sup>Verified with VNA

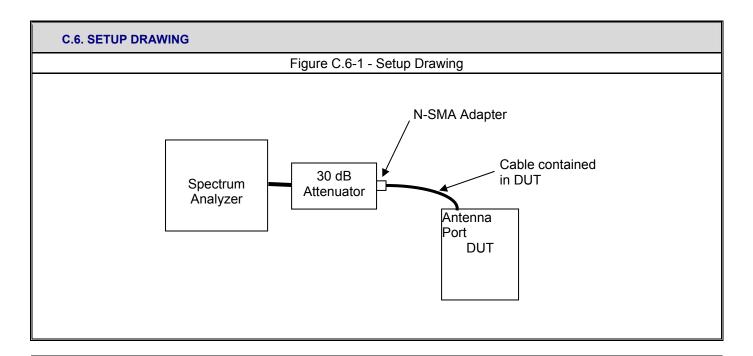
C.5. MEASUREMENT EQUIPMENT SETUP									
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment	ne measurement equipment was connected as shown in C.6.							
	The spectrum analyzer was set to the following settings:								
	Frequency Range	RBW	VBW	Attenuator	Offset	Detector			
MEASUREMENT	MHz	kHz	MHz	dB	dB	Detector			
EQUIPMENT SETTINGS	Within 1 MHz of the Block edges	10 *	1	10	-30.0	Sample*			
	Beyond 1MHz from Block edges	100	1	0	-30.0	Peak			

<sup>\*10</sup> kHz RBW & sample detector used for band-edge, 100 kHz & peak used for wider span scans. Band-edge measurements corrected for specified BW of 1% of EBW within Block and 1 MHz of each edge.

Applicant:	Itronix Corp	poration	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		TDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWL						IX325A580IWLBT		TRONIX
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Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	



## **C.7. DUT OPERATING DESCRIPTION**

Measurements were made with the DUT transmitting at maximum power in the cellular band, in a configuration as described in Section 5 of this report. The Block edge measurements were made with the DUT transmitting on the channel closest to the edge under investigation (CH1013 & CH777). The remaining spurious measurements were made on each of the three channels: Low (CH1013), Mid (CH363) and High (CH777).

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV*		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A5						(ITRONIX)		
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Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Car	nada RSS-132/133	
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

# C.8. TEST RESULTS C.8. 1. Spurious Emissions within 1MHz of Block Edge Lower Block Edge - 824 MHz (Channel 1013) Upper Block Edge - 849 MHz (Channel 777) Block Edge Frequency - 824 MHz. 36 of Edge - 849 MHz. (Channel 777) Block Edge Frequency - 824 MHz. 36 of Edge - 849 MHz. (Channel 777) Passes the lover block edge - 840 MHz. RBW + 10 Mtz. RBW

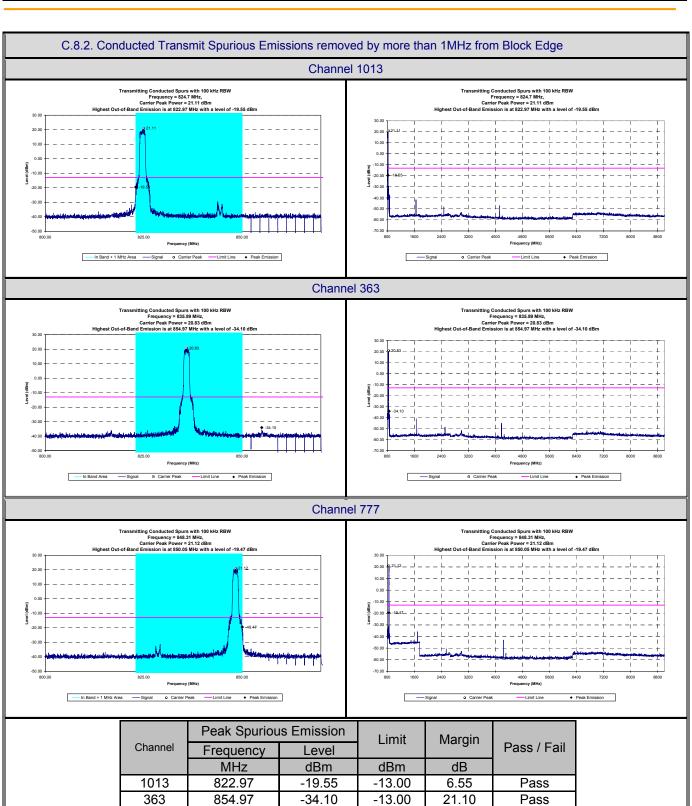
 $Corrected\ Limit\ (dBm) = Specified\ Limit\ (dBm) + 10\ * log\ (BW_1/BW_2)\ where:\ BW_1\ is\ the\ measurement\ RBW\ and\ BW_2\ is\ 1\%\ of\ the\ EBW.$ 

Frequency	Level	EBW	1% EBW Correction	Limit	Corrected Limit	Margin	Frequency	Level	EBW	1% EBW Correction	Limit	Corrected Limit	Margin
MHz	dBm	MHz	dB	dBm	dBm	dB	MHz	dBm	MHz	dB	dBm	dBm	dB
824.018	-19.409	1.432	-1.559	-13.000	-14.559	4.850	848.997	-14.884	1.427	-1.544	-13.000	-14.544	0.340
											•		

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV*		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model:					IX325A580IWLBT	(ITRONIX)		
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Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874



Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	() ITRONIX		
Rugged Tablet	ablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT						IIKUNIX		
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-13.00

6.47

Pass

-19.47

777

850.05



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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

#### C.9. PASS/FAIL

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

FCC CFR 4 §22.217 (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.

The results set forth in this section meet the requirement with a margin of at least 0.34 dB (-14.88 dBm @ 848.997 MHz versus a corrected limit of -14.54 dBm)

#### 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.

Duane M. Friesen **EMC Manager** Celltech Labs Inc.

10Dec05

Date



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Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

Appendix D - Conducted Cellular RX Spurious Emissions Measurement

D.1. REFERENCES	
Normative Reference Standard	IC RSS-132 §6.6 (b)
Procedure Reference	IC RSS-132 §4.6

D.2. LIMITS	
IC RSS-132 §6.6	(b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4 kHz spurious frequency in the band 30 – 1000 MHz or 5 nanowatts above 1 GHz.

D.3. ENVIRONMENTAL CONDITIONS					
Temperature	25 <u>+</u> 5 °C				
Humidity	35 <u>+</u> 5 %RH				
Barometric Pressure	uncontrolled				

D.4. EQUIPMENT LIST									
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE			
1	00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06			
2	00188	Narda	M3933/16-06	2 x 2dB attenuator	na	na*			
3	na	Itronix	na	Cable & SMA adapter	na	na*			

<sup>\*</sup>Verified with VNA

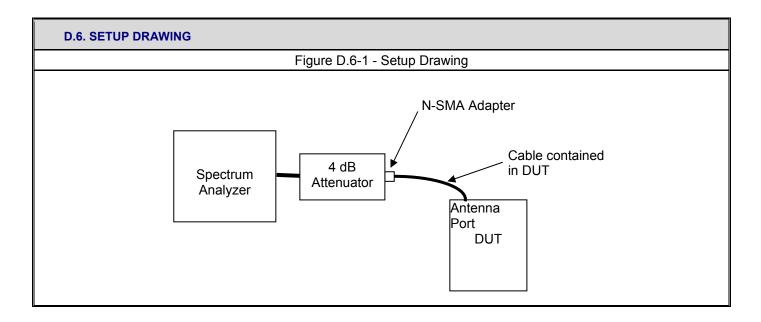
D.5. MEASUREMENT EQUIPMENT SETUP								
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in D.6.							
	Initial scan spectrum analyzer settings:							
	Frequency Range RBW V		VBW	Detector				
	MHz	kHz	MHz	Detector				
MEASUREMENT EQUIPMENT	30 MHz - 3 x F <sub>c</sub>	10	1	Peak				
SETTINGS	Peak zoom scan (of peaks within 10 dB of limit) spectrum analyzer settings:							
	Frequency Range	RBW	VBW	Detector				
	MHz	kHz	MHz	Beleeloi				
	Peak F <sub>c</sub> +/- 1 MHz	4*	1	Peak				

Note: 4 kHz RBW & VBW are not attainable with equipment used and 3 kHz will be used. A bandwidth correction factor of 10 \* log (4 kHz / 3 kHz), (1.25 dB) will be added to the final results.

Applicant:	Itronix Corpor	ation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	



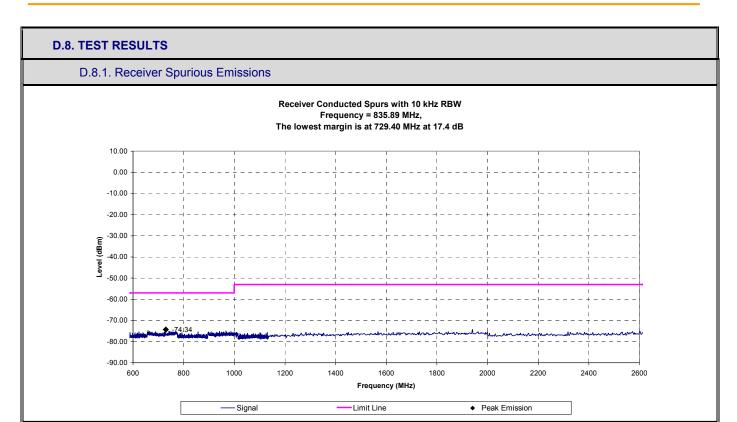
## **D.7. DUT OPERATING DESCRIPTION**

Measurements were made with the DUT in receive mode for the cellular mid channel (CH363 835.890 MHz)

Applicant:	Itron	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		TDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX*	
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Lab Registration(s):	FCC Registration #7148	ration #714830 Industry Canada Lab File #3			



## Calculations:

Limit (dBm) = 10 \* log (Limit (mW) BW Correction\* = 10 \* log (4 kHz / 3 kHz) Margin (dB) = Limit (dBm – Peak Emission (dBm)

\*BW Correction used for zoom scan (made of emissions within 10 dB of the applicable limit) only.

Applicant:	Itronix Corporat	ion FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	€ ITDONIV*	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325A580IWLBT	ITRONIX*	
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Lab Registration(s):	FCC Registration #714830 Industry Can			ada Lab File #3874	

#### D.9. PASS/FAIL

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

IC RSS-132 §6.6 (b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4kHz spurious frequency in the band 30 – 1000 MHz or 5 nanowatts above 1 GHz.

The results set forth in this section meet the requirement with a margin of at least 17.4 dB.

#### D.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.

Duane M. Friesen EMC Manager Celltech Labs Inc.

10Dec05

Date



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Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

## **Appendix E - Cellular Band Effective Radiated Power Measurement**

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

E.2. LIMITS	
FCC CFR 47 §22.913 (a)	(a) Maximum ERP The ERP of mobile transmitters and auxiliary transmitters must not exceed 7 Watts.

E.3. ENVIRONMENTAL CON	DITIONS
Temperature	uncontrolled
Humidity	uncontrolled
Barometric Pressure	uncontrolled

E	E.4. EQUIPMENT LIST										
	RECEIVING EQUIPMENT										
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE					
1	00072	EMCO	2075	Mini-mast	na	na					
2	00073	EMCO	2080	Turn Table	na	na					
3	00071	EMCO	2090	Multi-Device Controller	na	na					
4	00050	Chase	CBL-6111A	Bilog Antenna	08Feb05	08Feb06					
5	00051	HP	8566B	Spectrum Analyzer	12Apr05	12Apr06					
6	00047	HP	85685A	Preselector	13Apr05	13Apr06					
7	00031	HP	E8285A	CDMA Test set	na	na					
8	00120	Celltech	n/a	Microwave Cable (RX)	25Mar05	25Mar06					
9	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	25Mar05	25Mar06					
10	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	25Mar05	25Mar06					
			ADDITIONAL SUBSTITU	TION EQUIPMENT							
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE					
11	00059	ETS	3121C	Roberts Dipole	04Dec03	04Dec06					
12	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na					
13	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na					
14	00133	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na					
15	00006	R &S	SMR40	Signal Generator	12Apr05	12Apr06					
16	00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06					
17	00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06					
18	00014	Gigatronics	80701A	Power Sensor	7Sep05	7Sep06					
19	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*					
20	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*					

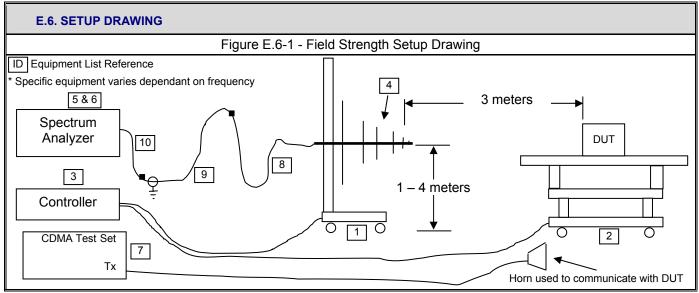
*Attenuation offset in power meter setu
---

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDONIY.
Rugged Table	t PC w	ith Sierra Wireless	AirCard 580	Model:	IX325A580IWLBT	<b>ITRONIX</b>		
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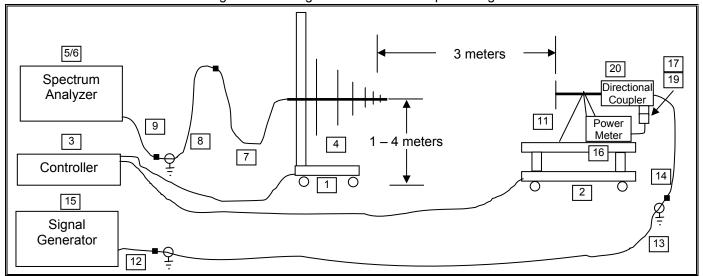


Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Industry Cal			nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

E.5. MEASUREME	ENT EQUIPMENT SETUP					
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in E.6.					
	The spectrum analyzer was	set to the following settir	ngs:			
MEASUREMENT EQUIPMENT	Frequency Range	RBW	VBW	Detector		
SETTINGS	MHz	kHz	kHz	Detector		
	30 - 1000	100	100	Peak		







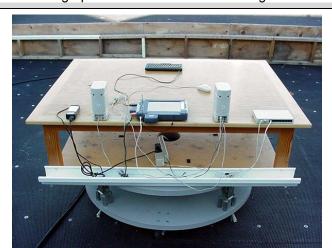
Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model: IX325A580IWLBT		ITRONIX*		
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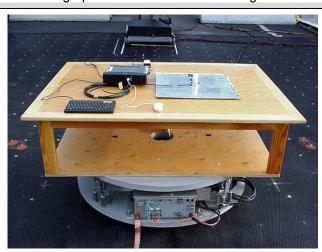
Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874		

## **E.7. SETUP PHOTOGRAPHS**

Photograph E.7-1 - Portable DUT Configuration



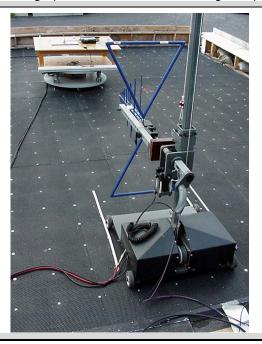
Photograph E.7-2 - Mobile DUT Configuration



Photograph E.7-3 - Portable - 3 m Bilog setup



Photograph E.7-4 - Mobile - 3 m Bilog Setup



## **E.8. DUT OPERATING DESCRIPTION**

Measurements were made for the low, mid and high CDMA channels transmitting in the cellular band at maximum power levels, and the DUT configured as described in Section 5 of this report.

	Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDANIV'
	Rugged Tablet	PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				IX325A580IWLBT		ITRONIX*
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Industry Canada RSS-1:			nada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

## **E.9. TEST RESULTS**

E.9.1. Portable

672 Project Number: Company:

Product: IX325 portable w/ AC580 Standard:

FCC22.913

**Test Start Date:** 7-Nov-05 Test End Date: 9-Dec-05

·															
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Carr	ier Level	ERP	Limit	Margin	Pass/Fail
	m		)	MHz	dBuV/m		dBuV	dBm	dBd	dBm	Watts	dBm	Watts	dB	
Н	3	B_3121C	1013	824.70	120.44	PK	94.15	20.61	-0.84	19.77	0.095	38.45	7.00	18.68	PASS
٧	3	B_3121C	1013	824.70	119.34	PK	93.05	21.80	-0.84	20.96	0.125	38.45	7.00	17.49	PASS
Н	3	B_3121C	363	835.89	119.40	PK	92.75	20.13	-0.71	19.42	0.088	38.45	7.00	19.03	PASS
٧	3	B_3121C	363	835.89	120.40	PK	93.75	22.94	-0.71	22.23	0.167	38.45	7.00	16.22	PASS

21.50

23.66

-0.56

-0.56

IX325 portable w/ AC580 - face up Carrier Power Levels

Note:

3

3

Dipole Antenna used for substitution

777

777

B\_3121C

B\_3121C

Formulae:

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

121 26

121.61

PΚ

PK

94 00

94.35

Margin (dB) = Limit (dBm) – Level (dBm)

E.9.2. Mobile

Project Number: 672 Itronix Company:

848 31

848.31

Product: IX325 mobile w/ AC580 Standard: Test Start Date: Test End Date:

38 45

38.45

7 00

7.00

0 124

0.204

20.94

23.10

FCC22.913 31-Oct-05 9-Dec-05

17.51

15.35

PASS

PASS

IX325 mobile w/ AC580 Carrier Power Levels

Stiro o o	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna			ERP Carrier Level		Limit	Margin	Pass/Fail
	m			MHz	dBuV/m		dBuV	dBm	dBd	dBm	Watts	dBm	Watts	dB	
ŀ	Н 3	B_3121C	1013	824.70	116.59	PK	90.30	16.78	-0.84	15.94	0.039	38.45	7.00	22.51	PASS
١	V 3	B_3121C	1013	824.70	119.09	PK	92.80	21.54	-0.84	20.70	0.117	38.45	7.00	17.75	PASS
ŀ	H 3	B_3121C	363	835.89	119.45	PK	92.80	20.19	-0.71	19.48	0.089	38.45	7.00	18.97	PASS
١	V 3	B_3121C	363	835.89	114.95	PK	88.30	17.59	-0.71	16.88	0.049	38.45	7.00	21.57	PASS
ŀ	H 3	B_3121C	777	848.31	120.06	PK	92.80	20.33	-0.56	19.77	0.095	38.45	7.00	18.68	PASS
,	V 3	B_3121C	777	848.31	113.06	PK	85.80	15.33	-0.56	14.77	0.030	38.45	7.00	23.68	PASS

Note:

Dipole Antenna used for substitution

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

Margin (dB) = Limit (dBm) - Level (dBm)

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITPONIV	
Rugged Table	t PC w	ith Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT		ITRONIX
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

## E.10. PASS/FAIL

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

FCC 22.913 (a) Maximum ERP. ...... The ERP of mobile transmitters and auxiliary transmitters must not exceed 7 Watts.

A maximum ERP of +23.10 dBm (0.204 Watts) was measured when Channel 777 was transmitting in the portable configuration.

#### E.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

Senior Compliance Technologist

Spencer Watson

Celltech Labs Inc.

9Dec05

Date

Applicant:	Itro	nix Corporation	FCC ID: KBCIX325A580IWLBT			1943A-IX325f	<b>ITRONIX</b>	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325A580IWLBT		IIKUNIX
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

## Appendix F - Radiated Cellular TX Spurious Emissions Measurement

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

F.2. LIMITS	
FCC CFR 47 §22.917	(e) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB

F.3. ENVIRONMENTAL CONDITIONS						
Temperature	uncontrolled					
Humidity	uncontrolled					
Barometric Pressure	uncontrolled					

F	.4. EQUIPME	NT LIST				
			RECEIVING EQU	IPMENT		
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	EMCO	2075	Mini-mast	na	na
2	00073	0073 EMCO 2080 Turn Table		Turn Table	na	na
3	00071	EMCO	2090	Multi-Device Controller	na	na
4	00050	Chase	CBL-6111A	Bilog Antenna	08Feb05	08Feb06
5	00034	ETS	3115 Double Ridged Guide Antenna (Rx)		11Aug05	11Aug06
6	00015	Agilent	E4408B	E4408B Spectrum Analyzer		24Jan06
7	00051	HP	8566B	Spectrum Analyzer	12Apr05	12Apr06
8	00047	HP	85685A	Preselector	13Apr05	13Apr06
9	00120	Celltech	n/a	Microwave Cable (RX)	25Mar05	25Mar06
10	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	25Mar05	25Mar06
11	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	25Mar05	25Mar06
12	00115	Miteq	JS4-00102600-35-5A	Low Noise Amplifier	08Jun05	08Jun06
13	00093	Microtronics	HPM50111 High Pass Filter		08Jun05	08Jun06
14	00119	INMAT	18AH-10	10dB attenuator	08Jun05	08Jun06
15	00031	HP	E8285A	CDMA Test set	na	na

Applicant:	Itror	nix Corporation	FCC ID:	KBCIX325A580IWLBT	1943A-IX325f		ITDONIV.	
Rugged Tablet	t PC wi	th Sierra Wireless	AirCard 580	Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

	ADDITIONAL SUBSTITUTION EQUIPMENT										
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE					
16	00059	ETS	3121C	Roberts Dipole	04Dec03	04Dec06					
17	00035	ETS	3115	Double Ridged Guide Antenna (Tx)	24Mar04	24Mar06					
18	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na					
19	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na					
20	00133	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na					
21	00006	R&S	SMR-20	Signal Generator	12Apr05	12Apr06					
22	00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06					
23	00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06					
24	00014	Gigatronics	80701A	Power Sensor	07Sep05	07Sep06					
25	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*					
26	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*					
27	00142	HP	8491A	20 dB attenuator	na*	na*					

<sup>\*</sup> Attenuation offset in power meter setup

F.5. MEASUREMENT EQUIPMENT SETUP									
	The measurement equipment was connected as shown in F.6. A number of measurement equipment configurations were used to cover the applicable frequency ranges. The configurations for each range are as follows:								
MEASUREMENT	Frequency Range	LNA Asset #	Filter/Attenuator Asset #	Rx Antenna Asset #	Tx Antenna Asset #				
EQUIPMENT	30 MHz – 1 GHz	none	none	00050	00059				
CONNECTIONS	1 GHz – 2 GHz	none	none	00034	00035				
	2 GHz – 3 GHz	00115	00119	00034	00035				
	3 GHz – 10 GHz	00115	00093	00034	00035				
	The spectrum anal	yzer was set to	the following settings:						
MEASUREMENT EQUIPMENT	Frequency I	Range	RBW	VBW	Detector				
SETTINGS	MHz		kHz	kHz	Detector				
	800 MHz – 1	0 GHz	100*	100*	Peak				

<sup>\*</sup>Field strength measurements were made with a worse case RBW and VBW of 1 MHz for frequency bands above 1 GHz when adequate margins were attained.

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		DONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT							RONIX.
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Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

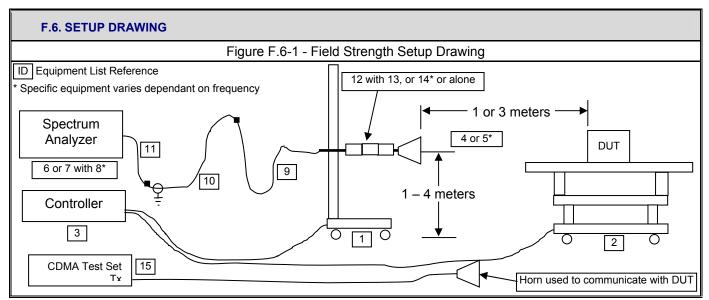
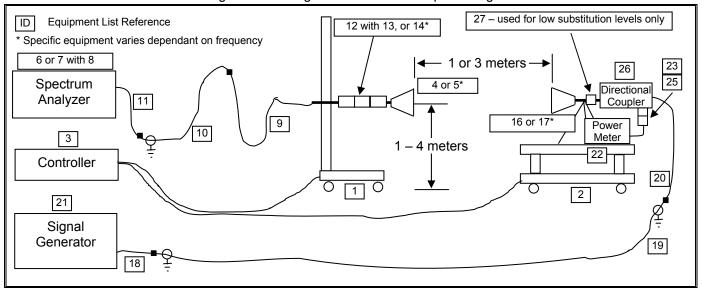


Figure F.6-2 - Signal Substitution Setup Drawing



Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	ITRONIX*	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT							CIVIX
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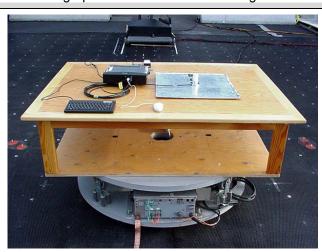
Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

## F.7. SETUP PHOTOGRAPHS

Photograph F.7-1 - Portable DUT Configuration



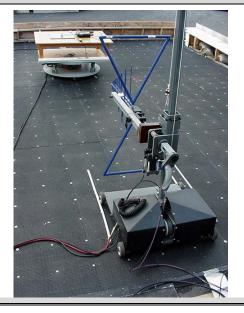
Photograph F.7-2 - Mobile DUT Configuration



Photograph F.7-3 - Portable - 1 m Horn setup







## **F.8. DUT OPERATING DESCRIPTION**

Measurements were made for the low, mid, and high CDMA channels transmitting in the cellular band at maximum power levels as described in Section 5 of this report. The conducted transmit spurious emissions supplementary measurements are described in Appendix C.

	Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDANIV'
ĺ	Rugged Tablet	PC w	C with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT						ITRONIX <sup>®</sup>
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Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

## F.9. TEST RESULTS

F.9.1. Spurious Emissions - Portable

Channel 1013

**Celltech** 

Project Number: 6
Company: If

672 Itronix

IX325 portable w/ AC580

Standard: Test Start Date: Test End Date: FCC22.917 7-Oct-05 7-Oct-05

					IX32	5 por	table w/ AC580 F	ace up - Vpol A	ntenna				
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector .	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		Ö	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	Horn SN6276	CH1013	1649.00	66.42	PK*	34.80	-44.36	6.44	-37.92	-13.00	24.92	PASS
Н	3	none	CH1013	1649.00	55.12	ΑV					84.4*	29.3*	PASS*
Н	3	Horn SN6276	CH1013	2474.00	68.08	PK*	56.00	-39.65	7.71	-31.94	-13.00	18.94	PASS
Н	3	none	CH1013	2474.00	53.98	ΑV					84.4*	30.4*	PASS*
Н	3	none	CH1013	3298.14	43.51	PK*					84.4*	40.9*	PASS*
Н	3	none	CH1013	4124.67	58.36	PK*					84.4*	26.0*	PASS*
Н	3	none	CH1013	4949.52	47.41	PK*					84.4*	37.0*	PASS*
Н	3	none	CH1013	5772.00	44.22	PK*					84.4*	40.1*	PASS*
Н	3	none	CH1013	6596.00	50.47	PK*					84.4*	33.9*	PASS*
Н	3	none	CH1013	7422.30	44.80	PK*					84.4*	39.6*	PASS*
Н	3	none	CH1013	8247.00	45.22	PK*					84.4*	39.2*	PASS*
V	3	none	CH1013	1073.00	64.75	PK*					84.4*	19.6*	PASS*
V	3	Horn SN6276	CH1013	1649.00	67.72	PK*	36.10	-43.95	6.44	-37.51	-13.00	24.51	PASS
٧	3	none	CH1013	1649.00	56.32	ΑV					84.4*	28.1*	PASS*
٧	3	Horn SN6276	CH1013	2474.91	64.68	PK*	52.60	-41.27	7.71	-33.56	-13.00	20.56	PASS
V	3	none	CH1013	2474.07	50.88	ΑV					84.4*	33.5*	PASS*
V	3	none	CH1013	3298.82	45.31	PK*					84.4*	39.1*	PASS*
V	3	none	CH1013	4125.05	54.66	PK*					84.4*	29.7*	PASS*
V	3	none	CH1013	4949.89	52.31	PK*					84.4*	32.1*	PASS*
V	3	none	CH1013	5285.32	70.29	PK					84.4*	14.1*	PASS*
٧	3	none	CH1013	5284.95	53.49	ΑV					84.4*	30.9*	PASS*
V	3	none	CH1013	5772.12	48.22	PK*					84.4*	36.1*	PASS*
V	3	none	CH1013	6596.00	51.37	PK*					84.4*	33.0*	PASS*
V	3	Horn SN6276	CH1013	7422.30	44.10	PK*	33.50	-68.67	9.34	-59.33	-13.00	46.33	PASS
V	3	none	CH1013	8247.00	46.02	PK*					84.4*	38.4*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

## Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Theoretical Limit (V/m) = SQRT(30 \* P / r2 ) where P is the total transmitted power limit (W), r is measurement distance (m)

Applicant:	Itronix Corporation	IC ID:	1943A-IX325f		
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT





Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

#### **Channel 363**

Celltech

Project Number: 672 Company: Itronix

Product: IX325 portable w/ AC580

 Standard:
 FCC22.917

 Test Start Date:
 7-Oct-05

 Test End Date:
 7-Oct-05

IX325 portable w/ AC580 Face up - Vpol Antenna													
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		Ö	MHz	dBuV/m	BuV/m	dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	1
Н	3	none	CH363	1671.00	47.23	PK*					84.4*	37.1*	PASS*
Н	3	Horn SN6276	CH363	2506.86	79.89	PK	67.70	-28.12	7.76	-20.36	-13.00	7.36	PASS
Н	3	none	CH363	2507.62	66.30	ΑV					84.4*	18.1*	PASS*
Н	3	none	CH363	3343.18	45.06	PK*					84.4*	39.3*	PASS*
Н	3	none	CH363	4178.14	59.88	PK*					84.4*	24.5*	PASS*
Н	3	none	CH363	5014.23	46.87	PK*					84.4*	37.5*	PASS*
Н	3	none	CH363	5850.36	50.99	PK*					84.4*	33.4*	PASS*
Н	3	none	CH363	6686.00	50.72	PK*					84.4*	33.6*	PASS*
Н	3	none	CH363	7520.00	46.60	PK*					84.4*	37.8*	PASS*
Н	3	none	CH363	8350.00	46.51	PK*					84.4*	37.9*	PASS*
V	3	none	CH363	1671.00	48.63	PK*					84.4*	35.7*	PASS*
V	3	Horn SN6276	CH363	2508.42	73.30	PK	61.10	-33.95	7.76	-26.19	-13.00	13.19	PASS
V	3	none	CH363	2507.66	60.00	ΑV					84.4*	24.4*	PASS*
٧	3	none	CH363	3342.00	38.06	PK*					84.4*	46.3*	PASS*
V	3	none	CH363	4178.00	41.78	PK*					84.4*	42.6*	PASS*
V	3	none	CH363	5014.00	42.47	PK*					84.4*	41.9*	PASS*
V	3	none	CH363	5850.00	49.89	PK*			•		84.4*	34.5*	PASS*
٧	3	none	CH363	6686.00	50.52	PK*					84.4*	33.8*	PASS*
V	3	none	CH363	7520.00	46.10	PK*					84.4*	38.3*	PASS*
V	3	none	CH363	8350.00	46.11	PK*					84.4*	38.3*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

## Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Theoretical Limit (V/m) = SQRT(30 \* P / r2 ) where P is the total transmitted power limit (W), r is measurement distance (m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	Model:	IX325A580IWLBT		





Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

Celltech

Project Number: 672 Company: Itronix Product: IX325

IX325 portable w/ AC580

 Standard:
 FCC22.917

 Test Start Date:
 7-Oct-05

 Test End Date:
 7-Oct-05

					IX32	5 por	table w/ AC580 F	ace up - Vpol A	ntenna				
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		Ö	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH777	1696.66	49.72	PK*					84.4*	34.7*	PASS*
Н	3	Horn SN6276	CH777	2545.66	77.60	PK*	65.20	-30.49	7.74	-22.75	-13.00	9.75	PASS
Н	3	none	CH777	2544.88	62.90	ΑV					84.4*	21.5*	PASS*
Н	3	none	CH777	3393.71	49.02	PK*					84.4*	35.4*	PASS*
Н	3	none	CH777	4240.44	57.19	PK*					84.4*	27.2*	PASS*
Н	3	none	CH777	5091.40	48.09	PK*					84.4*	36.3*	PASS*
Н	3	none	CH777	5935.63	50.17	PK*					84.4*	34.2*	PASS*
Н	3	none	CH777	6784.38	51.96	PK*					84.4*	32.4*	PASS*
Н	3	none	CH777	7633.13	46.30	PK*					84.4*	38.1*	PASS*
Н	3	none	CH777	8481.88	46.54	PK*					84.4*	37.8*	PASS*
V	3	none	CH777	1696.00	47.81	PK*					84.4*	36.6*	PASS*
V	3	Horn SN6276	CH777	2549.50	69.52	PK*	57.10	-37.81	7.74	-30.07	-13.00	17.07	PASS
V	3	none	CH777	2550.36	53.82	ΑV					84.4*	30.5*	PASS*
V	3	none	CH777	3392.27	53.02	PK*					84.4*	31.4*	PASS*
V	3	none	CH777	4240.19	60.89	PK*					84.4*	23.5*	PASS*
V	3	none	CH777	5091.18	57.69	PK*					84.4*	26.7*	PASS*
V	3	none	CH777	5935.63	50.07	PK*					84.4*	34.3*	PASS*
V	3	none	CH777	6784.38	51.16	PK*					84.4*	33.2*	PASS*
V	3	none	CH777	7633.13	45.70	PK*					84.4*	38.7*	PASS*
V	3	none	CH777	8481.88	46.64	PK*					84.4*	37.7*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

### Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		
Rugged Table	t PC with Sierra Wireless	Model:	IX325A580IWLBT				





Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05 Repo		ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# F.9.2. Spurious Emissions - Mobile

# Channel 1013

Celltech

Project Number: Company: Product: 672 Itronix

Itronix IX325 mobile w/ AC580 Standard: Test Start Date: Test End Date: FCC22.917 31-Oct-05 31-Oct-05

							IX325 mobile	w/ AC580					
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		Ca	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH1013	162.51	75.00	PK*					84.4*	09.4*	PASS*
Н	3	none	CH1013	162.56	58.30	QP					84.4*	26.1*	PASS*
Н	3	none	CH1013	1649.83	70.12	PK					84.4*	14.2*	PASS*
Н	3	none	CH1013	1649.83	54.92	ΑV					84.4*	29.4*	PASS*
Н	3	none	CH1013	2474.00	36.72	PK*					84.4*	47.6*	PASS*
Н	3	none	CH1013	3298.67	38.81	PK*					84.4*	45.6*	PASS*
Н	3	none	CH1013	4124.48	53.46	PK*					84.4*	30.9*	PASS*
Н	3	none	CH1013	4949.29	47.91	PK*					84.4*	36.5*	PASS*
Н	3	none	CH1013	6595.67	50.86	PK*					84.4*	33.5*	PASS*
Н	3	none	CH1013	7421.67	52.81	PK*					84.4*	31.6*	PASS*
Н	3	none	CH1013	8245.33	54.67	PK*					84.4*	29.7*	PASS*
V	3	none	CH1013	1649.00	66.62	PK					84.4*	17.8*	PASS*
V	3	none	CH1013	1649.00	55.02	ΑV					84.4*	29.4*	PASS*
V	3	none	CH1013	2474.00	44.52	PK*					84.4*	39.8*	PASS*
V	3	none	CH1013	3298.29	43.71	PK*					84.4*	40.7*	PASS*
V	3	none	CH1013	3298.73	31.61	ΑV					84.4*	52.8*	PASS*
V	3	none	CH1013	4124.65	56.16	PK*					84.4*	28.2*	PASS*
V	3	none	CH1013	4947.18	49.10	PK*					84.4*	35.3*	PASS*
V	3	none	CH1013	6595.67	50.86	PK*					84.4*	33.5*	PASS*
V	3	none	CH1013	7421.67	52.51	PK*					84.4*	31.9*	PASS*
V	3	none	CH1013	8245.33	55.87	PK*					84.4*	28.5*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

#### Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT	





Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133	
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

Celltech

Project Number: Company:

Itronix

IX325 mobile w/ AC580

Test Start Date: Test End Date:

FCC22.917 31-Oct-05 31-Oct-05

							IX325 mobile	w/ AC580					
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		ပိ	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH363	1671.00	67.03	PK					84.4*	17.3*	PASS*
Н	3	none	CH363	1671.00	55.33	ΑV					84.4*	29.0*	PASS*
Н	3	none	CH363	2507.00	40.73	PK*					84.4*	43.6*	PASS*
Н	3	none	CH363	3343.00	38.86	PK*					84.4*	45.5*	PASS*
Н	3	none	CH363	4180.66	50.49	PK*					84.4*	33.9*	PASS*
Н	3	none	CH363	5016.61	46.88	PK*					84.4*	37.5*	PASS*
Н	3	none	CH363	5849.32	50.09	PK*					84.4*	34.3*	PASS*
Н	3	none	CH363	6686.67	50.82	PK*					84.4*	33.6*	PASS*
Н	3	none	CH363	7522.00	52.67	PK*					84.4*	31.7*	PASS*
Н	3	none	CH363	8357.33	54.33	PK*					84.4*	30.0*	PASS*
V	3	none	CH363	1671.00	66.73	PK*					84.4*	17.6*	PASS*
V	3	none	CH363	2508.51	46.54	PK*					84.4*	37.8*	PASS*
٧	3	none	CH363	3343.00	47.96	PK*					84.4*	36.4*	PASS*
V	3	none	CH363	4180.61	55.99	PK*					84.4*	28.4*	PASS*
V	3	none	CH363	5013.75	53.07	PK*					84.4*	31.3*	PASS*
V	3	none	CH363	5849.00	50.09	PK*					84.4*	34.3*	PASS*
V	3	none	CH363	6686.87	51.31	PK*					84.4*	33.1*	PASS*
V	3	none	CH363	7522.00	53.27	PK*					84.4*	31.1*	PASS*
V	3	none	CH363	8357.33	54.63	PK*					84.4*	29.7*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

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 peak 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.

### Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	Model:	IX325A580IWLBT		
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Test Report Serial No.:	100305KBC-T675-E24C	100305KBC-T675-E24C Report		E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

Celltech

Project Number: Company:

IX325 mobile w/ AC580

Test Start Date: Test End Date:

FCC22.917 31-Oct-05 31-Oct-05

	IX325 mobile w/ AC580												
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	ERP Emission Level	Limit	Margin	Pass/Fail
	m		Ca	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH777	1696.00	67.21	PK					84.4*	17.2*	PASS*
Н	3	none	CH777	1696.00	55.61	ΑV					84.4*	28.8*	PASS*
Н	3	none	CH777	2544.00	41.23	PK*					84.4*	43.1*	PASS*
Н	3	none	CH777	3182.00	37.93	PK*					84.4*	46.4*	PASS*
Н	3	none	CH777	3394.19	45.02	PK*					84.4*	39.3*	PASS*
Н	3	none	CH777	4240.37	52.79	PK*					84.4*	31.6*	PASS*
Н	3	none	CH777	5091.52	49.70	PK*					84.4*	34.7*	PASS*
Н	3	none	CH777	5937.67	50.38	PK*					84.4*	34.0*	PASS*
Н	3	none	CH777	6784.67	51.96	PK*					84.4*	32.4*	PASS*
Н	3	none	CH777	7634.00	53.37	PK*					84.4*	31.0*	PASS*
Н	3	none	CH777	8481.00	54.56	PK*					84.4*	29.8*	PASS*
V	3	none	CH777	1696.00	67.61	PK					84.4*	16.8*	PASS*
V	3	none	CH777	1696.00	55.61	ΑV					84.4*	28.8*	PASS*
V	3	none	CH777	2544.07	49.83	PK*					84.4*	34.5*	PASS*
V	3	none	CH777	3392.00	50.52	PK*					84.4*	33.9*	PASS*
V	3	none	CH777	4241.33	59.69	PK*					84.4*	24.7*	PASS*
V	3	none	CH777	5088.33	57.16	PK*					84.4*	27.2*	PASS*
V	3	none	CH777	5937.67	50.08	PK*					84.4*	34.3*	PASS*
V	3	none	CH777	6784.67	51.36	PK*					84.4*	33.0*	PASS*
V	3	none	CH777	7634.00	54.57	PK*					84.4*	29.8*	PASS*
V	3	none	CH777	8481.00	54.86	PK*					84.4*	29.5*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

# Formulae:

ERP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBd)

Margin (dB) = Limit (dBm) - ERP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Theoretical Limit (V/m) = SQRT(30 \* P / r2 ) where P is the total transmitted power limit (W), r is measurement distance (m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	
Rugged Table	t PC with Sierra Wireless	Model:	IX325A580IWLBT	-		
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	Report Issue Date: January 23		
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #38		

# F.10. PASS/FAIL

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

(e) Out of Band Emissions. The mean power of emissions must be attenuated below the mean power of the unmodulated carrier (P) on any frequency twice or more than twice the fundamental frequency by: at least 43 + 10 log P dB

The results set forth in this section meet the requirement with a margin of at least 7.36 dB

# F.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.

for Russell Pipe

Senior Compliance Technologist

Celltech Labs Inc.

31Oct05

Date

	Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	(a)	
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		IIKUNIX	
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830 Industry Canada La		ada Lab File #3874		

# Appendix G - PCS Band Conducted TX RF Output Power Measurement

G.1. REFERENCES	
Normative Reference Standard	FCC CFR 47 §2.1046
Procedure Reference	FCC CFR 47 §2.1046

G.2. LIMITS					
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).				
*EIRP limits are specified in Appendix J.					

G.3. ENVIRONMENTAL CONDITIONS		
Temperature	25 <u>+</u> 5 °C	
Humidity	35 <u>+</u> 5 %RH	
Barometric Pressure	uncontrolled	

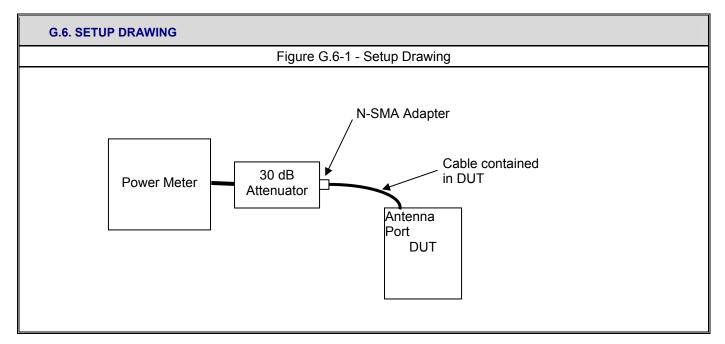
G.4. EQUIPMENT LIST								
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE			
00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06			
00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06			
00102	Pasternack	PE7014-30	30dB attenuator	na	na*			

<sup>\*</sup>Attenuator offset in power meter



Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #714830		Industry Can	ada Lab File #3874

G.5. MEASUREMENT EQUIPMENT SETUP					
Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in B.6.				
Measurement Equipment Settings	Power Meter Settings: Mode - MAP Frequency compensation set for carrier frequency Offset set appropriately to compensate for attenuator				
Measurement Procedure	The RF conducted power levels were measured at the DUT antenna connector port using a Gigatronics 8652A Universal Power Meter in mean average power mode. An offset was entered into the power meter to correct for the loss of the attenuator installed between the output port and the power sensor input. The DUT test software was used to set it to transmit in the CDMA "always up" power control mode.				



# **G.7. DUT OPERATING DESCRIPTION**

Power measurements were made for each of the three PCS test channels (Channel 25, 600 & 1175), with the AirCard 580 modem set appropriately as described in section 5.7.

	Applicant:	Itronix	Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDONIV.
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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Test Report Serial No.:	100305KBC-T675-E24C		ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §	FCC 47 CFR §2, §22H, §24E		nada RSS-132/133
Lab Registration(s):	FCC Registration #714830		Industry Can	ada Lab File #3874

G.8. TEST RESULTS						
Mode Channel Frequency Conducted Power						
Wiode	Cildille	MHz	dBm	watts		
	25	1851.25	+22.97	0.198		
PCS CDMA	600	1880.00	+23.96	0.249		
	1175	1909.75	+23.98	0.250		

# G.9. PASS/FAIL

There is no pass/fail criterion for this measurement. The EIRP values, applied to appropriate regulatory requirements are outlined in Appendix J.

# G.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.

Duane M. Friesen EMC Manager Celltech Labs Inc.

10Dec05

Date

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	A ITPONIV
Rugged Tablet	PC with Sierra Wireless	ss AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT		ITRONIX*		
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Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

# **Appendix H - Conducted PCS TX Spurious Emissions Measurement**

H.1. REFERENCES	
Normative Reference Standard	FCC CFR 47 §24.238(a)
Procedure Reference	FCC CFR 47 §24.238(b)

H.2. LIMITS	
FCC CFR 47 §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.

H.3. ENVIRONMENTAL CONDITIONS				
Temperature	25 <u>+</u> 5 °C			
Humidity	35 <u>+</u> 5 %RH			
Barometric Pressure	uncontrolled			

F	H.4. EQUIPMENT LIST									
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE				
1	00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06				
2	00102	Pasternack	PE7015-3030	30dB attenuator	na	na*				
3	na	Itronix	na	Cable & SMA adapter	na	na*				

<sup>\*</sup>Verified with VNA

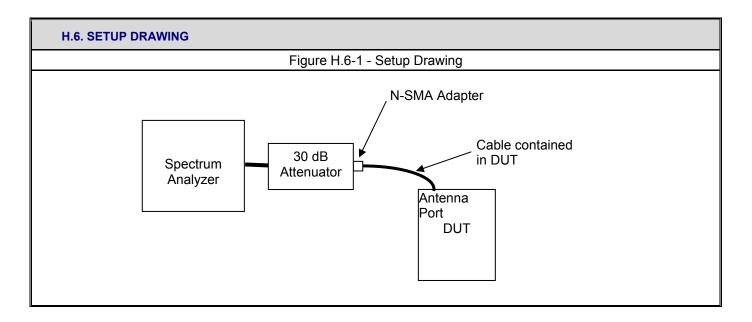
H.5. MEASUREMENT EQUIPMENT SETUP								
MEASUREMENT EQUIPMENT CONNECTIONS	he measurement equipment was connected as shown in H.6.							
	The spectrum analyzer was set to the following settings:							
	Frequency Range	RBW	VBW	Attenuator	Offset	Detector		
MEASUREMENT	MHz	kHz	MHz	dB	dB	Detector		
EQUIPMENT SETTINGS	Between Block edge and 1 MHz from Block edges	10*	1	10	-30.0	Sample*		
	Beyond 1MHz from Block edges	1000	1	0	-30.0	Peak		

<sup>\*10</sup> kHz RBW & sample detector used for band-edge, 30 kHz & peak detector used for wider span scans. Band-edge measurements corrected for specified BW of 1% of EBW within Block and 1 MHz of each edge.

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV
Rugged Tablet	PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT	<b>ITRONIX</b>
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	



### H.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT transmitting at maximum power in the PCS band, in a configuration as described in Section 5 of this report. The Block edge measurements were made with the DUT transmitting on the channel closest to the edge under investigation (CH25 & CH1175). The remaining spurious measurements were made on each of the three channels, Low (CH25), Mid (CH600) and High (CH1175).

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ITPONIV*
Rugged Tablet	PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT	(ITRONIX)
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1850.56

-38.832

1.420

-1.523

-13.000

-14.523

Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §24		Industry Canada RSS-132/1	
Lab Registration(s):	FCC Registration #7148	Industry Canada La		ada Lab File #3874

#### **H.8. TEST RESULTS** H.8.1. Spurious Emissions within 1MHz of Block Edge Emission Bandwidth - CH25 Emission Bandwidth - CH1175 Block Edge Frequency = 1851.25 MHz, 26 dB EBW = 1.42 MHz, RBW = 10 kHz Passes the lower block edge @ 1850 MHz with a level of -38.83 dBm (24.31 dB margin) Corrected Limt = -13 + 10\*log(14.20/10.00) = -14.52 dBm Block Edge Frequency = 1908.75 MHz, 26 dB EBW = 1.44 MHz, RBW = 10 kHz Passes the upper block edge @ 1910 MHz with a level of -31.20 dBm (-16.62 dB margin) Corrected Limt = -13 + 10\*log(14.40/10.00) = -14.58 dBm 1850.5 1851 1851.5 1852.5 1910.5 Frequency (MHz) Frequency (MHz) Emission Occupied BW Edge Corrected Limit — Emission Occupied BW Edge Corrected Limit -Lower Block Edge - 1850 MHz Upper Block Edge - 1910 Corrected Limit (dBm) = Specified Limit (dBm) + 10 \* log (BW<sub>1</sub>/BW<sub>2</sub>) where: BW<sub>1</sub> is the measurement RBW and BW<sub>2</sub> is 1% of the EBW 1% EBW 1% EBW Corrected Corrected Margin EBW Limit Frequency **EBW** Limit Frequency Level Margin Level Correction Limit Correction Limit dBm MHz dB dBm dBm dB MHz dBm MHz dB dBm dBm dB

1909.44

-31.201

1.440

-1.584

-13.000

-14.584

24.309

16.617

Applicant:	Itronix (	Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet	PC with S	Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT			ITRONIX <sup>®</sup>			
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600

1175

3763.20

3820.64

Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

# H.8.2. Spurious Emissions removed by more than 1MHz from Block Edge Channel 25 Transmitting Conducted Spurs with 30 kHz RBW Frequency = 1851.25 MHz, Carrier Peak Power = 18.55 dBm est Out-of-Band Emission is at 1848.97 MHz with a level of itting Conducted Spurs with 1 MHz RBW Frequency = 1851.25 MHz, Carrier Peak Power = 18.55 dBm Emission is at 1848.97 MHz with a level o -20.0 Channel 600 Transmitting Conducted Spurs with 30 kHz RBW Frequency = 1880 MHz, Carrier Peak Power = 20.04 dBm of-Band Emission is at 3763.20 MHz with a level o Transmitting Conducted Spurs with 1 MHz RBW Frequency = 1880 MHz, Carrier Peak Power = 20.04 dBm of-Band Emission is at 3763.20 MHz with a level o Channel 1175 Transmitting Conducted Spurs with 30 kHz RBW Frequency = 1988, 75 MHz, Carrier Peak Power = 17.57 dBm Highest Out-of-Band Emission is a 3820.64 MHz with a level of -21.32 dBm 10.0 -30.01 Peak Spurious Emission Limit Margin Channel Pass / Fail Frequency Level MHz dBm dBm dB 25 1848.97 -30.78 -13.00 17.78 Pass

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	A ITPONIV
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT	ITRONIX*
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-13.00

-13.00

23.41

8.32

Pass

Pass

-36.41

-21.32



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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

### H.9. PASS/FAIL

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

FCC CFR 4 §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.

The results set forth in this section meet the requirement with a margin of at least 8.32 dB (-21.32 dBm @ 3820.64 MHz versus a limit of -13 dBm with Channel 1175 transmitting)

### H.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.

Duane M. Friesen EMC Manager Celltech Labs Inc.

10Dec05

Date



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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

# **Appendix I - Conducted PCS RX Spurious Emissions Measurement**

I.1. REFERENCES	
Normative Reference Standard	IC RSS-133 §6.7 (b)
Procedure Reference	IC RSS-133 §4.5

I.2. LIMITS	
IC RSS-133 §6.7	(b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4 kHz spurious frequency in the band 30 – 1000 MHz or 5 nanowattts above 1 GHz.

I.3. ENVIRONMENTAL CONDITIONS			
Temperature	25 <u>+</u> 5 °C		
Humidity	35 <u>+</u> 5 %RH		
Barometric Pressure	uncontrolled		

I.	I.4. EQUIPMENT LIST									
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE				
1	00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06				
2	00188	Narda	M3933/16-06	2 x 2dB attenuator	na	na*				
3	na	Itronix	na	Cable & SMA adapter	na	na*				

<sup>\*</sup>Verified with VNA

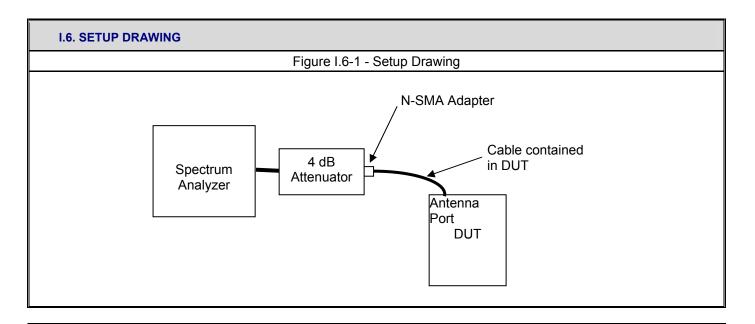
I.5. MEASUREMENT EQUIPMENT SETUP							
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in I.6.						
	The spectrum analyzer was set to the following settings:						
MEASUREMENT EQUIPMENT	Frequency Range	RBW	VBW	Detector			
SETTINGS	MHz	kHz	MHz	Detector			
	30 MHz - 3 x F <sub>c</sub>	4*	1	Peak			

Note: 4 kHz RBW & VBW are not attainable with equipment used and 3 kHz will be used. A bandwidth correction factor of 10 \* log (4 kHz / 3 kHz), (1.25 dB) will be added to the final results.

Applicant:	Itro	onix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		TDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX <sup>®</sup>	
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		



# **I.7. DUT OPERATING DESCRIPTION**

Measurements were made with the DUT in the receive mode for the PCS band mid channel (CH600 1880 MHz)

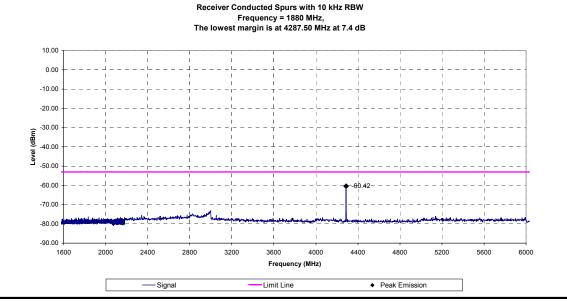
Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT	(ITRONIX)
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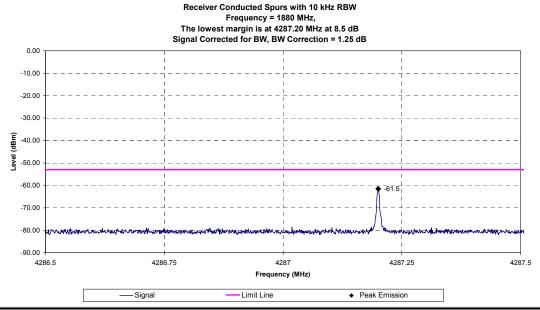


Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Can	ada Lab File #3874	

# I.8. TEST RESULTS

# I.8.1. Receiver Spurious Emissions





### Calculations:

Limit (dBm) = 10 \* log (Limit (mW) BW Correction\* = 10 \* log (4 kHz / 3 kHz) Margin (dB) = Limit (dBm – Peak Emission (dBm)

\*BW Correction used for zoom scan only

Applicant:	Itron	ix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		TDONIY:
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT		ITRONIX	
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Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #3874		

### I.9. PASS/FAIL

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

IC RSS-133 §6.7 (b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4kHz spurious frequency in the band 30 - 1000 MHz or 5 nanowatts above 1 GHz.

The results set forth in this section meet the requirement with a margin of at least 8.5 dB.

### I.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.

Duane M. Friesen **EMC Manager** Celltech Labs Inc.

10Dec05

Date



Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Can	Canada Lab File #3874	

# Appendix J - PCS Band Effective Isotropic Radiated Power Measurement

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

# J.2. LIMITS

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.

J.3. ENVIRONMENTAL CONDITIONS			
Temperature	uncontrolled		
Humidity	uncontrolled		
Barometric Pressure	uncontrolled		

# J.4. EQUIPMENT LIST

RECEIVING EQUIP	MENT
-----------------	------

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	EMCO	2075	Mini-mast	na	na
2	00073	EMCO	2080	Turn Table	na	na
3	00071	EMCO	2090	Multi-Device Controller	na	na
4	00034	ETS	3115	Double Ridged Guide Antenna (Rx)	11Aug05	11Aug06
5	00051	HP	8566B	Spectrum Analyzer	12Apr05	12Apr06
6	00047	HP	85685A	Preselector	13Apr05	13Apr06
7	00120	Celltech	n/a	Microwave Cable (RX)	25Mar05	25Mar06
8	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	25Mar05	25Mar06
9	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	25Mar05	25Mar06

# ADDITIONAL SUBSTITUTION EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
10	00035	ETS	3115	Horn Antenna (Tx)	24Mar04	24Mar06
11	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
12	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na
13	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na
14	00006	R&S	SMR-20	Signal Generator	12Apr05	12Apr06
15	00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06
16	00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06
17	00014	Gigatronics	80701A	Power Sensor	7Sep05	7Sep06
18	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*
19	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*
20	00142	HP	8491A	20 dB attenuator	na*	na*

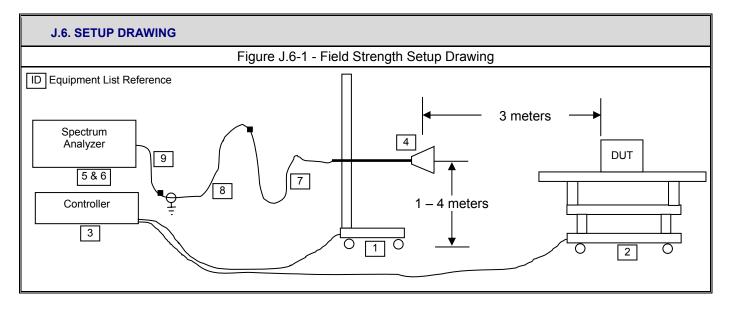
<sup>\*</sup>Attenuation offset in power meter setup

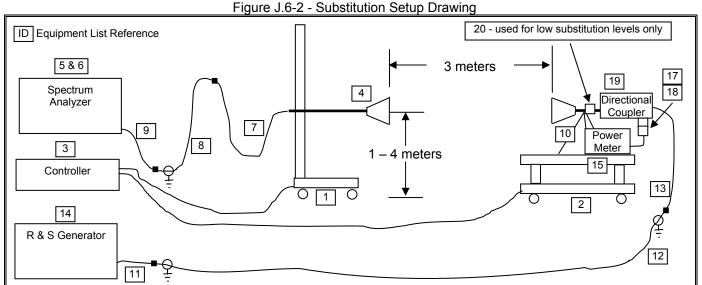
Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITDONIV
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325A580IWLBT	(ITRONIX)
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Can	ada Lab File #3874	

J.5. MEASUREMENT EQUIPMENT SETUP					
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in J.6.				
	The spectrum analyzer was	set to the following setting	ngs:		
MEASUREMENT EQUIPMENT	Frequency Range	RBW	VBW	Detector	
SETTINGS	MHz	MHz	MHz	Detector	
	1000 - 2000	1	1	Peak	





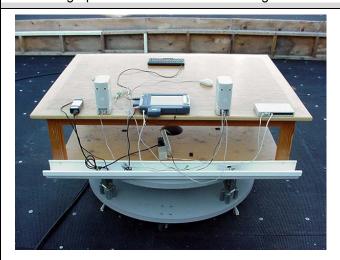
Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		<b>⊜ITRONIX</b>		
Rugged Table	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT									
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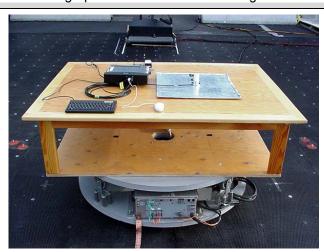
Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

# J.7. SETUP PHOTOGRAPHS

Photograph J.7-1 - Portable DUT Configuration



Photograph J.7-2 - Mobile DUT Configuration



Photograph J.7-3 - Portable 3 m Horn setup



Photograph J.7-4 - Mobile - 3 m Horn Setup



# J.8. DUT OPERATING DESCRIPTION

Measurements were made for the low, mid and high CDMA channels transmitting in the PCS band at maximum power levels, and the DUT configured as described in Section 5 of this report.

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	() ITRONIX			
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325A580IWLBT		I I KUNIX		
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874		

### J.9. TEST RESULTS

J.9.1. Portable

Celltech

Project Number: 672 Company: Itronix

Product: IX325 Portable w/ AC580 Standard: Test Start Date:

FCC24.232b 25-Oct-05 Test End Date: 8-Dec-05

IX325 portable w/ AC580 Face up - Hpol Antenna Carrier Power Levels

Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Ca	rrier Level	EIRP	' Limit	Margin	Pass/Fail
	m		)	MHz	dBuV/m		dBuV	dBm	dBi	dBm	Watts	dBm	Watts	dB	
Н	3	Horn SN6276	25	1851.25	123.71	PK	90.90	19.36	8.82	28.18	0.658	33.01	2.00	4.83	PASS
٧	3	Horn SN6276	25	1851.25	118.11	PK	85.30	13.83	8.82	22.65	0.184	33.01	2.00	10.36	PASS
Н	3	Horn SN6276	600	1880.00	123.87	PK	90.90	19.81	8.86	28.67	0.736	33.01	2.00	4.34	PASS
٧	3	Horn SN6276	600	1880.00	118.97	PK	86.00	15.33	8.86	24.19	0.262	33.01	2.00	8.82	PASS
Н	3	Horn SN6276	1175	1908.75	123.58	PK	90.45	20.10	8.89	28.99	0.793	33.01	2.00	4.02	PASS
٧	3	Horn SN6276	1175	1908.75	117.23	PK	84.10	14.36	8.89	23.25	0.211	33.01	2.00	9.76	PASS

Double Ridged Guide Antenna used for substitution

Formulae:

EIRP Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) - Level (dBm)

J.9.2. Mobile

Celltech

**Project Number:** 672 Company: Itronix

Product: IX325 Portable w/ AC580 Mobile Standard:

FCC24.232b 31-Oct-05

Test Start Date: Test End Date: 8-Dec-05

						IX32	5 with AC580 - m	nobile Carrier	Power Level	s					
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP C	arrier Level	EIRP	Limit	Margin	Pass/Fail
	m		0	MHz	dBuV/m		dBuV	dBm	dBi	dBm	Watts	dBm	Watts	dB	
Н	3	Horn SN6276	25	1851.25	110.21	PK	77.40	6.00	8.82	14.82	0.030	33.01	2.00	18.19	PASS
٧	3	Horn SN6276	25	1851.25	119.01	PK	86.20	14.67	8.82	23.49	0.223	33.01	2.00	9.52	PASS
Н	3	Horn SN6276	600	1880.00	110.37	PK	77.40	6.71	8.86	15.57	0.036	33.01	2.00	17.44	PASS
٧	3	Horn SN6276	600	1880.00	118.07	PK	85.10	14.44	8.86	23.30	0.214	33.01	2.00	9.71	PASS
Н	3	Horn SN6276	1175	1908.75	108.93	PK	75.80	6.23	8.89	15.12	0.033	33.01	2.00	17.89	PASS
٧	3	Horn SN6276	1175	1908.75	116.83	PK	83.70	13.95	8.89	22.84	0.192	33.01	2.00	10.17	PASS

Note:

Double Ridged Guide Antenna used for substitution

EIRP Level (dBm) = Power Applied to Antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) – Level (dBm)

Applicant:	Itro	Itronix Corporation FCC ID: KBCIX325A580IWLBT IC ID: 19						(ITRONIX)	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325A580IWLBT		I I KUNIX	
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	Industry Canada Lab File #3874			

### J.10. PASS/FAIL

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

FCC 24.232 (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.....

A maximum EIRP of +28.99 dBm (0.793 Watts) was measured when Channel 1175 was transmitting through the attached hinged dipole antenna.

### J.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

Senior Compliance Technologist

Spencer Watson

Celltech Labs Inc.

8Dec05

Date

Applicant:	Itron	ix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325A580IWLBT							ITRONIX <sup>®</sup>
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	30	0 Industry Canada Lab File #3874			

# **Appendix K - Radiated PCS TX Spurious Emissions Measurement**

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

K.2. LIMITS	
FCC CFR 47 §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.

K.3. ENVIRONMENTAL CONDITIONS					
Temperature	uncontrolled				
Humidity	uncontrolled				
Barometric Pressure	uncontrolled				

ŀ	K.4. EQUIPMENT LIST											
	RECEIVING EQUIPMENT											
ID	ASSET NUMBER	MANUFACTURER	MODEL	MODEL DESCRIPTION								
1	00072	EMCO	2075	Mini-mast	na	na						
2	00073	EMCO	2080	Turn Table	na	na						
3	00071	EMCO	2090	Multi-Device Controller	na	na						
4	00035	ETS	3115	Double Ridged Guide Antenna (Rx)	24Mar04	24Mar06						
5	00161/00166	Waveline	899/801-KF	Standard Gain Horn Antenna (Rx)	n/a	n/a						
6	00015	HP	E4408B	Spectrum Analyzer	24Jan05	24Jan06						
7	00051	HP	8566B	Spectrum Analyzer	12Apr05	12Apr06						
8	00047	HP	85685A	Preselector	13Apr05	13Apr06						
9	00120	Celltech	n/a	Microwave Cable (RX)	25Mar05	25Mar06						
10	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	25Mar05	25Mar06						
11	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	25Mar05	25Mar06						
12	00115	Miteq	JS4-00102600-35-5A	Low Noise Amplifier	08Jun05	08Jun06						
13	00093	Microtronics	HPM50111	High Pass Filter	08Jun05	08Jun06						
14	00119	INMAT	18AH-10	10dB attenuator	08Jun05	08Jun06						

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITPONIV	
Rugged Tablet	ugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				IX325A580IWLBT	<b>ITRONIX</b>	
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	24E Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

	ADDITIONAL SUBSTITUTION EQUIPMENT											
ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE						
15	00034	ETS	3115	Horn Antenna (Tx)	24Mar04	24Mar06						
16	00162/00165	Waveline	899/801-KF	Standard Gain Horn Antenna (Tx)	na	na						
17	00131	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na						
18	00127	Andrew	FSJ4-50B	Microwave Cable (TX)	na	na						
19	00133	Andrew	FSJ1-50A	Microwave Cable (TX)	na	na						
20	00006	R&S	SMR-20	Signal Generator	12Apr05	12Apr06						
21	00110	Gigatronics	8652A	Power Meter	16Apr05	16Apr06						
22	00012	Gigatronics	80701A	Power Sensor	12Sep05	12Sep06						
23	00014	Gigatronics	80701A	Power Sensor	07Sep05	07Sep06						
24	00102	Pasternack	PE7015-3110	30 dB attenuator	na*	na*						
25	00078	Pasternack	PE2214-20	Directional Coupler	na*	na*						
26	00142	HP	8491A	20 dB attenuator	na*	na*						

<sup>\*</sup> Attenuation offset in power meter setup

K.5. MEASUREMENT EQUIPMENT SETUP										
	The measurement equipment was connected as shown in K.6. A number of measurement equipment configurations were used to cover the applicable frequency ranges. The configurations for each range are as follows:									
MEASUREMENT	Frequency Range	LNA Asset #	Filter/Attenuator Asset #	Rx Antenna Asset #	Tx Antenna Asset #					
EQUIPMENT	1 GHz – 2 GHz	I GHz – 2 GHz none		00034	00035					
CONNECTIONS	2 GHz – 3 GHz 00115		00119	00034	00035					
	3 GHz – 18 GHz 00115		00093	00034	00035					
	18 GHz – 25 GHz	00115	none	000161/00166	000162/00165					
	The spectrum ana	yzer was set to	the following settings:							
MEASUREMENT EQUIPMENT	Frequency I	Range	RBW	VBW	Detector					
SETTINGS	MHz		kHz	kHz	Detector					
	1 GHz – 25	GHz	1000	1000	Peak					

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	AITDONIV*	
Rugged Tablet	ged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				IX325A580IWLBT	ITRONIX®	
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830 Industry Canada			ada Lab File #3874	

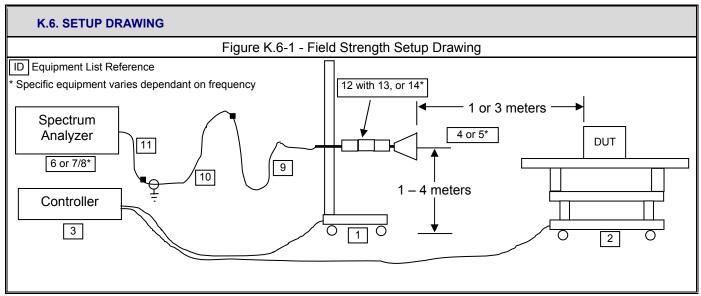
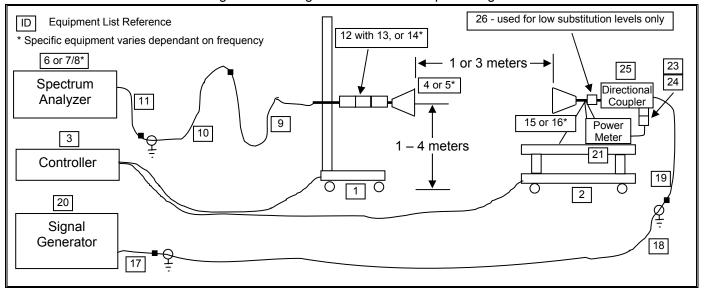


Figure K.6-2 - Signal Substitution Setup Drawing



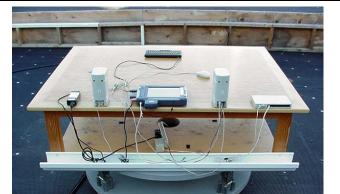
Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f	@ ITPONIV*	
Rugged Tablet	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				IX325A580IWLBT	ITRONIX"	
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# **K.7. SETUP PHOTOGRAPHS**

Photograph K.7-1 - Portable DUT Configuration



Photograph K.7-2 - Mobile DUT Configuration



Photograph K.7-3 - Portable - 3 m Horn setup



Photograph K.7-4 - Mobile - 1 m Horn Setup



# **K.8. DUT OPERATING DESCRIPTION**

Measurements were made for the low, mid and high CDMA channels transmitting in the PCS band at maximum power levels as described in Section 5 of this report. The conducted transmit spurious emissions supplementary measurements are described in Appendix H.

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITDONIY:	
Rugged Tablet	PC w	ith Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT	ITRONIX"		
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Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		January 23, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §.	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	Industry Canada Lab File #387		

# **K.9. TEST RESULTS**

K.9.1. Spurious Emissions - Portable

Channel 25

Celltech

Project Number: Company:

Product:

Itronix IX325 Portable w/ AC580 Standard: Test Start Date: Test End Date: FCC24.238 25-Oct-05 25-Oct-05

IX325 portable w/ AC580 Face up - Hpol Antenna

	IX325 portable W/ AC580 Face up - Hpol Antenna												
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted 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	CH25	1897.00	61.76	PK*					82.2*	20.5*	PASS*
Н	3	none	CH25	3702.90	60.20	PK*					82.2*	22.0*	PASS*
Н	3	none	CH25	5554.70	52.78	PK*					82.2*	29.4*	PASS*
Н	1	none	CH25	7405.58	58.11	PK*					91.8*	33.7*	PASS*
Н	1	none	CH25	9255.00	51.20	PK*					91.8*	40.6*	PASS*
Н	1	none	CH25	11105.00	51.99	PK*					91.8*	39.8*	PASS*
Н	1	none	CH25	12955.00	54.16	PK*					91.8*	37.6*	PASS*
Н	1	none	CH25	14810.00	56.15	PK*					91.8*	35.6*	PASS*
Н	1	none	CH25	16657.50	55.27	PK*					91.8*	36.5*	PASS*
Н	1	none	CH25	18512.50	54.37	PK*					91.8*	37.4*	PASS*
V	3	none	CH25	2827.72	60.76	PK*					82.2*	21.5*	PASS*
V	3	Horn SN6276	CH25	3701.88	64.60	PK	56.10	-42.54	9.86	-32.68	-13.00	19.68	PASS
V	3	none	CH25	3701.88	54.30	ΑV					82.2*	27.9*	PASS*
V	3	none	CH25	5290.00	61.65	PK*					82.2*	20.6*	PASS*
V	3	none	CH25	5554.54	57.88	PK*					82.2*	24.4*	PASS*
V	1	none	CH25	7406.05	69.23	PK*					91.8*	22.5*	PASS*
V	1	none	CH25	9255.20	58.05	PK*					91.8*	33.7*	PASS*
V	1	none	CH25	11108.00	55.66	PK*					91.8*	36.1*	PASS*
V	1	none	CH25	12957.40	61.48	PK*					91.8*	30.3*	PASS*
V	1	none	CH25	14810.00	56.44	PK*					91.8*	35.3*	PASS*
V	1	none	CH25	16657.50	55.81	PK*					91.8*	36.0*	PASS*
V	1	none	CH25	18512.50	55.24	PK*					91.8*	36.5*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

#### Formulae:

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) - EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT





Test Report Serial No.:	100305KBC-T675-E24C	Report Issue No.:		E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	4E Industry Canada RSS-132/13		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

Celltech

Project Number: Company: Product:

Itronix

IX325 Portable w/ AC580

Standard: Test Start Date: Test End Date: FCC24.238 25-Oct-05 25-Oct-05

	IX325 portable w/ AC580 Face up - Hpol Antenna												
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted 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	Horn SN6276	CH600	3760.74	66.90	PK	58.30	-40.43	9.85	-30.58	-13.00	17.58	PASS
Н	3	none	CH600	3760.74	56.40	ΑV					82.2*	25.8*	PASS*
Н	3	none	CH600	5640.84	54.14	PK*					82.2*	28.1*	PASS*
Н	1	none	CH600	7519.05	63.19	PK*					91.8*	28.6*	PASS*
Н	1	none	CH600	9400.00	54.06	PK*					91.8*	37.7*	PASS*
Н	1	none	CH600	11280.00	51.04	PK*					91.8*	40.7*	PASS*
Н	1	none	CH600	13158.30	63.10	PK*					91.8*	28.7*	PASS*
Н	1	none	CH600	15037.50	56.12	PK*					91.8*	35.7*	PASS*
Н	1	none	CH600	16920.00	57.34	PK*					91.8*	34.4*	PASS*
Н	1	none	CH600	18796.90	54.60	PK*					91.8*	37.2*	PASS*
٧	3	none	CH600	2828.82	66.77	PK					82.2*	15.5*	PASS*
V	3	none	CH600	2828.82	54.57	ΑV					82.2*	27.7*	PASS*
V	3	none	CH600	2868.90	61.08	PK*					82.2*	21.1*	PASS*
V	3	none	CH600	2888.48	64.52	PK					82.2*	17.7*	PASS*
V	3	none	CH600	2888.48	50.82	ΑV					82.2*	31.4*	PASS*
V	3	Horn SN6276	CH600	3760.30	68.59	PK	60.00	-37.98	9.85	-28.13	-13.00	15.13	PASS
V	3	none	CH600	3760.30	60.19	ΑV					82.2*	22.0*	PASS*
V	3	none	CH600	5285.32	62.79	PK*					82.2*	19.4*	PASS*
V	3	Horn SN6276	CH600	5640.70	59.04	PK*	44.90	-45.06	11.07	-33.99	-13.00	20.99	PASS
V	3	none	CH600	5640.70	45.84	ΑV					82.2*	36.4*	PASS*
٧	1	none	CH600	7520.80	66.77	PK*					91.8*	25.0*	PASS*
V	1	none	CH600	9399.40	55.72	PK*					91.8*	36.1*	PASS*
V	1	none	CH600	11280.00	55.10	PK*					91.8*	36.7*	PASS*
V	1	none	CH600	13161.90	63.98	PK*					91.8*	27.8*	PASS*
V	1	none	CH600	15037.50	56.24	PK*					91.8*	35.5*	PASS*
V	1	none	CH600	16920.00	56.86	PK*					91.8*	34.9*	PASS*
V	1	none	CH600	18796.90	54.26	PK*					91.8*	37.5*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

### Formulae:

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) - EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT





Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05 Report Issue Date			January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Canada RSS-132/133		
Lab Registration(s):	Registration(s): FCC Registration #7148			ada Lab File #3874	

Celltech

Project Number: Company:

Itronix IX325 Portable w/ AC580 Standard: Test Start Date: Test End Date: FCC24.238 25-Oct-05 25-Oct-05

	IX325 portable w/ AC580 Face up - Hpol Antenna												
					1/32	, poi	table W/ AC300 I	ace up - ripor A	incoma				
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted 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	Horn SN6276	CH1175	3818.32	80.82	PK	71.90	-26.80	9.84	-16.96	-13.00	3.96	PASS
Н	3	none	CH1175	3818.32	70.62	AV					82.2*	11.6*	PASS*
Н	3	none	CH1175	5285.14	62.09	PK*					82.2*	20.1*	PASS*
Н	3	Horn SN6276	CH1175	5726.72	54.20	PK*	40.20	-53.58	11.17	-42.41	-13.00	29.41	PASS
Н	3	none	CH1175	5726.72	42.60	AV					82.2*	39.6*	PASS*
Н	3	none	CH1175	5820.30	61.61	PK*					82.2*	20.6*	PASS*
Н	1	none	CH1175	7633.90	69.77	PK*					91.8*	22.0*	PASS*
Н	1	none	CH1175	9544.05	64.46	PK*					91.8*	27.3*	PASS*
Н	1	none	CH1175	11452.15	57.49	PK*					91.8*	34.3*	PASS*
Н	1	Horn SN6276	CH1175	13359.50	75.50	PK*	57.52	-44.15	12.35	-31.80	-13.00	18.80	PASS
Н	1	none	CH1175	15271.90	61.71	PK*					91.8*	30.1*	PASS*
Н	1	none	CH1175	17172.55	59.45	PK*					91.8*	32.3*	PASS*
Н	1	none	CH1175	19083.80	55.52	PK*					91.8*	36.2*	PASS*
V	3	none	CH1175	2943.06	65.93	PK					82.2*	16.3*	PASS*
V	3	none	CH1175	2943.06	52.13	AV					82.2*	30.1*	PASS*
V	3	Horn SN6276	CH1175	3818.46	74.72	PK*	65.80	-32.15	9.84	-22.31	-13.00	9.31	PASS
V	3	none	CH1175	3818.46	65.72	AV					82.2*	16.5*	PASS*
V	3	Horn SN6276	CH1175	5725.36	63.70	PK*	49.70	-38.39	11.17	-27.22	-13.00	14.22	PASS
V	3	none	CH1175	5725.36	53.30	ΑV					82.2*	28.9*	PASS*
V	1	Horn SN6276	CH1175	7634.10	72.72	PK*	61.72	-44.88	11.45	-33.43	-13.00	20.43	PASS
V	1	none	CH1175	7635.00	60.48	ΑV					91.8*	31.3*	PASS*
V	1	none	CH1175	9543.30	66.12	PK*					91.8*	25.7*	PASS*
V	1	none	CH1175	11454.15	64.06	PK*					91.8*	27.7*	PASS*
V	1	none	CH1175	13363.05	79.83	PK*					91.8*	11.9*	PASS*
V	1	none	CH1175	13361.20	65.73	ΑV					91.8*	26.0*	PASS*
٧	1	none	CH1175	15271.55	64.16	PK*					91.8*	27.6*	PASS*
V	1	none	CH1175	17187.30	60.41	PK*					91.8*	31.4*	PASS*
V	1	none	CH1175	19083.80	54.92	PK*					91.8*	36.8*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

#### Note:

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 peak 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.

#### Formulae

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) - EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT





Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

# K.9.2. Spurious Emissions - Mobile

# Channel 25

Celltech

Project Number: Company: Product:

672 Itronix

IX325 Portable w/ AC580 Mobile

Standard: Test Start Date: Test End Date:

FCC24.238 31-Oct-05 31-Oct-05

	IX325 mobile w/ AC580												
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m		Ö	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH25	3701.34	49.90	PK*					82.2*	32.3*	PASS*
Н	3	none	CH25	5553.44	49.25	PK*					82.2*	33.0*	PASS*
Н	3	none	CH25	7404.57	63.54	PK					82.2*	18.7*	PASS*
Н	3	none	CH25	7404.92	53.84	ΑV					82.2*	28.4*	PASS*
Н	3	none	CH25	9256.98	55.98	PK*					82.2*	26.2*	PASS*
Н	1	none	CH25	11108.90	54.08	PK*					91.8*	37.7*	PASS*
Н	1	none	CH25	12960.30	70.05	PK*					91.8*	21.7*	PASS*
Н	1	none	CH25	14810.00	56.09	PK*					91.8*	35.7*	PASS*
Н	1	none	CH25	16657.50	53.64	PK*					91.8*	38.1*	PASS*
Н	1	none	CH25	18510.00	53.96	PK*					91.8*	37.8*	PASS*
V	3	none	CH25	3701.98	56.50	PK*					82.2*	25.7*	PASS*
V	3	none	CH25	5554.33	56.47	PK*					82.2*	25.8*	PASS*
V	1	Horn SN6276	CH25	7405.00	75.78	PK*	65.24	-40.20	11.50	-28.71	-13.00	15.71	PASS
V	1	none	CH25	7405.10	67.53	ΑV					91.8*	24.2*	PASS*
V	3	none	CH25	9256.98	58.56	PK*					82.2*	23.7*	PASS*
V	1	none	CH25	11107.15	56.67	PK*					91.8*	35.1*	PASS*
V	1	Horn SN6276	CH25	12960.45	75.96	PK*	59.29	-37.50	13.06	-24.44	-13.00	11.44	PASS
V	1	none	CH25	12958.75	64.18	ΑV					91.8*	27.6*	PASS*
V	1	none	CH25	14810.00	56.13	PK*					91.8*	35.6*	PASS*
V	1	none	CH25	16657.50	54.84	PK*					91.8*	36.9*	PASS*
V	1	none	CH25	18510.00	54.05	PK*					91.8*	37.7*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

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 peak 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.

### Formulae:

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) - EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) - Corrected Field Strength (dBuV/m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT
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Test Report Serial No.:	100305KBC-T675-E24C	Rep	ort Issue No.:	E675C-012306-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874

Celltech

Project Number: Company: Product:

IX325 Portable w/ AC580 Mobile

Standard: Test Start Date: Test End Date:

FCC24.238 31-Oct-05 31-Oct-05

	IX325 mobile w/ AC580												
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m		ပိ	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH600	3759.25	54.19	PK*					82.2*	28.0*	PASS*
Н	3	none	CH600	5639.90	49.25	PK*					82.2*	33.0*	PASS*
Н	3	none	CH600	7518.95	61.17	PK*					82.2*	21.1*	PASS*
Н	3	none	CH600	9397.63	57.36	PK*					82.2*	24.9*	PASS*
Н	1	none	CH600	11279.85	54.90	PK*					91.8*	36.9*	PASS*
Н	1	none	CH600	13158.10	73.61	PK					91.8*	18.2*	PASS*
Н	1	none	CH600	13159.95	58.59	AV					91.8*	33.2*	PASS*
Н	1	none	CH600	15037.50	56.19	PK*					91.8*	35.6*	PASS*
Н	1	none	CH600	16920.00	56.24	PK*					91.8*	35.5*	PASS*
Н	1	none	CH600	18796.90	54.14	PK*					91.8*	37.6*	PASS*
٧	3	none	CH600	3759.17	55.89	PK*					82.2*	26.3*	PASS*
V	3	none	CH600	5640.86	61.34	PK					82.2*	20.9*	PASS*
V	3	none	CH600	5639.91	49.15	AV					82.2*	33.1*	PASS*
V	1	Horn SN6276	CH600	7520.90	71.31	PK*	60.41	-41.80	11.41	-30.39	-13.00	17.39	PASS
V	3	none	CH600	9398.00	55.36	PK*					82.2*	26.9*	PASS*
V	1	none	CH600	11278.80	57.75	PK*					91.8*	34.0*	PASS*
V	1	none	CH600	13158.20	77.15	PK					91.8*	14.6*	PASS*
V	1	none	CH600	13160.10	59.96	AV					91.8*	31.8*	PASS*
V	1	none	CH600	15037.50	56.95	PK*					91.8*	34.8*	PASS*
V	1	none	CH600	16920.00	55.42	PK*					91.8*	36.3*	PASS*
V	1	none	CH600	18796.90	54.34	PK*					91.8*	37.4*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

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 peak 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.

# Formulae:

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) – EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) – Corrected Field Strength (dBuV/m) Theoretical Limit (V/m) = SQRT(30 \* P / r2) where P is the total transmitted power limit (W), r is measurement distance (m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT
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Test Report Serial No.:	100305KBC-T675-E24C <b>Re</b>		ort Issue No.:	E675C-012306-R0		
Test Date(s):	07Oct05 - 10Dec05	Report Issue Dat		January 23, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #3874			

Celltech

Project Number: Company:

IX325 Portable w/ AC580 Mobile

Standard: Test Start Date: Test End Date:

FCC24.238 31-Oct-05 31-Oct-05

							IX325 mobile	w/ AC580					
Polarity	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Emission Level	Limit	Margin	Pass/Fail
	m		Ö	MHz	dBuV/m		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
Н	3	none	CH1175	3816.13	54.40	PK*					82.2*	27.8*	PASS*
Н	3	none	CH1175	5725.42	56.50	PK*					82.2*	25.7*	PASS*
Н	3	none	CH1175	7636.03	62.98	PK					82.2*	19.3*	PASS*
Н	3	none	CH1175	7635.02	48.98	AV					82.2*	33.3*	PASS*
Н	3	none	CH1175	9543.00	56.38	PK*					82.2*	25.8*	PASS*
Н	1	none	CH1175	7634.00	66.32	PK*					91.8*	25.4*	PASS*
Н	1	none	CH1175	9543.85	62.93	PK*					91.8*	28.8*	PASS*
Н	1	none	CH1175	11451.20	57.33	PK*					91.8*	34.4*	PASS*
Н	1	Horn SN6276	CH1175	13363.05	76.57	PK*	58.56	-40.70	12.35	-28.35	-13.00	15.35	PASS
Н	1	none	CH1175	15271.85	56.83	PK*					91.8*	34.9*	PASS*
Н	1	none	CH1175	17178.70	56.73	PK*					91.8*	35.0*	PASS*
Н	1	none	CH1175	19083.80	54.98	PK*					91.8*	36.8*	PASS*
V	3	none	CH1175	3816.73	65.70	PK					82.2*	16.5*	PASS*
V	3	none	CH1175	3817.10	56.60	AV					82.2*	25.6*	PASS*
V	3	none	CH1175	5727.06	66.60	PK					82.2*	15.6*	PASS*
V	3	none	CH1175	5726.19	56.00	AV					82.2*	26.2*	PASS*
V	1	Horn SN6276	CH1175	7634.15	76.70	PK*	65.70	-39.60	11.45	-28.15	-13.00	15.15	PASS
V	1	none	CH1175	7635.10	65.95	AV					91.8*	25.8*	PASS*
V	1	none	CH1175	9543.75	67.59	PK*					91.8*	24.2*	PASS*
V	1	none	CH1175	11451.05	58.96	PK*					91.8*	32.8*	PASS*
V	1	Horn SN6276	CH1175	13363.20	78.16	PK*	60.15	-39.40	12.35	-27.05	-13.00	14.05	PASS
V	1	none	CH1175	15268.45	59.03	PK*					91.8*	32.7*	PASS*
V	1	none	CH1175	17178.70	57.24	PK*					91.8*	34.5*	PASS*
V	1	none	CH1175	19083.80	54.32	PK*					91.8*	37.4*	PASS*

PK\* - measurement made with a peak detector and applied to an average limit.

Pass\* - Margin and Pass/Fail based on measured field strengths applied against a theoretical field strength limit.

**BOLD** - carrier harmonic frequencies

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 peak 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.

EIRP Emission Level (dBm) = Power applied to antenna (dBm) + Antenna Gain (dBi)

Margin (dB) = Limit (dBm) – EIRP Emission Level (dBm) or Theoretical Limit (dBuV/m) – Corrected Field Strength (dBuV/m) Theoretical Limit (V/m) = SQRT(30 \* P / r2) where P is the total transmitted power limit (W), r is measurement distance (m)

Applicant:	Itronix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT





Test Report Serial No.:	100305KBC-T675-E24C Rep		ort Issue No.:	E675C-012306-R0	
Test Date(s):	07Oct05 - 10Dec05 Repo		ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

# K.10. PASS/FAIL

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

FCC CFR 4 §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.

The results set forth in this section meet the requirement with a margin of at least 3.96 dB.

# K.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.

for Russell Pipe

Senior Compliance Technologist

Spencer Walson

Celltech Labs Inc.

31Oct05

Date

	Applicant: Itronix Corporation  Rugged Tablet PC with Sierra Wireless		nix Corporation	FCC ID:	KBCIX325A580IWLBT	IC ID:	1943A-IX325f		ITPONIV:
			AirCard 580	1 580 Dual-Band CDMA Modem		Model: IX325A580IWLBT		ITRONIX®	
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Test Date(s):	t Date(s): 07Oct05 - 10Dec05 Report Issue D		ort Issue Date:	January 23, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

# **END OF DOCUMENT**

Applicant:		Itronix Corporation	onix Corporation FCC ID: KBCIX325A580IWLBT IC ID: 1943A-IX325f				@ ITDONIV
	Rugged Tablet	PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325A580IWLBT	(ITRONIX)
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