

Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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			

# **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: KBCIX325-AC580

IC: 1943A-IX325f

<u>Test Report Serial Number</u>

100305KBC-T672-E24C

**Test Report Issue No.** 

E672C-020106-R0

# **Test Lab**

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



Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

	DECLARATION OF COMPLIANCE									
Test Lab	CELLTECH LABS INC. Testing and Engineering Services 1955 Moss Court Kelowna, B.C. Canada V1Y 9L3				Information		ITRONIX CORPORATION 12825 E. Mirabeau Parkway Spokane Valley, WA 99216 United States			
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Fax:	250-448-704	48								
e-mail:	_	techlabs.com								
web site:	www.celltec			1						
Laboratory Re	FCC:	714830	IC:		3874					
Rule Part(s):			Dual-B	and CDMA			H; §24E			
IC		IC:	Dual-B	and CDMA	RSS-	-13	33 Issue 3,	RSS-132 Issue 2		
		FCC:	Dual-B	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:	KBCIX	325-AC580	) IC: 1943A-IX325f					
DUT Descript	ion:									
Model(s):		IX325-AC5	80							
Device Descri	iption:	Rugged Ta	blet PC							
RF Exposure	Category:	Portable (v	vith externa	lly-mounted a	intenna)	)	Mobile	(with vehicle cradle and	vehicle antenna)	
Internal Trans	smitter(s):	Sierra Wire	eless AirCar	rd 580 Dual-E	Band CD	MA	A PCMCIA	Modem		
Tx Frequency	· Panga(a):	Dual Ban	4 CDM4	Cellular	824.70 - 848.31 MHz					
1X Frequency	Range(s).	Dual Dall	u CDIVIA	PCS	185	1.2	25 - 1908.7	′5 MHz		
				Cellular		Co	nducted	+23.24 dBm	0.211 Watts	
Max. RF Outp		Dual Ban	4 CDMA	Celiulai		ERP		+23.10 dBm	0.204 Watts	
Power Measu	red:	Duai Daii	u ODIVIA	PCS		Co	nducted	+23.98 dBm	0.250 Watts	
				1 00		EIRP		+28.99 dBm 0.793 Watts		
Antenna Type	e(s) Tested:	Sierra Wir	eless Hinge	ed Dipole	MaxRa	d 3	BdBi Gain Vehicle-Mount (P/N: WMLPVDB800/1900)			
Power Source	o(s) Tostod	Stationary	: 75 Watt A	C Power Ada	pter (Mo	ode	el: ADP-75	FB B)		
I OWEI GOUICE	o(3) Testeu.	11.1 V Inte	ernal Lithiur	m-ion Battery	3600 m	ηAr	n (Model: T	<sup>-</sup> 8M-E)		

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:

Local Watson

for Russell Pipe

Senior Compliance Technologist Celltech Labs Inc.

Reviewed By:

Duane M. Friesen EMC Manager Celltech Labs Inc.

(

Applicant:	Itro	nix Corporation	Corporation FCC ID: KBCIX325-AC580		IC ID:	1943A-IX325f	() ITRONIX	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325-AC580		IIKUNIX
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END OF DOCUMENT

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		ITRONIX <sup>®</sup>
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Rugged Table	t PC with Sierr	C with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				IX325-AC580		ITRONIX*	
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Lab Registration(s):	FCC Registration #714830 Industry Canada La			ada Lab File #3874

	TEST SUMMARY							
Referenced Standard: FCC CFR Title 47 Part 2, 22H								
Appendix	Test Description	Procedure Reference	<u>Limit Reference</u>	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		
	Referenced Standard: IC RSS-133 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		
К	Radiated TX Spurious Emissions	RSS-Gen §4.7	RSS-133 §6.5	25Oct05	31Oct05	Pass		

# **REVISION LOG**

Issue No.	Description	Implemented By	Implementation Date
E672C-020106-R0	Initial Release	Jonathan Hughes	01Feb06

# **SIGNATORIES**

Prepared By:	Dela	December 16, 2005
Name/Title	Duane M. Friesen, C.E.T. / EMC Manager	Date
Approved By:	THE-	February 1, 2006
Name/Title	Jonathan Hughes / General Manager	Date

Applicant:	Itronix Corpor	ration FC	C ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	() ITRONIX	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		IIKUNIX	
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Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File #3			

# 1.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the Itronix Corporation Model: IX325-AC580 Rugged Tablet PC with the internal Sierra Wireless AirCard 580 Dual-Band CDMA PCMCIA Modem. The product was tested in two configurations. The first was the portable configuration with the AirCard 580 Modem 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 second was the mobile configuration with the Tablet PC mounted in its vehicular cradle with the AirCard 580 Modem connected through the RF switch to a vehicular mounted antenna. 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

**Telecommunications Policy** 

2.1 Normative Reference	es es			
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 &	Radio Standards Specification			

Humans to Radio Frequency Fields

RSS-132 Issue 2 - 800 MHz Cellular Telephones Employing New Technologies

RSS-102 Issue 2 - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of

RSS-133 Issue 3 - 2 GHz Personal Communication Services

Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	() ITRONIX	
Rugged Tablet PC with Sierra Wireless AirCard 580		Dual-Band CDMA Modem	Model:	IX325-AC580		IIKUNIX		
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Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File #			ada Lab File #3874

# 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:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV:
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	(ITRONIX)
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Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File #			

# **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 IX325-AC580 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 Ta	Rugged Tablet PC with externally-mounted antenna, and vehicle cradle with vehicle antenna						
Model:	IX325-AC	IX325-AC580						
Serial Number(s):	ZZGEG50	ZZGEG5073ZZ9782						
Identifier(s):	FCC ID:	FCC ID: KBCIX325-AC580 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					
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)				
	10.	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:	Itronix C	orporation	on FCC ID: KBCIX325-AC580 IC ID: 1943A-IX325f		1943A-IX325f		ITRONIX	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325-AC580		IKUNIX
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# 5.4 Cable Descriptions

ROU	JTING	Length	Model	Term	inations	Shield Type	Shield Ter	mination	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



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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:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITD	CRIIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	<b>WIIK</b>	ONIX.
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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 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:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem			Model:	IX325-AC580		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

# **APPENDICES**

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ITDONIV*
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	ITRONIX*
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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

# **Appendix A - Photographs**

# **A.1. DUT PHOTOGRAPHS**

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







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





Applicant:	Itror	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		ITRONIX <sup>®</sup>	
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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 sp	pecified in Appendix E.

B.3. ENVIRONMENTAL CONDITIONS	
Temperature	25 <u>+</u> 5 °C
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*	

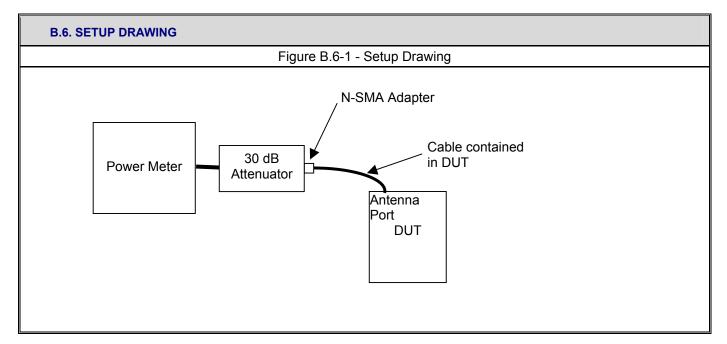
<sup>\*</sup>Attenuator offset in power meter

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITPONIV
Rugged Tablet	C with Sierra Wireless AirCard 580 Dual-Band CDMA Modem			Model:	IX325-AC580	ITRONIX*
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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		

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.

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	€ ITDONIV*
Rugged Tablet	PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem			Model:	IX325-AC580	ITRONIX*
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Test Date(s):	07Oct05 - 10Dec05 Rep		ort Issue Date:	February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #714830		0 Industry Canada Lab File #3874	

B.8. TEST RESULTS				
Mode	Channel	Frequency	Conducte	ed Power
Wiode	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:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	ITDONIV.
Rugged Tablet	d Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem			Model:	IX325-AC580	ITRONIX	
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Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	E Industry Canada RSS-132		
Lab Registration(s):	FCC Registration #714830		Industry Canada 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 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

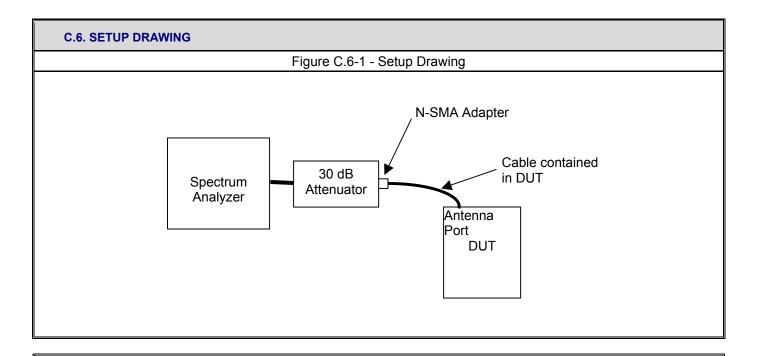
C.5. MEASUREMENT EQUIPMENT SETUP									
MEASUREMENT EQUIPMENT CONNECTIONS	he measurement equipment was connected as shown in C.6.								
	The spectrum analyzer was set to the following settings:								
	Frequency Range	RBW	VBW	Attenuator	Offset	Detector			
MEASUREMENT	MHz	kHz	MHz	dB	dB	Detector			
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 Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	AITDONIV.		
Rugged Table	t PC with Sierra Wireles	Model:	IX325-AC580	ITRONIX"				
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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.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:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITRONIX		
	Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580		IKONIX				
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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.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 = 848.31 MHz, 268 dis EBW = 1.4.3 MHz, RBW = 10 kHz Passes the upper block edge @ 849 MHz with a level of -14.88 dBm (-0.34 dB margin) Corrected Limt = -13 + 10\*log(14.27/10.00) = -14.54 dBm Block Edge Frequency = 824.7 MHz, -26 dB EBW = 1.43 MHz, RBW = 10 kHz Passes the lower block edge @ 824 MHz with a level of -19.41 dBm (4.85 dB margin) Corrected Limt = -13 + 10\*log(14.32/10.00) = -14.56 dBm 824.5 Frequency (MHz) 825 825.5 848.5 Frequency (MHz) ——Emission

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

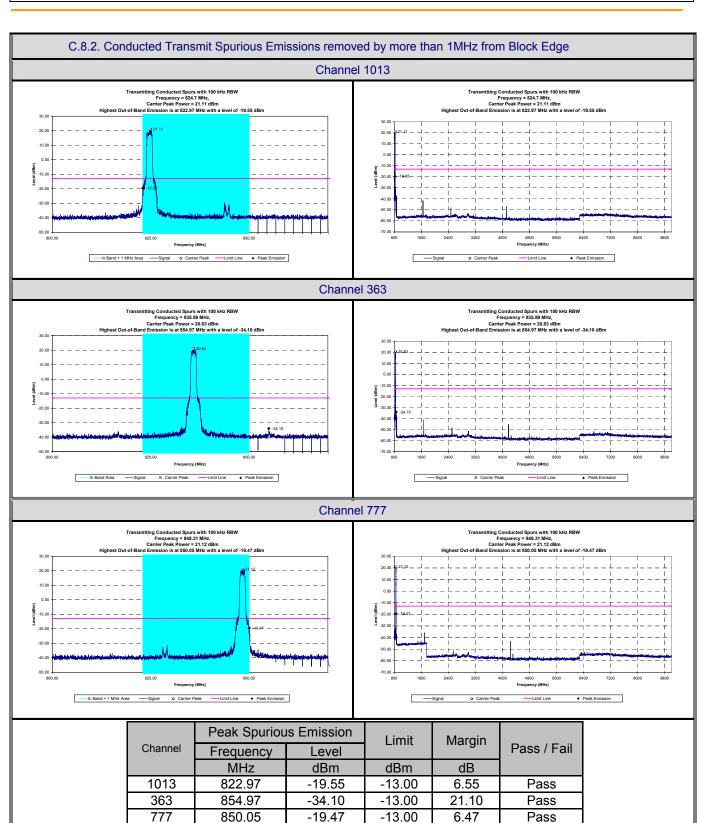
Occupied BW Edge

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:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		() ITRONIX		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem							IX325-AC580		HONIX		
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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		



Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	() ITRONIX			
Rugged Tablet	PC with Sierra Wireles	Model:	IX325-AC580		IIKUNIX				
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006		
Test Standard(s):	FCC 47 CFR §2, §22H, §3	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

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580		ITRONIX*
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Canada 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 nanowattts 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 O		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

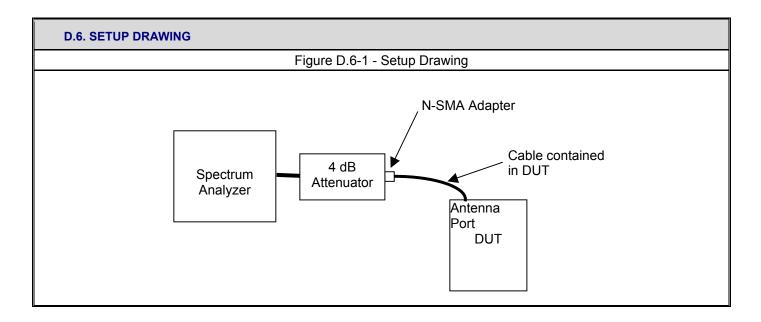
D.5. MEASUREMENT EQUIPMENT SETUP							
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in D.6.						
	Initial scan spectrum analyzer settings:						
	Frequency Range	RBW		VBW	Detector		
	MHz	kHz		MHz			
MEASUREMENT EQUIPMENT	30 MHz - 3 x F <sub>c</sub>	10		1	Peak		
SETTINGS	Peak zoom scan (of peaks within 10 dB of limit) spectrum analyzer settings:						
'	Frequency Range	RBW		VBW	Detector		
	MHz	kHz		MHz	Detector		
	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 Co	rporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITPONIEV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325-AC580		ITRONIX <sup>®</sup>
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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		



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

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

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITPONIV
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580	ITRONIX®
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-50.00 -60.00 -70.00 -80.00

600

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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §2		Industry Car	nada RSS-132/133
Lab Registration(s): FCC Registration #7148		30 Industry Canada		ada Lab File #3874

# D.8.1. Receiver Spurious Emissions Receiver Conducted Spurs with 10 kHz RBW Frequency = 835.89 MHz, The lowest margin is at 729.40 MHz at 17.4 dB

# Calculations:

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

800

1000

-Signal

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

1200

1400

1600

Frequency (MHz)

Limit Line

1800

2000

◆ Peak Emission

2200

2400

2600

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV*
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580	(ITRONIX)
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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		

### 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

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIY
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	ITRONIX*
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Lab Registration(s):	FCC Registration #7148	30	Industry Canada 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 CONDITIONS				
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	setup
--	--------------	--------	----	-------	-------	-------

Applicant:	Itror	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	<b>⊚ITRONIX</b>		
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325-AC580						IIKUNIX			
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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.5. MEASUREMENT EQUIPMENT SETUP						
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in E.6.					
MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:					
	Frequency Range	RBW	VBW	Detector		
	MHz	kHz	kHz	Detector		
	30 - 1000	100	100	Peak		

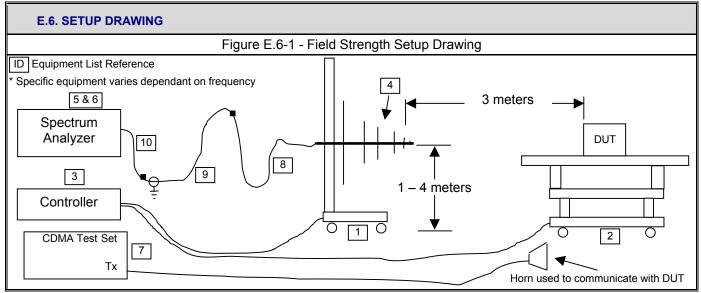
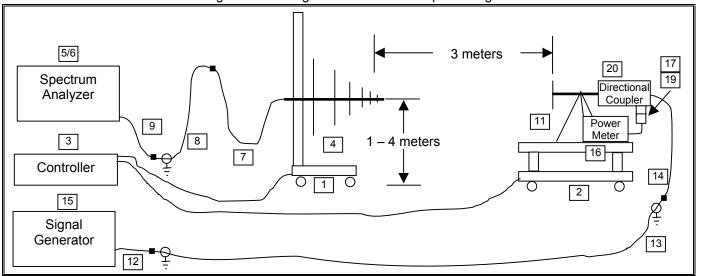


Figure E.6-2 - Signal Substitution Setup Drawing



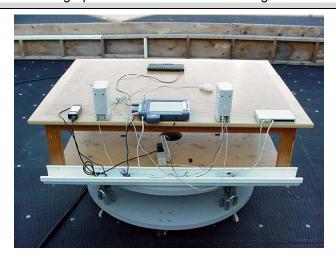
Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	ALTONIUV*
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580	ITRONIX*
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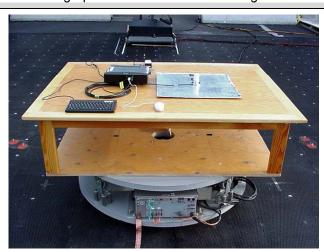
Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Industry Canada RSS-13:			nada RSS-132/133	
Lab Registration(s):	FCC Registration #7148	ada Lab File #3874			

# **E.7. SETUP PHOTOGRAPHS**

Photograph E.7-1 - Portable DUT Configuration



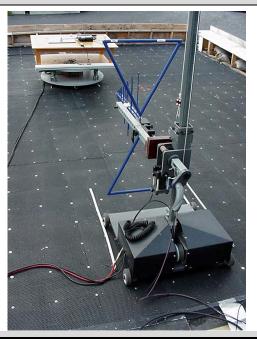
Photograph E.7-2 - Mobile DUT Configuration



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:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV:	
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		ITRONIX <sup>®</sup>		
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Car	nada RSS-132/133	
Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File				

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

E.9.1. Portable

**Celltech** 

Project Number: 672 Company: Itronix

Product: IX325 portable w/ AC580

Standard:

FCC22.913

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

7 00

7.00

-																
	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
L		m		0	MHz	dBuV/m		dBuV	dBm	dBd	dBm	Watts	dBm	Watts	dB	
L	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
L	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
I	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
I	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
11	_															

21 50

23.66

-0.56

-0.56

20.94

23.10

0 124

0.204

IX325 portable w/ AC580 - face up Carrier Power Levels

Note:

3

B 3121C

B\_3121C

Dipole Antenna used for substitution

777

777

Formulae:

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

121 26

121.61

PK

PK

94 00

94.35

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

E.9.2. Mobile

Celltech

Project Number: 672 Company: Itronix

848 31

848.31

Product: IX325 mobile w/ AC580

Standard: Test Start Date: Test End Date:

38 45

38.45

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

17.51

15.35

**PASS** 

PASS

IX325 mobile w/ AC580 Carrier Power Levels Distance Char Substituted Corrected Field Power Applied Antenna ERP Carrier Level ERP Limit Pass/Fail Substitution Margin Frequency SA Signal Level Strength to Antenna Gain Antenna Type (uncorrected) dB MHz dBuV/m dBuV dRm dBd dBm Watts dBm Watts m 3 B\_3121C 1013 824.70 116.59 16.78 -0.84 15.94 38.45 7.00 22.51 PASS 17.75 PASS 3 B\_3121C 1013 824.70 PK 21.54 20.70 119.09 92.80 -0.84 0.117 38.45 7.00 3 B\_3121C 363 835.89 119.45 92.80 20.19 -0.71 19.48 0.089 38.45 7.00 18.97 **PASS** 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** PASS 18.68 3 B\_3121C 777 848.31 120.06 92.80 20.33 -0.56 19.77 0.095 38.45 7.00 3 23.68 PASS B\_3121C 777 848.31 113.06 85.80 15.33 -0.56 14.77 0.030 38.45 7.00

Note:

Dipole Antenna used for substitution

Formulae

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

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

Applicant:	Itron	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDONIY:
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA			Dual-Band CDMA Modem	Model:	IX325-AC580		ITRONIX <sup>®</sup>	
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Industry Canada RSS-13			nada RSS-132/133	
Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File #3				

### 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

Spenier Walson

Celltech Labs Inc.

9Dec05

Date

	Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDONIV.	
	Rugged Tablet	ged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem Model: IX325-AC580							ITRONIX*	
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Industry Canada RSS-13			nada RSS-132/133	
Lab Registration(s):	FCC Registration #714830 Industry Canada Lab File #3				

# 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	F.4. EQUIPMENT LIST										
	RECEIVING EQUIPMENT										
ID	ASSET NUMBER	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	00034	ETS	3115	Double Ridged Guide Antenna (Rx)	11Aug05	11Aug06					
6	00015	Agilent	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					
15	00031	HP	E8285A	CDMA Test set	na	na					

Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID: 1943A-IX325f			() ITRONIX	
Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580		IIKONIX			
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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	

	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:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ITPONIV*	
Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580	ITRONIX®			
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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		

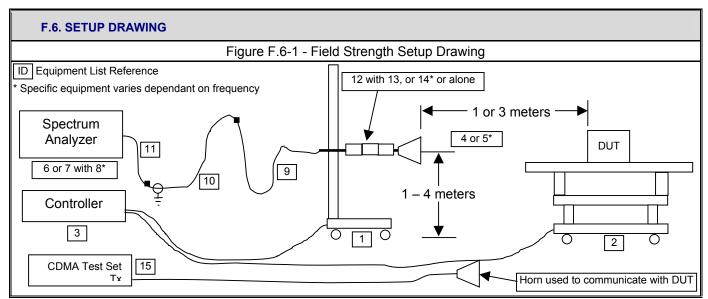
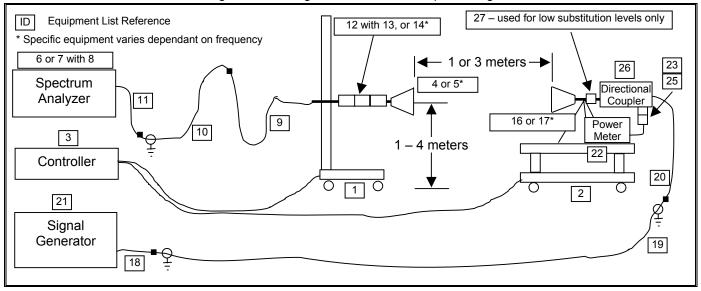


Figure F.6-2 - Signal Substitution Setup Drawing



Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ITPONIV*	
Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580	ITRONIX®			
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	4830 Industry Canada Lab File #3			

# F.7. SETUP PHOTOGRAPHS

Photograph F.7-1 - Portable DUT Configuration



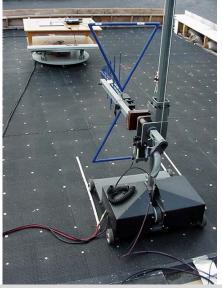
Photograph F.7-2 - Mobile DUT Configuration



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:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDANIV'
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325-AC580		ITRONIX*
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	0 7 0 7 0		ada Lab File #3874	

### F.9. TEST RESULTS

F.9.1. Spurious Emissions - Portable

Channel 1013

**Celltech** 

Project Number: 672 Company: Itronix Product: IX325

IX325 portable w/ AC580

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

					IX325	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	AV					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*
٧	3	none	CH1013	1073.00	64.75	PK*					84.4*	19.6*	PASS*
٧	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	AV					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
٧	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*
V	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:	IX325-AC580





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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			ada Lab File #3874	

### Channel 363

Celltech

Project Number: 672 Company: Itronix

Product: IX325 portable w/ AC580

Standard: Test Start Date: Test End Date: FCC22.917 7-Oct-05 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		dBuV	dBm	dBi	dBm	dBm or dBuV/m*	dB	
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*
V	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*
V	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:	IC ID:	1943A-IX325f	
Rugged Table	t PC with Sierra Wireless	Model:	IX325-AC580		





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §3	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 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		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*	
٧	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:	KBCIX325-AC580	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §3	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

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		CS	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*
٧	3	none	CH1013	1649.00	55.02	ΑV					84.4*	29.4*	PASS*
٧	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*
٧	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*
٧	3	none	CH1013	6595.67	50.86	PK*					84.4*	33.5*	PASS*
٧	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

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:	KBCIX325-AC580	IC ID:	1943A-IX325f						
Rugged Table	Model:	IX325-AC580									
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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:

ltronix

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		ပိဒ	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*
V	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*
٧	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

# 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:	KBCIX325-AC580	IC ID:	1943A-IX325f							
Rugged Table	t PC with Sierra Wireless	Dual-Band CDMA Modem	Model:	IX325-AC580								
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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*
٧	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*
٧	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:	KBCIX325-AC580	IC ID:	1943A-IX325f					
Rugged Tablet	PC with Sierra Wireles	s AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580					
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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.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:	Itror	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		ITRONIX <sup>®</sup>	
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Canada 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 s	*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*			

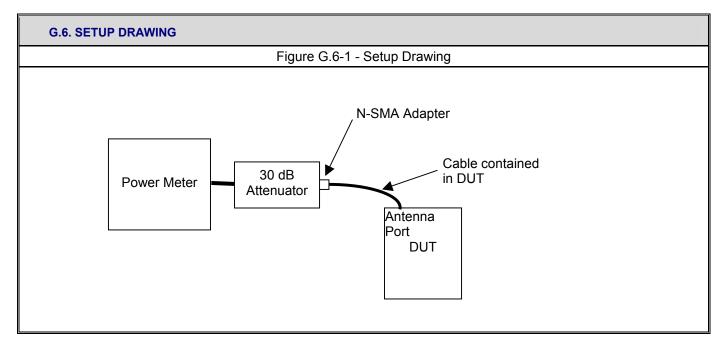
<sup>\*</sup>Attenuator offset in power meter

Applicant:	Itro	onix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		TDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325-AC580		ITRONIX <sup>®</sup>
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §24E Indu		Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	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:	KBCIX325-AC580	IC ID:	1943A-IX325f		DOBILY:
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580		RONIX.
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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	

G.8. TEST RESULTS						
Mode	Channel	Frequency	Conducte	ed Power		
Wode	Citatillei	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:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITPONIV*
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	(ITRONIX)
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Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada 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			

H	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

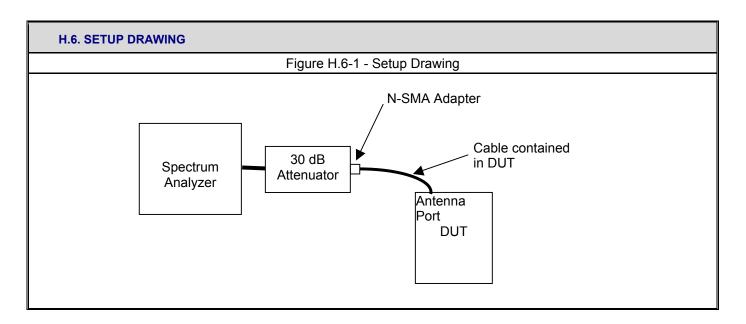
H.5. MEASUREMENT EQUIPMENT SETUP							
MEASUREMENT EQUIPMENT CONNECTIONS	he measurement equipment was connected as shown in H.6.						
	The spectrum analyzer was set to the following settings:						
	Frequency Range	RBW	VBW	Attenuator	Offset	Detector	
MEASUREMENT	MHz	kHz	MHz	dB	dB	Detector	
EQUIPMENT 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:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	(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



# 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:	KBCIX325-AC580	IC ID:	1943A-IX325f	() ITRONIX	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		KUNIX
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1850.56

-38.832

1.420

-1.523

-13.000

-14.523

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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

#### **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, 268 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 1852.5 1851 1851.5 1910.5 Frequency (MHz) 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:	KBCIX325-AC580	IC ID:	1943A-IX325f		TDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					IX325-AC580		ITRONIX <sup>®</sup>
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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		

# 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 Highest 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 at 3820.64 MHz with a level of -21.32 dBm 10.0 -30.01 — In Band + 1 MHz Area — Signal © Carrier Peak — Limit Line ◆ Peak Emission

		Peak Spurious Emission		Limit	Margin	Pass / Fail	
Channel	Frequency	Level	LIIIII	Margin			
		MHz	dBm	dBm	dB		
	25	1848.97	-30.78	-13.00	17.78	Pass	
	600	3763.20	-36.41	-13.00	23.41	Pass	
	1175	3820.64	-21.32	-13.00	8.32	Pass	

Applicant:	Itronix	Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITPONIV	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325-AC580		ITRONIX <sup>®</sup>
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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

	Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV:
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model:	IX325-AC580		ITRONIX <sup>®</sup>
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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		

# **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			

L	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

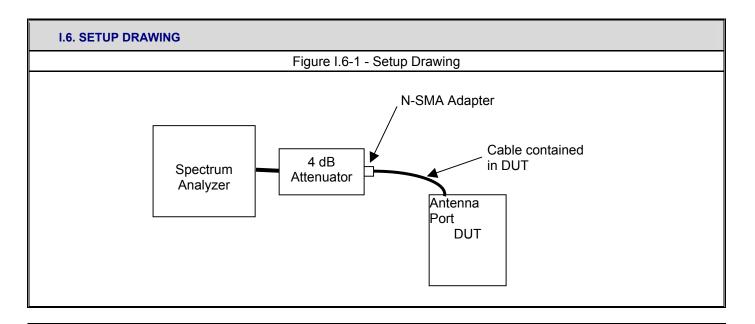
I.5. MEASUREMENT EQUIPMENT SETUP							
MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in I.6.						
	The spectrum analyzer was set to	the following settings:					
MEASUREMENT EQUIPMENT	Frequency Range	RBW	VBW	Detector			
SETTINGS	MHz	kHz	MHz	Detector			
	30 MHz - 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:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ITDONIV*
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	ITRONIX*
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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	



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

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

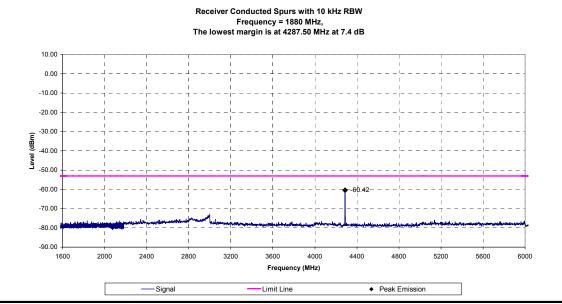
	Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		TDONIV.	
ĺ	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem					Model: IX325-AC580		ITRONIX'	
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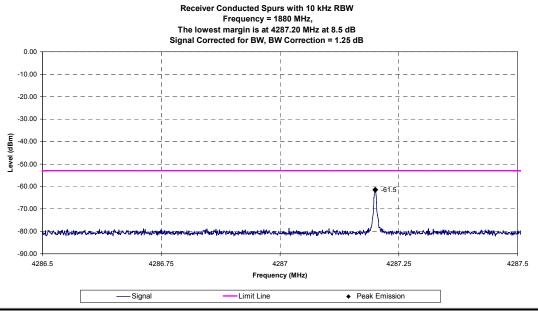


Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §24E		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #3874		



# 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:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		TDONIN
	Rugged Tablet	t PC with Sierra Wireles	s AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580	<b>ITRONIX</b>	
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §2		Industry Canada RSS-132/13	
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada 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



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Test Standard(s):	FCC 47 CFR §2, §22H, §24I		Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada 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	<b>EQUIPMENT</b>
-----------	------------------

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*

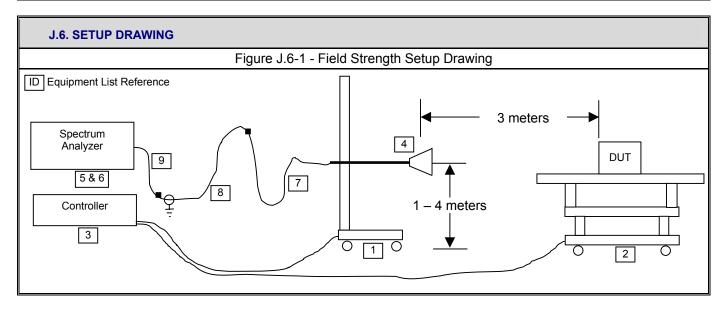
<sup>\*</sup>Attenuation offset in power meter setup

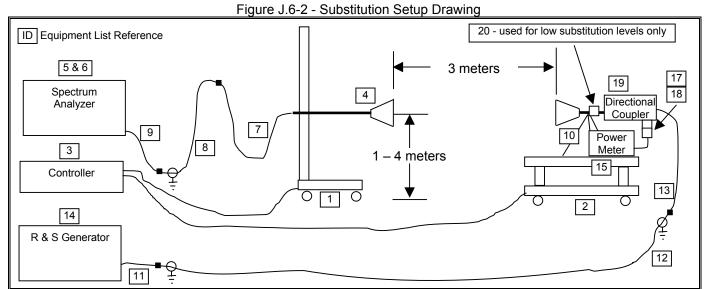
Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIY		
Rugged Tablet I	PC with Sierra Wireless	Model:	IX325-AC580	(ITRONIX)				
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Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148	30	Industry Cana	ada Lab File #3874

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





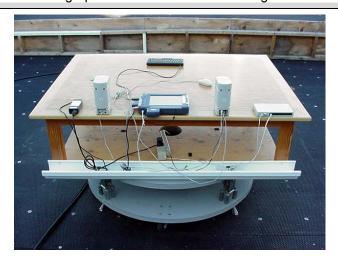
Applicant:	Itroni	nix Corporation FCC ID: KBCIX325-AC580 IC ID: 1943A-IX325f						TDONIV.
Rugged Table	et PC with	h Sierra Wireless	Model: IX325-AC580			ITRONIX <sup>®</sup>		
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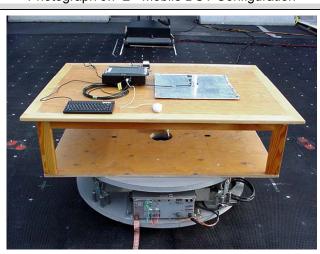
Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
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Lab Registration(s):	FCC Registration #7148	30	Industry Can	ada Lab File #3874	

# 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:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDANIV'
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580		ITRONIX <sup>®</sup>	
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Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	830 Industry Canada Lab File #3874			

# J.9. TEST RESULTS

J.9.1. Portable

Celltech

Project Number: 672 Itronix Company:

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

FCC24.232b 25-Oct-05

8-Dec-05

X325 portable w/ AC580 Face	e up - Hpol Antenr	na 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	rier Level	EIRP	Limit	Margin	Pass/Fail
	m		3	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 Itronix Company:

Product: IX325 Portable w/ AC580 Mobile Standard:

FCC24.232b

Test Start Date: 31-Oct-05 Test End Date: 8-Dec-05

	IX325 with AC580 - mobile Carrier Power Levels														
< т < т > п	Distance	Substitution Antenna Type	Carrier Channel	Frequency	Corrected Field Strength	Detector	Substituted SA Signal Level (uncorrected)	Power Applied to Antenna	Antenna Gain	EIRP Ca	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	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDANIV'		
	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325-AC580		ITRONIX*		
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Canada RSS-132/133		
Lab Registration(s):	FCC Registration #7148	830 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

Spenier Watson

Celltech Labs Inc.

8Dec05

Date

l	Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV.
	Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580		ITRONIX <sup>®</sup>		
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 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	

# **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				

K.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	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:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITDONIV.
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem N						IX325-AC580		ITRONIX <sup>®</sup>
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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		

	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	none	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 analyzer 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:	KBCIX325-AC580	IC ID:	1943A-IX325f	A ITPONIV	
Rugged Table	t PC with Sierra Wireless	Model:	IX325-AC580	(ITRONIX)			
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Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 2006	
Test Standard(s):	FCC 47 CFR §2, §22H, §	24E	Industry Canada RSS-132/13		
Lab Registration(s):	FCC Registration #714830		Industry Canada Lab File #3874		

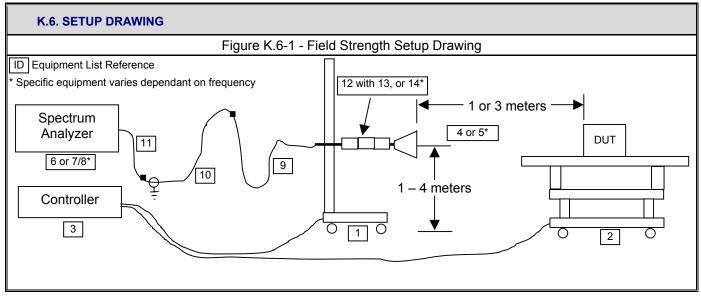
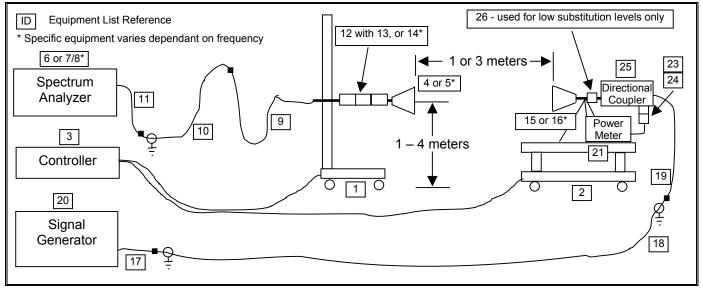


Figure K.6-2 - Signal Substitution Setup Drawing



Applicant:	Itronix Corporation	FCC ID:	FCC ID: KBCIX325-AC580		1943A-IX325f	@ITPONIV*	
Rugged Tablet	PC with Sierra Wireless	Model:	IX325-AC580	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 #714830		Industry Can	ada Lab File #3874

# **K.7. SETUP PHOTOGRAPHS**

Photograph K.7-1 - Portable DUT Configuration



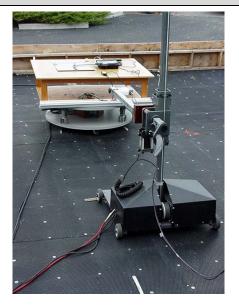
Photograph K.7-2 - Mobile DUT Configuration



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







# **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:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV.	
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem						IX325-AC580		ITRONIX*	
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Test Date(s):	07Oct05 - 10Dec05	Report Issue Date:		February 1, 2006
Test Standard(s):	FCC 47 CFR §2, §22H, §3	24E	Industry Car	nada RSS-132/133
Lab Registration(s):	FCC Registration #7148			ada Lab File #3874

# **K.9. TEST RESULTS**

K.9.1. Spurious Emissions - Portable

Channel 25

Celltech

Project Number: Company: Product:

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	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	
٧	3	none	CH25	3701.88	54.30	ΑV					82.2*	27.9*	PASS*	
٧	3	none	CH25	5290.00	61.65	PK*					82.2*	20.6*	PASS*	
٧	3	none	CH25	5554.54	57.88	PK*					82.2*	24.4*	PASS*	
٧	1	none	CH25	7406.05	69.23	PK*					91.8*	22.5*	PASS*	
٧	1	none	CH25	9255.20	58.05	PK*					91.8*	33.7*	PASS*	
٧	1	none	CH25	11108.00	55.66	PK*					91.8*	36.1*	PASS*	
٧	1	none	CH25	12957.40	61.48	PK*					91.8*	30.3*	PASS*	
٧	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:	KBCIX325-AC580	IC ID:	1943A-IX325f	6
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580	W.





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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

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	5 por	table w/ AC580 I	ace up - Hpol 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	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*
V	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*
٧	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*
٧	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*
V	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

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:	KBCIX325-AC580	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580





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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

Celltech

Project Number: Company:

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

					IX32!	5 por	table w/ AC580 I	Face up - Hpol 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	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	ΑV					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	ΑV					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	ΑV					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	ΑV					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
٧	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*
٧	1	none	CH1175	13363.05	79.83	PK*					91.8*	11.9*	PASS*
٧	1	none	CH1175	13361.20	65.73	ΑV					91.8*	26.0*	PASS*
V	1	none	CH1175	15271.55	64.16	PK*					91.8*	27.6*	PASS*
٧	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:	KBCIX325-AC580	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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		

# 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	AV					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	AV					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	AV					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

## 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	KBCIX325-AC580	IC ID:	1943A-IX325f	
Rugged Table	t PC with Sierra Wireless	Model:	IX325-AC580		





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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			

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		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:	KBCIX325-AC580	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	AirCard 580	Dual-Band CDMA Modem	Model:	IX325-AC580





Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0		
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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			

Celltech

Project Number: Company: 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	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:	KBCIX325-AC580	IC ID:	1943A-IX325f
Rugged Table	t PC with Sierra Wireless	Model:	IX325-AC580		





Test Report Serial No.:	100305KBC-T672-E24C	Report Issue No.:		E672C-020106-R0		
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Test Standard(s):	FCC 47 CFR §2, §22H, §2	24E	Industry Canada RSS-132/133			
Lab Registration(s):	FCC Registration #7148	Industry Canada 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

Spenier Walson

Celltech Labs Inc.

31Oct05

Date

	Applicant:	Itro	nix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f		ITPONIV:
Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem M							IX325-AC580		ITRONIX <sup>®</sup>
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Test Report Serial No.:	100305KBC-T672-E24C	Rep	ort Issue No.:	E672C-020106-R0	
Test Date(s):	07Oct05 - 10Dec05	Rep	ort Issue Date:	February 1, 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			

# **END OF DOCUMENT**

	Applicant:	Itronix Corporation	FCC ID:	KBCIX325-AC580	IC ID:	1943A-IX325f	@ ITDONIV	
ĺ	Rugged Tablet PC with Sierra Wireless AirCard 580 Dual-Band CDMA Modem				Model:	IX325-AC580	(ITRONIX)	
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