

	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

FCC Class II Permissive Change

EMC TEST REPORT

FOR THE

ITRONIX RUGGED LAPTOP PC MODEL: IX260PLUSNL305

INCLUDING THE

SENAO NL-3054MP 802.11B/G 2.4 GHz DSSS WLAN MINI-PCI CARD

WITH

ITRONIX IX260+ 3" SWIVEL DIPOLE ANTENNA

AND

MAXRAD 46-0107-001, 46-0107-002 VEHICLE-MOUNT ANTENNAS

WITH

VEHICLE CRADLE

FCC ID: KBCIX260PLUSNL305

IC: 1943A-IX260Pa

Test Report Serial Number

**061405KBC-T648-E15W
Issue 1.0**

Test Report Issue Date

September 20, 2005

Test Lab

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

 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
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DECLARATION OF COMPLIANCE

<u>Test Lab</u>		CELLTECH LABS INC. Testing and Engineering Services 1955 Moss Court Kelowna, B.C. Canada V1Y 9L3 Phone: 250-448-7047 Fax: 250-448-7048 e-mail: info@celltechlabs.com web site: www.celltechlabs.com		<u>Applicant</u>		ITRONIX CORPORATION 801 South Stevens Street Spokane, WA 99204 United States	
<u>Lab Registration No.(s):</u>		FCC:	714830	IC:	IC 3874		
<u>Rule Part(s):</u>		FCC:	§15.247; §2.1091; §1.1310			Class II Permissive Change	
<u>Device Classification:</u>		FCC:	Digital Transmission System (DTS)		IC:	Low-power Licence-exempt Radio	
<u>Device Identification:</u>		FCC ID:	KBCIX260PLUSNL305			IC:	1943A-IX260Pa
<u>DUT Description:</u>							
Model:		IX260PLUSNL305					
Device Description:		Rugged Laptop PC with (3) External Antennas and Vehicle Cradle					
Internal Transmitter:		Senao NL3054MP 802.11b/g 2.4 GHz DSSS WLAN Mini-PCI Card					
Tx Frequency Range:		2412 - 2462 MHz					
Max. RF Output Power: (Measured & Tested)		0.059 Watts - 17.7 dBm - 802.11b 0.102 Watts - 20.1 dBm - 802.11g					
Modulation Type(s):		802.11b: DSSS (DBPSK, DQPSK, CCK)			802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)		
Antenna Type(s) Tested (Class II Perm. Change):		Itronix P/N: 47-0118-003 3" External Lid-Mounted Swivel Dipole Antenna (+1.5 dBi Gain) Itronix P/N: 46-0107-001 5.25" Vehicle-Mount Monopole antenna (+3 dBi Gain) Itronix P/N: 46-0107-002 7.5" Vehicle-Mount Monopole antenna (+5 dBi Gain)					
Power Source(s):		Stationary: 90 Watt AC Power Adapter (Model: ADP-90AB)					
		Mobile: 11.1 V Lithium-ion Battery, 6.0 Ah (Model: A2121-2)					
		Vehicle: 12 V Vehicle Battery (for Vehicle Cradle)					

This wireless mobile 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 Part 15C and Industry Canada RSS-210 Issue 5.

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.

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	Russell Pipe Senior Compliance Technologist Celltech Labs Inc.		
	Alex Yuan EMC Technologist Celltech Labs Inc.		
	Duane M. Friesen, C.E.T. EMC Manager Celltech Labs Inc.		

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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TEST SUMMARY						
Appendix	Test Description	Procedure Reference	Limit Reference	Test Start Date	Test End Date	Result
Referenced Standard: FCC CFR Title 47 Part 15						
B	6 dB Bandwidth	FCC Doc. No. 558074	§15.247(2)	17Jun05	17Jun05	Pass
C	Peak Conducted Power	FCC Doc. No. 558074	§15.247 (b) (3)	17Jun05	17Jun05	Pass
D	Conducted TX Spurious Emissions at the Antenna Port	FCC 97-114	§15.247(c)	15Jun05	15Jun05	Pass
E	Radiated Spurious Emissions	FCC 97-114	§15.247(c)	28Jun05	17Jul05	Pass
F	Restricted Band Emissions	FCC 97-114	§15.205 (a), (b) §15.209 (a)	28Jun05	17Jul05	Pass
G	Peak Power Spectral Density	FCC Doc. No. 558074	§15.247(d)	20Jul05	20Jul05	Pass
H	Powerline Conducted Emissions	ANSI C63.4	§15.207	15Jul05	15Jul05	Pass
I	Maximum Permissible Exposure	FCC CFR 47 § 2.1091 IEEE Std C95.1-1992	§1.1310 Table 1 (b)	4Aug05	4Aug05	Pass
Referenced Standard: IC RSS-210 Issue 5						
B	6 dB Bandwidth	RSS-210 § 10	RSS-210 A1 §(l)(iv)	17Jun05	17Jun05	Pass
C	Peak Conducted Power	RSS-210 § 10	RSS-210 A1 §(l)(iv) RSS-210 §6.2.2 (o)(b)	17Jun05	17Jun05	Pass
D	Conducted TX Spurious Emissions at the Antenna Port	RSS-212, ANSI C63.4	RSS-210 §6.2.2 (o)(e1)	15Jun05	15Jun05	Pass
E	Radiated Spurious Emissions	RSS-212, ANSI C63.4	RSS-210 §6.2.2 (o)(e1)	28Jun05	17Jul05	Pass
F	Restricted Band Emissions	RSS-212, ANSI C63.4	RSS-210 §6.3	28Jun05	17Jul05	Pass
G	Peak Power Spectral Density	RSS-210 § 10	RSS-210 §6.2.2 (o)(b)	20Jul05	20Jul05	Pass
H	Powerline Conducted Emissions	RSS-212, ANSI C63.4	RSS-210 §6.6	15Jul05	15Jul05	Pass
I	Maximum Permissible Exposure	RSS-102	RSS-210 §14 Safety Code 6 2.2.1(a) Table 5	4Aug05	4Aug05	Pass
J	Conducted RX Spurious Emissions	RSS-210 § 7.2	RSS-210 § 7.2	15Jun05	15Jun05	Pass

REVISION LOG

Issue	Description	Implemented By	Implementation Date
1.0	Initial Release	Jon Hughes	20Sept05

SIGNATORIES

Prepared By		September 20, 2005
Name/Title	Duane M. Friesen, C.E.T. / EMC Manager	Date
Reviewed By		September 20, 2005
Name/Title	Jon Hughes / General Manager	Date

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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1.0 SCOPE

This report outlines the measurements made and results collected during the electromagnetic emissions testing of the Itronix Corporation Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g 2.4 GHz DSSS WLAN Mini-PCI Card. The Class II Permissive Change(s) are the addition of an external lid-mounted swivel dipole antenna and two vehicle-mount antennas with vehicle cradle. The results were applied against the EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communication Commission Code of Federal Regulations Title 47 Part 15 Subpart C and Industry Canada RSS-210 Issue 5.

2.0 REFERENCES

2.1 Normative References

ANSI/ISO 17025:1999	General Requirements for competence of testing and calibration laboratories
IEEE/ANSI C63.4-2003	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
IEEE/ANSI Std C95.1-1999	American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields
CFR Title 47 Part 2:2004	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
CFR Title 47 Part 15:2004	Code of Federal Regulations Title 47: Telecommunication Part 15: Radio Frequency Devices
FCC Knowledge Database Pub. 558074 (May 10, 2005)	
IC Spectrum Management & Telecommunications Policy	Radio Standards Specification RSS-212 Issue 1 (Provisional) - Test Facilities & Test Methods for Radio Equipment RSS-210 Issue 5 - Low Power Licence-Exempt Radiocommunication Devices: Amendment November 30, 2002 RSS-102 Issue 1 (Provisional) - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
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TERMS AND DEFINITIONS

AVG	Average
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
EMC	Electromagnetic Compatibility
FCC	Federal Communication Commission
HP	Hewlett Packard
HPF	High Pass Filter
Hpol	Horizontal Polarization
IC	Industry Canada
kHz	kilohertz
LNA	Low Noise Amplifier
m	meter
MHz	Megahertz
Mbps	megabits per second
na	not applicable
n/a	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

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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3.0 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 are listed with the FCC under Registration Number 714830 and Industry Canada under File Number IC 3874.

4.0 GENERAL INFORMATION

4.1 Applicant Information

Company Name:	Itronix Corporation
Address:	801 South Stevens Street
	Spokane, WA 99204
	United States

4.2 DUT Description

The DUT consisted of the IX260+ Rugged Laptop PC with Senao NL3054MP 802.11b/g 2.4 GHz DSSS WLAN Mini-PCI Card installed in the Mini-PCI slot, and three antenna configurations. The external lid-mounted swivel dipole antenna configuration is utilized when the DUT is in the stationary or mobile configuration. The two vehicle-mount antennas are utilized when the DUT is mounted in the vehicle cradle (swivel dipole disconnected automatically). For all configurations, the diversity (receive only) port on the card was connected to an internal antenna mounted within the LCD display portion of the DUT. Photographs of the DUT placement and construction are shown in Appendix A.

Device:	Rugged Laptop PC			
Model:	IX260PLUSNL305			
Serial Number:	ZZGEG5124ZZ4938			
Identifier(s):	FCC ID:	KBCIX260PLUSNL305	IC ID:	1943A-IX260Pa
Power Source(s)*:	Stationary: Delta Electronics Model ADP-90AB Rev B 90 Watt AC-DC power supply			
	Mobile: 11.1 V Lithium-ion Battery, 6.0 Ah (Model: A2121-2)			
	Vehicle: 12 V Vehicle Battery (for Vehicle Cradle)			

*AC power attached for all swivel dipole & conducted testing.

Vehicle battery (with charger) attached to cradle for vehicle-mount antenna testing.

Device:	2.4GHz DSSS WLAN Mini-PCI Card (802.11b/g)			
Model:	Senao NL3054MP PLUS ARIES (F) 1.00			
Serial Number:	054219473			
Rule Part(s):	FCC:	§15.247; §2.1091; §1.1310	IC:	RSS-210 Issue 5 - A1. 11/30/02
Classification:	FCC:	Digital Transmission System (DTS)	IC:	Low Power Licence-Exempt Transmitter
Power Source:	Powered from the internal PC power supply			

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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Device:	Attached External lid-mounted 3-inch Swivel Dipole Antenna (Transmit and Receive)
Model:	Itronix P/N: 47-0118-003
Gain:	+1.5 dBi

Device:	Auxiliary Internal Surface-Mount Antenna (diversity antenna for Receive only)
Model:	RangeStar P/N: 100929
Gain:	+4.5 dBi

Device:	Vehicle-mount 5.25" loaded Monopole Antenna
Model:	Itronix P/N: 46-0107-001
Gain:	+3 dBi

Device:	Vehicle-mount 7.5" loaded Monopole Antenna
Model:	Itronix P/N: 46-0107-002
Gain:	+5 dBi

Device:	Vehicle Magnetic antenna mounting base (17' LMR-195 cable terminated w/ FME-SMA adapter)
Part Number:	46-0103-001
Loss:	3.2 dB

Device:	IX260+ Vehicle Cradle
Part Number:	60-0103-001
Serial Number:	ZZABQ1288ZZ0006

4.3 Co-Located Equipment

Device:	GPS Receiver Module
Model:	Leadtek P/N GPS9547

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4.4 Cable Descriptions

ROUTING		Length	Model	Terminations		Shield Type	Shield Termination		Suppression
From	To	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 100BT port	Router	1.0	n/a	RJ-45	RJ-45	None	na	na	None

4.5 Support Equipment

The following equipment was used in support of the DUT.

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
HP	DA4950-63001	Keyboard
Logitech	M-BA47	Mouse

4.6 Clock Frequencies

4.6.1 DUT Clock Frequencies

Device:	Rugged Laptop PC
Clocks:	1.6 GHz processor
Name:	2.4GHz DSSS WLAN Mini-PCI Card
Clocks:	n/a
Name:	Internal Surface-Mount Antenna (WLAN Rx only)
Clocks:	None

4.6.2 Co-Located Clock Frequencies

Device:	Peripherals
Clocks:	n/a

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4.7 Mode(s) of Operation Tested

Customer supplied software was used to place the WLAN card in the appropriate mode, channel, and power level for the specific measurement.

TX Frequency Range:	2412 - 2462 MHz Ch. 1 (2412 MHz), Ch. 6 (2437 MHz) & Ch. 11 (2462 MHz) measured unless otherwise noted		
Software Power Gain Settings:	802.11b set to 16.5, 6 (Ch. 1, Ch. 6 & Ch. 11) 802.11g set to 16.5, 0 (Ch. 1) 16.0, 0 (Ch. 6 & Ch. 11) (x, y setting x = power setting y = xpd_ gain setting)		
RF Peak Conducted Output Power Tested:	802.11b 2412 MHz(1 Mbps) = 17.47 dBm 802.11b 2437 MHz(1 Mbps) = 17.70 dBm 802.11b 2462 MHz(1 Mbps) = 17.59 dBm	802.11g 2412 MHz(6 Mbps) = 20.10 dBm 802.11g 2437 MHz(6 Mbps) = 19.64 dBm 802.11g 2462 MHz(6 Mbps) = 19.04 dBm	
Modes / Data Rates Tested*:	802.11b (1, 5.5, 11 Mbps checked in prescan) (1 Mbps long determined to be worst-case and used unless otherwise noted)		
	802.11g (6, 36, 54 Mbps checked in prescan) (6 Mbps determined to be worst-case and used unless otherwise noted)		
Modulation Type(s):	802.11b: DSSS (DBPSK, DQPSK, CCK)		
	802.11g: OFDM (64-QAM, 16-QAM, QPSK, BPSK)		

* Turbo mode available at module level but not enabled when installed in DUT

4.7.1 DUT Exercising Software Description

The DUT was configured and exercised using customer supplied test software that allowed an operator to set the parameters of the WLAN operation. The settings used are described in each appendix. Unless otherwise noted the power gain settings were set as described in section 4.7 with the worst-case data rate as described in the same section.

4.8 Configuration Description

The DUT was configured, as described by the client as being representative of what would be delivered to a final customer. For measurement of the carrier radiated powers, this configuration included the WLAN and each antenna as described in section 4.2, installed in a typical manner. Prescan evaluations indicated that the highest carrier measured for the swivel dipole configuration was when it was rotated to a horizontal position pointing back from the LCD display. This was the configuration used when measuring the radiated carrier levels for this antenna. For the conducted measurements, the test instrumentation was connected to the RF ports of the WLAN card. During radiated spurious measurements, the antennas were replaced with 50-ohm loads. More specific details may be included in each appendix.

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4.8.1 Configuration Justification

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

Prescan measurements were made with the WLAN in each of the two available modes (b & g), lowest and highest bit rates and each of the lowest, highest and mid-band frequencies. From this preliminary data, it was determined that Mode b Rate 1 Mbps resulted in the highest spurious emissions. When a measurement of Mode g was required, its data rate was set for a worst-case setting of 6 Mbps. Since the conducted spurious emissions at the antenna port were reported and showed no spurious emissions at the antenna port, a 50-ohm termination was used during radiated spurious testing, to enable better measurement sensitivity and to keep the EUT from responding to ambient signals. With the termination replacing the antenna, both of the vehicle-mount antenna configurations were identical, so only one setup was used to represent these configurations. Unless otherwise specified in the applicable appendices, these settings were used for the measurements described in this report.

5.0 PASS/FAIL CRITERIA

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

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

APPENDICES

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

Appendix A - DUT Photographs

Photograph A-1 - Front of Open IX260+ Laptop PC 	Photograph A-2 - Right Side of Open IX260+ Laptop PC 
Photograph A-3 - Front of Open IX260+ Laptop PC in Vehicle Cradle with 7.5" Monopole Vehicle Antenna 	Photograph A-4 - Back of Open IX260+ Laptop PC in Vehicle Cradle with 5.25" Monopole Vehicle Antenna 

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
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Photograph A-5 - Bottom of IX260+ Laptop PC with bottom panel removed to show WLAN card placement



Photograph A-6 - Senao NL-3054MP Mini-PCI WLAN Card



Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

Appendix B - 6 dB Bandwidth Measurement

B.1. REFERENCES	
Normative Reference Standard	FCC CFR 47 §15.247 (2)
Procedure Reference	FCC Document KDB Publication Number 558074

B.2. LIMITS	
B.2.1. FCC CFR 47	
FCC CFR 47 §15.247	(2) Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz

B.3. ENVIRONMENTAL CONDITIONS	
Temperature	25 +/- 2 °C
Humidity	35 +/- 2 %
Barometric Pressure	96 kPa

B.4. EQUIPMENT LIST					
ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06
00075	Alpha Wire-J	9223	1ft. RG223/U RF Cable	08Jul04*	08Dec05
00076	Pasternack	PE7014-30	30dB 2 Watt Attenuator	01Nov04*	01Nov05

*Cable and attenuator verified with power meter prior to use

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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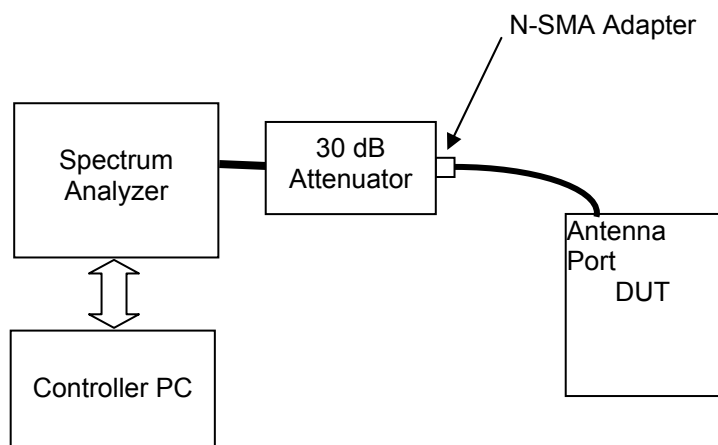
 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

B.5. MEASUREMENT EQUIPMENT SETUP

Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in B.6.
Measurement Equipment Settings	To evaluate the occupied bandwidth, software and a PC controller were used to set the spectrum analyzer using the following setting: RBW – 100 kHz VBW – 100kHz Span – 50 MHz Detector – Sample Average – Power Average Count – 100 Offset – appropriate for external attenuation (-31.4 dB)

B.6. SETUP DRAWING

Figure B.6-1 - Setup Drawing



B.7. DUT OPERATING DESCRIPTION

The worst-case data rate was determined from prescan investigations. Measurements were made at three channels throughout the band, Low Channel (2412 MHz), Mid Channel (2437 MHz), High Channel (2462 MHz) for both Modes b and g.

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
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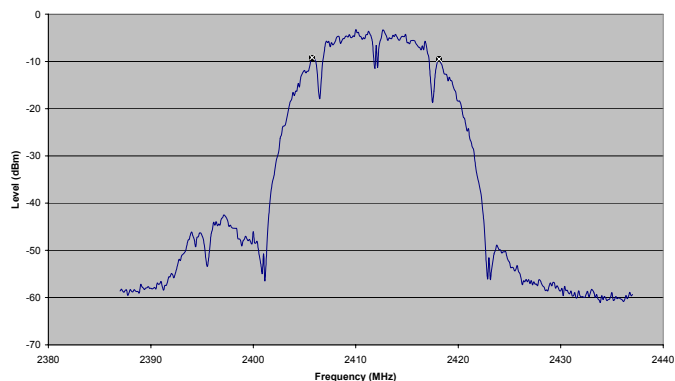
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	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

B.8. TEST RESULTS

B.8.1. Mode b Occupied Bandwidth

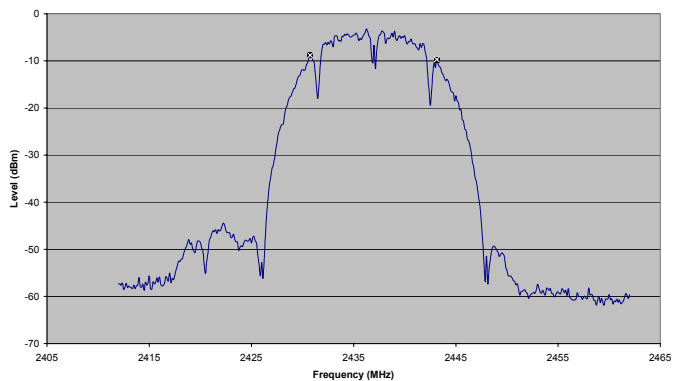
Channel 1

Senao b/g Card: Occupied Bandwidth
Frequency = 2412 MHz, Mode b, -6 dB OBW = 12.38 MHz with a RBW of 100 kHz
Setting: P = 17.0 / 6, Tx = 1 Mbps, Gainf = 42



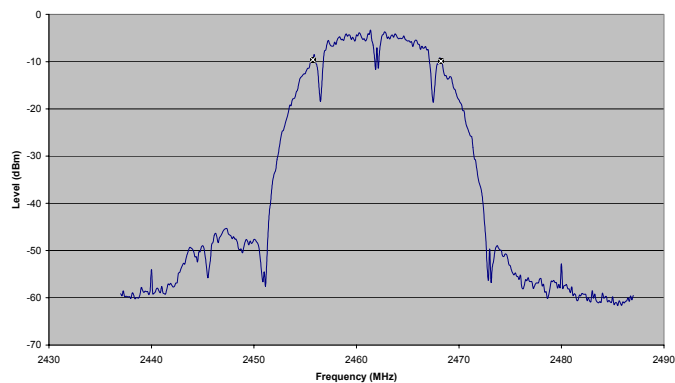
Channel 6

Senao b/g Card: Occupied Bandwidth
Frequency = 2437 MHz, Mode b, -6 dB OBW = 12.38 MHz with a RBW of 100 kHz
Setting: P = 17.0 / 6, Tx = 1 Mbps, Gainf = 45-47



Channel 11

Senao b/g Card: Occupied Bandwidth
Frequency = 2462 MHz, Mode b, -6 dB OBW = 12.50 MHz with a RBW of 100 kHz
Setting: P = 17.0 / 6, Tx = 1 Mbps, Gainf = 53



Channel	Channel Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass/Fail
1	2412	12.38	0.5	PASS
6	2437	12.63	0.5	PASS
11	2462	12.50	0.5	PASS

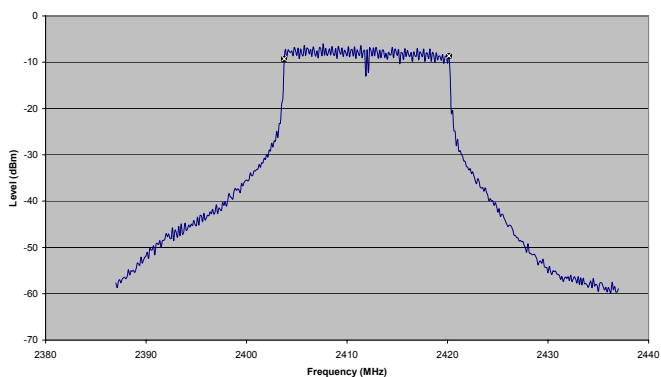
Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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B.8.2. Mode g Occupied Bandwidth

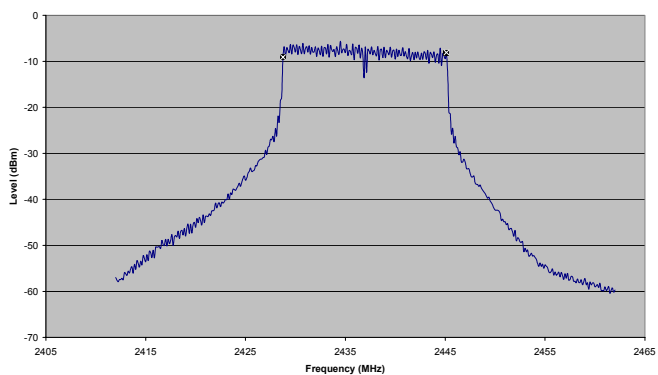
Channel 1

Senao b/g Card: Occupied Bandwidth
Frequency = 2412 MHz, Mode g, -6 dB OBW = 16.37 MHz with a RBW of 100 kHz
Setting: P = 18.0 / 12, Tx = 6 Mbps, Gainf = 40



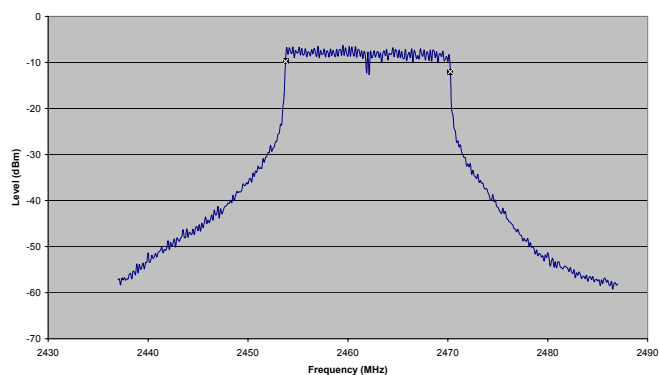
Channel 6

Senao b/g Card: Occupied Bandwidth
Frequency = 2437 MHz, Mode g, -6 dB OBW = 16.38 MHz with a RBW of 100 kHz
Setting: P = 18.0 / 12, Tx = 6 Mbps, Gainf = 46



Channel 11

Senao b/g Card: Occupied Bandwidth
Frequency = 2462 MHz, Mode g, -6 dB OBW = 16.50 MHz with a RBW of 100 kHz
Setting: P = 18.0 / 12, Tx = 6 Mbps, Gainf = 43-45



Channel	Channel Frequency	6 dB Bandwidth	Minimum Limit	Pass/Fail
	(MHz)	(MHz)	(MHz)	
1	2412	16.37	0.5	PASS
6	2437	16.38	0.5	PASS
11	2462	16.50	0.5	PASS

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
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	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

B.9. PASS/FAIL

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

FCC 15.247 (2): The 6 dB bandwidth as measured meets the minimum 500 kHz bandwidth requirement.

The minimum 6 dB bandwidth measured for Mode b was 12.38 MHz and for Mode g was 16.37 MHz.

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.



Alex Yuan.
EMC Technologist
Celltech Labs Inc.

17Jun05

Date

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

Appendix C - Conducted Power Measurement

C.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §15.247(b) (3)
Procedure Reference	FCC Document KDB Publication Number 558074

C.2. LIMITS

C.2.1. FCC CFR

§15.247(b): The maximum peak output power of the intentional radiator shall not exceed the following:

§15.247(b) (3) For system using digital modulation in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands: 1 Watt.

C.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 2 °C
Humidity	35 +/- 2 %
Barometric Pressure	96 kPa

C.4. EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	29Jan06
00075	Alpha Wire-J	9223	1ft. RG223/U RF Cable	08Jul04*	08Dec05
00076	Pasternack	PE7014-30	30dB 2 Watt Attenuator	01Nov04*	01Nov05

*Cable and attenuator verified with power meter prior to use

C.5. MEASUREMENT EQUIPMENT SETUP

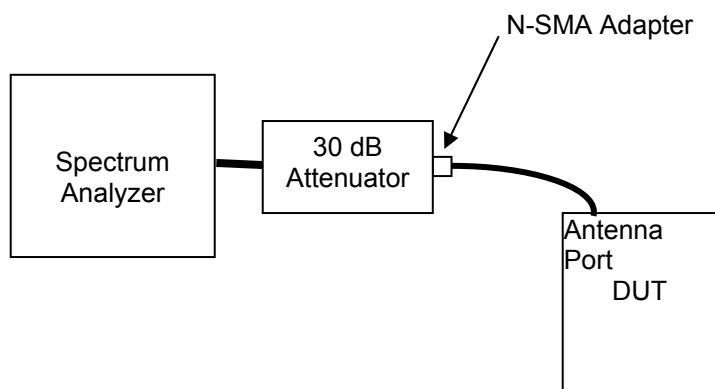
Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in C.6.
Measurement Equipment Settings	To evaluate the maximum peak power, the 26 dB bandwidth needs to be determined. This is performed with the spectrum analyzer using the following setting: RBW – 300 kHz VBW – 1MHz Span – 50 MHz Detector – Peak Average – Power Trace Average – 100 Once the 26 dB bandwidth is determined, the channel power is measured within the band with the following spectrum analyzer settings: RBW – 1 MHz VBW – 3 MHz Detector – Peak Average – Power Integrate BW – equal to specific -26 dB EBW

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

C.6. SETUP DRAWING

Figure C.6-1 - Setup Drawing



C.7. DUT OPERATING DESCRIPTION

The worst-case data rate was determined from prescan investigations. Measurements were made at three channels throughout the band, Low Channel (2412 MHz), Mid Channel (2437 MHz), High Channel (2462 MHz) for both Modes b and g. The measurements were made for both the lowest and highest data rate available for the mode.

C.8. TEST RESULTS

Channel	Frequency	802.11b					802.11g				
		Data Rate	Peak Conducted Power*		Limit	-26 dB EBW	Data Rate	Peak Conducted Power*		Limit	-26 dB EBW
	MHz	Mb/s	dBm	Watts	Watts	MHz	Mb/s	dBm	Watts	Watts	MHz
Low	2412	1	17.47	0.0558	1	19.75	6	20.10	0.1023	1	21.88
Mid	2437	1	17.70	0.0589	1	19.63	6	19.64	0.0920	1	21.25
High	2462	1	17.59	0.0574	1	19.75	6	19.04	0.0802	1	21.63

*Maximum RMS power (integrated channel power measured using Option 2 Method 1 per FCC Document KDB Publication Number 558074).

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305		
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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

C.9. PASS/FAIL

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

FCC 15.247 (b) (3): The peak power did not exceed 1 Watt.

The maximum peak power measured for Mode b was 0.0589 watts, and for Mode g was 0.1023 watts.

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.



Alex Yuan
EMC Technologist
Celltech Labs Inc.

17Jun05
Date

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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Appendix D - Conducted TX Spurious Emissions Measurement

D.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §15.247(c), §15.205 (a) (b)*, FCC CFR 47 §15.209 (a)*
Procedure Reference	FCC 97-114

* Used a prescan check and justification

D.2. LIMITS

D.2.1. FCC CFR

- §15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below: (see Appendix F)
- (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions of 15.35 apply to these measurements.
- §15.209 (a) (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table: (see Appendix F)
- §15.247 (c): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in 15.209 (a) is not required.*.

*Conducted spurious measurements were made to justify the use of a 50-ohm antenna port termination while radiated spurious measurements were made.

D.3. ENVIRONMENTAL CONDITIONS

Temperature	25 +/- 2 °C
Humidity	35 +/- 2 %
Barometric Pressure	96 kPa

D.4. EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00015	Agilent	E4408B	Spectrum Analyzer	24Jan05	24Jan06
00075	Alpha Wire-J	9223	2ft. RG223/U RF Cable	08Jul04*	08Dec05
00076	Pasternack	PE7014-30	30dB 2 Watt Attenuator	01Nov04*	01Nov05

*Cable and attenuator verified with power meter prior to use

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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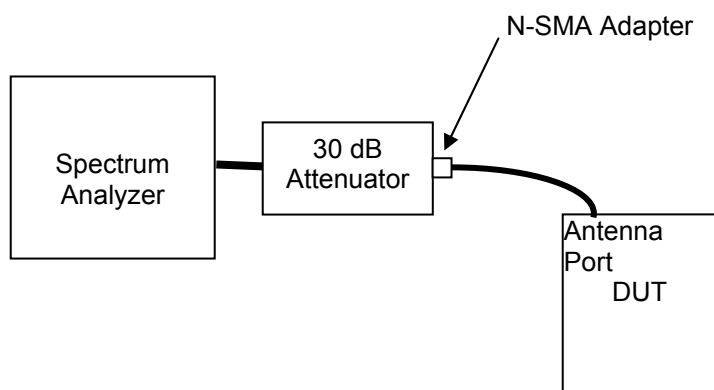
 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

D.5. MEASUREMENT EQUIPMENT SETUP

Measurement Equipment Connections	The equipment was connected as shown in the setup drawing in D.6.
Measurement Equipment Settings	To evaluate the conducted transmitter spurious emissions, the frequency band starting just below the carrier to just above the 10th harmonic is evaluated. The measurements are performed with the spectrum analyzer using the following setting: RBW – 1 MHz* VBW – 1MHz Detector – Peak Trace – Max Hold Software is used to control the analyzer settings and record/compile the data. The software divided the full band into two sub-bands 2 GHz – 3 GHz & 3GHz – 25 GHz. Each of these were further divided (the 2 - 3 GHz band into 5 equal parts and the 3 – 25 GHz band into 11 equal parts). * A worst-case 1 MHz RBW (vs. 100 kHz) was used so the data collected could be used in the prescan evaluation for restricted band emissions.

D.6. SETUP DRAWING

Figure D.6-1 - Setup Drawing



D.7. DUT OPERATING DESCRIPTION

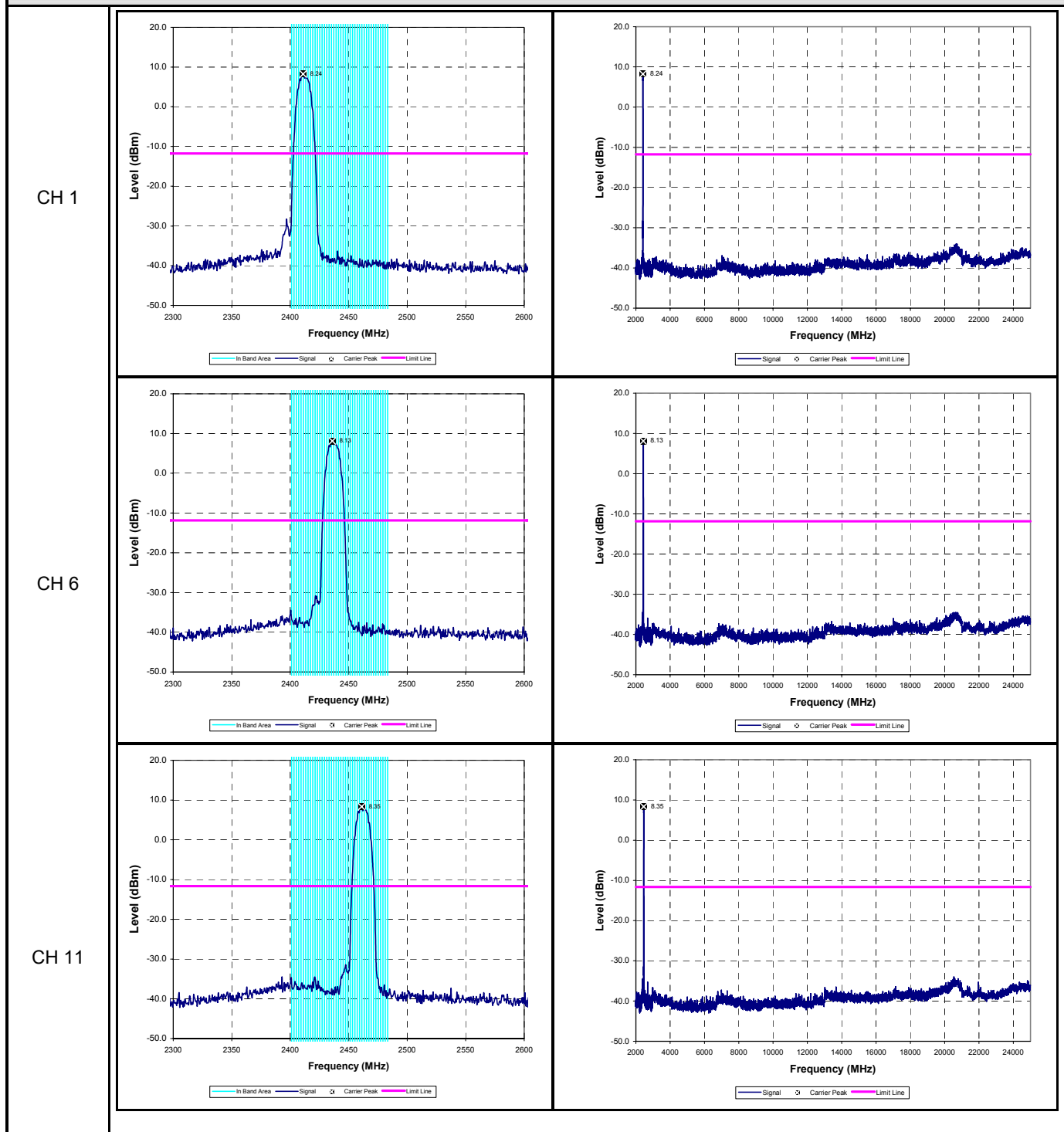
The worst-case data rate was determined from prescan investigations. Measurements were made at three channels throughout the band, Low Channel (2412 MHz), Mid Channel (2437 MHz), High Channel (2462 MHz) and for both Modes b and g.

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

D.8. TEST RESULTS

D.8.1. Mode b

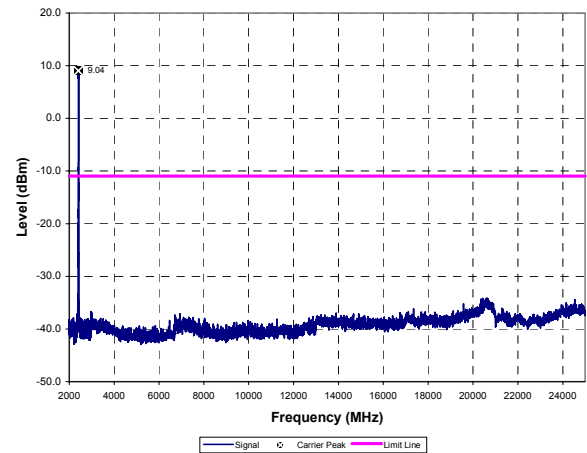
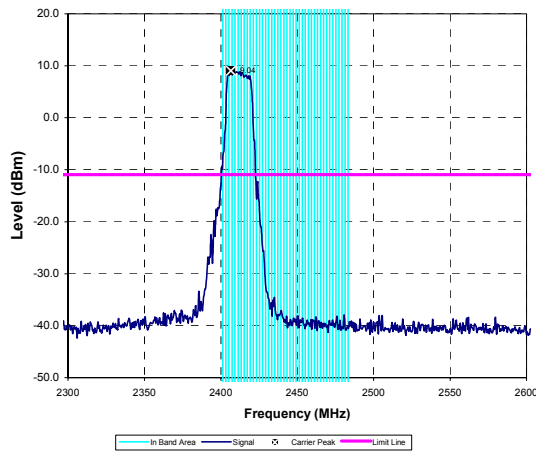


Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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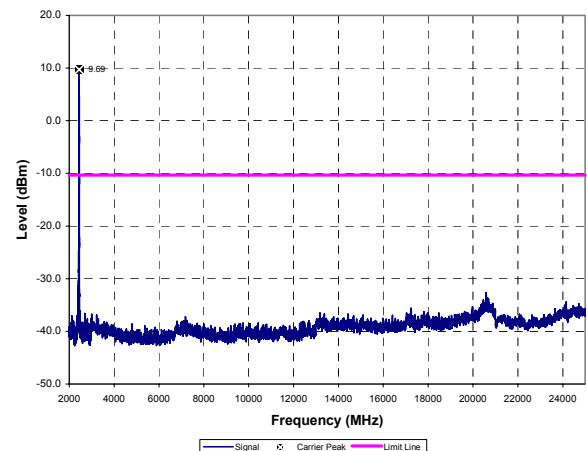
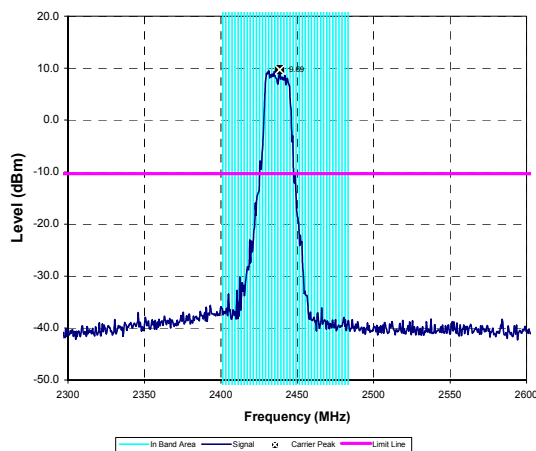
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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

D.8.2. Mode g

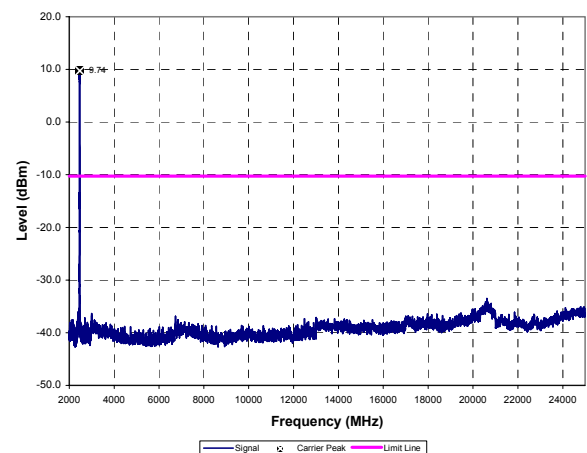
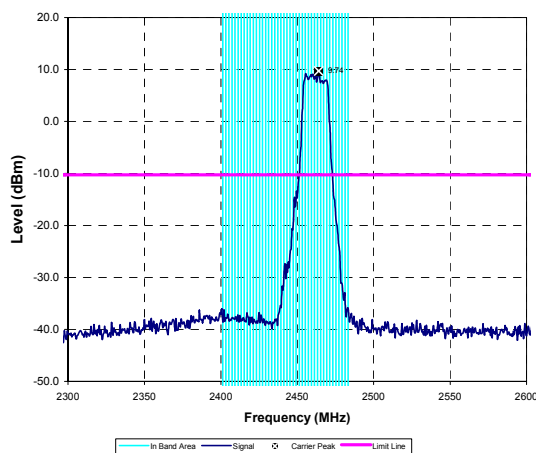
CH 1



CH 6



CH 11



Applicant: Itronix Corporation Model: IX260PLUSNL305 FCC ID: KBCIX260PLUSNL305

Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas



	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

D.9. PASS/FAIL

There is no specific reference limit for this measurement but the results are used to verify no emissions were emanating from the antenna port, thereby justifying placing a 50-ohm termination in place of the antennas.

In reference to the results outlined in D.8, the DUT passes the requirements as stated in the reference standards as follows:
FCC 15.247 (c): All emissions within any 100 kHz bandwidth outside the operating frequency band are greater than 20 dB below the maximum 100 kHz bandwidth signal within the operating band.

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.



Alex Yuan
EMC Technologist
Celltech Labs Inc.

15Jul05

Date

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
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Appendix E - Radiated TX Spurious Emissions Measurement

E.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §15.247(c)
Procedure Reference	ANSI C63.4; FCC 97-114

E.2. LIMITS

E.2.1. FCC CFR 47

§15.247 (c): In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in 15.209 (a) is not required.

Note: Spurious emissions within the restricted bands are reported in Appendix F.

E.3. ENVIRONMENTAL CONDITIONS

Temperature	27 +/- 2 °C
Humidity	33 +/- 2 %
Barometric Pressure	96 +/- 0.2 kPa

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	00035	ETS	3115	Double Ridged Guide Horn	24Mar04	24Mar06
5	00161/00166	Waveline	899/801-KF	Standard Gain Horn	na	na
6	00051	HP	8566B	Spectrum Analyzer RF Section	12Apr05	12Apr06
7	00049	HP	85650A	Quasi-Peak Adapter	13Apr05	13Apr06
8	00047	HP	85685A	RF Preselector	13Apr05	13Apr06
9	00015	Agilent	4408B	Spectrum Analyzer	24Jan05	24Jan06
10	00115	Miteq	J54-00102600-35-5A	LNA	08Jun04	08Jun06
11	00093	Microtronics	HPM50111	High Pass Filter	8Jun04	8Dec05
12	00119	INMAT	18AH-10	10dB attenuator	8Jun04	8Dec05
13	00120	Celltech	n/a	Microwave Cable (RX)	25Mar05	25Mar06
14	00121	Andrew	FSJ4-50B	Microwave Cable (RX)	25Mar05	25Mar06
15	00130	Andrew	FSJ1-50A	Microwave Cable (RX)	25Mar05	25Mar06

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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MEASUREMENT EQUIPMENT CONNECTIONS

Frequency Range

Spectrum Analyzer Asset #

NA/Filter/Attenuator Asset #

Antenna Asset #

2 GHz – 10 GHz

00051

00093/00115

00035

10 GHz – 20 GHz

00015

00093/00115

00161/00166

20 GHz – 26 GHz

00015

0009:

00161/00166

MEASUREMENT EQUIPMENT SETTINGS

Frequency Range

RBW

VBW

Detector

MHz

kHz

kHz

> 1000

1000*

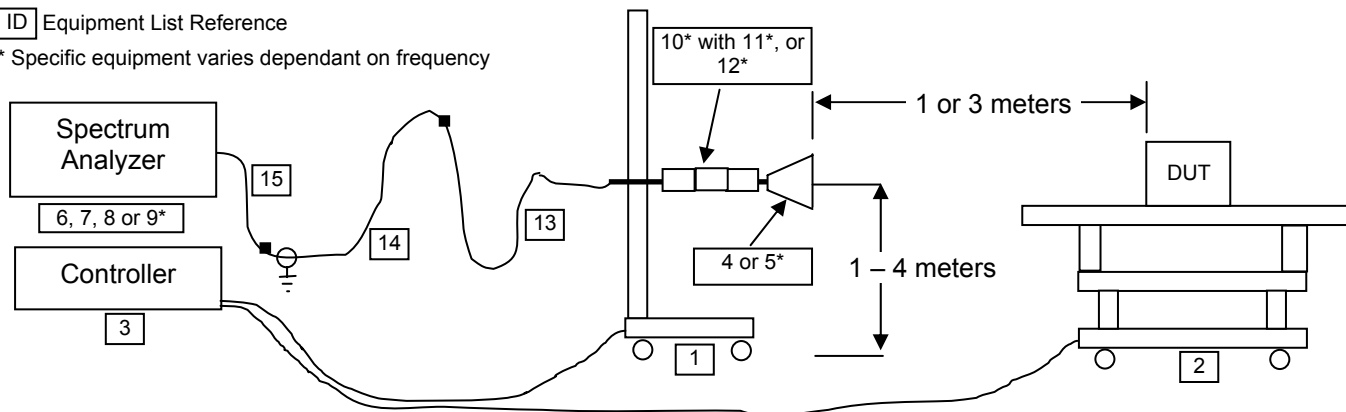
1000

Peak*

*As a worst-case measurement, the average/QP limit was applied to measurements made with a peak detector using a RBW of 1 MHz (vs the specified 100 kHz), unless otherwise noted. Average measurements were performed with video averaging using a VBW of 30 Hz.

Figure E.6-1 - Setup Drawing

* Specific equipment varies dependant on frequency



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E.7. SETUP PHOTOGRAPHS

E.7.1. DUT with Swivel Dipole Antenna Configuration

Photograph E-1 - 3115 Horn with LNA @ 3 m



Photograph E-2 - 3115 Horn with LNA @ 1m



Photograph E-3 - Standard Gain Horn @ 1 m



Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
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E.7.2. DUT with Vehicle-Mount Antenna Configuration

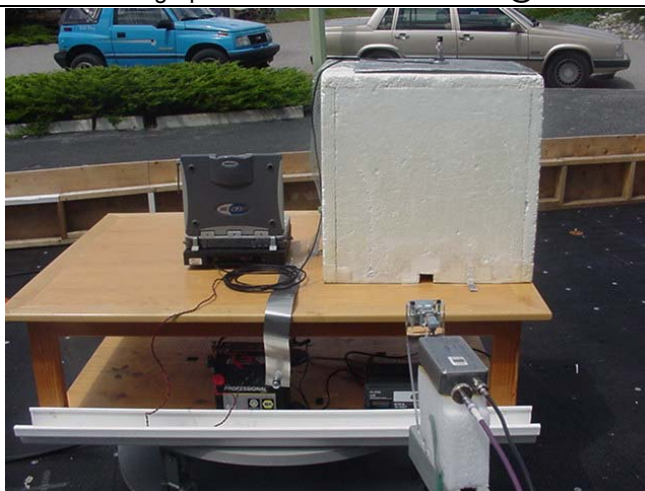
Photograph E-4 - 3115 Horn with LNA @ 3 m



Photograph E-5 - 3115 Horn with LNA @ 1m



Photograph E-6 - Standard Gain Horn @ 1 m



E.8. DUT OPERATING DESCRIPTION

The worst-case data rate was determined from prescan investigations. Measurements were made at three channels throughout the band, Low Channel (2412 MHz), Mid Channel (2437 MHz), High Channel (2462 MHz) and for both Modes b and g for the band-edge measurements and for Mode b for the remaining measurements with settings set as defined in section 4.7 of this report.

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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E.9. TEST RESULTS

E.9.1. Mode b - Swivel dipole antenna - Fundamental Field Strengths @ Specified Distance (100kHz RBW)

Channel	Polarity	Measurement	Antenna	Frequency	SA Level	Noise Floor	AF	CL	Other	Total CF	Field Strength	Detector	RBW
		Distance											
	m	MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	kHz				
WLAN-CH1	H	3	Horn SN6276	2412.00	90.50		30.26	5.10	-23.13	12.23	102.73	PK	100
WLAN-CH1	H	3	Horn SN6276	2412.00	80.70		30.26	5.10	-23.13	12.23	92.93	AV	100
WLAN-CH1	V	3	Horn SN6276	2412.00	83.00		30.26	5.10	-23.13	12.23	95.23	PK	100
WLAN-CH1	V	3	Horn SN6276	2412.00	73.20		30.26	5.10	-23.13	12.23	85.43	AV	100
WLAN-CH6	H	3	Horn SN6276	2437.00	90.40		30.30	5.14	-23.12	12.31	102.71	PK	100
WLAN-CH6	H	3	Horn SN6276	2437.00	80.60		30.30	5.14	-23.12	12.31	92.91	AV	100
WLAN-CH6	V	3	Horn SN6276	2437.00	83.90		30.30	5.14	-23.12	12.31	96.21	PK	100
WLAN-CH6	V	3	Horn SN6276	2437.00	73.70		30.30	5.14	-23.12	12.31	86.01	AV	100
WLAN-CH11	H	3	Horn SN6276	2462.00	91.30		30.34	5.16	-23.12	12.38	103.68	PK	100
WLAN-CH11	H	3	Horn SN6276	2462.00	81.20		30.34	5.16	-23.12	12.38	93.58	AV	100
WLAN-CH11	V	3	Horn SN6276	2462.00	84.30		30.34	5.16	-23.12	12.38	96.68	PK	100
WLAN-CH11	V	3	Horn SN6276	2462.00	74.40		30.34	5.16	-23.12	12.38	86.78	AV	100

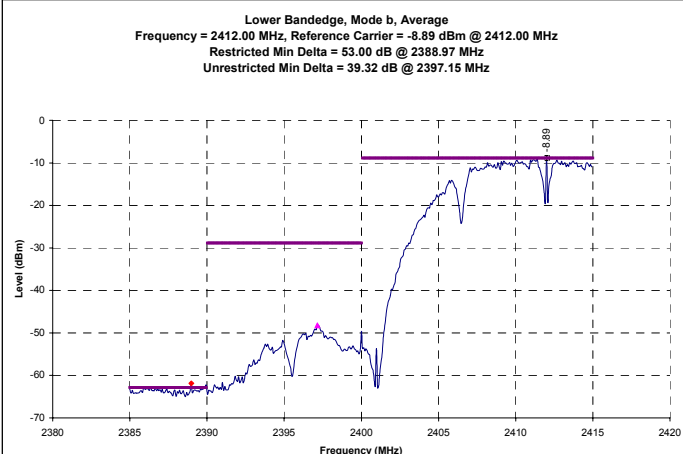
Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

$$\text{Field Strength} = \text{SA Reading} + \text{Total CF}$$

Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Average Conducted Band-edge Plots



Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandged Field Strength	Duty Cycle Correction	Corrected Bandged Field Strength	Specifeid Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m													
WLAN-CH1	H	3	2397.08	102.73	39.30	PK	63.43	0.00	63.43	83.68	3.00	0.00	83.68	20.25	PASS
WLAN-CH1	H	3	2397.15	92.93	39.32	AV	53.61	0.00	53.61	73.58	3.00	0.00	73.58	19.97	PASS
WLAN-CH1	V	3	2397.08	95.23	39.30	PK	55.93	0.00	55.93	76.68	3.00	0.00	76.68	20.75	PASS
WLAN-CH1	V	3	2397.15	85.43	39.32	AV	46.11	0.00	46.11	66.78	3.00	0.00	66.78	20.67	PASS

Calculated Bandedge Field Strength (dBuV/m) = Carrier Radiated Field Strength (dBuV/m) - Delta Marker (dB)
 Duty Cycle Correction (dB) = $20 * \log(\text{time on} / \text{total time})$
 Corrected Bandedge Field Strength (dBuV/m) = Calculated Bandedge Field Strength (dBuV/m) + Duty Cycle Correction (dB)
 Limit Distance Correction = $20 * \log(\text{measurement distance} / \text{limit distance})$
 Calculated Limit (dBuV/m) = Specified Limit (dBuV/m) + Limit Distance Correction (dB)
 Margin (dB) = Calculated Limit (dBuV/m) – Corrected Bandedge Field Strength (dBuV/m)

**Note: Measurements and calculation reference the Marker-Delta Method described in FCC Public Notice DA 00-705
Limit based on highest radiated carrier**

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	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.3. Mode b - Swivel dipole antenna - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Noise Floor	Rx AF	Rx CL	Other Rx	Total Rx CF	Field Strength	Detector	Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m		MHz	dBuV		dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	Bilog SN1607	311.62	29.50	X	14.03	1.79	0.00	15.83	45.33	PK*	3.00	0.00	73.58	28.25	PASS
WLAN-CH1	H	3	Horn SN6276	2482.24	40.60		30.37	5.18	-23.12	12.43	53.03	PK*	3.00	0.00	73.58	20.55	PASS
WLAN-CH1	H	3	Horn SN6276	5271.21	46.40		36.13	7.98	-31.00	13.11	59.51	PK*	3.00	0.00	73.58	14.06	PASS
WLAN-CH1	H	3	Horn SN6276	5616.61	30.50	X	36.55	8.18	-30.97	13.75	44.25	PK*	3.00	0.00	73.58	29.32	PASS
WLAN-CH1	H	3	Horn SN6276	5766.96	40.60		36.61	8.44	-30.96	14.08	54.68	PK*	3.00	0.00	73.58	18.89	PASS
WLAN-CH1	H	3	Horn SN6276	5832.41	42.60		36.63	8.33	-30.96	14.01	56.61	PK*	3.00	0.00	73.58	16.97	PASS
WLAN-CH1	H	3	Horn SN6276	7234.63	36.20	X	38.22	9.71	-30.84	17.09	53.29	PK*	3.00	0.00	73.58	20.28	PASS
WLAN-CH1	H	3	Horn SN6276	9647.93	36.20	X	40.30	11.99	-30.71	21.58	57.78	PK*	3.00	0.00	73.58	15.79	PASS
WLAN-CH1	H	1	Horn SN6276	14461.30	40.10	X	42.56	9.73	-30.77	21.51	61.61	PK*	3.00	9.54	83.12	21.51	PASS
WLAN-CH1	H	1	Horn SN6276	16875.55	39.37	X	42.73	10.75	-32.05	21.42	60.79	PK*	3.00	9.54	83.12	22.32	PASS
WLAN-CH1	H	1	Horn SN6276	16884.00	37.98		42.74	10.76	-32.06	21.44	59.42	PK*	3.00	9.54	83.12	23.70	PASS
WLAN-CH1	H	1	Waveline 899	21708.00	37.47		40.30	12.52	-35.58	17.25	54.72	PK*	3.00	9.54	83.12	28.40	PASS
WLAN-CH1	V	3	Bilog SN1607	452.26	28.80		17.50	2.16	0.00	19.66	48.46	PK*	3.00	0.00	66.78	18.32	PASS
WLAN-CH1	V	3	Horn SN6276	5273.53	38.00		36.14	7.93	-31.00	13.07	51.07	PK*	3.00	0.00	66.78	15.71	PASS
WLAN-CH1	V	3	Horn SN6276	5827.46	43.50		36.63	8.36	-30.96	14.03	57.53	PK*	3.00	0.00	66.78	9.24	PASS
WLAN-CH1	V	3	Horn SN6276	9645.85	36.00	X	40.30	11.93	-30.71	21.52	57.52	PK*	3.00	0.00	66.78	9.26	PASS
WLAN-CH1	V	1	Horn SN6276	16873.00	40.91	X	42.72	10.75	-32.05	21.42	62.33	PK*	3.00	9.54	76.32	13.99	PASS
WLAN-CH1	V	1	Horn SN6276	16884.00	39.47		42.74	10.76	-32.06	21.44	60.91	PK*	3.00	9.54	76.32	15.41	PASS
WLAN-CH1	V	1	Waveline 899	21708.00	38.19		40.30	12.52	-35.58	17.25	55.44	PK*	3.00	9.54	76.32	20.88	PASS
WLAN-CH6	H	3	Bilog SN1607	451.49	22.30		17.50	2.15	0.00	19.65	41.95	PK*	3.00	0.00	73.58	31.62	PASS
WLAN-CH6	H	3	Bilog SN1607	910.71	6.70		23.81	3.13	0.00	26.94	33.64	PK*	3.00	0.00	73.58	39.93	PASS
WLAN-CH6	H	3	Horn SN6276	2418.17	50.90		30.27	5.11	-23.13	12.25	63.15	PK*	3.00	0.00	73.58	10.42	PASS
WLAN-CH6	H	3	Horn SN6276	5266.37	46.60		36.13	8.08	-31.00	13.20	59.80	PK*	3.00	0.00	73.58	13.77	PASS
WLAN-CH6	H	3	Horn SN6276	5270.87	46.20		36.13	7.99	-31.00	13.12	59.32	PK*	3.00	0.00	73.58	14.26	PASS
WLAN-CH6	H	3	Horn SN6276	5823.19	44.60		36.63	8.38	-30.96	14.05	58.65	PK*	3.00	0.00	73.58	14.92	PASS
WLAN-CH6	H	3	Horn SN6276	9746.14	35.90		40.30	12.20	-30.71	21.79	57.69	PK*	3.00	0.00	73.58	15.88	PASS
WLAN-CH6	H	1	Horn SN6276	14615.25	40.30	X	42.58	9.80	-30.86	21.52	61.82	PK*	3.00	9.54	83.12	21.30	PASS
WLAN-CH6	H	1	Horn SN6276	14622.00	37.96		42.58	9.80	-30.86	21.52	59.48	PK*	3.00	9.54	83.12	23.64	PASS
WLAN-CH6	H	1	Horn SN6276	17053.15	39.85	X	43.15	10.82	-32.15	21.82	61.67	PK*	3.00	9.54	83.12	21.45	PASS
WLAN-CH6	H	1	Horn SN6276	17059.00	38.86		43.17	10.82	-32.15	21.83	60.69	PK*	3.00	9.54	83.12	22.42	PASS
WLAN-CH6	H	1	Waveline 899	21933.00	38.29		40.30	12.61	-35.58	17.33	55.62	PK*	3.00	9.54	83.12	27.50	PASS
WLAN-CH6	V	3	Bilog SN1607	443.88	5.50	X	17.48	2.14	0.00	19.62	25.12	PK*	3.00	0.00	66.78	41.66	PASS
WLAN-CH6	V	3	Horn SN6276	5272.68	36.20	X	36.14	7.95	-31.00	13.08	49.28	PK*	3.00	0.00	66.78	17.49	PASS
WLAN-CH6	V	3	Horn SN6276	9746.73	35.70	X	40.30	12.19	-30.71	21.79	57.49	PK*	3.00	0.00	66.78	9.29	PASS
WLAN-CH6	V	1	Horn SN6276	14576.60	40.18	X	42.58	9.78	-30.84	21.53	61.71	PK*	3.00	9.54	76.32	14.61	PASS
WLAN-CH6	V	1	Horn SN6276	14612.60	40.06	X	42.58	9.80	-30.85	21.52	61.58	PK*	3.00	9.54	76.32	14.74	PASS
WLAN-CH6	V	1	Horn SN6276	14622.00	38.71		42.58	9.80	-30.86	21.52	60.23	PK*	3.00	9.54	76.32	16.09	PASS
WLAN-CH6	V	1	Horn SN6276	17054.80	39.61	X	43.15	10.82	-32.15	21.82	61.43	PK*	3.00	9.54	76.32	14.88	PASS
WLAN-CH6	V	1	Horn SN6276	17059.00	38.47		43.17	10.82	-32.15	21.83	60.30	PK*	3.00	9.54	76.32	16.01	PASS
WLAN-CH6	V	1	Waveline 899	21933.00	37.92		40.30	12.61	-35.58	17.33	55.25	PK*	3.00	9.54	76.32	21.07	PASS
WLAN-CH11	H	3	Bilog SN1607	451.33	8.20	X	17.50	2.15	0.00	19.65	27.85	PK*	3.00	0.00	73.58	45.72	PASS
WLAN-CH11	H	3	Horn SN6276	2418.63	50.50		30.27	5.11	-23.13	12.25	62.75	PK*	3.00	0.00	73.58	10.82	PASS
WLAN-CH11	H	3	Horn SN6276	5270.29	45.60		36.13	8.00	-31.00	13.13	58.73	PK*	3.00	0.00	73.58	14.85	PASS
WLAN-CH11	H	3	Horn SN6276	5766.13	38.20		36.61	8.43	-30.96	14.07	52.27	PK*	3.00	0.00	73.58	21.30	PASS
WLAN-CH11	H	3	Horn SN6276	5818.98	48.00		36.63	8.41	-30.96	14.07	62.07	PK*	3.00	0.00	73.58	11.50	PASS
WLAN-CH11	H	3	Horn SN6276	9846.94	35.60	X	40.30	12.43	-30.70	22.02	57.62	PK*	3.00	0.00	73.58	15.95	PASS
WLAN-CH11	H	1	Horn SN6276	14760.90	39.45	X	42.55	9.86	-30.93	21.48	60.93	PK*	3.00	9.54	83.12	22.19	PASS
WLAN-CH11	H	1	Horn SN6276	14772.00	37.88		42.55	9.87	-30.94	21.48	59.36	PK*	3.00	9.54	83.12	23.76	PASS
WLAN-CH11	H	1	Horn SN6276	17230.40	39.79	X	43.65	10.88	-32.24	22.29	62.08	PK*	3.00	9.54	83.12	21.04	PASS
WLAN-CH11	H	1	Horn SN6276	17234.00	38.08		43.66	10.88	-32.24	22.30	60.38	PK*	3.00	9.54	83.12	22.74	PASS
WLAN-CH11	V	3	Horn SN6276	2020.47	33.50	X	29.63	4.65	-23.16	11.13	44.63	PK*	3.00	0.00	66.78	22.15	PASS
WLAN-CH11	V	3	Horn SN6276	2626.40	39.70		30.80	5.36	-23.11	13.05	52.75	PK*	3.00	0.00	66.78	14.02	PASS
WLAN-CH11	V	3	Horn SN6276	5272.50	36.30		36.14	7.95	-31.00	13.09	49.39	PK*	3.00	0.00	66.78	17.39	PASS
WLAN-CH11	V	3	Horn SN6276	9850.91	35.18	X	40.30	12.41	-30.70	22.01	57.19	PK*	3.00	0.00	66.78	9.58	PASS
WLAN-CH11	V	1	Horn SN6276	14763.30	39.64		42.55	9.86	-30.93	21.48	61.12	PK*	3.00	9.54	76.32	15.20	PASS
WLAN-CH11	V	1	Horn SN6276	14772.00	37.37		42.55	9.87	-30.94	21.48	58.85	PK*	3.00	9.54	76.32	17.47	PASS
WLAN-CH11	V	1	Horn SN6276	17231.75	40.28	X	43.65	10.88	-32.24	22.29	62.57	PK*	3.00	9.54	76.32	13.75	PASS
WLAN-CH11	V	1	Horn SN6276	17234.00	40.15		43.66	10.88	-32.24	22.30	62.45	PK*	3.00	9.54	76.32	13.87	PASS

Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

Field Strength = SA Reading + Total CF

Limit Distance Correction = $40 \cdot \log(d1/d2)$ for $F < 30$ MHz, $20 \cdot \log(d1/d2)$ for $F > 30$ MHz:

where d1 is the measurement distance, d2 is the published limit distance

Limit = Specified Limit + Limit Distance Correction

Margin = Limit - Field Strength

BOLD indicates emission at or near a carrier harmonic frequency

*Where applicable the QP or Average Limits where applied to the peak emission

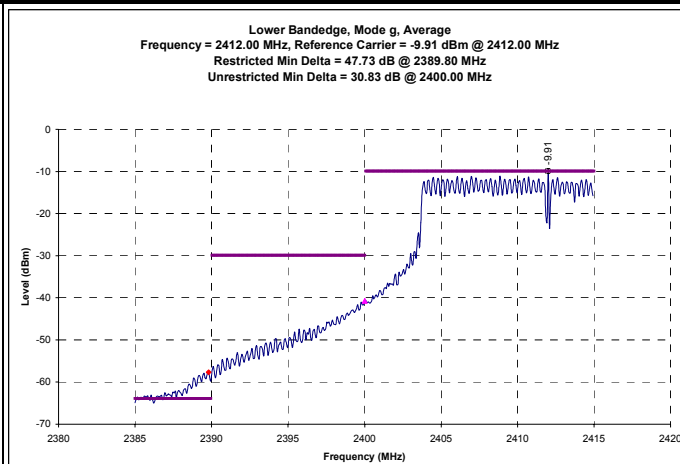
No emissions were measured with margins less than those reported

Limit based on highest radiated carrier in the applicable configuration

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Average Conducted Band-edge Plots



Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandedge Field Strength	Duty Cycle Correction	Corrected Bandedge Field Strength	Specifcied Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m	MHz	dBuV/m	dB		dBuV/m	dB	dBuV/m	dBuV/m	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	2399.93	98.73	29.52	PK	69.21	0.00	69.21	78.73	3.00	0.00	78.73	9.52	PASS
WLAN-CH1	H	3	2400.00	89.93	30.83	AV	59.10	0.00	59.10	70.01	3.00	0.00	70.01	10.91	PASS
WLAN-CH1	V	3	2399.93	91.73	29.52	PK	62.21	0.00	62.21	72.38	3.00	0.00	72.38	10.17	PASS
WLAN-CH1	V	3	2400.00	83.03	30.83	AV	52.20	0.00	52.20	63.51	3.00	0.00	63.51	11.31	PASS

Calculated Bandedge Field Strength (dBuV/m) = Carrier Radiated Field Strength (dBuV/m) - Delta Marker (dB)
 Duty Cycle Correction (dB) = $20 * \log(\text{time on} / \text{total time})$
 Corrected Bandedge Field Strength (dBuV/m) = Calculated Bandedge Field Strength (dBuV/m) + Duty Cycle Correction (dB)
 Limit Distance Correction = $20 * \log(\text{measurement distance} / \text{limit distance})$
 Calculated Limit (dBuV/m) = Specified Limit (dBuV/m) + Limit Distance Correction (dB)
 Margin (dB) = Calculated Limit (dBuV/m) – Corrected Bandedge Field Strength (dBuV/m)

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.6. Mode g - Swivel dipole antenna - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

Channel	Polarity	Distance m	Rx Antenna	Frequency MHz	SA Level dBuV	Noise Floor	Rx AF dB/m	Rx CL dB	Other Rx dB	Total Rx CF dB/m	Field Strength dBuV/m	Detector PK/QP/AV	Limit Distance m	Limit Distance Correction dB	Calculated Limit dBuV/m	Margin dB	Pass/Fail
WLAN-CH1	H	3	Loop 6502	24.76	48.90		9.34	0.54	0.00	9.87	58.77	PK*	3.00	0.00	70.01	11.24	PASS
WLAN-CH1	H	3	Bilog SN1607	923.91	17.60	X	24.26	3.11	0.00	27.37	44.97	PK*	3.00	0.00	70.01	25.05	PASS
WLAN-CH1	H	3	Horn SN6276	5265.78	45.20		36.13	8.09	-31.00	13.21	58.41	PK*	3.00	0.00	70.01	11.60	PASS
WLAN-CH1	H	3	Horn SN6276	7236.00	34.70		38.22	9.72	-30.84	17.10	51.80	PK*	3.00	0.00	70.01	18.21	PASS
WLAN-CH1	H	3	Horn SN6276	9648.00	33.30		40.30	12.00	-30.71	21.58	54.88	PK*	3.00	0.00	70.01	15.13	PASS
WLAN-CH1	H	1	Horn SN6276	15015.85	39.37	X	42.45	9.98	-31.07	21.36	60.73	PK*	3.00	9.54	79.56	18.83	PASS
WLAN-CH1	H	1	Horn SN6276	16884.00	39.03		42.74	10.76	-32.06	21.44	60.47	PK*	3.00	9.54	79.56	19.09	PASS
WLAN-CH1	H	1	Waveline 899	21708.00	38.28		40.30	12.52	-35.58	17.25	55.53	PK*	3.00	9.54	79.56	24.03	PASS
WLAN-CH1	V	3	Loop 6502	25.11	47.30		9.28	0.54	0.00	9.82	57.12	PK*	3.00	0.00	63.51	6.40	PASS
WLAN-CH1	V	3	Bilog SN1607	915.76	23.30		23.93	3.14	0.00	27.07	50.37	PK*	3.00	0.00	63.51	13.14	PASS
WLAN-CH1	V	3	Horn SN6276	2469.22	40.90		30.35	5.16	-23.12	12.39	53.29	PK*	3.00	0.00	63.51	10.22	PASS
WLAN-CH1	V	3	Horn SN6276	5265.74	36.00		36.13	8.09	-31.00	13.21	49.21	PK*	3.00	0.00	63.51	14.30	PASS
WLAN-CH1	V	3	Horn SN6276	7236.00	34.70		38.22	9.72	-30.84	17.10	51.80	PK*	3.00	0.00	63.51	11.71	PASS
WLAN-CH1	V	3	Horn SN6276	9648.00	33.60		40.30	12.00	-30.71	21.58	55.18	PK*	3.00	0.00	63.51	8.33	PASS
WLAN-CH1	V	1	Horn SN6276	16884.00	38.00		42.74	10.76	-32.06	21.44	59.44	PK*	3.00	9.54	73.06	13.62	PASS
WLAN-CH1	V	1	Waveline 899	21708.00	38.66		40.30	12.52	-35.58	17.25	55.91	PK*	3.00	9.54	73.06	17.15	PASS
WLAN-CH6	H	3	Loop 6502	24.97	50.30		9.31	0.54	0.00	9.84	60.14	PK*	3.00	0.00	70.01	9.87	PASS
WLAN-CH6	H	3	Horn SN6276	5265.94	45.90		36.13	8.09	-31.00	13.21	59.11	PK*	3.00	0.00	70.01	10.90	PASS
WLAN-CH6	H	3	Horn SN6276	5764.97	35.80		36.61	8.42	-30.96	14.07	49.87	PK*	3.00	0.00	70.01	20.15	PASS
WLAN-CH6	H	3	Horn SN6276	5819.02	45.20		36.63	8.40	-30.96	14.07	59.27	PK*	3.00	0.00	70.01	10.74	PASS
WLAN-CH6	H	3	Horn SN6276	9748.00	33.50		40.30	12.18	-30.71	21.77	55.27	PK*	3.00	0.00	70.01	14.74	PASS
WLAN-CH6	H	1	Horn SN6276	14622.00	37.91		42.58	9.80	-30.86	21.52	59.43	PK*	3.00	9.54	79.56	20.13	PASS
WLAN-CH6	H	1	Horn SN6276	17059.00	38.16		43.17	10.82	-32.15	21.83	59.99	PK*	3.00	9.54	79.56	19.56	PASS
WLAN-CH6	H	1	Waveline 899	21933.00	38.38		40.30	12.61	-35.58	17.33	55.71	PK*	3.00	9.54	79.56	23.85	PASS
WLAN-CH6	V	3	Loop 6502	25.22	49.00		9.26	0.54	0.00	9.80	58.80	PK*	3.00	0.00	63.51	4.71	PASS
WLAN-CH6	V	3	Bilog SN1607	158.82	30.70	X	11.09	1.27	0.00	12.37	43.07	PK*	3.00	0.00	63.51	20.45	PASS
WLAN-CH6	V	3	Bilog SN1607	842.36	19.30		22.99	2.95	0.00	25.94	45.24	PK*	3.00	0.00	63.51	18.27	PASS
WLAN-CH6	V	3	Horn SN6276	2400.56	34.10		30.24	5.07	-23.13	12.19	46.29	PK*	3.00	0.00	63.51	17.23	PASS
WLAN-CH6	V	3	Horn SN6276	5265.71	38.40		36.13	8.09	-31.00	13.21	51.61	PK*	3.00	0.00	63.51	11.90	PASS
WLAN-CH6	V	3	Horn SN6276	9748.00	33.40		40.30	12.18	-30.71	21.77	55.17	PK*	3.00	0.00	63.51	8.34	PASS
WLAN-CH6	V	1	Horn SN6276	14622.00	37.95		42.58	9.80	-30.86	21.52	59.47	PK*	3.00	9.54	73.06	13.59	PASS
WLAN-CH6	V	1	Horn SN6276	17059.00	39.05		43.17	10.82	-32.15	21.83	60.88	PK*	3.00	9.54	73.06	12.17	PASS
WLAN-CH6	V	1	Waveline 899	21933.00	38.39		40.30	12.61	-35.58	17.33	55.72	PK*	3.00	9.54	73.06	17.34	PASS
WLAN-CH11	H	3	Bilog SN1607	843.98	22.00		23.06	2.93	0.00	25.99	47.99	PK*	3.00	0.00	70.01	22.02	PASS
WLAN-CH11	H	3	Horn SN6276	2416.42	50.60		30.27	5.11	-23.13	12.25	62.85	PK*	3.00	0.00	70.01	7.17	PASS
WLAN-CH11	H	3	Horn SN6276	5265.81	45.90		36.13	8.09	-31.00	13.21	59.11	PK*	3.00	0.00	70.01	10.90	PASS
WLAN-CH11	H	3	Horn SN6276	5819.11	47.40		36.63	8.40	-30.96	14.07	61.47	PK*	3.00	0.00	70.01	8.54	PASS
WLAN-CH11	H	3	Horn SN6276	9848.00	33.70		40.30	12.42	-30.70	22.02	55.72	PK*	3.00	0.00	70.01	14.29	PASS
WLAN-CH11	H	1	Horn SN6276	14772.00	38.24		42.55	9.87	-30.94	21.48	59.72	PK*	3.00	9.54	79.56	19.84	PASS
WLAN-CH11	H	1	Horn SN6276	17234.00	38.41		43.66	10.88	-32.24	22.30	60.71	PK*	3.00	9.54	79.56	18.85	PASS
WLAN-CH11	V	3	Bilog SN1607	452.22	30.20		17.50	2.16	0.00	19.66	49.86	PK*	3.00	0.00	63.51	13.66	PASS
WLAN-CH11	V	3	Bilog SN1607	845.70	14.90	X	23.13	2.92	0.00	26.05	40.95	PK*	3.00	0.00	63.51	22.56	PASS
WLAN-CH11	V	3	Horn SN6276	5823.89	44.90		36.63	8.38	-30.96	14.05	58.95	PK*	3.00	0.00	63.51	4.56	PASS
WLAN-CH11	V	3	Horn SN6276	9848.00	33.70		40.30	12.42	-30.70	22.02	55.72	PK*	3.00	0.00	63.51	7.79	PASS
WLAN-CH11	V	1	Horn SN6276	14772.00	38.42		42.55	9.87	-30.94	21.48	59.90	PK*	3.00	9.54	73.06	13.16	PASS
WLAN-CH11	V	1	Horn SN6276	17234.00	38.35		43.66	10.88	-32.24	22.30	60.65	PK*	3.00	9.54	73.06	12.41	PASS

Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

Field Strength = SA Reading + Total CF

Limit Distance Correction = $40 \cdot \log(d1/d2)$ for $F < 30$ MHz, $20 \cdot \log(d1/d2)$ for $F > 30$ MHz:

where d1 is the measurement distance, d2 is the published limit distance

Limit = Specified Limit + Limit Distance Correction

Margin = Limit - Field Strength

BOLD indicates emission at or near a carrier harmonic frequency

*Where applicable the QP or Average Limits were applied to the peak emission

No emissions were measured with margins less than those reported

Limit based on highest radiated carrier in the applicable configuration

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	 ITRONIX [®]
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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Testing and Engineering Services Ltd

E.9.7. Mode b - Vehicle-Mount - 5.25" Monopole - Fundamental Field Strengths @ Specified Distance (100kHz RBW)

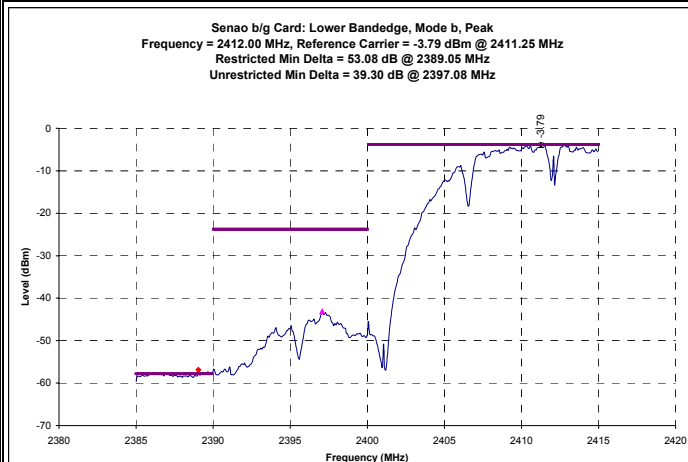
Channel	Polarity	Measurement Distance	Antenna	Frequency	SA Level	Noise Floor	AF	CL	Other	Total CF	Field Strength	Detector	RBW
		m											MHz
WLAN-CH1	H	3	Horn SN6276	2412.00	75.80		30.26	5.10	-23.13	12.23	88.03	PK	100
WLAN-CH1	H	3	Horn SN6276	2412.00	65.70		30.26	5.10	-23.13	12.23	77.93	AV	100
WLAN-CH1	V	3	Horn SN6276	2412.00	83.40		30.26	5.10	-23.13	12.23	95.63	PK	100
WLAN-CH1	V	3	Horn SN6276	2412.00	73.30		30.26	5.10	-23.13	12.23	85.53	AV	100
WLAN-CH6	H	3	Horn SN6276	2437.00	75.40		30.30	5.14	-23.12	12.31	87.71	PK	100
WLAN-CH6	H	3	Horn SN6276	2437.00	65.20		30.30	5.14	-23.12	12.31	77.51	AV	100
WLAN-CH6	V	3	Horn SN6276	2437.00	82.60		30.30	5.14	-23.12	12.31	94.91	PK	100
WLAN-CH6	V	3	Horn SN6276	2437.00	72.60		30.30	5.14	-23.12	12.31	84.91	AV	100
WLAN-CH11	H	3	Horn SN6276	2462.00	75.70		30.34	5.16	-23.12	12.38	88.08	PK	100
WLAN-CH11	H	3	Horn SN6276	2462.00	65.70		30.34	5.16	-23.12	12.38	78.08	AV	100
WLAN-CH11	V	3	Horn SN6276	2462.00	82.60		30.34	5.16	-23.12	12.38	94.98	PK	100
WLAN-CH11	V	3	Horn SN6276	2462.00	72.60		30.34	5.16	-23.12	12.38	84.98	AV	100

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)
Field Strength = SA Reading + Total CF

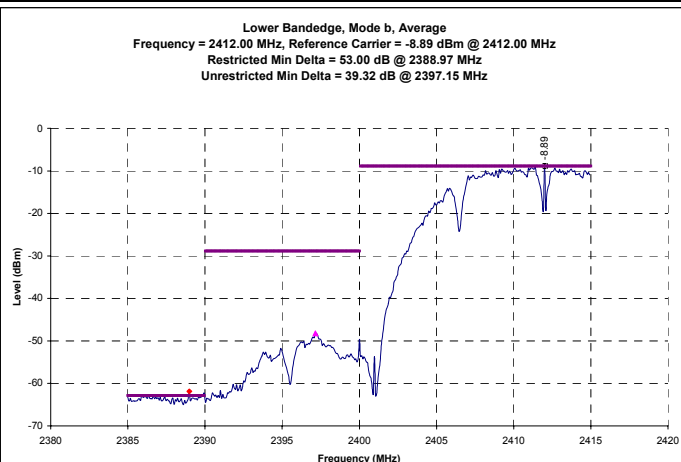
E.9.8. Mode b - Vehicle-Mount - 5.25" Monopole - Lower Band-edge Emission Field Strengths @ Specified Distance

Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Peak Conducted Band-edge Plots



Channel 1 - Average Conducted Band-edge Plots



Channel 1 - Calculated Band-edge (Out-of-Band) Field Strengths

Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandedge Field Strength	Duty Cycle Correction	Corrected Bandedge Field Strength	Specified Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		WLAN-CH1	H	3	2397.08	88.03	39.30	PK	48.73	0.00	48.73	68.08	3.00	0.00	68.08
WLAN-CH1	H	3	2397.15	77.93	39.32	AV	38.61	0.00	38.61	58.08	3.00	0.00	58.08	19.47	PASS
WLAN-CH1	V	3	2397.08	95.63	39.30	PK	56.33	0.00	56.33	75.63	3.00	0.00	75.63	19.30	PASS
WLAN-CH1	V	3	2397.15	85.53	39.32	AV	46.21	0.00	46.21	65.53	3.00	0.00	65.53	19.32	PASS

Formulae:

$$\text{Calculated Bandedge Field Strength (dBuV/m)} = \text{Carrier Radiated Field Strength (dBuV/m)} - \text{Delta Marker (dB)}$$
$$\text{Duty Cycle Correction (dB)} = 20 * \log (\text{time on} / \text{total time})$$
$$\text{Corrected Bandedge Field Strength (dBuV/m)} = \text{Calculated Bandedge Field Strength (dBuV/m)} + \text{Duty Cycle Correction (dB)}$$
$$\text{Limit Distance Correction} = 20 * \log (\text{measurement distance} / \text{limit distance})$$
$$\text{Calculated Limit (dBuV/m)} = \text{Specified Limit (dBuV/m)} + \text{Limit Distance Correction (dB)}$$
$$\text{Margin (dB)} = \text{Calculated Limit (dBuV/m)} - \text{Corrected Bandedge Field Strength (dBuV/m)}$$

Note: Measurements and calculation reference the Marker-Delta Method described in FCC Public Notice DA 00-705

Limit based on highest radiated carrier

 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.9. Mode b - Vehicle-Mount - 5.25" Monopole - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Noise Floor	Rx AF	Rx CL	Other Rx	Total Rx CF	Field Strength	Detector	Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m		MHz	dBuV		dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	Bilog SN1607	287.00	20.90	X	13.64	1.73	0.00	15.37	36.27	PK*	3.00	0.00	58.08	21.80	PASS
WLAN-CH1	H	3	Bilog SN1607	814.02	28.50		22.68	2.92	0.00	25.60	54.10	PK*	3.00	0.00	58.08	3.98	PASS
WLAN-CH1	H	3	Bilog SN1607	815.42	18.20		22.67	2.91	0.00	25.59	43.79	PK*	3.00	0.00	58.08	14.29	PASS
WLAN-CH1	H	3	Horn SN6276	5270.46	44.70		36.13	7.99	-31.00	13.12	57.82	PK	3.00	0.00	68.08	10.25	PASS
WLAN-CH1	H	3	Horn SN6276	5270.74	25.90		36.13	7.99	-31.00	13.12	39.02	AV	3.00	0.00	58.08	19.06	PASS
WLAN-CH1	H	3	Horn SN6276	7236.00	34.50		38.22	9.72	-30.84	17.10	51.60	PK*	3.00	0.00	58.08	6.47	PASS
WLAN-CH1	H	3	Horn SN6276	9648.00	34.30		40.30	12.00	-30.71	21.58	55.88	PK	3.00	0.00	68.08	12.19	PASS
WLAN-CH1	H	3	Horn SN6276	9648.00	21.05		40.30	12.00	-30.71	21.58	42.63	AV	3.00	0.00	58.08	15.44	PASS
WLAN-CH1	H	1	Horn SN6276	16884.00	37.70		42.74	10.76	-32.06	21.44	59.14	PK*	3.00	9.54	67.62	8.48	PASS
WLAN-CH1	H	1	Waveline 899	21708.00	37.84		40.30	12.52	-35.58	17.25	55.09	PK*	3.00	9.54	67.62	12.53	PASS
WLAN-CH1	V	3	Bilog SN1607	816.16	18.40		22.63	2.91	0.00	25.54	43.94	PK*	3.00	0.00	65.53	21.59	PASS
WLAN-CH1	V	3	Bilog SN1607	817.70	34.10		22.54	2.91	0.00	25.45	59.55	PK*	3.00	0.00	65.53	5.98	PASS
WLAN-CH1	V	3	Horn SN6276	5269.60	36.15		36.13	8.01	-31.00	13.14	49.29	PK*	3.00	0.00	65.53	16.24	PASS
WLAN-CH1	V	3	Horn SN6276	5763.10	47.15		36.61	8.41	-30.96	14.05	61.20	PK*	3.00	0.00	65.53	4.33	PASS
WLAN-CH1	V	3	Horn SN6276	7236.00	34.00		38.22	9.72	-30.84	17.10	51.10	PK*	3.00	0.00	65.53	14.43	PASS
WLAN-CH1	V	3	Horn SN6276	9648.00	34.75		40.30	12.00	-30.71	21.58	56.33	PK*	3.00	0.00	65.53	9.20	PASS
WLAN-CH1	V	1	Horn SN6276	16884.00	38.14		42.74	10.76	-32.06	21.44	59.58	PK*	3.00	9.54	75.07	15.49	PASS
WLAN-CH1	V	1	Waveline 899	21708.00	39.43		40.30	12.52	-35.58	17.25	56.68	PK*	3.00	9.54	75.07	18.40	PASS
WLAN-CH6	H	3	Horn SN6276	5764.71	36.85		36.61	8.42	-30.96	14.06	50.91	PK*	3.00	0.00	58.08	7.16	PASS
WLAN-CH6	H	3	Horn SN6276	9748.00	34.35		40.30	12.18	-30.71	21.77	56.12	PK	3.00	0.00	68.08	11.95	PASS
WLAN-CH6	H	3	Horn SN6276	9748.00	21.10		40.30	12.18	-30.71	21.77	42.87	AV	3.00	0.00	58.08	15.20	PASS
WLAN-CH6	H	1	Horn SN6276	14622.00	38.28		42.58	9.80	-30.86	21.52	59.80	PK*	3.00	9.54	67.62	7.82	PASS
WLAN-CH6	H	1	Horn SN6276	17053.95	39.66	X	43.15	10.82	-32.15	21.82	61.48	PK*	3.00	9.54	67.62	6.14	PASS
WLAN-CH6	H	1	Waveline 899	21933.00	38.36		40.30	12.61	-35.58	17.33	55.69	PK*	3.00	9.54	67.62	11.93	PASS
WLAN-CH6	V	3	Bilog SN1607	846.86	27.00		23.17	2.93	0.00	26.10	53.10	PK*	3.00	0.00	65.53	12.43	PASS
WLAN-CH6	V	3	Bilog SN1607	921.71	25.60		24.17	3.12	0.00	27.29	52.89	PK*	3.00	0.00	65.53	12.64	PASS
WLAN-CH6	V	3	Horn SN6276	1887.92	19.20	X	29.06	4.54	0.00	33.60	52.80	PK*	3.00	0.00	65.53	12.73	PASS
WLAN-CH6	V	3	Horn SN6276	2482.54	41.90		30.37	5.18	-23.12	12.43	54.33	PK*	3.00	0.00	65.53	11.20	PASS
WLAN-CH6	V	3	Horn SN6276	5265.64	37.25		36.13	8.09	-31.00	13.22	50.47	PK*	3.00	0.00	65.53	15.06	PASS
WLAN-CH6	V	3	Horn SN6276	5763.46	47.50		36.61	8.41	-30.96	14.05	61.55	PK*	3.00	0.00	65.53	3.98	PASS
WLAN-CH6	V	3	Horn SN6276	9285.71	36.10	X	40.26	11.47	-30.73	21.00	57.10	PK*	3.00	0.00	65.53	8.43	PASS
WLAN-CH6	V	3	Horn SN6276	9748.00	33.80		40.30	12.18	-30.71	21.77	55.57	PK*	3.00	0.00	65.53	9.96	PASS
WLAN-CH6	V	1	Horn SN6276	14622.00	38.11		42.58	9.80	-30.86	21.52	59.63	PK*	3.00	9.54	75.07	15.45	PASS
WLAN-CH6	V	1	Horn SN6276	17059.00	38.61		43.17	10.82	-32.15	21.83	60.44	PK*	3.00	9.54	75.07	14.63	PASS
WLAN-CH6	V	1	Waveline 899	21928.65	40.77	X	40.30	12.61	-35.58	17.33	58.10	PK*	3.00	9.54	75.07	16.97	PASS
WLAN-CH6	V	1	Waveline 899	21933.00	38.58		40.30	12.61	-35.58	17.33	55.91	PK*	3.00	9.54	75.07	19.16	PASS
WLAN-CH11	H	3	Bilog SN1607	449.15	23.50		17.50	2.15	0.00	19.65	43.15	PK*	3.00	0.00	58.08	14.93	PASS
WLAN-CH11	H	3	Bilog SN1607	606.56	15.20	X	20.30	2.47	0.00	22.77	37.97	PK*	3.00	0.00	58.08	20.10	PASS
WLAN-CH11	H	3	Bilog SN1607	837.28	32.80		22.74	2.95	0.00	25.69	58.49	PK	3.00	0.00	68.08	9.59	PASS
WLAN-CH11	H	3	Bilog SN1607	837.28	12.00		22.74	2.95	0.00	25.69	37.69	QP	3.00	0.00	58.08	20.39	PASS
WLAN-CH11	H	3	Bilog SN1607	844.22	16.90		23.07	2.93	0.00	26.00	42.90	PK*	3.00	0.00	58.08	15.17	PASS
WLAN-CH11	H	3	Horn SN6276	2414.82	49.85		30.26	5.10	-23.13	12.24	62.09	PK	3.00	0.00	68.08	5.98	PASS
WLAN-CH11	H	3	Horn SN6276	2415.28	26.85		30.26	5.10	-23.13	12.24	39.09	AV	3.00	0.00	58.08	18.98	PASS
WLAN-CH11	H	3	Horn SN6276	9648.00	34.00		40.30	12.42	-30.70	22.02	56.02	PK	3.00	0.00	68.08	12.05	PASS
WLAN-CH11	H	3	Horn SN6276	9648.00	20.75		40.30	12.42	-30.70	22.02	42.77	AV	3.00	0.00	58.08	15.30	PASS
WLAN-CH11	H	1	Horn SN6276	14772.00	38.23		42.55	9.87	-30.94	21.48	59.71	PK*	3.00	9.54	67.62	7.91	PASS
WLAN-CH11	H	1	Horn SN6276	17234.00	38.43		43.66	10.88	-32.24	22.30	60.73	PK*	3.00	9.54	67.62	6.89	PASS
WLAN-CH11	V	3	Bilog SN1607	173.21	27.30		10.14	1.32	0.00	11.46	38.76	PK*	3.00	0.00	65.53	26.77	PASS
WLAN-CH11	V	3	Bilog SN1607	336.47	27.00		14.83	1.85	0.00	16.68	43.68	PK*	3.00	0.00	65.53	21.85	PASS
WLAN-CH11	V	3	Bilog SN1607	830.41	29.70		22.32	2.97	0.00	25.29	54.99	PK*	3.00	0.00	65.53	10.54	PASS
WLAN-CH11	V	3	Bilog SN1607	837.59	24.00		22.76	2.95	0.00	25.70	49.70	PK*	3.00	0.00	65.53	15.83	PASS
WLAN-CH11	V	3	Bilog SN1607	849.38	23.20		23.28	2.94	0.00	26.21	49.41	PK*	3.00	0.00	65.53	16.12	PASS
WLAN-CH11	V	3	Horn SN6276	1852.85	15.95	X	28.89	4.47	0.00	33.36	49.31	PK*	3.00	0.00	65.53	16.22	PASS
WLAN-CH11	V	3	Horn SN6276	2474.20	43.35		30.36	5.16	-23.12	12.40	55.75	PK*	3.00	0.00	65.53	9.78	PASS
WLAN-CH11	V	3	Horn SN6276	5266.18	37.00		36.13	8.08	-31.00	13.21	50.21	PK*	3.00	0.00	65.53	15.32	PASS
WLAN-CH11	V	3	Horn SN6276	9648.00	33.60		40.30	12.42	-30.70	22.02	55.62	PK*	3.00	0.00	65.53	9.91	PASS
WLAN-CH11	V	1	Horn SN6276	14772.00	38.03		42.55	9.87	-30.94	21.48	59.51	PK*	3.00	9.54	75.07	15.57	PASS
WLAN-CH11	V	1	Horn SN6276	17234.00	38.28		43.66	10.88	-32.24	22.30	60.58	PK*	3.00	9.54	75.07	14.50	PASS

Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

Field Strength = SA Reading + Total CF

Limit Distance Correction = $40 \cdot \log(d1/d2)$ for $F < 30$ MHz, $20 \cdot \log(d1/d2)$ for $F > 30$ MHz:

where d1 is the measurement distance, d2 is the published limit distance

Limit = Specified Limit + Limit Distance Correction

Margin = Limit - Field Strength

BOLD indicates emission at or near a carrier harmonic frequency

*Where applicable the QP or Average Limits were applied to the peak emission

No emissions were measured with margins less than those reported

Limit based on highest radiated carrier in the applicable configuration

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305		
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas							
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Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.10. Mode g - Vehicle-Mount - 5.25" Monopole - Fundamental Field Strengths @ Specified Distance (100kHz RBW)													
Channel	Polarity	Measurement Distance	Antenna	Frequency	SA Level	Noise Floor	AF	CL	Other	Total CF	Field Strength	Detector	RBW
		m											
WLAN-CH1	H	3	Horn SN6276	2412.00	73.20		30.26	5.10	-23.13	12.23	85.43	PK	100
WLAN-CH1	H	3	Horn SN6276	2412.00	64.00		30.26	5.10	-23.13	12.23	76.23	AV	100
WLAN-CH1	V	3	Horn SN6276	2412.00	81.10		30.26	5.10	-23.13	12.23	93.33	PK	100
WLAN-CH1	V	3	Horn SN6276	2412.00	72.10		30.26	5.10	-23.13	12.23	84.33	AV	100
WLAN-CH6	H	3	Horn SN6276	2437.00	71.90		30.30	5.14	-23.12	12.31	84.21	PK	100
WLAN-CH6	H	3	Horn SN6276	2437.00	63.00		30.30	5.14	-23.12	12.31	75.31	AV	100
WLAN-CH6	V	3	Horn SN6276	2437.00	80.90		30.30	5.14	-23.12	12.31	93.21	PK	100
WLAN-CH6	V	3	Horn SN6276	2437.00	71.70		30.30	5.14	-23.12	12.31	84.01	AV	100
WLAN-CH11	H	3	Horn SN6276	2462.00	74.20		30.34	5.16	-23.12	12.38	86.58	PK	100
WLAN-CH11	H	3	Horn SN6276	2462.00	65.50		30.34	5.16	-23.12	12.38	77.88	AV	100
WLAN-CH11	V	3	Horn SN6276	2462.00	80.40		30.34	5.16	-23.12	12.38	92.78	PK	100
WLAN-CH11	V	3	Horn SN6276	2462.00	72.00		30.34	5.16	-23.12	12.38	84.38	AV	100

Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

Field Strength = SA Reading + Total CF

Formulae:

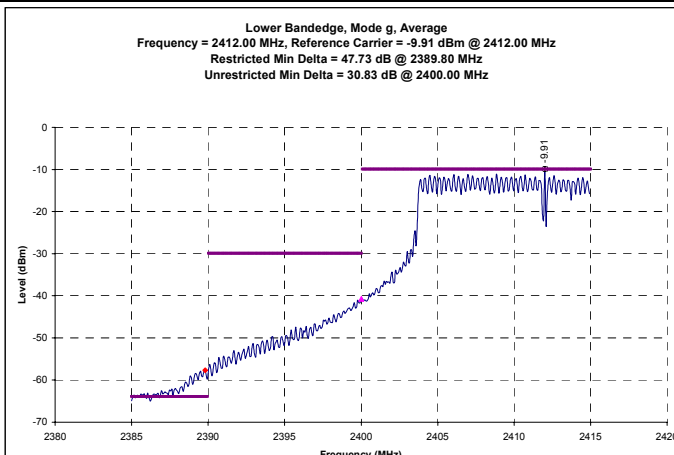
Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

$$\text{Field Strength} = \text{SA Reading} + \text{Total CF}$$


Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Average Conducted Band-edge Plots



Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandedge Field Strength	Duty Cycle Correction	Corrected Bandedge Field Strength	Specified Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m	MHz	dBuV/m	dB		dBuV/m	dB	dBuV/m	dBuV/m	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	2399.93	85.43	29.52	PK	55.91	0.00	55.91	66.58	3.00	0.00	66.58	10.67	PASS
WLAN-CH1	H	3	2400.00	76.23	30.83	AV	45.40	0.00	45.40	57.88	3.00	0.00	57.88	12.48	PASS
WLAN-CH1	V	3	2399.93	93.33	29.52	PK	63.81	0.00	63.81	73.33	3.00	0.00	73.33	9.52	PASS
WLAN-CH1	V	3	2400.00	84.33	30.83	AV	53.50	0.00	53.50	64.38	3.00	0.00	64.38	10.88	PASS

Calculated Bandedge Field Strength (dBuV/m) = Carrier Radiated Field Strength (dBuV/m) - Delta Marker (dB)
Duty Cycle Correction (dB) = $20 * \log(\text{time on} / \text{total time})$
Corrected Bandedge Field Strength (dBuV/m) = Calculated Bandedge Field Strength (dBuV/m) + Duty Cycle Correction (dB)
Limit Distance Correction = $20 * \log(\text{measurement distance} / \text{limit distance})$
Calculated Limit (dBuV/m) = Specified Limit (dBuV/m) + Limit Distance Correction (dB)
Margin (dB) = Calculated Limit (dBuV/m) – Corrected Bandedge Field Strength (dBuV/m)

**Note: Measurements and calculation reference the Marker-Delta Method described in FCC Public Notice DA 00-705
Limit based on highest radiated carrier**

 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.12. Mode g – Vehicle-Mount - 5.25" Monopole - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

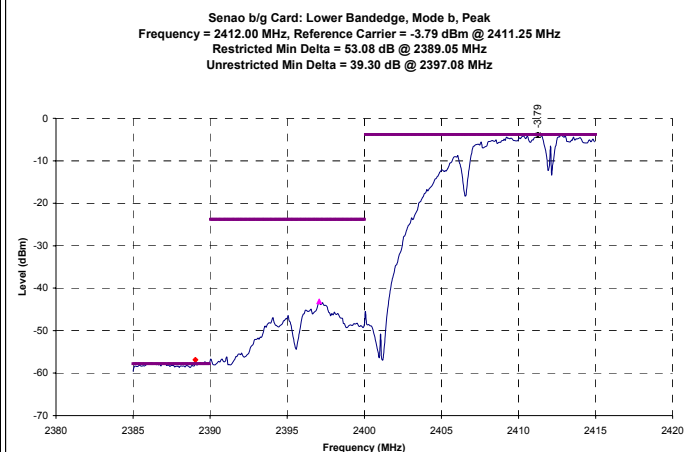
Channel		Polarity	Distance	Rx Antenna	Frequency	SA Level	Noise Floor	Rx AF	Rx CL	Other Rx	Total Rx CF	Field Strength	Detector	Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail		
								dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	m	dB	dBuV/m	dB			
WLAN-CH1	H	3	Bilog SN1607	818.77	13.50		X	22.47	2.91	0.00	25.39	38.89	PK*	3.00	0.00	57.88	18.99	PASS		
WLAN-CH1	H	3	Horn SN6276	1851.02	16.65	X		28.88	4.46	0.00	33.35	50.00	PK*	3.00	0.00	57.88	7.88	PASS		
WLAN-CH1	H	3	Horn SN6276	2466.84	41.45			30.35	5.16	-23.12	12.39	53.84	PK*	3.00	0.00	57.88	4.04	PASS		
WLAN-CH1	H	3	Horn SN6276	2482.06	40.50			30.37	5.17	-23.12	12.43	52.93	PK*	3.00	0.00	57.88	4.95	PASS		
WLAN-CH1	H	3	Horn SN6276	5271.22	45.45			36.13	7.98	-31.00	13.11	58.56	PK	3.00	0.00	66.58	8.01	PASS		
WLAN-CH1	H	3	Horn SN6276	5271.28	26.10			36.13	7.98	-31.00	13.11	39.21	AV	3.00	0.00	57.88	18.67	PASS		
WLAN-CH1	H	3	Horn SN6276	5737.57	35.65			36.60	8.39	-30.96	14.02	49.67	PK*	3.00	0.00	57.88	8.21	PASS		
WLAN-CH1	H	3	Horn SN6276	7236.00	34.40			38.22	9.72	-30.84	17.10	51.50	PK*	3.00	0.00	57.88	6.37	PASS		
WLAN-CH1	H	3	Horn SN6276	9648.00	34.00			40.30	12.00	-30.71	21.58	55.58	PK	3.00	0.00	66.58	10.99	PASS		
WLAN-CH1	H	3	Horn SN6276	9648.00	20.75			40.30	12.00	-30.71	21.58	42.33	AV	3.00	0.00	57.88	15.54	PASS		
WLAN-CH1	H	1	Horn SN6276	16884.00	37.05			42.74	10.76	-32.06	21.44	58.49	PK*	3.00	9.54	67.42	8.93	PASS		
WLAN-CH1	H	1	Waveline 899	21708.00	37.91			40.30	12.52	-35.58	17.25	55.16	PK*	3.00	9.54	67.42	12.26	PASS		
WLAN-CH1	V	3	Bilog SN1607	842.65	22.80			23.01	2.95	0.00	25.95	48.75	PK*	3.00	0.00	64.38	15.62	PASS		
WLAN-CH1	V	3	Bilog SN1607	849.64	19.50			23.29	2.94	0.00	26.22	45.72	PK*	3.00	0.00	64.38	18.65	PASS		
WLAN-CH1	V	3	Horn SN6276	1851.65	16.70		X	28.89	4.47	0.00	33.35	50.05	PK*	3.00	0.00	64.38	14.32	PASS		
WLAN-CH1	V	3	Horn SN6276	1885.90	21.50			29.05	4.53	0.00	33.58	55.08	PK*	3.00	0.00	64.38	9.29	PASS		
WLAN-CH1	V	3	Horn SN6276	1895.36	22.10			29.10	4.56	0.00	33.66	55.76	PK*	3.00	0.00	64.38	8.62	PASS		
WLAN-CH1	V	3	Horn SN6276	2453.66	45.50			30.33	5.15	-23.12	12.36	57.86	PK*	3.00	0.00	64.38	6.52	PASS		
WLAN-CH1	V	3	Horn SN6276	2475.02	43.15			30.36	5.16	-23.12	12.40	55.55	PK*	3.00	0.00	64.38	8.82	PASS		
WLAN-CH1	V	3	Horn SN6276	5254.01	41.00			36.11	8.16	-31.00	13.27	54.27	PK*	3.00	0.00	64.38	10.11	PASS		
WLAN-CH1	V	3	Horn SN6276	7236.00	34.30			38.22	9.72	-30.84	17.10	51.40	PK*	3.00	0.00	64.38	12.97	PASS		
WLAN-CH1	V	3	Horn SN6276	9648.00	33.85			40.30	12.00	-30.71	21.58	55.43	PK*	3.00	0.00	64.38	8.94	PASS		
WLAN-CH1	V	1	Horn SN6276	16884.00	37.58			42.74	10.76	-32.06	21.44	59.02	PK*	3.00	9.54	73.92	14.90	PASS		
WLAN-CH1	V	1	Waveline 899	21708.00	37.43			40.30	12.52	-35.58	17.25	54.68	PK*	3.00	9.54	73.92	19.24	PASS		
WLAN-CH6	H	3	Bilog SN1607	173.84	37.40			10.09	1.32	0.00	11.41	48.81	PK*	3.00	0.00	57.88	9.06	PASS		
WLAN-CH6	H	3	Bilog SN1607	847.08	16.10			23.18	2.93	0.00	26.11	42.21	PK*	3.00	0.00	57.88	15.66	PASS		
WLAN-CH6	H	3	Horn SN6276	1879.37	17.20		X	29.02	4.52	0.00	33.54	50.74	PK*	3.00	0.00	57.88	7.14	PASS		
WLAN-CH6	H	3	Horn SN6276	2457.44	39.60			30.33	5.16	-23.12	12.36	51.96	PK*	3.00	0.00	57.88	5.91	PASS		
WLAN-CH6	H	3	Horn SN6276	3314.08	31.15		X	32.82	6.04	-31.16	7.70	38.85	PK*	3.00	0.00	57.88	19.03	PASS		
WLAN-CH6	H	3	Horn SN6276	5741.51	33.55			36.60	8.39	-30.96	14.02	47.57	PK*	3.00	0.00	57.88	10.30	PASS		
WLAN-CH6	H	3	Horn SN6276	9748.00	33.60			40.30	12.18	-30.71	21.77	55.37	PK	3.00	0.00	66.58	11.20	PASS		
WLAN-CH6	H	3	Horn SN6276	9748.00	20.50			40.30	12.18	-30.71	21.77	42.27	AV	3.00	0.00	57.88	15.60	PASS		
WLAN-CH6	H	1	Horn SN6276	14622.00	39.27			42.58	9.80	-30.86	21.52	60.79	PK*	3.00	9.54	67.42	6.63	PASS		
WLAN-CH6	H	1	Horn SN6276	15067.25	38.39		X	42.27	10.00	-31.10	21.18	59.57	PK*	3.00	9.54	67.42	7.85	PASS		
WLAN-CH6	H	1	Horn SN6276	17059.00	38.43			43.17	10.82	-32.15	21.83	60.26	PK*	3.00	9.54	67.42	7.15	PASS		
WLAN-CH6	H	1	Waveline 899	21933.00	38.74			40.30	12.61	-35.58	17.33	56.07	PK*	3.00	9.54	67.42	11.35	PASS		
WLAN-CH6	V	3	Bilog SN1607	178.64	37.80			9.71	1.33	0.00	11.04	48.84	PK*	3.00	0.00	64.38	15.53	PASS		
WLAN-CH6	V	3	Bilog SN1607	812.92	17.00			22.66	2.92	0.00	25.58	42.58	PK*	3.00	0.00	64.38	21.80	PASS		
WLAN-CH6	V	3	Bilog SN1607	836.25	26.40			22.67	2.97	0.00	25.64	52.04	PK*	3.00	0.00	64.38	12.33	PASS		
WLAN-CH6	V	3	Bilog SN1607	921.60	29.30			24.16	3.12	0.00	27.28	56.58	PK*	3.00	0.00	64.38	7.79	PASS		
WLAN-CH6	V	3	Horn SN6276	1878.74	17.20		X	29.02	4.51	0.00	33.53	50.73	PK*	3.00	0.00	64.38	13.64	PASS		
WLAN-CH6	V	3	Horn SN6276	1889.83	17.65		X	29.07	4.54	0.00	33.61	51.26	PK*	3.00	0.00	64.38	13.11	PASS		
WLAN-CH6	V	3	Horn SN6276	1908.32	17.70		X	29.16	4.55	0.00	33.71	51.41	PK*	3.00	0.00	64.38	12.96	PASS		
WLAN-CH6	V	3	Horn SN6276	2033.60	42.95			29.65	4.69	-23.16	11.18	54.13	PK*	3.00	0.00	64.38	10.24	PASS		
WLAN-CH6	V	3	Horn SN6276	2413.24	45.10			30.26	5.10	-23.13	12.23	57.33	PK*	3.00	0.00	64.38	7.04	PASS		
WLAN-CH6	V	3	Horn SN6276	2469.46	45.15			30.35	5.16	-23.12	12.39	57.54	PK*	3.00	0.00	64.38	6.83	PASS		
WLAN-CH6	V	3	Horn SN6276	5334.55	30.90		X	36.24	8.42	-31.00	13.65	44.55	PK*	3.00	0.00	64.38	19.82	PASS		
WLAN-CH6	V	3	Horn SN6276	9748.00	33.65			40.30	12.18	-30.71	21.77	55.42	PK*	3.00	0.00	64.38	8.95	PASS		
WLAN-CH6	V	1	Horn SN6276	14622.00	37.96			42.58	9.80	-30.86	21.52	59.48	PK*	3.00	9.54	73.92	14.44	PASS		
WLAN-CH6	V	1	Horn SN6276	17059.00	38.34			43.17	10.82	-32.15	21.83	60.17	PK*	3.00	9.54	73.92	13.74	PASS		
WLAN-CH6	V	1	Waveline 899	21933.00	38.04			40.30	12.61	-35.58	17.33	55.37	PK*	3.00	9.54	73.92	18.55	PASS		
WLAN-CH11	H	3	Bilog SN1607	179.16	32.60			9.67	1.33	0.00	11.00	43.60	PK*	3.00	0.00	57.88	14.27	PASS		
WLAN-CH11	H	3	Bilog SN1607	451.05	24.80			17.50	2.15	0.00	19.65	44.45	PK*	3.00	0.00	57.88	13.42	PASS		
WLAN-CH11	H	3	Bilog SN1607	810.17	22.30			22.60	2.91	0.00	25.52	47.82	PK*	3.00	0.00	57.88	10.06	PASS		
WLAN-CH11	H	3	Bilog SN1607	842.99	19.20			23.02	2.94	0.00	25.96	45.16	PK*	3.00	0.00	57.88	12.71	PASS		
WLAN-CH11	H	3	Horn SN6276	1909.23	17.55		X	29.16	4.55	0.00	33.71	51.26	PK*	3.00	0.00	57.88	6.61	PASS		
WLAN-CH11	H	3	Horn SN6276	2415.34	31.65			30.26	5.10	-23.13	12.24	43.89	AV	3.00	0.00	57.88	13.98	PASS		
WLAN-CH11	H	3	Horn SN6276	2418.22	50.85			30.27	5.11	-23.13	12.25	63.10	PK	3.00	0.00	66.58	3.47	PASS		
WLAN-CH11	H	3	Horn SN6276	5270.68	44.90			36.13	7.99	-31.00	13.12	58.02	PK	3.00	0.00	66.58	8.55	PASS		
WLAN-CH11	H	3	Horn SN6276	5271.00	25.25			36.13	7.98	-31.00	13.11	38.36	AV	3.00	0.00	57.88	19.51	PASS		
WLAN-CH11	H	3	Horn SN6276	5742.18	36.50			36.60	8.39	-30.96	14.02	50.52	PK*	3.00	0.00	57.88	7.35	PASS		
WLAN-CH11	H	3	Horn SN6276	9648.00	34.05			40.30	12.42	-30.70	22.02	56.07	PK	3.00	0.00	66.58	10.50	PASS		
WLAN-CH11	H	3	Horn SN6276	9648.00	20.80			40.30	12.42	-30.70	22.02	42.82	AV	3.00	0.00	57.88	15.05	PASS		
WLAN-CH11	H	1	Horn SN6276	14772.00	37.64			42.55	9.87	-30.94	21.48	59.12	PK*	3.00	9.54	67.42	8.30	PASS		
WLAN-CH11	H	1	Horn SN6276	17234.00	38.11			43.66	10.88	-32.24	22.30	60.41	PK*	3.00	9.54	67.42	7.01	PASS		
WLAN-CH11	V	3	Loop 6502	2.17	43.70		X	10.32	0.52	0.00	10.84	54.54	PK*	3.00	0.00	64.38	9.84	PASS		
WLAN-CH11	V	3	Bilog SN1607	451.45	27.80		</													

 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

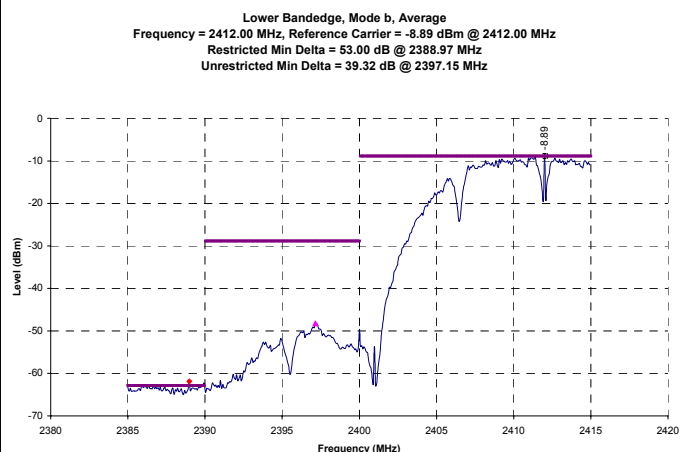
E.9.14. Mode b - Vehicle-Mount - 7.5" Monopole - Lower Band-edge Emission Field Strengths @ Specified Distance

Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Peak Conducted Band-edge Plots



Channel 1 - Average Conducted Band-edge Plots



Channel 1 - Calculated Band-edge (Out-of-Band) Field Strengths

Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandedge Field Strength	Duty Cycle Correction	Corrected Bandedge Field Strength	Specified Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m	MHz	dBuV/m	dB		dBuV/m	dB	dBuV/m	dBuV/m	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	2397.08	86.33	39.30	PK	47.03	0.00	47.03	67.68	3.00	0.00	67.68	20.65	PASS
WLAN-CH1	H	3	2397.15	76.23	39.32	AV	36.91	0.00	36.91	57.58	3.00	0.00	57.58	20.67	PASS
WLAN-CH1	V	3	2397.08	94.63	39.30	PK	55.33	0.00	55.33	75.98	3.00	0.00	75.98	20.65	PASS
WLAN-CH1	V	3	2397.15	84.33	39.32	AV	45.01	0.00	45.01	65.68	3.00	0.00	65.68	20.67	PASS

Formulae:

Calculated Bandedge Field Strength (dBuV/m) = Carrier Radiated Field Strength (dBuV/m) - Delta Marker (dB)

Duty Cycle Correction (dB) = 20 * log (time on / total time)

Corrected Bandedge Field Strength (dBuV/m) = Calculated Bandedge Field Strength (dBuV/m) + Duty Cycle Correction (dB)

Limit Distance Correction = 20 * log (measurement distance / limit distance)

Calculated Limit (dBuV/m) = Specified Limit (dBuV/m) + Limit Distance Correction (dB)

Margin (dB) = Calculated Limit (dBuV/m) - Corrected Bandedge Field Strength (dBuV/m)

Note: Measurements and calculation reference the Marker-Delta Method described in FCC Public Notice DA 00-705

Limit based on highest radiated carrier

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.15. Mode b - Vehicle-Mount - 7.5" Monopole - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Noise Floor	Rx AF	Rx CL	Other Rx	Total Rx CF	Field Strength	Detector	Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m		MHz	dBuV		dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	m	dB	dBuV/m	dB	
WLAN-CH1	H	3	Bilog SN1607	287.00	20.90	X	13.64	1.73	0.00	15.37	36.27	PK*	3.00	0.00	57.58	21.30	PASS
WLAN-CH1	H	3	Bilog SN1607	815.42	18.20		22.67	2.91	0.00	25.59	43.79	PK*	3.00	0.00	57.58	13.79	PASS
WLAN-CH1	H	3	Horn SN6276	5270.46	44.70		36.13	7.99	-31.00	13.12	57.82	PK	3.00	0.00	67.68	9.85	PASS
WLAN-CH1	H	3	Horn SN6276	5270.74	25.90		36.13	7.99	-31.00	13.12	39.02	AV	3.00	0.00	57.58	18.56	PASS
WLAN-CH1	H	3	Horn SN6276	7236.00	34.50		38.22	9.72	-30.84	17.10	51.60	PK*	3.00	0.00	57.58	5.97	PASS
WLAN-CH1	H	3	Horn SN6276	9648.00	34.30		40.30	12.00	-30.71	21.58	55.88	PK	3.00	0.00	67.68	11.79	PASS
WLAN-CH1	H	3	Horn SN6276	9648.00	21.05		40.30	12.00	-30.71	21.58	42.63	AV	3.00	0.00	57.58	14.94	PASS
WLAN-CH1	H	1	Horn SN6276	16884.00	37.70		42.74	10.76	-32.06	21.44	59.14	PK*	3.00	9.54	67.12	7.98	PASS
WLAN-CH1	H	1	Waveline 899	21708.00	37.84		40.30	12.52	-35.58	17.25	55.09	PK*	3.00	9.54	67.12	12.03	PASS
WLAN-CH1	V	3	Bilog SN1607	816.16	18.40		22.63	2.91	0.00	25.54	43.94	PK*	3.00	0.00	65.68	21.74	PASS
WLAN-CH1	V	3	Bilog SN1607	817.70	34.10		22.54	2.91	0.00	25.45	59.55	PK*	3.00	0.00	65.68	6.13	PASS
WLAN-CH1	V	3	Horn SN6276	5269.60	36.15		36.13	8.01	-31.00	13.14	49.29	PK*	3.00	0.00	65.68	16.38	PASS
WLAN-CH1	V	3	Horn SN6276	5763.10	47.15		36.61	8.41	-30.96	14.05	61.20	PK*	3.00	0.00	65.68	4.48	PASS
WLAN-CH1	V	3	Horn SN6276	7236.00	34.00		38.22	9.72	-30.84	17.10	51.10	PK*	3.00	0.00	65.68	14.57	PASS
WLAN-CH1	V	3	Horn SN6276	9648.00	34.75		40.30	12.00	-30.71	21.58	56.33	PK*	3.00	0.00	65.68	9.34	PASS
WLAN-CH1	V	1	Horn SN6276	16884.00	38.14		42.74	10.76	-32.06	21.44	59.58	PK*	3.00	9.54	75.22	15.64	PASS
WLAN-CH1	V	1	Waveline 899	21708.00	39.43		40.30	12.52	-35.58	17.25	56.68	PK*	3.00	9.54	75.22	18.54	PASS
WLAN-CH6	H	3	Horn SN6276	5764.71	36.85		36.61	8.42	-30.96	14.06	50.91	PK*	3.00	0.00	57.58	6.66	PASS
WLAN-CH6	H	3	Horn SN6276	9748.00	34.35		40.30	12.18	-30.71	21.77	56.12	PK	3.00	0.00	67.68	11.55	PASS
WLAN-CH6	H	3	Horn SN6276	9748.00	21.10		40.30	12.18	-30.71	21.77	42.87	AV	3.00	0.00	57.58	14.70	PASS
WLAN-CH6	H	1	Horn SN6276	14622.00	38.28		42.58	9.80	-30.86	21.52	59.80	PK*	3.00	9.54	67.12	7.32	PASS
WLAN-CH6	H	1	Horn SN6276	17053.95	39.66	X	43.15	10.82	-32.15	21.82	61.48	PK*	3.00	9.54	67.12	5.64	PASS
WLAN-CH6	H	1	Waveline 899	21933.00	38.36		40.30	12.61	-35.58	17.33	55.69	PK*	3.00	9.54	67.12	11.43	PASS
WLAN-CH6	V	3	Bilog SN1607	846.86	27.00		23.17	2.93	0.00	26.10	53.10	PK*	3.00	0.00	65.68	12.57	PASS
WLAN-CH6	V	3	Bilog SN1607	921.71	25.60		24.17	3.12	0.00	27.29	52.89	PK*	3.00	0.00	65.68	12.79	PASS
WLAN-CH6	V	3	Horn SN6276	1887.92	19.20	X	29.06	4.54	0.00	33.60	52.80	PK*	3.00	0.00	65.68	12.88	PASS
WLAN-CH6	V	3	Horn SN6276	2482.54	41.90		30.37	5.18	-23.12	12.43	54.33	PK*	3.00	0.00	65.68	11.35	PASS
WLAN-CH6	V	3	Horn SN6276	5265.64	37.25		36.13	8.09	-31.00	13.22	50.47	PK*	3.00	0.00	65.68	15.21	PASS
WLAN-CH6	V	3	Horn SN6276	5763.46	47.50		36.61	8.41	-30.96	14.05	61.55	PK*	3.00	0.00	65.68	4.12	PASS
WLAN-CH6	V	3	Horn SN6276	9285.71	36.10	X	40.26	11.47	-30.73	21.00	57.10	PK*	3.00	0.00	65.68	8.58	PASS
WLAN-CH6	V	3	Horn SN6276	9748.00	33.80		40.30	12.18	-30.71	21.77	55.57	PK*	3.00	0.00	65.68	10.10	PASS
WLAN-CH6	V	1	Horn SN6276	14622.00	38.11		42.58	9.80	-30.86	21.52	59.63	PK*	3.00	9.54	75.22	15.59	PASS
WLAN-CH6	V	1	Horn SN6276	17059.00	38.61		43.17	10.82	-32.15	21.83	60.44	PK*	3.00	9.54	75.22	14.77	PASS
WLAN-CH6	V	1	Waveline 899	21928.65	40.77	X	40.30	12.61	-35.58	17.33	58.10	PK*	3.00	9.54	75.22	17.12	PASS
WLAN-CH6	V	1	Waveline 899	21933.00	38.58		40.30	12.61	-35.58	17.33	55.91	PK*	3.00	9.54	75.22	19.31	PASS
WLAN-CH11	H	3	Bilog SN1607	449.15	23.50		17.50	2.15	0.00	19.65	43.15	PK*	3.00	0.00	57.58	14.43	PASS
WLAN-CH11	H	3	Bilog SN1607	606.56	15.20	X	20.30	2.47	0.00	22.77	37.97	PK*	3.00	0.00	57.58	19.60	PASS
WLAN-CH11	H	3	Bilog SN1607	837.28	32.80		22.74	2.95	0.00	25.69	58.49	PK	3.00	0.00	67.68	9.19	PASS
WLAN-CH11	H	3	Bilog SN1607	837.28	12.00		22.74	2.95	0.00	25.69	37.69	QP	3.00	0.00	57.58	19.89	PASS
WLAN-CH11	H	3	Bilog SN1607	844.22	16.90		23.07	2.93	0.00	26.00	42.90	PK*	3.00	0.00	57.58	14.67	PASS
WLAN-CH11	H	3	Horn SN6276	2414.82	49.85		30.26	5.10	-23.13	12.24	62.09	PK	3.00	0.00	67.68	5.58	PASS
WLAN-CH11	H	3	Horn SN6276	2415.28	26.85		30.26	5.10	-23.13	12.24	39.09	AV	3.00	0.00	57.58	18.48	PASS
WLAN-CH11	H	3	Horn SN6276	9848.00	34.00		40.30	12.42	-30.70	22.02	56.02	PK	3.00	0.00	67.68	11.65	PASS
WLAN-CH11	H	3	Horn SN6276	9848.00	20.75		40.30	12.42	-30.70	22.02	42.77	AV	3.00	0.00	57.58	14.80	PASS
WLAN-CH11	H	1	Horn SN6276	14772.00	38.23		42.55	9.87	-30.94	21.48	59.71	PK*	3.00	9.54	67.12	7.41	PASS
WLAN-CH11	H	1	Horn SN6276	17234.00	38.43		43.66	10.88	-32.24	22.30	60.73	PK*	3.00	9.54	67.12	6.39	PASS
WLAN-CH11	V	3	Bilog SN1607	173.21	27.30		10.14	1.32	0.00	11.46	38.76	PK*	3.00	0.00	65.68	26.91	PASS
WLAN-CH11	V	3	Bilog SN1607	336.47	27.00		14.83	1.85	0.00	16.68	43.68	PK*	3.00	0.00	65.68	22.00	PASS
WLAN-CH11	V	3	Bilog SN1607	830.41	29.70		22.32	2.97	0.00	25.29	54.99	PK*	3.00	0.00	65.68	10.68	PASS
WLAN-CH11	V	3	Bilog SN1607	837.59	24.00		22.76	2.95	0.00	25.70	49.70	PK*	3.00	0.00	65.68	15.97	PASS
WLAN-CH11	V	3	Bilog SN1607	849.38	23.20		23.28	2.94	0.00	26.21	49.41	PK*	3.00	0.00	65.68	16.26	PASS
WLAN-CH11	V	3	Horn SN6276	1852.85	15.95	X	28.89	4.47	0.00	33.36	49.31	PK*	3.00	0.00	65.68	16.36	PASS
WLAN-CH11	V	3	Horn SN6276	2474.20	43.35		30.36	5.16	-23.12	12.40	55.75	PK*	3.00	0.00	65.68	9.92	PASS
WLAN-CH11	V	3	Horn SN6276	5266.18	37.00		36.13	8.08	-31.00	13.21	50.21	PK*	3.00	0.00	65.68	15.47	PASS
WLAN-CH11	V	3	Horn SN6276	9848.00	33.60		40.30	12.42	-30.70	22.02	55.62	PK*	3.00	0.00	65.68	10.05	PASS
WLAN-CH11	V	1	Horn SN6276	14772.00	38.03		42.55	9.87	-30.94	21.48	59.51	PK*	3.00	9.54	75.22	15.71	PASS
WLAN-CH11	V	1	Horn SN6276	17234.00	38.28		43.66	10.88	-32.24	22.30	60.58	PK*	3.00	9.54	75.22	14.64	PASS

Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

Field Strength = SA Reading + Total CF

Limit Distance Correction = $40 \cdot \log(d1/d2)$ for $F < 30$ MHz, $20 \cdot \log(d1/d2)$ for $F > 30$ MHz:

where d1 is the measurement distance, d2 is the published limit distance

Limit = Specified Limit + Limit Distance Correction

Margin = Limit - Field Strength

BOLD indicates emission at or near a carrier harmonic frequency

*Where applicable the QP or Average Limits were applied to the peak emission

No emissions were measured with margins less than those reported

Limit based on highest radiated carrier in the applicable configuration

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305		
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas							
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	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.16. Mode g - Vehicle-Mount - 7.5" Monopole - Fundamental Field Strengths @ Specified Distance (100kHz RBW)

Channel	Polarity	Measurement Distance	Antenna	Frequency	SA Level	Noise Floor	AF	CL	Other	Total CF	Field Strength	Detector	RBW
		m					MHz	dBuV	dB/m	dB	dB		dB/m
WLAN-CH1	H	3	Horn SN6276	2412.00	71.50		30.26	5.10	-23.13	12.23	83.73	PK	100
WLAN-CH1	H	3	Horn SN6276	2412.00	62.70		30.26	5.10	-23.13	12.23	74.93	AV	100
WLAN-CH1	V	3	Horn SN6276	2412.00	79.80		30.26	5.10	-23.13	12.23	92.03	PK	100
WLAN-CH1	V	3	Horn SN6276	2412.00	71.90		30.26	5.10	-23.13	12.23	84.13	AV	100
WLAN-CH6	H	3	Horn SN6276	2437.00	71.20		30.30	5.14	-23.12	12.31	83.51	PK	100
WLAN-CH6	H	3	Horn SN6276	2437.00	61.90		30.30	5.14	-23.12	12.31	74.21	AV	100
WLAN-CH6	V	3	Horn SN6276	2437.00	80.70		30.30	5.14	-23.12	12.31	93.01	PK	100
WLAN-CH6	V	3	Horn SN6276	2437.00	71.20		30.30	5.14	-23.12	12.31	83.51	AV	100
WLAN-CH11	H	3	Horn SN6276	2462.00	71.40		30.34	5.16	-23.12	12.38	83.78	PK	100
WLAN-CH11	H	3	Horn SN6276	2462.00	62.90		30.34	5.16	-23.12	12.38	75.28	AV	100
WLAN-CH11	V	3	Horn SN6276	2462.00	80.00		30.34	5.16	-23.12	12.38	92.38	PK	100
WLAN-CH11	V	3	Horn SN6276	2462.00	71.60		30.34	5.16	-23.12	12.38	83.98	AV	100

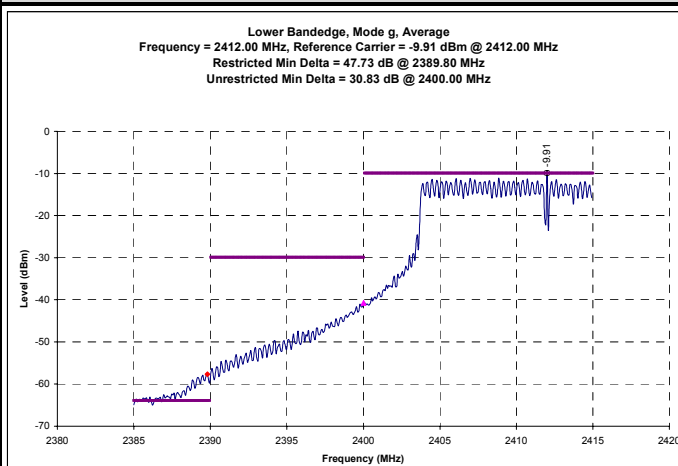
Formulae:

Total CF = Antenna Factor + Cable Factor + Other Factor (Amplifier Gain, filter loss, etc)

$$\text{Field Strength} = \text{SA Reading} + \text{Total CF}$$

Note: (Upper Band-edge (Restricted Band) is in Appendix F)

Channel 1 - Average Conducted Band-edge Plots



Channel	Polarity	Distance	Frequency	Carrier Radiated Field Strength	Delta Marker	Detector	Calculated Bandedge Field Strength	Duty Cycle Correction	Corrected Bandedge Field Strength	Specified Limit	Specified Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail
		m													
WLAN-CH1	H	3	2399.93	83.73	29.52	PK	54.21	0.00	54.21	63.78	3.00	0.00	63.78	9.57	PASS
WLAN-CH1	H	3	2400.00	74.93	30.83	AV	44.10	0.00	44.10	55.28	3.00	0.00	55.28	11.18	PASS
WLAN-CH1	V	3	2399.93	92.03	29.52	PK	62.51	0.00	62.51	73.01	3.00	0.00	73.01	10.50	PASS
WLAN-CH1	V	3	2400.00	84.13	30.83	AV	53.30	0.00	53.30	64.13	3.00	0.00	64.13	10.83	PASS

Calculated Bandedge Field Strength (dBuV/m) = Carrier Radiated Field Strength (dBuV/m) - Delta Marker (dB)
Duty Cycle Correction (dB) = $20 * \log(\text{time on} / \text{total time})$
Corrected Bandedge Field Strength (dBuV/m) = Calculated Bandedge Field Strength (dBuV/m) + Duty Cycle Correction (dB)
Limit Distance Correction = $20 * \log(\text{measurement distance} / \text{limit distance})$
Calculated Limit (dBuV/m) = Specified Limit (dBuV/m) + Limit Distance Correction (dB)
Margin (dB) = Calculated Limit (dBuV/m) – Corrected Bandedge Field Strength (dBuV/m)

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.9.18. Mode g - Vehicle-Mount - 7.5" Monopole - Out-of-Band Spurious Emission Field Strengths (not within restricted bands)

Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Noise Floor	Rx AF	Rx CL	Other Rx	Total Rx CF	Field Strength	Detector	Limit Distance	Limit Distance Correction	Calculated Limit	Margin	Pass/Fail				
							m	Mhz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	m	dB	dBuV/m	dB		
WLAN-CH1	H	3	Blilog SN1607	818.77	13.50	X	22.47	2.91	0.00	25.39	38.89	PK*	3.00	0.00	55.28	16.39	PASS				
WLAN-CH1	H	3	Horn SN6276	1851.02	16.65	X	28.88	4.46	0.00	33.35	50.00	PK*	3.00	0.00	55.28	5.28	PASS				
WLAN-CH1	H	3	Horn SN6276	5271.22	45.45		36.13	7.98	-31.00	13.11	58.56	PK	3.00	0.00	63.78	5.21	PASS				
WLAN-CH1	H	3	Horn SN6276	5271.28	26.10		36.13	7.98	-31.00	13.11	39.21	AV	3.00	0.00	55.28	16.07	PASS				
WLAN-CH1	H	3	Horn SN6276	5737.57	35.65		36.60	8.39	-30.96	14.02	49.67	PK*	3.00	0.00	55.28	5.61	PASS				
WLAN-CH1	H	3	Horn SN6276	7236.00	34.40		38.22	9.72	-30.84	17.10	51.50	PK*	3.00	0.00	55.28	3.77	PASS				
WLAN-CH1	H	3	Horn SN6276	9648.00	34.00		40.30	12.00	-30.71	21.58	55.58	PK	3.00	0.00	63.78	8.19	PASS				
WLAN-CH1	H	3	Horn SN6276	9648.00	20.75		40.30	12.00	-30.71	21.58	42.33	AV	3.00	0.00	55.28	12.94	PASS				
WLAN-CH1	H	1	Horn SN6276	16884.00	37.05		42.74	10.76	-32.06	21.44	58.49	PK*	3.00	9.54	64.82	6.33	PASS				
WLAN-CH1	H	1	Waveline 899	21708.00	37.91		40.30	12.52	-35.58	17.25	55.16	PK*	3.00	9.54	64.82	9.66	PASS				
WLAN-CH1	V	3	Blilog SN1607	842.65	22.80		23.01	2.95	0.00	25.95	48.75	PK*	3.00	0.00	64.13	15.38	PASS				
WLAN-CH1	V	3	Blilog SN1607	849.64	19.50		23.29	2.94	0.00	26.22	45.72	PK*	3.00	0.00	64.13	18.41	PASS				
WLAN-CH1	V	3	Horn SN6276	1851.65	16.70	X	28.89	4.47	0.00	33.35	50.05	PK*	3.00	0.00	64.13	14.08	PASS				
WLAN-CH1	V	3	Horn SN6276	1885.90	21.50		29.05	4.53	0.00	33.58	55.08	PK*	3.00	0.00	64.13	9.05	PASS				
WLAN-CH1	V	3	Horn SN6276	1895.36	22.10		29.10	4.56	0.00	33.66	55.76	PK*	3.00	0.00	64.13	8.37	PASS				
WLAN-CH1	V	3	Horn SN6276	2453.66	45.50		30.33	5.15	-23.12	12.36	57.86	PK*	3.00	0.00	64.13	6.27	PASS				
WLAN-CH1	V	3	Horn SN6276	2475.02	43.15		30.36	5.16	-23.12	12.40	55.55	PK*	3.00	0.00	64.13	8.58	PASS				
WLAN-CH1	V	3	Horn SN6276	5254.01	41.00		36.11	8.16	-31.00	13.27	54.27	PK*	3.00	0.00	64.13	9.86	PASS				
WLAN-CH1	V	3	Horn SN6276	7236.00	34.30		38.22	9.72	-30.84	17.10	51.40	PK*	3.00	0.00	64.13	12.73	PASS				
WLAN-CH1	V	3	Horn SN6276	9648.00	33.85		40.30	12.00	-30.71	21.58	55.43	PK*	3.00	0.00	64.13	8.70	PASS				
WLAN-CH1	V	1	Horn SN6276	16884.00	37.58		42.74	10.76	-32.06	21.44	59.02	PK*	3.00	9.54	73.67	14.65	PASS				
WLAN-CH1	V	1	Waveline 899	21708.00	37.43		40.30	12.52	-35.58	17.25	54.68	PK*	3.00	9.54	73.67	19.00	PASS				
WLAN-CH6	H	3	Blilog SN1607	173.84	37.40		10.09	1.32	0.00	11.41	48.81	PK*	3.00	0.00	55.28	6.46	PASS				
WLAN-CH6	H	3	Blilog SN1607	847.08	16.10		23.18	2.93	0.00	26.11	42.21	PK*	3.00	0.00	55.28	13.06	PASS				
WLAN-CH6	H	3	Horn SN6276	1879.37	17.20		29.02	4.52	0.00	33.54	50.74	PK*	3.00	0.00	55.28	4.54	PASS				
WLAN-CH6	H	3	Horn SN6276	2457.44	39.60		30.33	5.16	-23.12	12.36	51.96	PK*	3.00	0.00	55.28	3.31	PASS				
WLAN-CH6	H	3	Horn SN6276	3314.08	31.15	X	32.82	6.04	-31.16	7.70	38.85	PK*	3.00	0.00	55.28	16.43	PASS				
WLAN-CH6	H	3	Horn SN6276	5741.51	33.55		36.60	8.39	-30.96	14.02	47.57	PK*	3.00	0.00	55.28	7.70	PASS				
WLAN-CH6	H	1	Horn SN6276	14622.00	39.27		42.58	9.80	-30.86	21.52	60.79	PK*	3.00	9.54	64.82	4.03	PASS				
WLAN-CH6	H	1	Horn SN6276	15067.25	38.39	X	42.27	10.00	-31.10	21.18	59.57	PK*	3.00	9.54	64.82	5.25	PASS				
WLAN-CH6	H	1	Horn SN6276	17059.00	38.43		43.17	10.82	-32.15	21.83	60.26	PK*	3.00	9.54	64.82	4.55	PASS				
WLAN-CH6	H	1	Waveline 899	21933.00	38.74		40.30	12.61	-35.58	17.33	56.07	PK*	3.00	9.54	64.82	8.75	PASS				
WLAN-CH6	V	3	Blilog SN1607	178.64	37.80		9.71	1.33	0.00	11.04	48.84	PK*	3.00	0.00	64.13	15.29	PASS				
WLAN-CH6	V	3	Blilog SN1607	812.92	17.00		22.66	2.92	0.00	25.58	42.58	PK*	3.00	0.00	64.13	21.55	PASS				
WLAN-CH6	V	3	Blilog SN1607	836.25	26.40		22.67	2.97	0.00	25.64	52.04	PK*	3.00	0.00	64.13	12.09	PASS				
WLAN-CH6	V	3	Blilog SN1607	921.60	29.30		24.16	3.12	0.00	27.28	56.58	PK*	3.00	0.00	64.13	7.55	PASS				
WLAN-CH6	V	3	Horn SN6276	1878.74	17.20	X	29.02	4.51	0.00	33.53	50.73	PK*	3.00	0.00	64.13	13.40	PASS				
WLAN-CH6	V	3	Horn SN6276	1889.83	17.65	X	29.07	4.54	0.00	33.61	51.26	PK*	3.00	0.00	64.13	12.87	PASS				
WLAN-CH6	V	3	Horn SN6276	1908.32	17.70	X	29.16	4.55	0.00	33.71	51.41	PK*	3.00	0.00	64.13	12.72	PASS				
WLAN-CH6	V	3	Horn SN6276	2033.60	42.95		29.65	4.69	-23.16	11.18	54.13	PK*	3.00	0.00	64.13	10.00	PASS				
WLAN-CH6	V	3	Horn SN6276	2413.24	45.10		30.26	5.10	-23.13	12.23	57.33	PK*	3.00	0.00	64.13	6.80	PASS				
WLAN-CH6	V	3	Horn SN6276	2469.46	45.15		30.35	5.16	-23.12	12.39	57.54	PK*	3.00	0.00	64.13	6.59	PASS				
WLAN-CH6	V	3	Horn SN6276	5334.55	30.90	X	36.24	8.42	-31.00	13.65	44.55	PK*	3.00	0.00	64.13	19.58	PASS				
WLAN-CH6	V	3	Horn SN6276	9748.00	33.65		40.30	12.18	-30.71	21.77	55.42	PK*	3.00	0.00	64.13	8.71	PASS				
WLAN-CH6	V	1	Horn SN6276	14622.00	37.96		42.58	9.80	-30.86	21.52	59.48	PK*	3.00	9.54	73.67	14.20	PASS				
WLAN-CH6	V	1	Horn SN6276	17059.00	38.34		43.17	10.82	-32.15	21.83	60.17	PK*	3.00	9.54	73.67	13.50	PASS				
WLAN-CH6	V	1	Waveline 899	21933.00	38.04		40.30	12.61	-35.58	17.33	55.37	PK*	3.00	9.54	73.67	18.30	PASS				
WLAN-CH11	H	3	Blilog SN1607	179.16	32.60		9.67	1.33	0.00	11.00	43.60	PK*	3.00	0.00	55.28	11.67	PASS				
WLAN-CH11	H	3	Blilog SN1607	845.05	24.80		17.50	2.15	0.00	19.65	44.45	PK*	3.00	0.00	55.28	10.82	PASS				
WLAN-CH11	H	3	Blilog SN1607	810.17	22.30		22.60	2.91	0.00	25.52	47.82	PK*	3.00	0.00	55.28	7.46	PASS				
WLAN-CH11	H	3	Blilog SN1607	842.99	19.20		23.02	2.94	0.00	25.96	45.16	PK*	3.00	0.00	55.28	10.11	PASS				
WLAN-CH11	H	3	Horn SN6276	1909.23	17.55	X	29.16	4.55	0.00	33.71	51.26	PK*	3.00	0.00	55.28	4.01	PASS				
WLAN-CH11	H	3	Horn SN6276	5270.68	44.90		36.13	7.99	-31.00	13.12	58.02	PK	3.00	0.00	63.78	5.75	PASS				
WLAN-CH11	H	3	Horn SN6276	5271.00	25.25		36.13	7.98	-31.00	13.11	38.36	AV	3.00	0.00	55.28	16.91	PASS				
WLAN-CH11	H	3	Horn SN6276	5742.18	36.50		36.60	8.39	-30.96	14.02	50.52	PK*	3.00	0.00	55.28	4.75	PASS				
WLAN-CH11	H	3	Horn SN6276	9648.00	34.05		40.30	12.42	-30.70	22.02	56.07	PK	3.00	0.00	63.78	7.70	PASS				
WLAN-CH11	H	3	Horn SN6276	9648.00	20.80		40.30	12.42	-30.70	22.02	42.82	AV	3.00	0.00	55.28	12.45	PASS				
WLAN-CH11	H	1	Horn SN6276	14772.00	37.64		42.55	9.87	-30.94	21.48	59.12	PK*	3.00	9.54	64.82	5.70	PASS				
WLAN-CH11	H	1	Horn SN6276	17234.00	38.11		43.66	10.88	-32.24	22.30	60.41	PK*	3.00	9.54	64.82	4.41	PASS				
WLAN-CH11	V	3	Loop 6502	2.17	43.70		10.32	0.52	0.00	10.84	54.54	PK*	3.00	0.00	64.13	9.59	PASS				
WLAN-CH11	V	3	Blilog SN1607	451.45	27.80		17.50	2.15	0.00	19.65	47.45	PK*	3.00	0.00	64.13	16.68	PASS				
WLAN-CH11	V	3	Blilog SN1607	835.48	5.00		22.63	2.96	0.00	25.59	30.59	QP	3.00	0.00	64.13	33.54	PASS				
WLAN-CH11	V	3	Blilog SN1607	835.48	39.70		22.63	2.96	0.00	25.59	65.29	PK	3.00	0.00	73.01	7.72	PASS				
WLAN-CH11	V	3	Horn SN6276	1889.52	17.55	X	29.07	4.54	0.00	33.61	51.16	PK*	3.00	0.00	64.13	12.97	PASS				
WLAN-CH11	V	3	Horn SN6276	1913.60	17.75	X	29.19	4.54	0.00	33.72	51.47	PK*	3.00	0.00	64.13	12.66	PASS				
WLAN-CH11	V	3	Horn SN6276	2477.24	42.45		30.36	5.16	-23.12	12.41	54.86	PK*	3.00	0.00	64.13	9.27	PASS				
WLAN-CH11	V	3	Horn SN6276	2648.08	36.90		30.67	5.38	-23.11	13.14	50.04	PK*	3.00	0.00	64.13	14.09	PASS				
WLAN-CH11	V	3	Horn SN6276	5253.09	31.10	X	36.10	8.16	-31.00	13.28	44.36	PK*	3.00	0.00	64.13	19.77	PASS				
WLAN-CH11	V	3	Horn SN6276	57																	

 Testing and Engineering Services Lab	Test Report Serial No.:	061405KBC-T648-E15W	Report Issue No.:	Issue 1.0
	Test Date(s):	15Jun05 - 04Aug05	Report Issue Date:	20Sept05
	Test Rule Part(s):	FCC 47 CFR §15.247	Industry Canada RSS-210 Issue 5	
	Lab Registration(s):	FCC Lab Reg. # 714830	Industry Canada Lab File # IC 3874	

E.10. PASS/FAIL

In reference to the results outlined in E.9, the DUT passes the requirements as stated in the reference standards as follows:
FCC 15.247 (c): All emissions within any 100 kHz bandwidth outside the operating frequency band are greater than 20 dB below the maximum 100 kHz bandwidth signal within the operating band.

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.



Alex Yuan
EMC Technologist
Celltech Labs Inc.

17Jul05

Date

Applicant:	Itronix Corporation	Model:	IX260PLUSNL305	FCC ID:	KBCIX260PLUSNL305	
Rugged Laptop PC with internal Senao NL-3054MP 802.11b/g WLAN Mini-PCI Card and External Antennas						
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