



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

ELECTROMAGNETIC COMPATIBILITY

EMC TEST REPORT

FCC 47 CFR §15.249

&

IC RSS-210 ISSUE 6

FOR

RFIND SYSTEMS, INC.

RFID TAG READER

MODEL NAME: GATEWAY

MODEL NUMBER: G100A

FCC ID: UL3G100A

IC: 6721A-G100A

Test Report Serial No.

022607UL3-T817-E15R

Test Report Revision No.

Revision 1.0 (Initial Release)

Test Lab and Location

Celltech Compliance Testing & Engineering Lab

(Celltech Labs Inc.)

1955 Moss Court

Kelowna, BC

Canada

V1Y 9L3



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DECLARATION OF COMPLIANCE

<u>Test Lab and Location</u>	CELLTECH LABS INCORPORATED Testing and Engineering Services 1955 Moss Court Kelowna, B.C. Canada V1Y 9L3			<u>Company Information</u>	RFIND SYSTEMS, INC. 102, 9-3151 Lakeshore Road Kelowna, British Columbia Canada V1W 3S9
Phone:	250-448-7047				
Fax:	250-448-7048				
e-mail:	info@celltechlabs.com				
web site:	www.celltechlabs.com				
Test Laboratory Registration No.(s):	FCC:	714830	IC:	3874	
Rule Part(s) Applied:	FCC:	47 CFR §15.249			
	IC:	RSS-GEN Issue 1; RSS-210 Issue 6			
Device Classification(s):	FCC:	Part 15 Low Power Transceiver, Rx Verified (DXT)			
	IC:	Low Power Licence-exempt Radiocommunication Device			
Device Identifier(s):	FCC ID:	UL3G100A	IC:	6721A-G100A	
Device Model(s):	Name:	Gateway	No.	G100A	
Device Description:	RFID Tag Reader				
Frequency Range:	902.2 - 927.8 MHz				
Modulation Type:	FSK (Frequency Shift Keying)				
Antenna Type(s):	Omni-Directional Dipole			Gain: 2.2 dBi	External
	Patch			Gain: 5.5 dBi	External
Power Source Tested:	AC Power Adapter	Model: TR1515	Cincon Electronics Co., Ltd.		

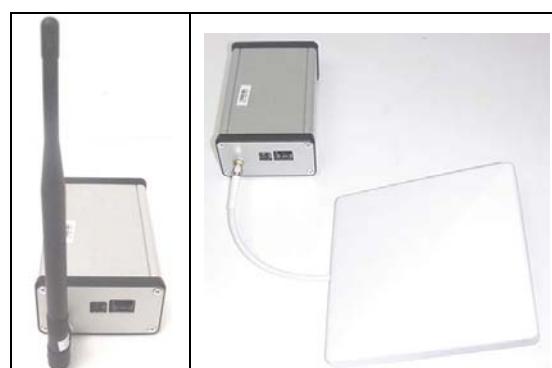
This wireless transceiver has demonstrated compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in FCC 47 CFR Part 15 Subpart C, Industry Canada RSS-GEN Issue 1, RSS 210 Issue 6 and ANSI C63.4:2003.

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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Test Report Approved By:

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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TEST SUMMARY

Referenced Standard: FCC CFR Title 47 Part 15 Subpart C

Appendix	Test Description	Procedure Reference	Limit Reference	Test Start Date	Test End Date	Result
A	Radiated Fundamental	ANSI C63.4:2003	§15.249	27Feb07	27Feb07	Pass
B	Radiated TX Spurious Emissions and Harmonics	ANSI C63.4:2003	§15.249, §15.209	1Mar07	7Mar07	Pass
D	Powerline Conducted Emissions	ANSI C63.4:2003	§15.107	9Mar07	9Mar07	Pass
E	Compliance with Part 15.215(c)	ANSI C63.4:2003	§15.215(c)	2Apr07	2Apr07	Pass

Referenced Standard(s): IC RSS-210 Issue 6 & RSS-GEN Issue 1

A	Radiated Fundamental	RSS-Gen §4.7	RSS-210 §2.7	27Feb07	27Feb07	Pass
B	Radiated TX Spurious Emissions and Harmonics	RSS-Gen §4.7	RSS-210 §2.7	1Mar07	7Mar07	Pass
C	Conducted RX Spurious Emissions	RSS-Gen §4.8	RSS-Gen §6(b)	28Feb07	28Feb07	Pass
D	Powerline Conducted Emissions	RSS-212, ANSI C63.4	RSS-Gen § 7.2.2	9Mar07	9Mar07	Pass
E	Frequency Stability	RSS-Gen §4.5	RSS-210 §2.1	2Apr07	2Apr07	Pass

REVISION LOG

Revision No.	Description	Implemented By	Implementation Date
Revision 1.0	Initial Release	Jonathan Hughes	April 04, 2007

SIGNATORIES

Prepared By		April 03, 2007
Name/Title	Spencer Watson / EMC Lab Manager	Date
Reviewed By		April 04, 2007
Name/Title	Jonathan Hughes / General Manager	Date

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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1.0 SCOPE

This report outlines the measurements made and results collected during electromagnetic emissions testing of the RFInd Systems, Inc. Gateway G100A RFID Tag Reader. The product was tested in continuous transmit mode on low, mid and high channels. The measurement results were applied against the applicable EMC requirements and limits outlined in the technical rules and regulations set forth in the Federal Communication Commission Code of Federal Regulations Title 47 Part 15 Subpart C, Industry Canada Radio Standards Specifications RSS-210 Issue 6 and RSS-GEN Issue 1.

2.0 REFERENCES

2.1 Normative References

ANSI/ISO 17025:2005	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 C95.1:2005	American National Standard Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields
CFR Title 47: 2006	Code of Federal Regulations Title 47: Telecommunication Part 2: Frequency Allocations and Radio Treaty Matters; General Rules and Regulations Part 15: Radio Frequency Devices
IC Spectrum Management & Telecommunications Policy	Radio Standards Specification RSS-GEN Issue 1 - General Requirements and Information for the Certification of Radiocommunication Equipment (September 2005) RSS-210 Issue 6 - Low Power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment (September 2005)

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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3.0 TERMS AND DEFINITIONS

AV	Average
CDMA	Code Division Multiple Access
CFR	Code of Federal Regulations
dB	decibel
dBm	dB referenced to 1 mW
dBuV	dB referenced to 1 uV
DUT	Device under Test
dBc	dB down from carrier
EBW	Emission Bandwidth
EIRP	Effective Isotropic Radiated Power
EDGE	Enhanced Data Rates for CDMA Evolution
EMC	Electromagnetic Compatibility
ERP	Effective Radiated Power
FCC	Federal Communication Commission
FHSS	Frequency Hopping Spread Spectrum
FSK	Frequency Shift Keying
GSM	Global System for Mobile Communications
GPRS	General Packet Radio Service
HP	Hewlett Packard
HPF	High Pass Filter
Hpol	Horizontal Polarization
Hz	Hertz
IC	Industry Canada
kHz	kilohertz
LNA	Low Noise Amplifier
m	meter
MHz	Megahertz
Mbps	megabits per second
na	not applicable
n/a	not available
PK	Peak
PPSD	Peak Power Spectral Density
QP	Quasi-peak
RBW	Resolution Bandwidth
RFID	Radio Frequency IDentification
R&S	Rohde & Schwarz
RSS	Radio Standard Specification
SA	Spectrum Analyzer
VBW	Video Bandwidth
Vpol	Vertical Polarization
WLAN	Wireless Local Area Network

4.0 FACILITIES AND ACCREDITATIONS

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

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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5.0 GENERAL INFORMATION

5.1 DUT Description

Device:	RFind RFID Tag Reader	Serial No.:	None
Model Name:	Gateway	Model No.:	G100A
Antenna Type(s):	Omni-Directional Dipole	Gain: 2.2 dBi	Manuf.: Mobile Mark P/N: PSKN3-925S
	Patch	Gain: 5.5 dBi	Manuf.: Mobile Mark P/N: BP6-915S
Max. Conducted Power:	10 dBm	Max. Duty Cycle:	1-2%
Power Source(s):	AC Power Adapter	Model: TR1515	Cincon Electronics Co., Ltd.
Connector Type(s):	SMA RF antenna connector	RS-232 (Diagnostic only)	RJ-45 Ethernet

5.2 Co-Located Equipment

None

5.3 Support Equipment

There was no support equipment utilized with this device.

5.4 Clock Frequencies

5.4.1 DUT Clock Frequencies

Device:	RFID Tag Reader
Clocks:	24 MHz, 27 MHz, 55 MHz

5.5 Mode(s) of Operation Tested

Transmitter Frequency:	902.2 - 927.8 MHz
Power Gain / Settings:	DUT was tested in continuous transmit operation and maximum output power
Modulation Tested:	Modulated Carrier

5.6 Configuration Description

The fundamental field strength of the DUT was measured in 3 orthogonal orientations. The orientation with the maximum measured result was then used for all subsequent measurements. More specific details may be included in each appendix. The DUT was tested in a configuration described by the client as being typical of normal use.

6.0 PASS/FAIL CRITERIA

Unless otherwise noted in the Appendices, the pass/fail criterion is the limit set forth in the reference standards. The DUT is considered compliant with the requirements if the data collected during the described measurement procedure is within the specified limits as defined. The pass/fail statements made in this report only apply to the unit tested.

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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APPENDICES

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz		
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Appendix A - Radiated Field Strength of the Fundamental

A.1. REFERENCES

Normative Reference Standard	§15.35, §15.249
Procedure Reference	ANSI C63.4:2003

A.2. LIMITS

FCC CFR 47 §15.35(b)	When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average limit applicable to the equipment under test.
FCC CFR 47 §15.249(a)	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:
Fundamental Frequency	Strength of fundamental (mV/m)
902.2 - 927.8 MHz	50 (93.98 dBuV/m)

A.3. ENVIRONMENTAL CONDITIONS

Temperature	25 ± 5 °C
Humidity	35 ± 5 %RH
Barometric Pressure	uncontrolled

A.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	EMCO	2075	Mini-mast	na	na
2	00073	EMCO	2080	Turn Table	na	na
3	00071	EMCO	2090	Multi-Device Controller	na	na
4	00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
5	00051	HP	8566B	Spectrum Analyzer	04Apr06	04Apr07
6	00047	HP	85685A	Preselector	05Apr06	05Apr07
7	00049	HP	85650A	Quasi-Peak Adapter	04Apr06	04Apr07
8	00048	Gore	65474	Microwave Cable	16Aug05	16Aug07
9	00120	Celltech	n/a	Microwave Cable (RX)	na*	na*

*Attenuator offset in power meter

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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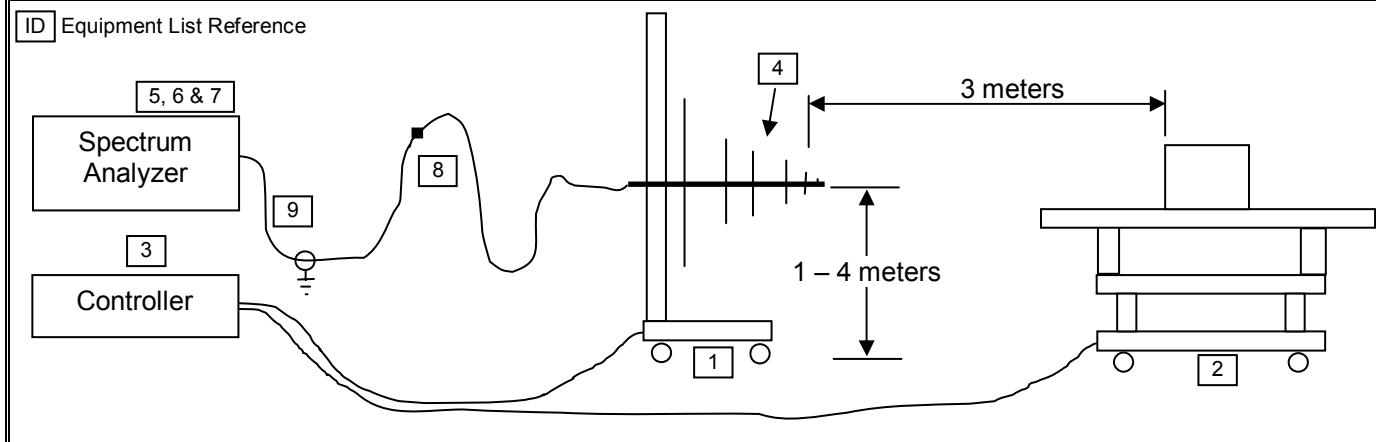
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A.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in A.6.			
MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:			
Frequencies Measured	RBW	VBW	Detector	
	kHz	kHz		
	902.2 - 927.8 MHz	1000		Peak
	902.2 - 927.8 MHz	120		Quasi-Peak

A.6. SETUP DRAWING

Figure A.6-1 - Setup Drawing



A.7. DUT OPERATING DESCRIPTION

Power measurements were made for three channels representing the low, middle and high parts of the frequency band, in three mutually orthogonal orientations with both antenna types. The orientation that yielded the highest field strength is reported here. The DUT was set for modulated carrier operation at maximum power by the manufacturer test mode.

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A.8. SETUP PHOTOGRAPHS

Photograph A.8-1 - DUT with Omni-Directional Dipole Antenna



Photograph A.8-2 - DUT with Patch Antenna



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A.9. TEST RESULTS

Celltech Testing and Engineering Services Lab		Project Number:		817		Standard:		FCC15.249						
		Company:		RFind		Test Start Date:		27-Feb-07						
		Product:		Gateway		Test End Date:		27-Feb-07						
Channel	Polarity	Measurement Distance	Antenna	Frequency	SA Level	AF	CL	Other	Total CF	Field Strength	Detector			
			m	MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	kHz			
Dipole Antenna														
CH1	H	3	Bilog SN1607	902.20	75.10	23.50	2.70	0.00	26.20	101.30	PK	113.98	12.68	1000
CH1	H	3	Bilog SN1607	902.20	60.50	23.50	2.70	0.00	26.20	86.70	QP	93.98	7.28	120
CH1	V	3	Bilog SN1607	902.20	80.80	23.50	2.70	0.00	26.20	107.00	PK	113.98	6.98	1000
CH1	V	3	Bilog SN1607	902.20	63.80	23.50	2.70	0.00	26.20	90.00	QP	93.98	3.98	120
CH66	H	3	Bilog SN1607	915.20	78.20	23.66	2.72	0.00	26.38	104.58	PK	113.98	9.40	1000
CH66	H	3	Bilog SN1607	915.20	60.40	23.66	2.72	0.00	26.38	86.78	QP	93.98	7.20	120
CH66	V	3	Bilog SN1607	915.20	80.80	23.66	2.72	0.00	26.38	107.18	PK	113.98	6.80	1000
CH66	V	3	Bilog SN1607	915.20	64.10	23.66	2.72	0.00	26.38	90.48	QP	93.98	3.50	120
CH129	H	3	Bilog SN1607	927.80	74.30	24.04	2.70	0.00	26.74	101.04	PK	113.98	12.94	1000
CH129	H	3	Bilog SN1607	927.80	59.60	24.04	2.70	0.00	26.74	86.34	QP	93.98	7.64	120
CH129	V	3	Bilog SN1607	927.80	76.20	24.04	2.70	0.00	26.74	102.94	PK	113.98	11.04	1000
CH129	V	3	Bilog SN1607	927.80	60.00	24.04	2.70	0.00	26.74	86.74	QP	93.98	7.24	120

The limit of 93.98 dBuV/m is an Average limit. The DUT passes because the QP level is lower than the average limit.

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A.10. TEST RESULTS

Celltech		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		27-Feb-07						
		Product:		Gateway		Test End Date:		27-Feb-07						
Channel	Polarity	Measurement Distance	Antenna	Frequency	SA Level	AF	CL	Other	Total CF	Field Strength	Detector	Limit	Margin	RBW
Patch Antenna														
CH1	H	3	Bilog SN1607	902.20	76.60	23.50	2.70	0.00	26.20	102.80	PK	113.98	11.18	1000
CH1	H	3	Bilog SN1607	902.20	62.10	23.50	2.70	0.00	26.20	88.30	QP	93.98	5.68	120
CH1	V	3	Bilog SN1607	902.20	78.70	23.50	2.70	0.00	26.20	104.90	PK	113.98	9.08	1000
CH1	V	3	Bilog SN1607	902.20	61.90	23.50	2.70	0.00	26.20	88.10	QP	93.98	5.88	120
CH66	H	3	Bilog SN1607	915.20	76.70	23.66	2.72	0.00	26.38	103.08	PK	113.98	10.90	1000
CH66	H	3	Bilog SN1607	915.20	60.50	23.66	2.72	0.00	26.38	86.88	QP	93.98	7.10	120
CH66	V	3	Bilog SN1607	915.20	78.80	23.66	2.72	0.00	26.38	105.18	PK	113.98	8.80	1000
CH66	V	3	Bilog SN1607	915.20	62.00	23.66	2.72	0.00	26.38	88.38	QP	93.98	5.60	120
CH129	H	3	Bilog SN1607	927.80	74.40	24.04	2.70	0.00	26.74	101.14	PK	113.98	12.84	1000
CH129	H	3	Bilog SN1607	927.80	60.00	24.04	2.70	0.00	26.74	86.74	QP	93.98	7.24	120
CH129	V	3	Bilog SN1607	927.80	72.40	24.04	2.70	0.00	26.74	99.14	PK	113.98	14.84	1000
CH129	V	3	Bilog SN1607	927.80	56.50	24.04	2.70	0.00	26.74	83.24	QP	93.98	10.74	120

The limit of 93.98 dBuV/m is an Average limit. The DUT passes because the QP level is lower than the average limit.

A.11. SIGN-OFF

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

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

27Feb07

Date

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

Appendix B - Radiated TX Spurious Emissions & Harmonics Measurement

B.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §15.35, §15.209, §15.249	
Procedure Reference	ANSI C63.4:2003	

B.2. LIMITS

FCC CFR 47 §15.35 (b)	When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average limit applicable to the equipment under test.	
FCC CFR 47 §15.249(a)	Except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:	
	Fundamental Frequency	Strength of harmonics (uV/m)
	902-928 MHz	500 (53.98 dBuV/m)
FCC CFR 47 §15.249(d)	Emissions radiated outside the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.	
FCC CFR 47 §15.209(a)	Except as provided elsewhere in this subpart, the emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:	
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

B.3. ENVIRONMENTAL CONDITIONS

Temperature	25 ± 5 °C
Humidity	35 ± 5 %RH
Barometric Pressure	uncontrolled

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

B.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	00085	EMCO	6502	Loop Antenna	30Aug06	30Aug07
5	00050	Chase	CBL-6111A	Bilog Antenna	04Apr06	04Apr07
6	00034	ETS	3115	Double Ridged Guide Horn	11Aug05	11Aug07
7	00051	HP	8566B	Spectrum Analyzer	04Apr06	04Apr07
8	00047	HP	85685A	Preselector	05Apr06	05Apr07
9	00049	HP	85650A	Quasi-Peak Adapter	04Apr06	04Apr07
10	00048	Gore	65474	Microwave Cable	16Aug06	16Aug07
11	00115	Miteq	J54-00102600-35-5A	LNA	18Apr06	18Apr07
12	00204	Microwave Circuits	H02G18G3	High Pass Filter	na*	na*
13	00093	Microtronics	HPM50111	High Pass Filter	na*	na*
14	00120	Celltech	n/a	Microwave Cable (RX)	na*	na*

*Verified with VNA

B.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in B.6. A number of measurement equipment configurations were used to cover the applicable frequency ranges. The configurations for each range are as follows:			
	Frequency Range	LNA Asset #	Filter/Attenuator Asset #	Rx Antenna Asset #
	30 MHz – 1 GHz	none	none	00050
	1 GHz – 2 GHz	none	none	00034
	2 GHz – 3 GHz	00115	00204	00034
MEASUREMENT EQUIPMENT SETTINGS	3 GHz – 10 GHz			
	The spectrum analyzer was set to the following settings:			
	Frequency Range	RBW (kHz)	VBW (kHz)	Detector
	30 MHz – 1 GHz	100	100	Peak
	1 GHz – 10 GHz	1000	1000	Peak

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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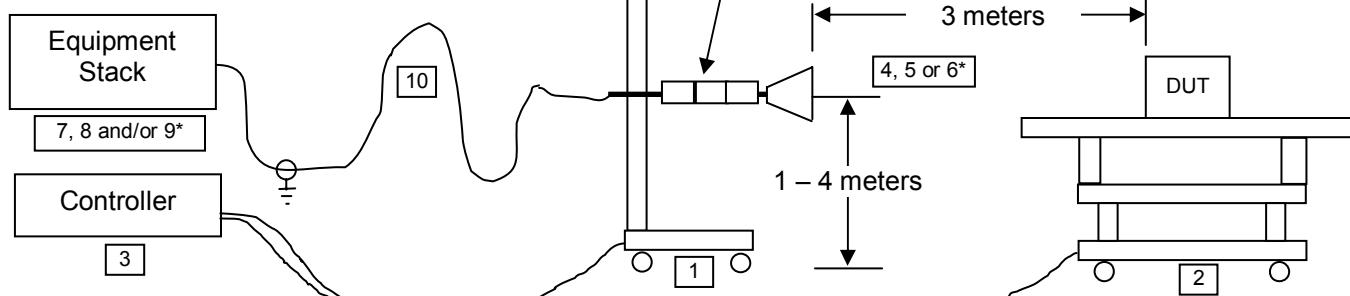
Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

B.6. SETUP DRAWING

Figure B.6-1 - Setup Drawing

[ID] Equipment List Reference

* Specific equipment varies dependant on frequency



B.7. DUT OPERATING DESCRIPTION

Radiated emissions and harmonics measurements were made with the DUT in the orientation and channel frequency that yielded the highest radiated fundamental field strength in Appendix A. The DUT was set for modulated carrier operation at maximum power by the manufacturer test mode.

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

B.8. TEST RESULTS

B.8.1 Omni-Directional Dipole Antenna - Channel 1 (902.2 MHz)

Celltech Testing and Engineering Services Lab		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Omni-Directional Antenna - Channel 1 (902.2 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
		m		MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB	
CH1	H	3	Horn SN6267	1804.40	33.90	26.74	4.45	0.00	31.19	65.09	PK	73.98	8.89	PASS
CH1	H	3	Horn SN6267	1804.40	20.10	26.74	4.45	0.00	31.19	51.29	AV	53.98	2.69	PASS
CH1	H	3	Horn SN6267	2706.60	51.50	29.05	4.42	-32.53	0.94	52.44	PK*	53.98	1.54	PASS
CH1	H	3	Horn SN6267	3608.80	47.90	31.44	5.06	-32.46	4.04	51.94	PK*	53.98	2.04	PASS
CH1	H	3	Horn SN6267	4511.00	41.90	32.31	5.57	-32.38	5.50	47.40	PK*	53.98	6.58	PASS
CH1	H	3	Horn SN6267	5413.20	40.60	34.05	6.13	-32.31	7.87	48.47	PK*	53.98	5.51	PASS
CH1	H	3	Horn SN6267	6315.40	41.30	34.33	6.68	-32.24	8.78	50.08	PK*	53.98	3.90	PASS
CH1	H	3	Horn SN6267	7217.60	39.60	35.75	7.24	-32.16	10.83	50.43	PK*	53.98	3.55	PASS
CH1	H	3	Horn SN6267	8119.80	40.20	37.03	7.80	-32.09	12.74	52.94	PK*	53.98	1.04	PASS
CH1	H	3	Horn SN6267	9022.00	37.90	37.96	8.35	-32.06	14.25	52.15	PK*	53.98	1.83	PASS
CH1	V	3	Horn SN6267	1804.40	34.70	26.74	4.45	0.00	31.19	65.89	PK	73.98	8.09	PASS
CH1	V	3	Horn SN6267	1804.40	21.20	26.74	4.45	0.00	31.19	52.39	AV	53.98	1.59	PASS
CH1	V	3	Horn SN6267	2706.60	48.20	29.05	4.42	-32.53	0.94	49.14	PK*	53.98	4.84	PASS
CH1	V	3	Horn SN6267	3608.80	46.60	31.44	5.06	-32.46	4.04	50.64	PK*	53.98	3.34	PASS
CH1	V	3	Horn SN6267	4511.00	50.60	32.31	5.57	-32.38	5.50	56.10	PK	73.98	17.88	PASS
CH1	V	3	Horn SN6267	4511.00	40.40	32.31	5.57	-32.38	5.50	45.90	AV	53.98	8.08	PASS
CH1	V	3	Horn SN6267	5413.20	51.20	34.05	6.13	-32.31	7.87	59.07	PK	73.98	14.91	PASS
CH1	V	3	Horn SN6267	5413.20	41.00	34.05	6.13	-32.31	7.87	48.87	AV	53.98	5.11	PASS
CH1	V	3	Horn SN6267	6315.40	50.50	34.33	6.68	-32.24	8.78	59.28	PK	73.98	14.70	PASS
CH1	V	3	Horn SN6267	6315.40	39.90	34.33	6.68	-32.24	8.78	48.68	AV	53.98	5.30	PASS
CH1	V	3	Horn SN6267	7217.60	49.80	35.75	7.24	-32.16	10.83	60.63	PK	73.98	13.35	PASS
CH1	V	3	Horn SN6267	7217.60	39.50	35.75	7.24	-32.16	10.83	50.33	AV	53.98	3.65	PASS
CH1	V	3	Horn SN6267	8119.80	42.20	37.03	7.80	-32.09	12.74	54.94	PK	73.98	19.04	PASS
CH1	V	3	Horn SN6267	8119.80	31.10	37.03	7.80	-32.09	12.74	43.84	AV	53.98	10.14	PASS
CH1	V	3	Horn SN6267	9022.00	37.80	37.96	8.35	-32.06	14.25	52.05	PK*	53.98	1.93	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

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

Harmonic Limit (dBuV/m) = $20 \cdot \log(500\mu\text{V})$ where 500 μV is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	RFInd
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

TEST RESULTS (CONT.)

B.8.2 Omni-Directional Dipole Antenna - Channel 66 (915.2 MHz)

Celltech Testing and Engineering Services Lab		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Omni-Directional Antenna - Channel 66 (915.2 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
		m		MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB	
CH66	H	3	Horn SN6267	1830.40	33.10	26.85	4.48	0.00	31.33	64.43	PK	73.98	9.55	PASS
CH66	H	3	Horn SN6267	1830.40	19.60	26.85	4.48	0.00	31.33	50.93	AV	53.98	3.05	PASS
CH66	H	3	Horn SN6267	2745.60	51.60	29.19	4.46	-32.53	1.12	52.72	PK*	53.98	1.26	PASS
CH66	H	3	Horn SN6267	3660.80	47.60	31.58	5.08	-32.45	4.21	51.81	PK*	53.98	2.17	PASS
CH66	H	3	Horn SN6267	4576.00	42.60	32.46	5.61	-32.38	5.70	48.30	PK*	53.98	5.68	PASS
CH66	H	3	Horn SN6267	5491.20	41.50	34.17	6.17	-32.30	8.04	49.54	PK*	53.98	4.44	PASS
CH66	H	3	Horn SN6267	6406.40	41.30	34.34	6.74	-32.23	8.85	50.15	PK*	53.98	3.83	PASS
CH66	H	3	Horn SN6267	7321.60	40.00	36.01	7.31	-32.15	11.16	51.16	PK*	53.98	2.81	PASS
CH66	H	3	Horn SN6267	8236.80	39.10	37.20	7.87	-32.09	12.98	52.08	PK*	53.98	1.90	PASS
CH66	H	3	Horn SN6267	9152.00	38.20	37.94	8.43	-32.05	14.32	52.52	PK*	53.98	1.46	PASS
CH66	V	3	Horn SN6267	1830.40	35.40	26.85	4.48	0.00	31.33	66.73	PK	73.98	7.25	PASS
CH66	V	3	Horn SN6267	1830.40	21.30	26.85	4.48	0.00	31.33	52.63	AV	53.98	1.35	PASS
CH66	V	3	Horn SN6267	2745.60	50.10	29.19	4.46	-32.53	1.12	51.22	PK*	53.98	2.76	PASS
CH66	V	3	Horn SN6267	3660.80	46.90	31.58	5.08	-32.45	4.21	51.11	PK*	53.98	2.87	PASS
CH66	V	3	Horn SN6267	4576.00	50.50	32.46	5.61	-32.38	5.70	56.20	PK	73.98	17.78	PASS
CH66	V	3	Horn SN6267	4576.00	38.80	32.46	5.61	-32.38	5.70	44.50	AV	53.98	9.48	PASS
CH66	V	3	Horn SN6267	5491.20	51.20	34.17	6.17	-32.30	8.04	59.24	PK	73.98	14.74	PASS
CH66	V	3	Horn SN6267	5491.20	39.10	34.17	6.17	-32.30	8.04	47.14	AV	53.98	6.84	PASS
CH66	V	3	Horn SN6267	6406.40	50.20	34.34	6.74	-32.23	8.85	59.05	PK	73.98	14.93	PASS
CH66	V	3	Horn SN6267	6406.40	38.50	34.34	6.74	-32.23	8.85	47.35	AV	53.98	6.63	PASS
CH66	V	3	Horn SN6267	7321.60	46.40	36.01	7.31	-32.15	11.16	57.56	PK	73.98	16.41	PASS
CH66	V	3	Horn SN6267	7321.60	34.50	36.01	7.31	-32.15	11.16	45.66	AV	53.98	8.31	PASS
CH66	V	3	Horn SN6267	8236.80	41.50	37.20	7.87	-32.09	12.98	54.48	PK	73.98	19.50	PASS
CH66	V	3	Horn SN6267	8236.80	30.20	37.20	7.87	-32.09	12.98	43.18	AV	53.98	10.80	PASS
CH66	V	3	Horn SN6267	9152.00	38.00	37.94	8.43	-32.05	14.32	52.32	PK*	53.98	1.66	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

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

Harmonic Limit (dBuV/m) = $20 \cdot \log(500\mu\text{V})$ where 500 μ V is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	RFInd
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

TEST RESULTS (CONT.)

B.8.3 Omni-Directional Dipole Antenna - Channel 129 (927.8 MHz)

Celltech Testing and Engineering Services Lab		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Omni-Directional Antenna - Channel 129 (927.8 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
		m		MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB	
CH129	H	3	Horn SN6267	1855.60	29.50	26.96	4.50	0.00	31.46	60.96	PK	73.98	13.02	PASS
CH129	H	3	Horn SN6267	1855.60	16.40	26.96	4.50	0.00	31.46	47.86	AV	53.98	6.12	PASS
CH129	H	3	Horn SN6267	2783.40	48.90	29.32	4.50	-32.52	1.30	50.20	PK*	53.98	3.78	PASS
CH129	H	3	Horn SN6267	3711.20	45.10	31.72	5.11	-32.45	4.38	49.48	PK*	53.98	4.50	PASS
CH129	H	3	Horn SN6267	4639.00	40.50	32.61	5.65	-32.37	5.89	46.39	PK*	53.98	7.59	PASS
CH129	H	3	Horn SN6267	5566.80	41.20	34.20	6.22	-32.30	8.13	49.33	PK*	53.98	4.65	PASS
CH129	H	3	Horn SN6267	6494.60	40.20	34.35	6.79	-32.22	8.93	49.13	PK*	53.98	4.85	PASS
CH129	H	3	Horn SN6267	7422.40	39.60	36.26	7.37	-32.15	11.49	51.09	PK*	53.98	2.89	PASS
CH129	H	3	Horn SN6267	8350.20	39.20	37.36	7.94	-32.08	13.22	52.42	PK*	53.98	1.56	PASS
CH129	H	3	Horn SN6267	9278.00	38.10	37.92	8.50	-32.05	14.38	52.48	PK*	53.98	1.50	PASS
CH129	V	3	Horn SN6267	1855.60	32.80	26.96	4.50	0.00	31.46	64.26	PK	73.98	9.72	PASS
CH129	V	3	Horn SN6267	1855.60	19.40	26.96	4.50	0.00	31.46	50.86	AV	53.98	3.12	PASS
CH129	V	3	Horn SN6267	2783.40	48.20	29.32	4.50	-32.52	1.30	49.50	PK*	53.98	4.48	PASS
CH129	V	3	Horn SN6267	3711.20	46.90	31.72	5.11	-32.45	4.38	51.28	PK*	53.98	2.70	PASS
CH129	V	3	Horn SN6267	4639.00	46.90	32.61	5.65	-32.37	5.89	52.79	PK	73.98	21.19	PASS
CH129	V	3	Horn SN6267	4639.00	35.00	32.61	5.65	-32.37	5.89	40.89	AV	53.98	13.09	PASS
CH129	V	3	Horn SN6267	5566.80	49.90	34.20	6.22	-32.30	8.13	58.03	PK	73.98	15.95	PASS
CH129	V	3	Horn SN6267	5566.80	37.80	34.20	6.22	-32.30	8.13	45.93	AV	53.98	8.05	PASS
CH129	V	3	Horn SN6267	6494.60	47.10	34.35	6.79	-32.22	8.93	56.03	PK	73.98	17.95	PASS
CH129	V	3	Horn SN6267	6494.60	36.10	34.35	6.79	-32.22	8.93	45.03	AV	53.98	8.95	PASS
CH129	V	3	Horn SN6267	7422.40	44.20	36.26	7.37	-32.15	11.49	55.69	PK	73.98	18.29	PASS
CH129	V	3	Horn SN6267	7422.40	32.00	36.26	7.37	-32.15	11.49	43.49	AV	53.98	10.49	PASS
CH129	V	3	Horn SN6267	8350.20	39.10	37.36	7.94	-32.08	13.22	52.32	PK*	53.98	1.66	PASS
CH129	V	3	Horn SN6267	9278.00	38.10	37.92	8.50	-32.05	14.38	52.48	PK*	53.98	1.50	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

Margin (dB) = Limit (dBuV/m) – Corrected Field Strength (dBuV/m)

Harmonic Limit (dBuV/m) = $20 \times \log(500\mu\text{V})$ where 500 μV is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

TEST RESULTS (CONT.)

B.8.4 Patch Antenna - Channel 1 (902.2 MHz)

Celltech Testing and Engineering Services Ltd.		Project Number:		817		Standard:		FCC15.249						
		Company:		RFind		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Patch Antenna - Channel 1 (902.2 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
m	MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB				
CH1	H	3	Horn SN6267	1804.40	33.30	26.74	4.45	0.00	31.19	64.49	PK	73.98	9.49	PASS
CH1	H	3	Horn SN6267	1804.40	20.60	26.74	4.45	0.00	31.19	51.79	AV	53.98	2.19	PASS
CH1	H	3	Horn SN6267	2706.60	51.20	29.05	4.42	-32.53	0.94	52.14	PK*	53.98	1.84	PASS
CH1	H	3	Horn SN6267	3608.80	47.60	31.44	5.06	-32.46	4.04	51.64	PK*	53.98	2.34	PASS
CH1	H	3	Horn SN6267	4511.00	42.30	32.31	5.57	-32.38	5.50	47.80	PK*	53.98	6.18	PASS
CH1	H	3	Horn SN6267	5413.20	41.30	34.05	6.13	-32.31	7.87	49.17	PK*	53.98	4.81	PASS
CH1	H	3	Horn SN6267	6315.40	42.00	34.33	6.68	-32.24	8.78	50.78	PK*	53.98	3.20	PASS
CH1	H	3	Horn SN6267	7217.60	40.00	35.75	7.24	-32.16	10.83	50.83	PK*	53.98	3.15	PASS
CH1	H	3	Horn SN6267	8119.80	39.90	37.03	7.80	-32.09	12.74	52.64	PK*	53.98	1.34	PASS
CH1	H	3	Horn SN6267	9022.00	37.60	37.96	8.35	-32.06	14.25	51.85	PK*	53.98	2.13	PASS
CH1	V	3	Horn SN6267	1804.40	33.10	26.74	4.45	0.00	31.19	64.29	PK	73.98	9.69	PASS
CH1	V	3	Horn SN6267	1804.40	20.30	26.74	4.45	0.00	31.19	51.49	AV	53.98	2.49	PASS
CH1	V	3	Horn SN6267	2706.60	47.10	29.05	4.42	-32.53	0.94	48.04	PK*	53.98	5.94	PASS
CH1	V	3	Horn SN6267	3608.80	45.40	31.44	5.06	-32.46	4.04	49.44	PK*	53.98	4.54	PASS
CH1	V	3	Horn SN6267	4511.00	51.00	32.31	5.57	-32.38	5.50	56.50	PK	73.98	17.48	PASS
CH1	V	3	Horn SN6267	4511.00	40.70	32.31	5.57	-32.38	5.50	46.20	AV	53.98	7.78	PASS
CH1	V	3	Horn SN6267	5413.20	53.90	34.05	6.13	-32.31	7.87	61.77	PK	73.98	12.21	PASS
CH1	V	3	Horn SN6267	5413.20	42.60	34.05	6.13	-32.31	7.87	50.47	AV	53.98	3.51	PASS
CH1	V	3	Horn SN6267	6315.40	51.90	34.33	6.68	-32.24	8.78	60.68	PK	73.98	13.30	PASS
CH1	V	3	Horn SN6267	6315.40	40.50	34.33	6.68	-32.24	8.78	49.28	AV	53.98	4.70	PASS
CH1	V	3	Horn SN6267	7217.60	50.00	35.75	7.24	-32.16	10.83	60.83	PK	73.98	13.15	PASS
CH1	V	3	Horn SN6267	7217.60	39.80	35.75	7.24	-32.16	10.83	50.63	AV	53.98	3.35	PASS
CH1	V	3	Horn SN6267	8119.80	45.50	37.03	7.80	-32.09	12.74	58.24	PK	73.98	15.74	PASS
CH1	V	3	Horn SN6267	8119.80	34.30	37.03	7.80	-32.09	12.74	47.04	AV	53.98	6.94	PASS
CH1	V	3	Horn SN6267	9022.00	36.40	37.96	8.35	-32.06	14.25	50.65	PK*	53.98	3.33	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

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

Harmonic Limit (dBuV/m) = $20 \cdot \log(500\mu\text{V})$ where 500 μ V is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	RFind
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

TEST RESULTS (CONT.)

B.8.5 Patch Antenna - Channel 66 (915.2 MHz)

Celltech Testing and Engineering Services Lab		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Patch Antenna - Channel 66 (915.2 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
m				MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB	
CH66	H	3	Horn SN6267	1830.40	33.30	26.85	4.48	0.00	31.33	64.63	PK	73.98	9.35	PASS
CH66	H	3	Horn SN6267	1830.40	20.50	26.85	4.48	0.00	31.33	51.83	AV	53.98	2.15	PASS
CH66	H	3	Horn SN6267	2745.60	51.10	29.19	4.46	-32.53	1.12	52.22	PK*	53.98	1.76	PASS
CH66	H	3	Horn SN6267	3660.80	47.30	31.58	5.08	-32.45	4.21	51.51	PK*	53.98	2.47	PASS
CH66	H	3	Horn SN6267	4576.00	41.80	32.46	5.61	-32.38	5.70	47.50	PK*	53.98	6.48	PASS
CH66	H	3	Horn SN6267	5491.20	41.40	34.17	6.17	-32.30	8.04	49.44	PK*	53.98	4.54	PASS
CH66	H	3	Horn SN6267	6406.40	41.90	34.34	6.74	-32.23	8.85	50.75	PK*	53.98	3.23	PASS
CH66	H	3	Horn SN6267	7321.60	40.40	36.01	7.31	-32.15	11.16	51.56	PK*	53.98	2.41	PASS
CH66	H	3	Horn SN6267	8236.80	39.70	37.20	7.87	-32.09	12.98	52.68	PK*	53.98	1.30	PASS
CH66	H	3	Horn SN6267	9152.00	37.80	37.94	8.43	-32.05	14.32	52.12	PK*	53.98	1.86	PASS
CH66	V	3	Horn SN6267	1830.40	33.80	26.85	4.48	0.00	31.33	65.13	PK	73.98	8.85	PASS
CH66	V	3	Horn SN6267	1830.40	21.20	26.85	4.48	0.00	31.33	52.53	AV	53.98	1.45	PASS
CH66	V	3	Horn SN6267	2745.60	49.00	29.19	4.46	-32.53	1.12	50.12	PK*	53.98	3.86	PASS
CH66	V	3	Horn SN6267	3660.80	46.30	31.58	5.08	-32.45	4.21	50.51	PK*	53.98	3.47	PASS
CH66	V	3	Horn SN6267	4576.00	51.00	32.46	5.61	-32.38	5.70	56.70	PK	73.98	17.28	PASS
CH66	V	3	Horn SN6267	4576.00	39.20	32.46	5.61	-32.38	5.70	44.90	AV	53.98	9.08	PASS
CH66	V	3	Horn SN6267	5491.20	53.90	34.17	6.17	-32.30	8.04	61.94	PK	73.98	12.04	PASS
CH66	V	3	Horn SN6267	5491.20	41.60	34.17	6.17	-32.30	8.04	49.64	AV	53.98	4.34	PASS
CH66	V	3	Horn SN6267	6406.40	51.80	34.34	6.74	-32.23	8.85	60.65	PK	73.98	13.33	PASS
CH66	V	3	Horn SN6267	6406.40	39.70	34.34	6.74	-32.23	8.85	48.55	AV	53.98	5.43	PASS
CH66	V	3	Horn SN6267	7321.60	49.80	36.01	7.31	-32.15	11.16	60.96	PK	73.98	13.01	PASS
CH66	V	3	Horn SN6267	7321.60	37.80	36.01	7.31	-32.15	11.16	48.96	AV	53.98	5.01	PASS
CH66	V	3	Horn SN6267	8236.80	44.30	37.20	7.87	-32.09	12.98	57.28	PK	73.98	16.70	PASS
CH66	V	3	Horn SN6267	8236.80	33.70	37.20	7.87	-32.09	12.98	46.68	AV	53.98	7.30	PASS
CH66	V	3	Horn SN6267	9152.00	37.30	37.94	8.43	-32.05	14.32	51.62	PK*	53.98	2.36	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

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

Harmonic Limit (dBuV/m) = $20 \cdot \log(500\mu\text{V})$ where 500 μV is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	RFInd
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

TEST RESULTS (CONT.)

B.8.6 Patch Antenna - Channel 129 (927.8 MHz)

Celltech Testing and Engineering Services Ltd.		Project Number:		817		Standard:		FCC15.249						
		Company:		RFInd		Test Start Date:		2-Mar-07						
		Product:		Gateway		Test End Date:		7-Mar-07						
Patch Antenna - Channel 129 (927.8 MHz)														
Channel	Polarity	Distance	Rx Antenna	Frequency	SA Level	Rx AF	Rx CL	Other Corrections	Total Rx CF	Corrected Field Strength	Detector	Limit	Margin	Pass/Fail
m				MHz	dBuV	dB/m	dB	dB	dB/m	dBuV/m	(PK/QP/AV)	dBuV/m	dB	
CH129	H	3	Horn SN6267	1855.60	31.20	26.96	4.50	0.00	31.46	62.66	PK	73.98	11.32	PASS
CH129	H	3	Horn SN6267	1855.60	19.40	26.96	4.50	0.00	31.46	50.86	AV	53.98	3.12	PASS
CH129	H	3	Horn SN6267	2783.40	49.20	29.32	4.50	-32.52	1.30	50.50	PK*	53.98	3.48	PASS
CH129	H	3	Horn SN6267	3711.20	45.50	31.72	5.11	-32.45	4.38	49.88	PK*	53.98	4.10	PASS
CH129	H	3	Horn SN6267	4639.00	39.60	32.61	5.65	-32.37	5.89	45.49	PK*	53.98	8.49	PASS
CH129	H	3	Horn SN6267	5566.80	39.30	34.20	6.22	-32.30	8.13	47.43	PK*	53.98	6.55	PASS
CH129	H	3	Horn SN6267	6494.60	40.00	34.35	6.79	-32.22	8.93	48.93	PK*	53.98	5.05	PASS
CH129	H	3	Horn SN6267	7422.40	38.60	36.26	7.37	-32.15	11.49	50.09	PK*	53.98	3.89	PASS
CH129	H	3	Horn SN6267	8350.20	39.60	37.36	7.94	-32.08	13.22	52.82	PK*	53.98	1.16	PASS
CH129	H	3	Horn SN6267	9278.00	37.70	37.92	8.50	-32.05	14.38	52.08	PK*	53.98	1.90	PASS
CH129	V	3	Horn SN6267	1855.60	30.40	26.96	4.50	0.00	31.46	61.86	PK	73.98	12.12	PASS
CH129	V	3	Horn SN6267	1855.60	19.30	26.96	4.50	0.00	31.46	50.76	AV	53.98	3.22	PASS
CH129	V	3	Horn SN6267	2783.40	49.00	29.32	4.50	-32.52	1.30	50.30	PK*	53.98	3.68	PASS
CH129	V	3	Horn SN6267	3711.20	46.30	31.72	5.11	-32.45	4.38	50.68	PK*	53.98	3.30	PASS
CH129	V	3	Horn SN6267	4639.00	48.20	32.61	5.65	-32.37	5.89	54.09	PK	73.98	19.89	PASS
CH129	V	3	Horn SN6267	4639.00	36.30	32.61	5.65	-32.37	5.89	42.19	AV	53.98	11.79	PASS
CH129	V	3	Horn SN6267	5566.80	50.80	34.20	6.22	-32.30	8.13	58.93	PK	73.98	15.05	PASS
CH129	V	3	Horn SN6267	5566.80	38.70	34.20	6.22	-32.30	8.13	46.83	AV	53.98	7.15	PASS
CH129	V	3	Horn SN6267	6494.60	48.60	34.35	6.79	-32.22	8.93	57.53	PK	73.98	16.45	PASS
CH129	V	3	Horn SN6267	6494.60	37.50	34.35	6.79	-32.22	8.93	46.43	AV	53.98	7.55	PASS
CH129	V	3	Horn SN6267	7422.40	46.50	36.26	7.37	-32.15	11.49	57.99	PK	73.98	15.99	PASS
CH129	V	3	Horn SN6267	7422.40	34.40	36.26	7.37	-32.15	11.49	45.89	AV	53.98	8.09	PASS
CH129	V	3	Horn SN6267	8350.20	39.60	37.36	7.94	-32.08	13.22	52.82	PK*	53.98	1.16	PASS
CH129	V	3	Horn SN6267	9278.00	37.30	37.92	8.50	-32.05	14.38	51.68	PK*	53.98	2.30	PASS

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

Pass* - Margin and Pass/Fail based on measured field strengths applied against the field strength limit expressed in dBuV/m.

BOLD - carrier harmonic frequencies

Note:

The emissions reported above represent all the harmonics of the fundamental frequency as well as the highest emissions measured below the 10th harmonic of the carrier. All other emissions attributed to the DUT had field strengths greater than 20 dB below the limit.

Formulae:

Corrected Field Strength (dBuV/m) = SA Level (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB)

Margin (dB) = Limit (dBuV/m) – Corrected Field Strength (dBuV/m)

Harmonic Limit (dBuV/m) = $20 \times \log(500\mu\text{V})$ where 500μV is the limit of the Field Strength of the harmonics as listed in §15.249(a).

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	RFInd
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	



Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

B.9. SIGN-OFF

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

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

07Mar07

Date

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
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Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

Appendix C - Conducted RX Spurious Emissions Measurement

C.1. REFERENCES

Normative Reference Standard	IC RSS-GEN §6(b)
Procedure Reference	IC RSS-GEN §4.8

C.2. LIMITS

IC RSS-GEN §6(b)	<i>If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per 4 kHz spurious frequency in the band 30 – 1000 MHz or 5 nanowatts above 1 GHz.</i>
------------------	--

C.3. ENVIRONMENTAL CONDITIONS

Temperature	25 \pm 5 °C
Humidity	35 \pm 5 %RH
Barometric Pressure	uncontrolled

C.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00015	Agilent	E4408B	Spectrum Analyzer	05Feb07	05Feb08
2	00119	INMET	18AH-10	10 dB RF Attenuator	na	Na*

*Verified before use

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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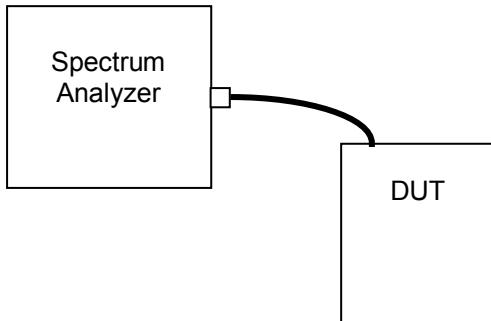
Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
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Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

C.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT CONNECTIONS	The measurement equipment was connected as shown in C.6.			
MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:			
MEASUREMENT EQUIPMENT SETTINGS	Frequency Range	RBW	VBW	Detector
	MHz	kHz	kHz	
	30 MHz – 1 GHz	10	10	Peak
	1 GHz – 3 GHz	100	100	Peak

C.6. SETUP DRAWING

Figure C.6-1 - Setup Drawing



C.7. DUT OPERATING DESCRIPTION

Measurements were made with the DUT in receive mode as set by the manufacturer.

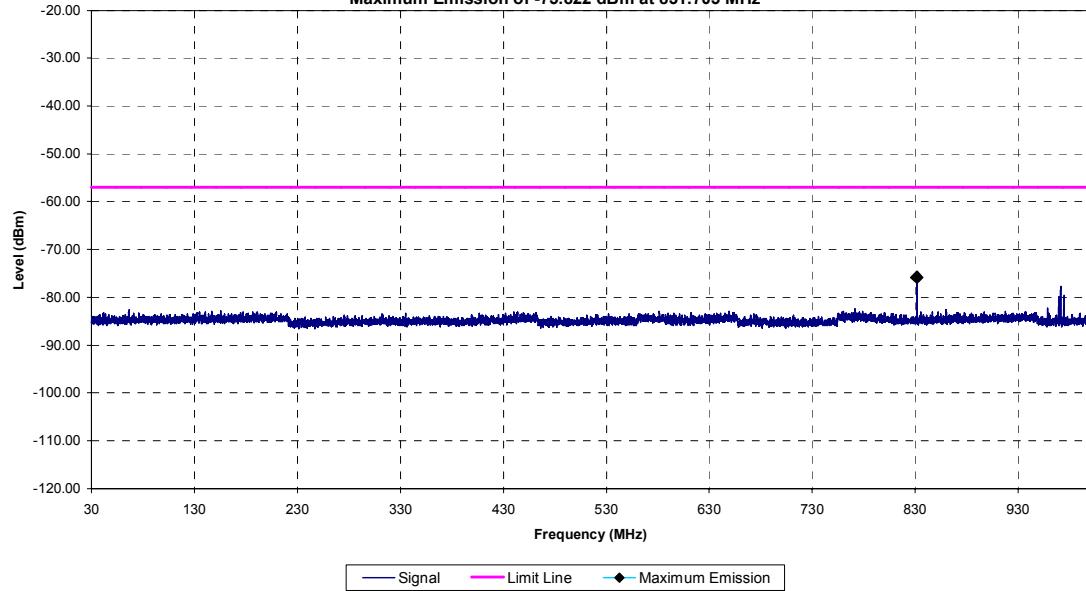
Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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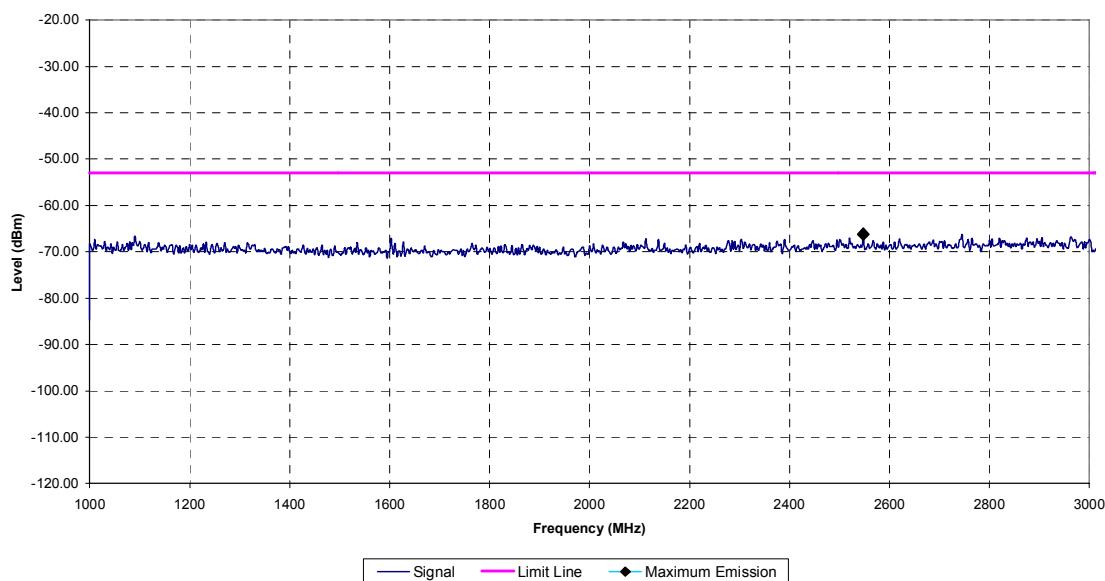
Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

C.8. TEST RESULTS

Receiving Conducted Spurs with 10 kHz RBW & VBW Frequency = 915.2 MHz
Maximum Emission of -75.822 dBm at 831.705 MHz



Receiving Conducted Spurs with 100 kHz RBW & VBW Frequency = 915.2 MHz
Maximum Emission of -66.154 dBm at 2547.5 MHz



Calculations:

$$\text{Limit (dBm)} = 10 * \log (\text{Limit (mW)})$$

$$\text{Margin (dB)} = \text{Limit (dBm)} - \text{Peak Emission (dBm)}$$

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz		
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

C.9. SIGN-OFF

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

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

28Feb07

Date

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
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Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

Appendix D - Powerline Conducted Emissions Measurement

D.1. REFERENCES

Normative Reference Standard	CFR 47 FCC Part 15 §15.207
Procedure Reference	ANSI C63.4

D.2. LIMITS

§15.207: Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each powerline and ground at the power terminal.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.50 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency

D.3. ENVIRONMENTAL CONDITIONS

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

D.4. EQUIPMENT LIST

ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
00049	HP	85650A	Quasi-Peak Adapter	04Apr06	04Apr07
00047	HP	85685A	RF Preselector	05Apr06	05Apr07
00051	HP	8566B	Spectrum Analyzer RF Section	04Apr06	04Apr07
00083	EMCO	3825/2	Line Impedance Stabilization Network	20Apr06	20Apr07
00084	EMCO	3825/2	Line Impedance Stabilization Network	20Apr06	20Apr07

D.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT SETUP	The measurement setup and test was performed according to ANSI C63.4 Section 7.2.1.
-------------------	---

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

D.6. SETUP PHOTOS

Photograph D.6-1 - AC Powerline Conducted Emissions Configuration



Photograph D.6-2 - AC Powerline Conducted Emissions Cable Placement



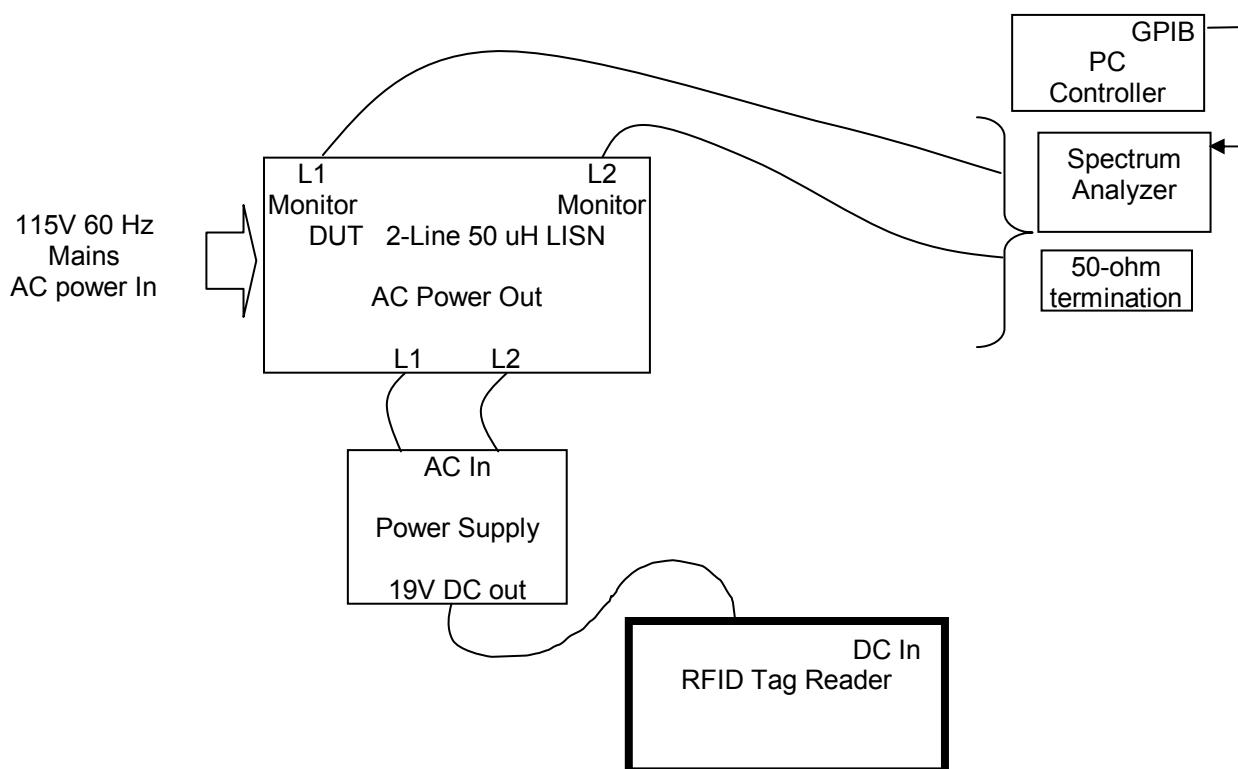
Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz		
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

D.7. SETUP DRAWING

Figure D.7-1 - Setup Drawing

Conducted Emission Measurement Setup



D.8. DUT OPERATING DESCRIPTION

The DUT was set for modulated carrier operation at maximum power by the manufacturer test mode.

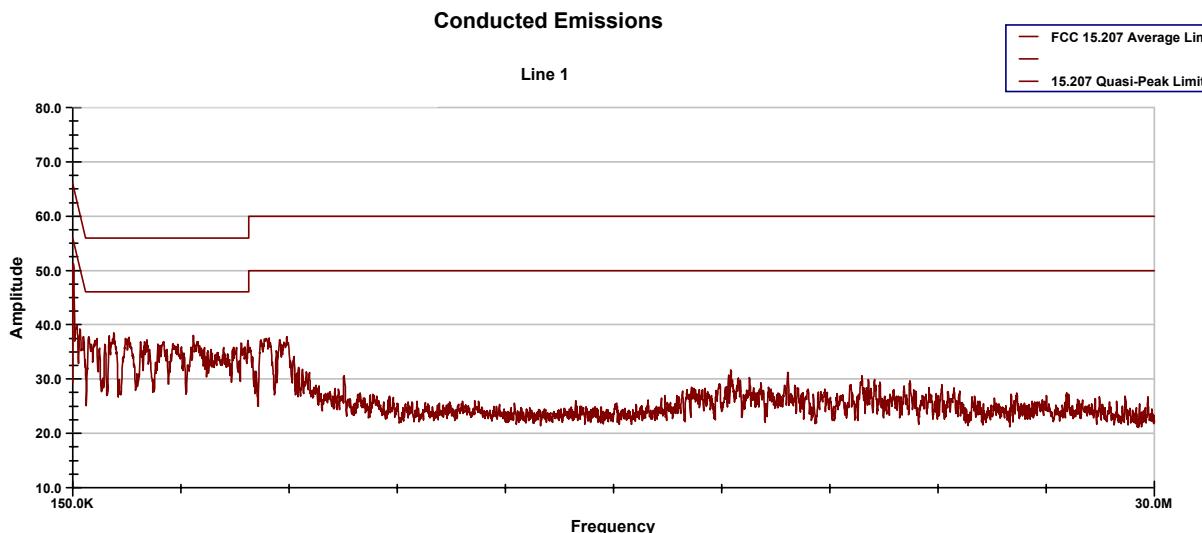
Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

D.9. TEST RESULTS

D.9.1. Line 1 Conducted Emissions



03:33:15 PM, Thursday, March 08, 2007

Company: RFInd



Project Number: 817
Company: RFInd
Product: Gateway

Standard: FCC 15.207
Test Start Date: 9-Mar-07
Test End Date: 9-Mar-07

Frequency	Uncorrected Reading			Correction Factor	Corrected Emission Level			Quasi-Peak Limit	Quasi-Peak Margin	Average Limit	Average Margin	Pass/Fail
	Peak	Quasi-Peak	Average		Peak	Quasi-Peak	Average					
	MHz	dBuV	dBuV		dB	dBuV	dBuV					
0.159	62.60	40.72	12.44	-1.99	60.61	38.73	10.46	65.52	26.78	55.52	45.06	Pass
0.164	60.50	44.37	18.12	-1.91	58.60	42.47	16.22	65.27	22.81	55.27	39.05	Pass
0.173	59.50	41.05	13.54	-1.76	57.74	39.29	11.78	64.80	25.51	54.80	43.03	Pass
0.178	60.60	40.44	11.28	-1.69	58.91	38.75	9.59	64.58	25.82	54.58	44.99	Pass
0.186	59.10	38.00	9.58	-1.58	57.52	36.42	8.00	64.22	27.81	54.22	46.22	Pass
0.195	59.20	39.15	11.52	-1.48	57.72	37.67	10.05	63.80	26.13	53.80	43.75	Pass
0.201	59.80	40.88	27.29	-1.42	58.38	39.46	25.87	63.56	24.10	53.56	27.69	Pass
0.260	54.20	36.49	9.89	-0.99	53.21	35.50	8.90	61.43	25.94	51.43	42.53	Pass
0.270	55.10	43.08	37.06	-0.95	54.15	42.13	36.11	61.12	18.99	51.12	15.01	Pass
0.275	53.50	37.23	25.72	-0.92	52.58	36.31	24.79	60.96	24.66	50.96	26.17	Pass
1.279	42.30	37.40	15.87	-0.31	41.99	37.09	15.56	56.00	18.91	46.00	30.45	Pass
3.467	41.30	35.56	27.33	-0.29	41.01	35.27	27.03	56.00	20.73	46.00	18.97	Pass
5.019	41.00	31.63	7.98	-0.31	40.69	31.32	7.67	60.00	28.68	50.00	42.33	Pass
6.015	40.40	33.65	19.34	-0.34	40.06	33.31	19.01	60.00	26.69	50.00	30.99	Pass
18.357	33.20	26.86	14.05	-0.41	32.79	26.45	13.64	60.00	33.55	50.00	36.36	Pass

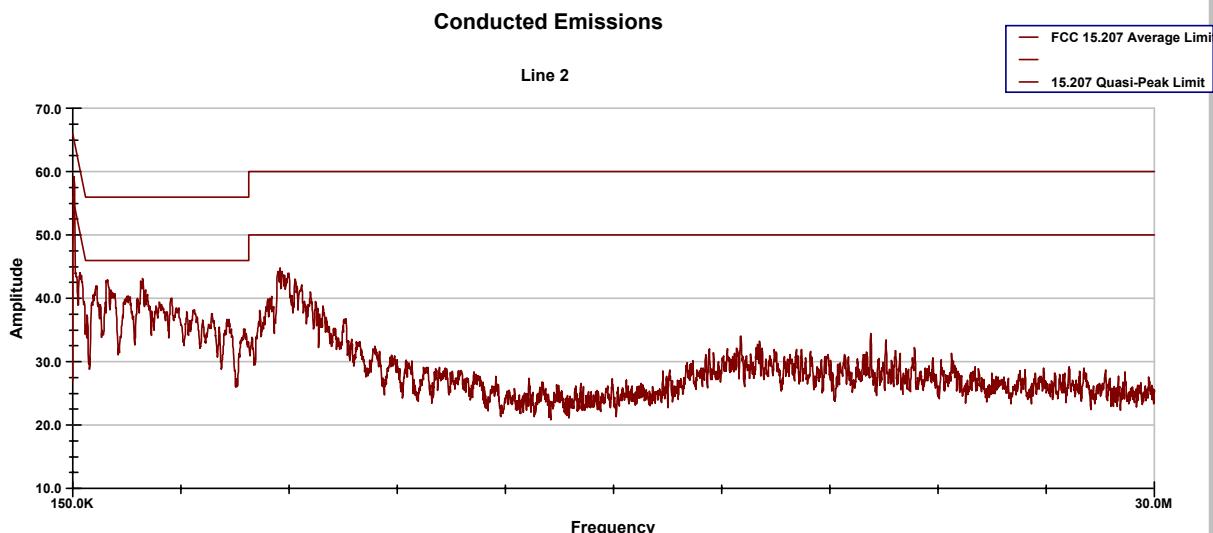
Corrected Emission Level (dBuV) = Uncorrected Reading (dBuV) + Correction Factor (dB)
Margin (dB) = Limit (dBuV) - Corrected Emission Level (dBuV)

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

D.9.2. Line 2 Conducted Emissions



04:07:49 PM, Thursday, March 08, 2007

Company: RFInd



Project Number: 817
Company: RFInd
Product: Gateway

Standard: FCC 15.207
Test Start Date: 9-Mar-07
Test End Date: 9-Mar-07

Frequency	Uncorrected Reading			Correction Factor	Corrected Emission Level			Quasi-Peak Limit	Quasi-Peak Margin	Average Limit	Average Margin	Pass/Fail
	Peak	Quasi-Peak	Average		Peak	Quasi-Peak	Average					
	dBuV	dBuV	dBuV		dB	dBuV	dBuV					
0.157	61.80	41.42	13.78	-2.03	59.78	39.40	11.76	65.61	26.21	55.61	43.85	Pass
0.164	61.70	44.37	22.18	-1.91	59.79	42.46	20.27	65.26	22.80	55.26	34.99	Pass
0.172	59.20	43.87	30.31	-1.79	57.41	42.08	28.52	64.88	22.80	54.88	26.36	Pass
0.180	61.50	41.12	16.70	-1.68	59.82	39.44	15.02	64.51	25.07	54.51	39.49	Pass
0.187	59.40	39.57	19.28	-1.58	57.82	37.99	17.70	64.18	26.20	54.18	36.48	Pass
0.194	59.40	39.57	10.52	-1.51	57.89	38.06	9.02	63.87	25.81	53.87	44.85	Pass
0.200	58.30	45.26	33.47	-1.44	56.87	43.83	32.03	63.59	19.77	53.59	21.56	Pass
0.210	60.90	39.02	13.40	-1.34	59.56	37.68	12.06	63.21	25.53	53.21	41.15	Pass
0.344	52.60	36.26	25.53	-0.69	51.91	35.57	24.83	59.10	23.53	49.10	24.27	Pass
1.113	43.30	40.15	20.69	-0.31	42.99	39.84	20.37	56.00	16.16	46.00	25.63	Pass
2.077	44.50	43.38	31.85	-0.29	44.21	43.09	31.57	56.00	12.91	46.00	14.44	Pass
5.889	47.30	43.33	26.19	-0.31	46.99	43.02	25.87	60.00	16.98	50.00	24.13	Pass
5.893	47.20	42.09	24.03	-0.32	46.88	41.77	23.71	60.00	18.23	50.00	26.29	Pass
18.604	34.00	24.50	12.36	-0.39	33.61	24.11	11.97	60.00	35.89	50.00	38.03	Pass
21.995	34.40	29.11	18.89	-0.65	33.75	28.46	18.24	60.00	31.54	50.00	31.76	Pass

Corrected Emission Level (dBuV) = Uncorrected Reading (dBuV) + Correction Factor (dB)

Margin (dB) = Limit (dBuV) - Corrected Emission Level (dBuV)

Company:	RFInd Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

D.10. PASS/FAIL

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

The RF voltage measured in reference to ground on each of the power line conductors does not exceed the limits as outline in FCC 15.207.

D.11. SIGN-OFF

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

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

09Mar07

Date

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz		
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

Appendix E - Compliance with Part 15.215(c) and IC RSS-210 §2.1

E.1. REFERENCES

Normative Reference Standard	FCC CFR 47 §15.215(c); IC RSS-210 §2.1
Procedure Reference	ANSI C63.4:2003; IC RSS-Gen §4.5

E.2. LIMITS

FCC CFR 47 §15.215(c)	<i>Intentional radiators operating under the alternative provisions to the general emission limits, as contained in 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency and includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.</i>
IC RSS-210 §2.1	<i>When the carrier frequency stability is not specified, it need not be tested, provided that the carrier frequency is chosen such that the fundamental modulation products (meaning the nominal bandwidth) lie totally within the bands listed in Tables 2, 3, 4 and 5 and do not fall into any restricted band listed in Table 1. Due account shall be taken of carrier frequency drift as a result of aging, temperature, humidity, and supply voltage variations when using frequencies near the band edges.</i>

E.3. ENVIRONMENTAL CONDITIONS

Temperature	25 \pm 5 °C
Humidity	35 \pm 5 %RH
Barometric Pressure	uncontrolled

E.4. EQUIPMENT LIST

RECEIVING EQUIPMENT

ID	ASSET NUMBER	MANUFACTURER	MODEL	DESCRIPTION	LAST CAL	CAL DUE
1	00072	HP	E4408B	Spectrum Analyzer	05Feb07	05Feb08
2	00081	Espec	ECT-2	Environmental Chamber	N/a	N/a*
3	00207	VWR	61161-378	Temperature Sensor	07Mar06	06Mar08

E.5. MEASUREMENT EQUIPMENT SETUP

MEASUREMENT EQUIPMENT SETTINGS	The spectrum analyzer was set to the following settings:				
	Frequency Range	Span	RBW (kHz)	VBW (kHz)	Detector
	902.2 MHz - 927.8 MHz	400 kHz	10	10	Peak

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

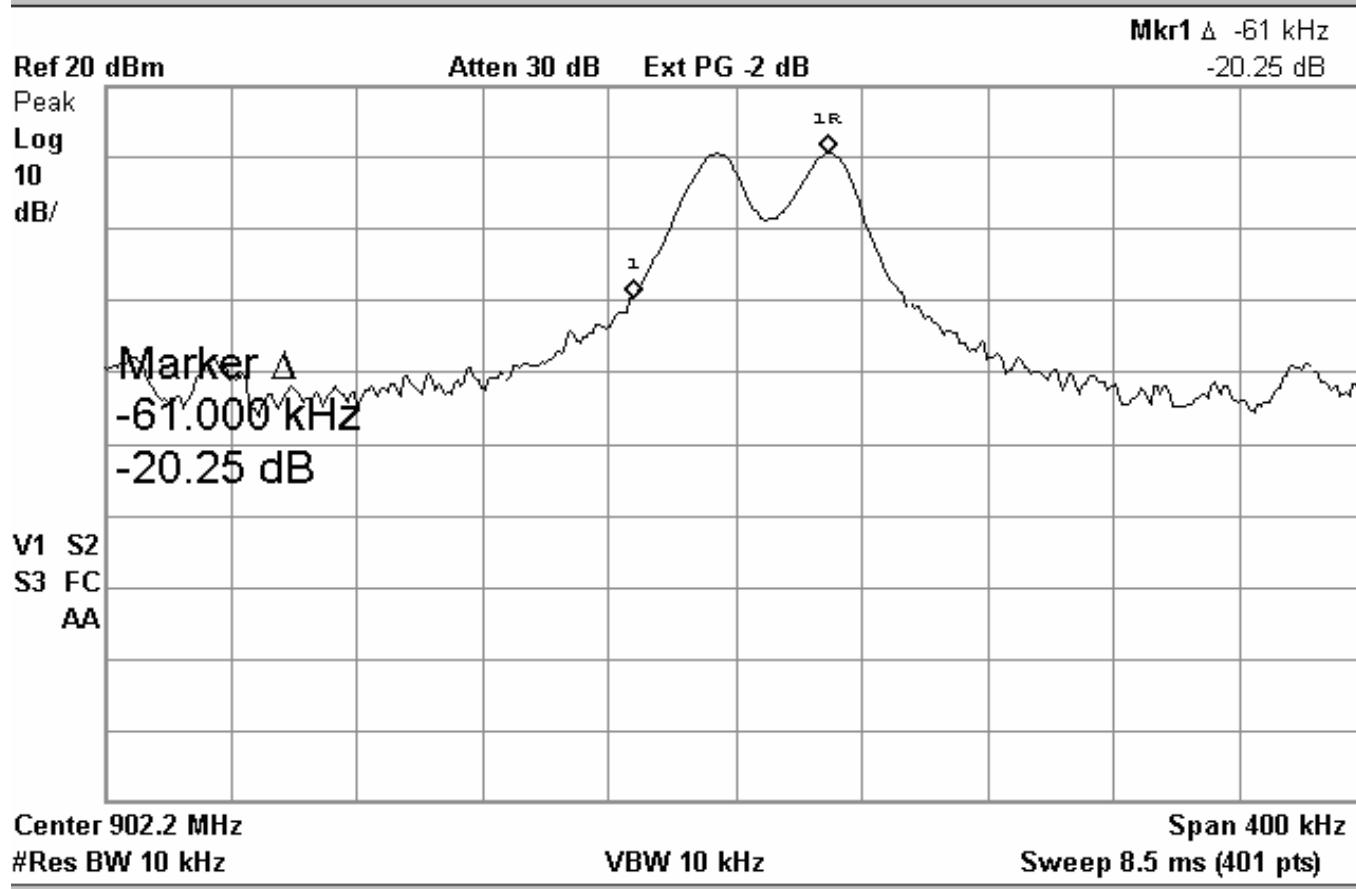
E.6. RESULTS

The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 1 measured at 20 degrees C

Agilent 12:27:24 Apr 2, 2007

R T



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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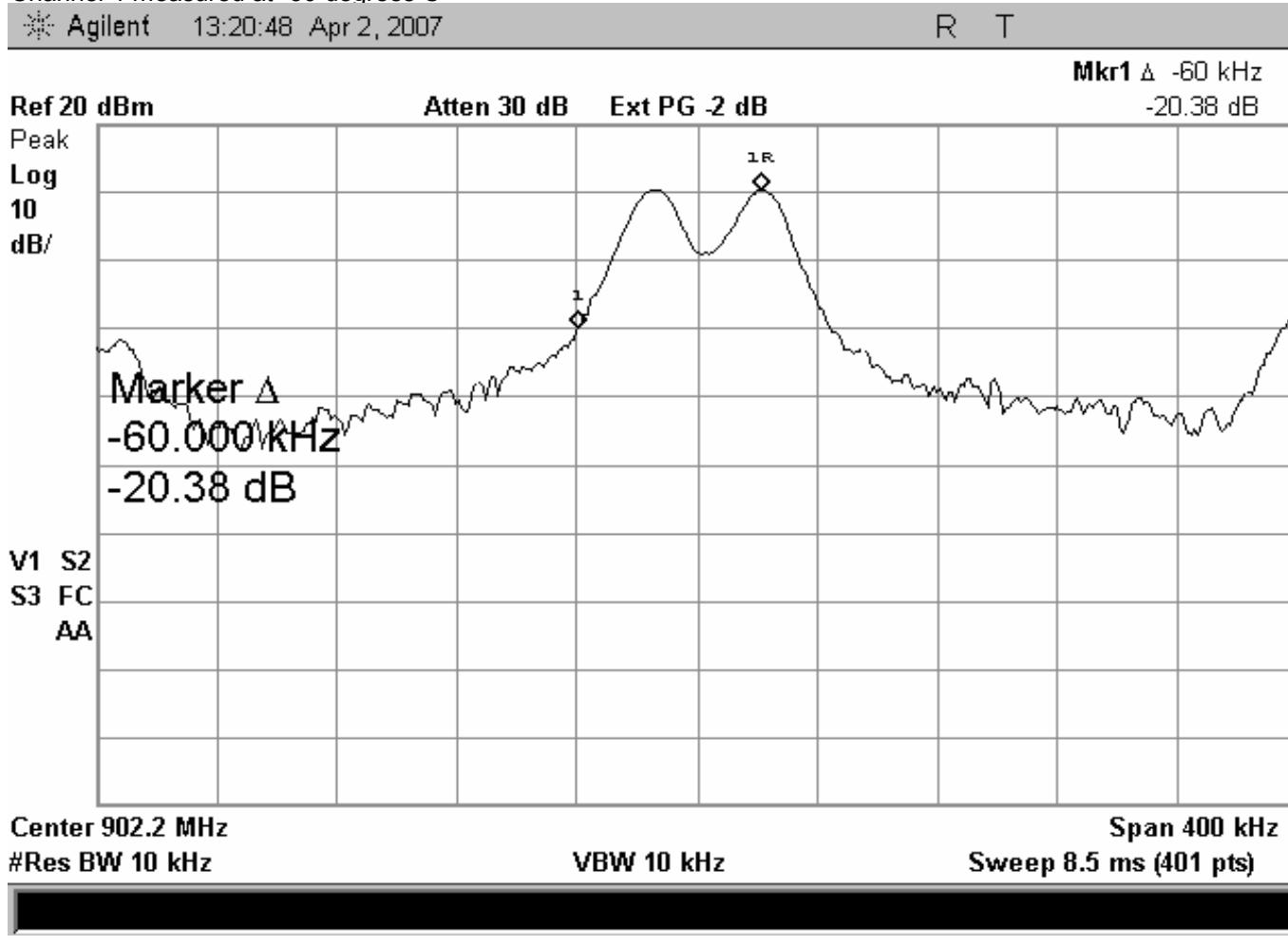


Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

E.7. RESULTS

The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 1 measured at -30 degrees C



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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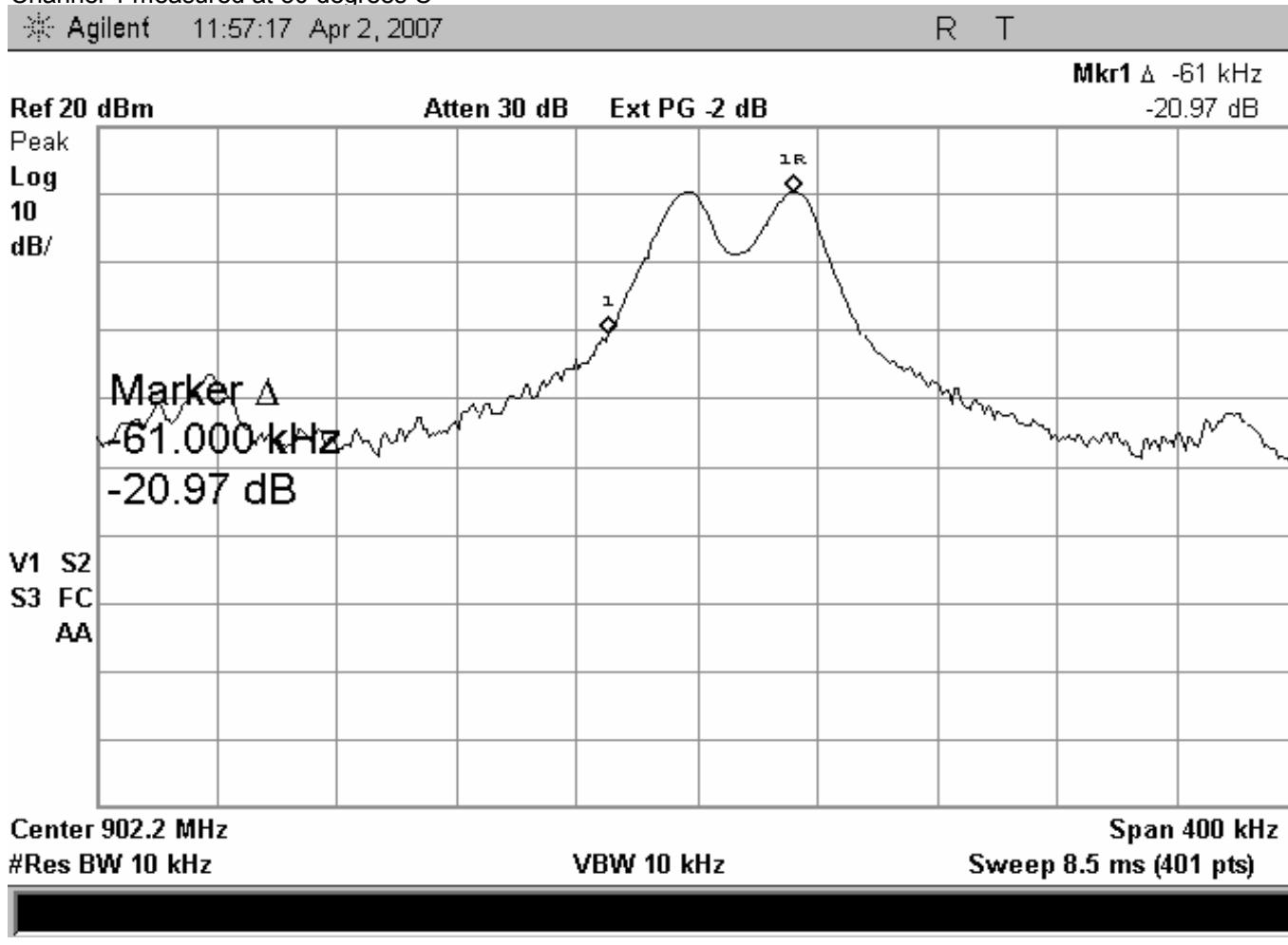


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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

E.8. RESULTS

The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 1 measured at 50 degrees C



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

E.9. RESULTS

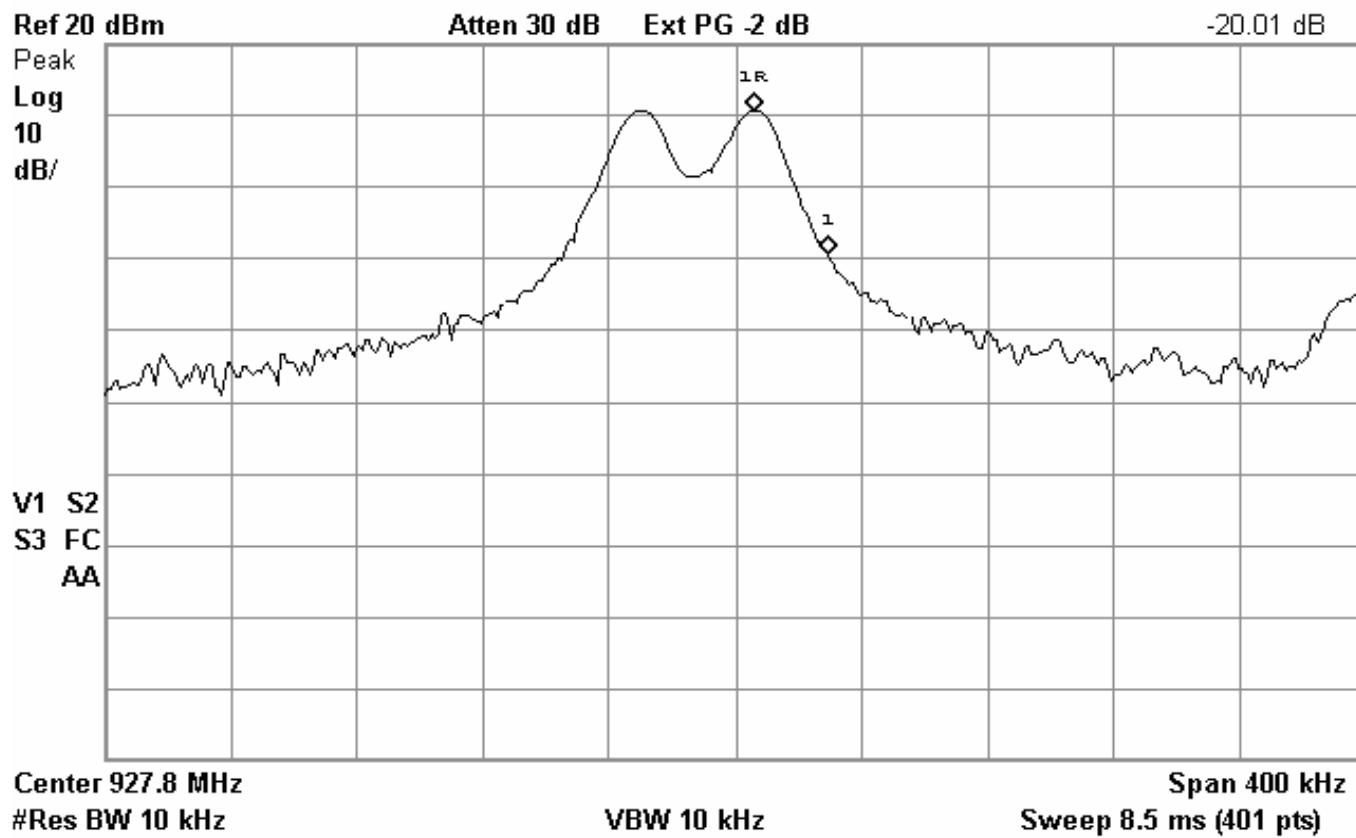
The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 129 measured at 20 degrees C

Agilent 12:30:00 Apr 2, 2007

R T

Mkr1 Δ 23 kHz
-20.01 dB



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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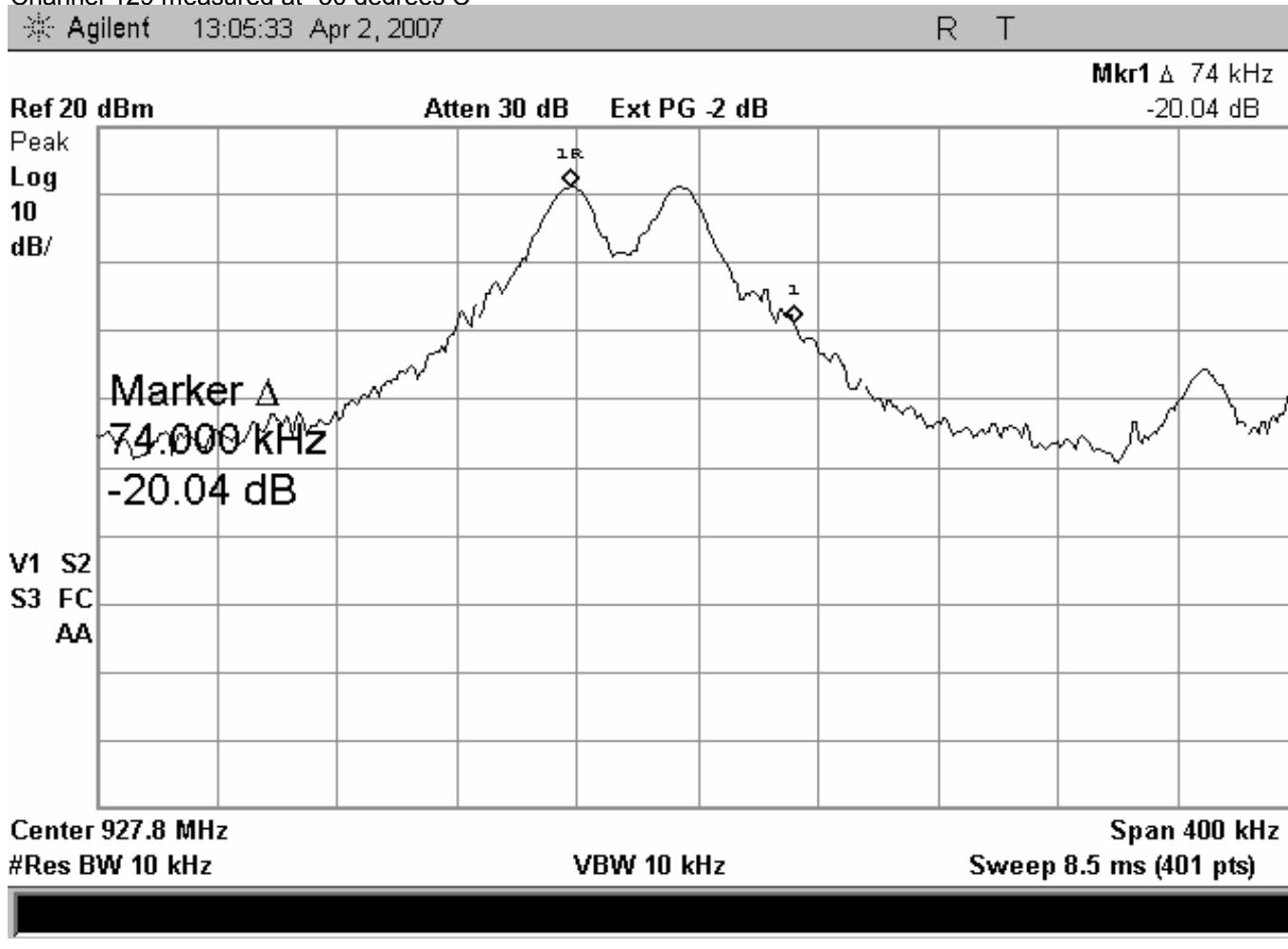


Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
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Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

E.10. RESULTS

The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 129 measured at -30 degrees C



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A	
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz	
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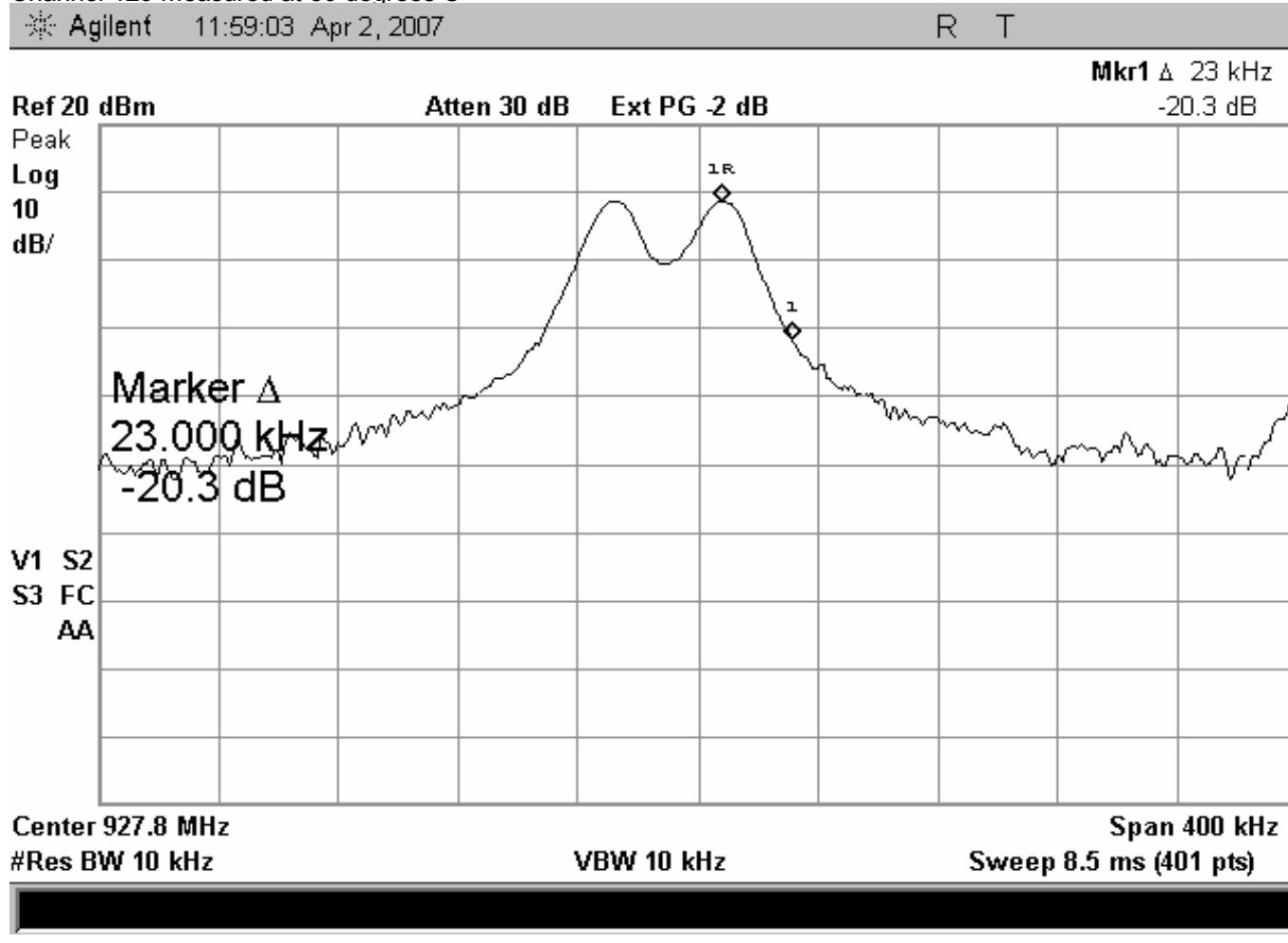


Report Serial No.:	022607UL3-T817-E15R	Report Revision No.:	Revision 1.0
Date(s) of Tests:	Feb. 27 - Mar. 09 & Apr. 02, 2007	Report Issue Date:	April 04, 2007
Test Standard(s):	FCC 47 CFR §15.249	Industry Canada RSS-210 Issue 6	
Lab Registration(s):	FCC Lab Registration #714830	Industry Canada Lab File #3874	

E.11. RESULTS

The levels represented in this plot are relative levels only and are intended to represent the difference between the peak and the edge of the fundamental at a point ≥ 20 dB from the peak level and are intended to demonstrate compliance with the requirement that the 20dB bandwidth of the fundamental emission stay within the edges of the band.

Channel 129 measured at 50 degrees C



Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
Device Type:	RFID Tag Reader	Model:	Gateway G100A	Freq. Range:	902.2 - 927.8 MHz		
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E.12. SIGN-OFF

The DUT passes the requirements because at no time does the 20dB bandwidth stray from the designated band of operation. I attest to the accuracy of the data. All measurements reported herein were performed by me and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements.

Spencer Watson
EMC Lab Manager
Celltech Labs Inc.

02Apr07

Date

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
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END OF DOCUMENT

Company:	RFind Systems, Inc.	FCC ID:	UL3G100A	IC ID:	6721A-G100A		
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