



Underwriters Laboratories Inc.  
12 Laboratory Dr.  
Research Triangle Park, NC  
27709

[www.ul.com/emc](http://www.ul.com/emc)  
(919) 549-1400

Lab Number:	10LB048
Project Number:	10RT02887
File Number:	MC15465
Date:	July 22, 2010
Models:	Tag Models T42-140 (FCC ID: URG42140)

# **Electromagnetic Compatibility Test Report**

## **For**

## **RadarFind Corp.**

**Raleigh, NC**

**Copyright © 2010 Underwriters Laboratories Inc.**

Underwriters Laboratories Inc. authorizes the above-named company to reproduce this Report provided it is reproduced in its entirety.

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 2 of 24  
FCC ID: URG42140

## Test Report Details

Tests Performed By: **Underwriters Laboratories Inc.  
12 Laboratory Dr.  
Research Triangle Park, NC 27709**

Tests Performed For: **RadarFind Corporation  
A TeleTracking Technologies Company  
2100 Gateway Centre Blvd., Suite 150  
Morrisville, NC 27560**

Applicant Contact: **Mr. Steve Snell**  
Title: **Director, Hardware Engineering**  
Phone: **(919) 228-2170**  
E-mail: **ssnell@radarfind.com**

Test Report Date: **July 15, 2010**

Product Type: **Low-Powered Transmitter**

Product standards: **FCC Part 15, Subpart C, 15.249**

Model Number: **Tag Model T42-140**

Sample Serial Number: **Unserialized production samples**

EUT Category: **Frequency Hopping Spread Spectrum Transmitter**

Testing Start Date: **July 6, 2010**

Date Testing Complete: **July 12, 2010**

**Overall Results: Compliant**

Underwriters Laboratories Inc. reports apply only to the specific samples tested under stated test conditions. All samples tested were in good operating condition throughout the entire test program. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. Underwriters Laboratories Inc. shall have no liability for any deductions, inferences or generalizations drawn by the client or others from Underwriters Laboratories Inc. issued reports. This report shall not be used to claim, constitute or imply product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the US government.

This report may contain test results that are not covered by the NVLAP or A2LA accreditation. The scope of accreditation is limited to the specific tests that are listed on the NVLAP and/or A2LA websites referenced at the end of this report.

## Report Directory

1.0	GENERAL - Product Description.....	4
1.1	Equipment Description .....	4
1.2	Equipment Marking Plate .....	4
1.3	Device Configuration During Test .....	5
1.3.1	Equipment Used During Test:.....	5
1.3.2	Input/Output Ports:.....	5
1.3.3	EUT Internal Operating Frequencies: .....	6
1.3.4	Power Interface:.....	6
1.4	Block Diagram: .....	7
1.5	Description of X and Y Axis Product Orientations.....	7
1.6	EUT Configurations .....	7
1.7	EUT Operation Modes.....	8
2.0	Summary .....	9
2.1	Deviations from standard test methods.....	9
2.2	Device Modifications Necessary for Compliance .....	9
2.3	Reference Standards .....	9
2.4	Results Summary .....	9
2.5	Test Scope .....	9
3.0	Calibration of Equipment Used for Measurement .....	10
4.0	EMISSIONS TEST RESULTS.....	10
4.1	Test Conditions and Results – RADIATED POWER / RADIATED SPURIOUS EMISSIONS.....	11
4.1.1	Radiated Spurious Emissions – Tag #1 (Model T42-140).....	14
Appendix A	.....	23
	Accreditations and Authorizations.....	23

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 4 of 24

FCC ID: URG42140

Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
8-19-2010	Model Number Corrected	J. Marley	M. Nolting

## 1.0 G E N E R A L - Product Description

### 1.1 Equipment Description

This equipment functions as a device tracking system consisting of readers and tags operating in the 902-928 MHz ISM band under FCC Part 15.249.

### 1.2 Equipment Marking Plate

Documented in Original FCC Submission.

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 5 of 24  
FCC ID: URG42140

### 1.3 Device Configuration During Test

#### 1.3.1 Equipment Used During Test:

Use	Product Type	Manufacturer	Model	Comments
EUT	Tag #1	RadarFind Corp.	T42-140	Battery Powered
Note: EUT - Equipment Under Test, AE - Auxiliary/Associated Equipment, or SIM - Simulator (Not Subjected to Test)				

#### 1.3.2 Input/Output Ports:

Port #	Name	Type*	Cable Max. >3m (Y/N)	Cable Shielded (Y/N)	Comments
0	Enclosure	N/E	—	—	None
1	Antenna	N/E	—	—	
Note: AC = AC Power Port DC = DC Power Port N/E = Non-Electrical I/O = Signal Input or Output Port (Not Involved in Process Control) TP = Telecommunication Ports					

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 6 of 24

FCC ID: URG42140

### 1.3.3 EUT Internal Operating Frequencies:

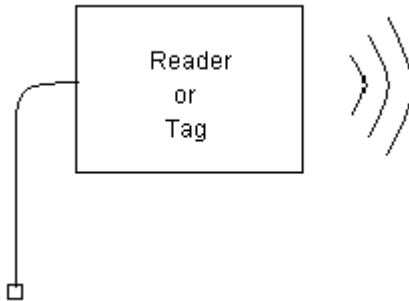
Frequency (MHz)	Description
902-928	Operating Frequency Band.

### 1.3.4 Power Interface:

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
1	3V	-	-	DC	-	A fresh battery was installed prior to test

#### 1.4 Block Diagram:

The diagram below illustrates the configuration of the equipment above.



#### 1.5 Description of X and Y Axis Product Orientations



X-Orientation (upright)      Y-Orientation (on side)

EUT is measured with Horizontal and Vertical antenna position in each orientation to cover the typical installations and directions of maximum antenna gain. From the original testing the upright orientation was worst case for the reader.

#### 1.6 EUT Configurations

Mode #	Description
1	Equipment Under Test (Tag #1, Model T42-140).

## 1.7 EUT Operation Modes

Mode #	Description			
1	Readers are set to continuously operate at maximum power level moving between the following six operating frequencies/modes for the purposes of test.			
TX Antenna	Frequency	Baud Rate	Deviation	Length
Vertical	909 MHz	200,000 bit/s	± 297 kHz	400 ms TX
Horizontal	909 MHz	200,000 bit/s	± 297 kHz	400 ms TX
Vertical	905 MHz	200,000 bit/s	± 297 kHz	0.3 ms TX, 3 ms idle (10% duty cycle)
Horizontal	905 MHz	200,000 bit/s	± 297 kHz	0.3 ms TX, 3 ms idle (10% duty cycle)
Vertical	918 MHz	200,000 bit/s	± 297 kHz	400 ms TX
Horizontal	918 MHz	200,000 bit/s	± 297 kHz	400 ms TX

Mode #	Description
2	Tags are set to continuously operate at maximum power level moving between the following six operating frequencies/modes for the purposes of test. • 905 MHz • 909 MHz • 912 MHz • 915 MHz • 918 MHz • 927 MHz.



## 2.0 Summary

The tests listed in the Summary of Testing section of this report have been performed and the results recorded by Underwriters Laboratories Inc. in accordance with the procedures stated in each test requirement and specification. The applicant determined the list of tests performed were applicable to the Equipment Under Test. As a result, the subject product has been verified to comply or not comply as noted in the Summary of Testing with each test specification. The test results relate only to the items tested.

### 2.1 Deviations from standard test methods

None

### 2.2 Device Modifications Necessary for Compliance

None

### 2.3 Reference Standards

Standard Number	Standard Name	Standard Date
FCC Part 15, Subpart C, 15.249	Code of Federal Regulations, Part 15, Radio Frequency Devices	2009

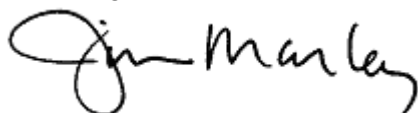
### 2.4 Results Summary

Requirement – Test	Result (Compliant / Non-Compliant)*
Radiated Power / Radiated Spurious Emissions	Compliant

### 2.5 Test Scope

These tests are performed in support of a Class III Permissive Change. Other test items from previous certification are considered to remain valid.

Test Engineer:



Jim Marley (919-549-1408)  
Staff EMC Engineer  
International EMC Services  
Conformity Assessment Services  
james.r.marley@us.ul.com

Reviewer:



Mark Nolting (Ext.919-549-1584)  
Staff EMC Engineer  
International EMC Services  
Conformity Assessment Services  
mark.nolting@us.ul.com

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

### 3.0 Calibration of Equipment Used for Measurement

All test equipment and test accessories are calibrated on a regular basis. The maximum time between calibrations is one year or the manufacturers' recommendation, whichever is less.

All test equipment calibrations are traceable to the National Institute of Standards and Technology (NIST); therefore, all test data recorded in this report is traceable to NIST.

### 4.0 EMISSIONS TEST RESULTS

The emissions tests were performed according to following regulations:

----- United States -----

Code of Federal Regulations Title 47	Part 15, Subpart C, Radio Frequency Devices
--------------------------------------	---------------------------------------------

Unless specified otherwise in the individual Methods, the tests shall be conducted under the following ambient conditions. Confirmation of these conditions shall be verified at the time the test is conducted.

Ambient Temperature, °C	22.5 ± 2.5	Relative Humidity, %	45 ± 15	Barometric Pressure, mBar	950 ± 150
-------------------------	------------	----------------------	---------	---------------------------	-----------

#### Sample Calculations

Radiated Field Strength and Conducted Emissions data contained within this report are calculated as follows:

##### Radiated Field Strength

Field Strength (dBuV/m) = Meter Reading (dBuV) + Antenna Factor (dB/m) - Amp Gain (dB) + Cable Loss (dB)

##### Conducted Emissions

Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable/Attenuator Loss (dB) + LISN Voltage Correction Factor (dB)

#### 4.1 Test Conditions and Results – RADIATED POWER / RADIATED SPURIOUS EMISSIONS

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meter. The EUT was rotated 360° about its azimuth with the receive antenna located at various heights in both horizontal and vertical polarities. Final measurements (quasi-peak or average as noted) were then performed by rotating the EUT 360° and adjusting the receive antenna height from 1 to 4-meters. All frequencies were investigated in both horizontal and vertical antenna polarity, where applicable, and with EUT oriented in each of three orthogonal axes as noted.	
Basic Standard	FCC Part 15, Subpart C, 15.249 (Restricted Bands, FCC Part 15.209 General Limits Apply)	
UL LPG	80-EM-S0029	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	30 MHz – 9.30 GHz	(3 meter measurement distance)

##### Limits – FCC Part 15.249(a) (EIRP Limit, not Point-to-Point operation)

Frequency (MHz)	Limit (dBµV/m)		
	Fundamental	Harmonics	
	Peak or Quasi-Peak	Peak	Average
902 – 928	94.0	74.0	54.0

##### Limits – FCC Part 15.249(c) Spurious Other than Harmonics

Frequency (MHz)	Limit (dBµV/m)
30 – 10 <sup>th</sup> harmonic	50 dB below fundamental (or 15.209 limit, whichever is higher)

##### Limits – FCC Part 15.209 (General Limits)

Frequency (MHz)	Limit (dBµV/m)	
	Quasi-Peak	Average
30 - 88	40.0	NA
88 - 216	43.5	NA
216 - 960	46.0	NA
960 - 1000	54.0	NA
1000 - EUT 10 <sup>th</sup> harmonic	NA	54.0 (peak limit 74.0)
Supplementary information: None		

**Table 1 Radiated Emissions EUT Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	(A) 1 (Tag #T42-140)	2
Supplementary information: None		

**Table 2 Radiated Emissions Test Equipment**

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>30-1000 MHz Range</b>				
AT0021	Biconical Antenna, 30 to 200 MHz	Schaffner, EMC	VBA6106A	12/23/09	12/31/10
AT0022	Log-periodic Antenna, 200 MHz to 1000 MHz	Chase	UPA6109	12/22/09	12/31/10
	<b>1-10 GHz</b>				
AT0032	Horn Antenna 1 to 10 GHz	EMC Test Syst.	3115	9/25/09	9/30/10
	<b>Gain-Loss Chains</b>				
SAC_C (Biconical 3m location)	(1) ATA084: Attenuator (2) ATA124: Amplifier (3) ATA167: Cable (4) ATA132: Cable (5) ATA229: DC Bias Tee (6) ATA199: Cable	(1) Pasternack (2) Miteq (3) Eupen (4) UL (5) Miteq (6) Micro-Coax	(1) PE7002-6 (2) AM-3A-000110-N (3) CMS/RG 214 (4) UFA210A-0-6000-50U-50U (5) BT2000-C (6) UFB293C-0-0720-5GU50U)	06/03/10	08/31/10
SAC_D (Log-Periodic 3m location)	(1) ATA085: Attenuator (2) ATA125: Amplifier (3) ATA225: Cable (4) ATA189: Cable (5) ATA115: DC Bias Tee (6) ATA198: Cable	(1) Pasternack (2) Miteq (3) EUPEN (4) EUPE (5) Miteq (6) Micro-Coax	(1) PE7002-6 (2) AM-3A-000110-N (3) CMS/RG 214 (4) CMS/RG 214 (5) AM-1523-7687 (6) UFB293C-0-0720-5GU50U	02/17/10	08/31/10
SAC_E_HORN (Horn 3m location)	(1) ATA144: Amplifier (2) ATA207: Cable (3) ATA096: Cable (4) ATA199: Cable	(1) Miteq (2) Micro-Coax (3) Micro-Coax (4) Micro-Coax	(1) AFS42-00101800-25-N-42MF (2) UFB293C-1-3360-50U50U (3) UTIFLEX (4) UFB293C-0-0720-5GU50U	08/24/09	08/31/10
	<b>Receiver &amp; Software</b>				
SA0123	Spectrum Analyzer / Receiver	HP	8566B	05/27/10	05/31/11
AMP005	Pre-amplifier	HP	8449B Opt H02 (calibrated with ATA091 6dB atten)	05/27/10	05/31/11
SAR003	Spectrum Analyzer / Receiver	Rohde & Schwarz	1088.7490K40	1/18/10	1/31/11
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 13 of 24

FCC ID: URG42140

Equip. ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
	<b>Additional Equipment used</b>				
HI0034	Environmental meter (T/H/P)	Control Company	99760-00	10/19/09	10/31/10
MG1180	Tape Measure	Lufkin	HI-VIZ	8/8/08	8/31/11

Project Number: 10RT02887 File Number: MC15465  
Model Number: Tag Model T42-140  
Client Name: RadarFind Corp.

Page 14 of 24

FCC ID: URG42140

#### 4.1.1 Radiated Spurious Emissions – Tag #1 (Model T42-140)

Figure 1 Test setup photo for Radiated Emissions (Tag #1, X-Y Orientation)



Figure 2 Radiated Emissions Graph 902-928 MHz (Tag #1, X-Orientation)

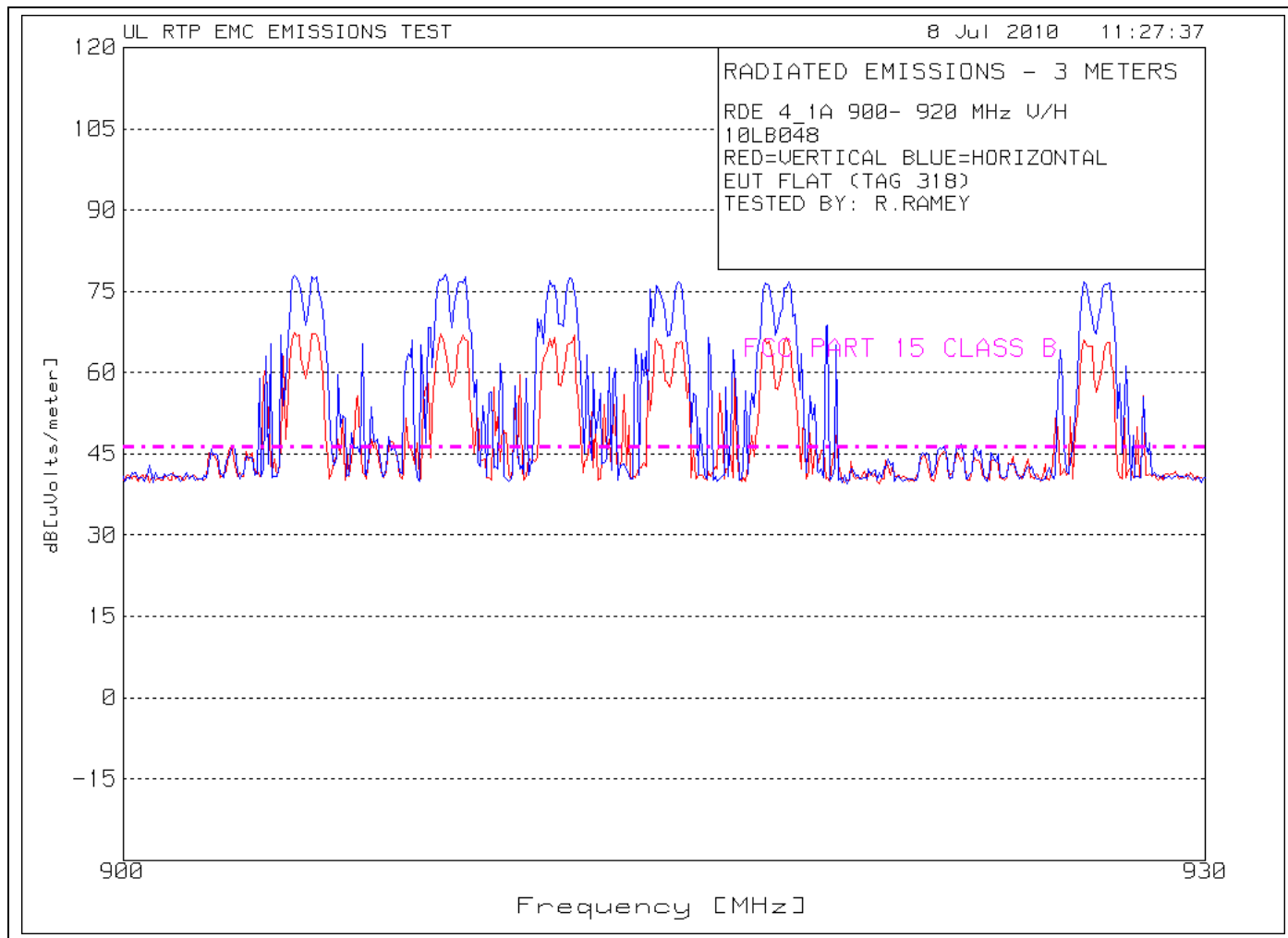


Table 3 Radiated Emissions Data Points (Tag #1, X-Orientation)

RDE 4\_1A 900-930 MHz V/H

10LB048

RED=VERTICAL BLUE=HORIZONTAL

EUT FLAT (TAG T42-140)

TESTED BY: R.RAMEY

Marker Number	Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	15.249 Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol. [V/H]
Vertical 900 - 930MHz										
1	904.6894	32.3	pk	12	23.1	67.4	94	-26.6	199	Vert
2	908.7174	32.06	pk	12	23	67.06	94	-26.94	100	Vert
3	912.3848	31.9	pk	12	23	66.9	94	-27.1	100	Vert
4	914.6693	31.37	pk	12	22.9	66.27	94	-27.73	100	Vert
5	917.6754	31.42	pk	12	22.8	66.22	94	-27.78	100	Vert
6	926.5731	30.93	pk	12.1	23	66.03	94	-27.78	100	Vert

Horizontal 900 - 930MHz

7	904.6894	42.79	pk	12	23.1	77.89	94	-16.11	100	Horz
8	908.8377	43.05	pk	12	23	78.05	94	-15.95	100	Horz
9	912.2645	42.4	pk	12	23	77.4	94	-16.6	100	Horz
10	915.2705	41.86	pk	12	22.9	76.76	94	-17.24	100	Horz
11	918.3367	41.87	pk	12	22.8	76.67	94	-17.33	100	Horz
12	926.5731	41.66	pk	12.1	23	76.76	94	-17.24	100	Horz

Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	15.249 Limit [dBuV/m]	Margin [dB]	Azim [deg]	Height [cm]	Pol. [V/H]
---------------------	-------------------------	-----------	------------------------	---------------------	----------------------------	--------------------------	----------------	---------------	----------------	---------------

Vertical 900 - 930MHz

905.243	28.57	qp	12	23.1	63.67	94	-30.33	75	100	Vert
905.243	33.39	pk	12	23.1	68.49	94	-25.51	75	100	Vert
909.288	32.53	pk	12	23	67.53	94	-26.47	94	167	Vert
909.288	27.66	qp	12	23	62.66	94	-31.34	94	167	Vert
912.308	28.75	qp	12	23	63.75	94	-30.25	77	174	Vert
912.308	33.69	pk	12	23	68.69	94	-25.31	77	174	Vert
914.666	33.55	pk	12	22.9	68.45	94	-25.55	67	183	Vert
914.666	28.48	qp	12	22.9	63.38	94	-30.62	67	183	Vert
917.757	27.23	qp	12	22.8	62.03	94	-31.97	59	193	Vert
917.757	32.63	pk	12	22.8	67.43	94	-26.57	59	193	Vert
926.611	32.27	pk	12.1	23	67.37	94	-26.63	39	274	Vert
926.611	27.39	qp	12.1	23	62.49	94	-31.51	39	274	Vert

Horizontal 900 - 930MHz

904.752	39.19	qp	12	23.1	74.29	94	-19.71	312	100	Horz
904.752	43.58	pk	12	23.1	78.68	94	-15.32	312	100	Horz
909.268	42.87	pk	12	23	77.87	94	-16.13	151	100	Horz
909.268	38.71	qp	12	23	73.71	94	-20.29	151	100	Horz
911.694	37.53	qp	12	23	72.53	94	-21.47	329	162	Horz
911.694	41.71	pk	12	23	76.71	94	-17.29	329	162	Horz
914.706	42.17	pk	12	22.9	77.07	94	-16.93	130	100	Horz
914.706	38.09	qp	12	22.9	72.99	94	-21.01	130	100	Horz
918.273	38.38	qp	12	22.8	73.18	94	-20.82	334	100	Horz
918.273	42.5	pk	12	22.8	77.3	94	-16.7	334	100	Horz
926.566	41.23	pk	12.1	23	76.33	94	-17.67	130	157	Horz
926.566	36.87	qp	12.1	23	71.97	94	-22.03	130	157	Horz

pk - Peak detector  
qp - Quasi-Peak detector



Figure 3 Radiated Emissions Graph 30-1000 MHz (Tag #1, X-Orientation)

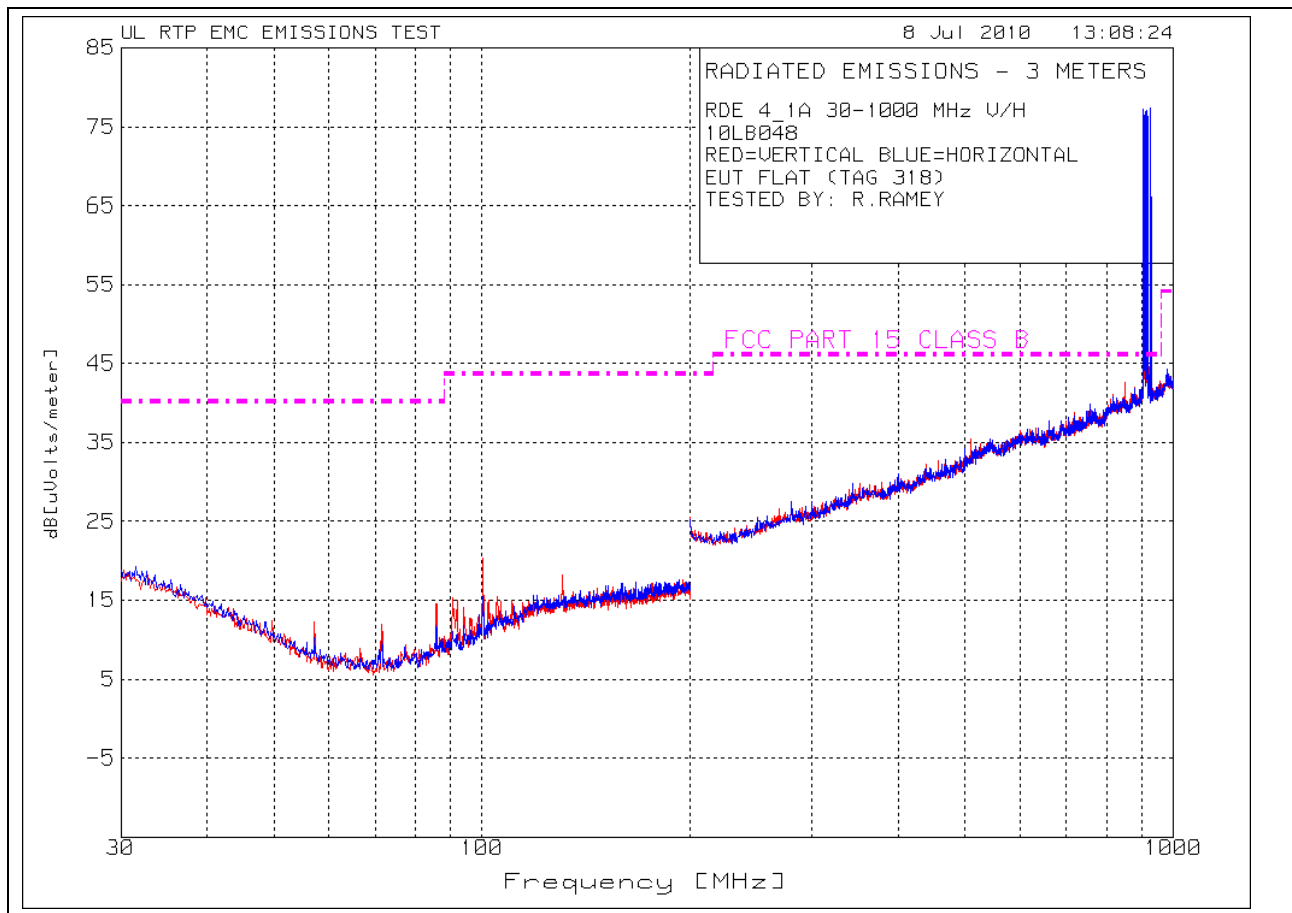


Table 4 Radiated Emissions Data Points (Tag #1, X-Orientation)

RDE 4\_1A 30-1000 MHz V/H  
10LB048  
RED=VERTICAL BLUE=HORIZONTAL  
EUT FLAT (TAG T42-140)  
TESTED BY: R.RAMEY

Marker Number	Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	FCC-B Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol. [V/H]
Vertical 30 - 200MHz										
1	57.227	31.4	pk	-26.6	7.5	12.3	40	-27.7	100	Vert
2	71.521	32.12	pk	-26.5	6.3	11.92	40	-28.08	100	Vert
3	85.986	32.79	pk	-26.6	8.4	14.59	40	-25.41	100	Vert
4	90.750	32.47	pk	-26.5	9.3	15.27	43.5	-28.23	100	Vert
5	100.280	36.05	pk	-26.6	10.9	20.35	43.5	-23.15	100	Vert
6	130.740	30.56	pk	-26.4	14.1	18.26	43.5	-25.24	100	Vert

pk - Peak detector

Figure 4 Radiated Emissions Graph 1-10 GHz (Tag #1, X-Orientation)

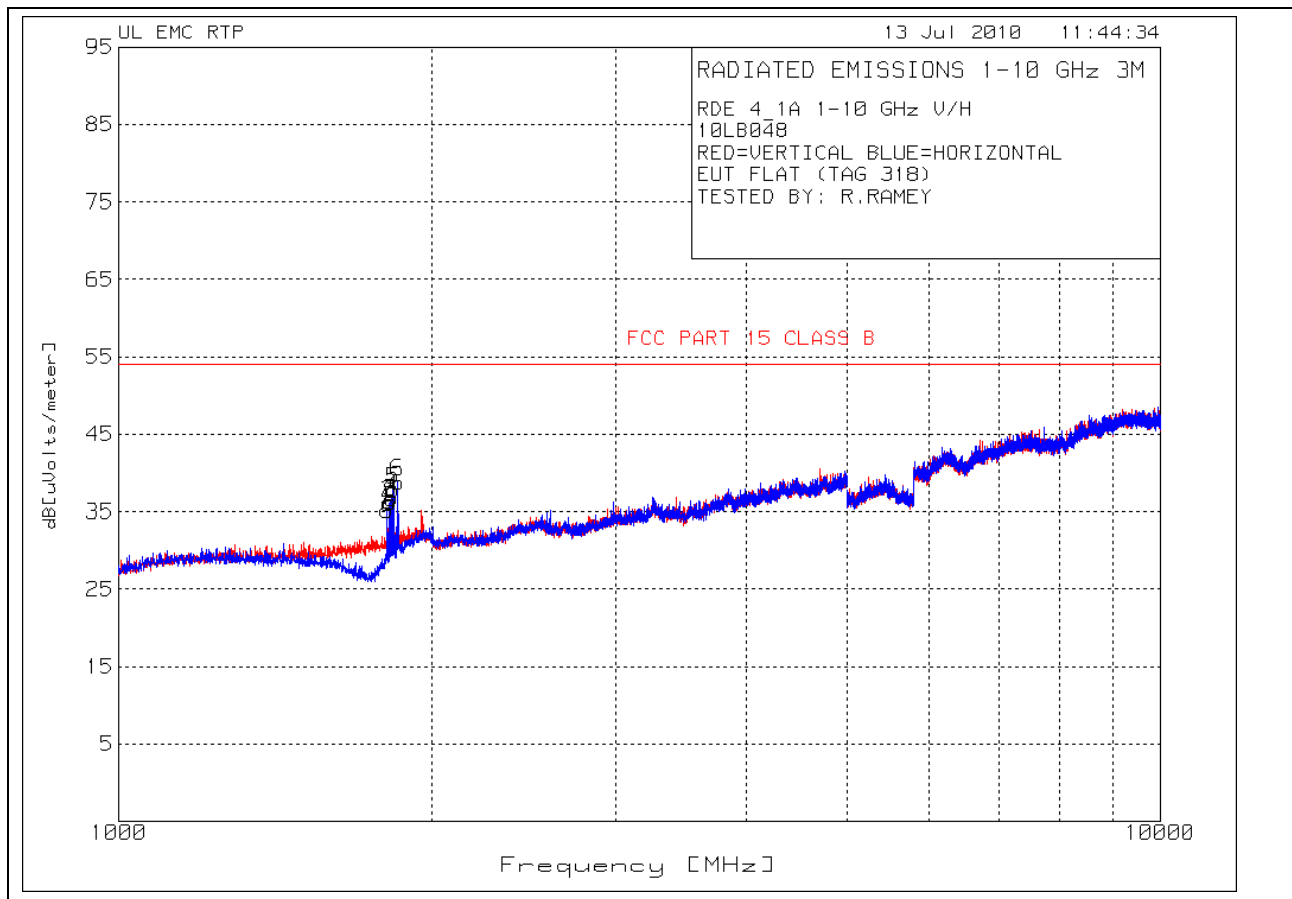


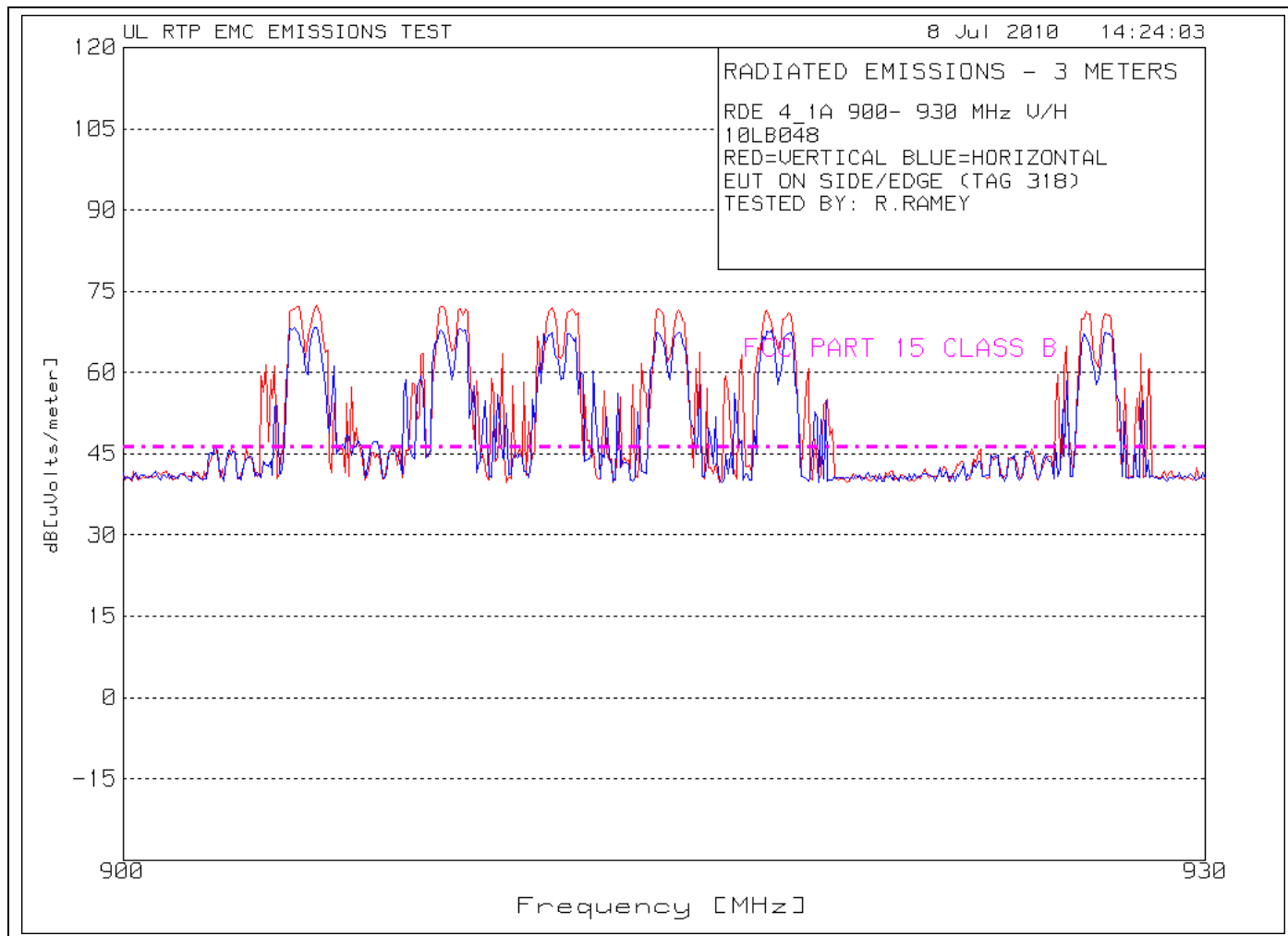
Table 5 Radiated Emissions Data Points (Tag #1, X-Orientation)

RDE 4\_1A 1-10 GHz V/H  
10LB048  
RED=VERTICAL BLUE=HORIZONTAL  
EUT FLAT (TAG T42-140)  
TESTED BY: R.RAMEY

Marker Number	Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	15.209 Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol. [V/H]
Horizontal 1000 - 2000MHz										
1	1809	71.2	pk	-62.9	26.9	35.2	54	-18.8	150	Horz
2	1816.5	72.1	pk	-62.9	26.9	36.1	54	-17.9	150	Horz
3	1823	72.2	pk	-62.9	27	36.3	54	-17.7	150	Horz
4	1829	72.5	pk	-62.8	27	36.7	54	-17.3	150	Horz
5	1835	73.6	pk	-62.8	27	37.8	54	-16.2	150	Horz
6	1852.5	74.5	pk	-62.8	27.1	38.8	54	-15.2	150	Horz

pk - Peak detector

Figure 5 Radiated Emissions Graph 902-930 MHz (Tag #1, Y-Orientation)



Project Number: 10RT02887 File Number: MC15465  
 Model Number: Tag Model T42-140  
 Client Name: RadarFind Corp.

Page 20 of 24  
 FCC ID: URG T42140

**Table 6 Radiated Emissions Data Points (Tag #1, X-Orientation)**

RDE 4\_1A 900- 930 MHz V/H  
 10LB048  
 RED=VERTICAL BLUE=HORIZONTAL  
 EUT ON SIDE/EDGE (TAG T42-140)  
 TESTED BY: R.RAMEY

Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	15.249 Limit [dBuV/m]	Margin [dB]	Azim [deg]	Height [cm]	Pol. [V/H]
-----										
Vertical 900 - 930MHz										
905.2229	36.02	qp	12	23.1	71.12	94	-22.88	193	140	Vert
905.2229	40.99	pk	12	23.1	76.09	94	-17.91	193	140	Vert
909.2931	40.57	pk	12	23	75.57	94	-18.43	193	140	Vert
909.2931	36.28	qp	12	23	71.28	94	-22.72	193	140	Vert
911.7119	36.04	qp	12	23	71.04	94	-22.96	193	140	Vert
911.7119	40.32	pk	12	23	75.32	94	-18.68	193	140	Vert
915.2179	39.77	pk	12	22.9	74.67	94	-19.33	193	140	Vert
915.2179	34.25	qp	12	22.9	69.15	94	-24.85	193	140	Vert
917.6668	34.93	qp	12	22.8	69.73	94	-24.27	193	140	Vert
917.6668	39.56	pk	12	22.8	74.36	94	-19.64	193	140	Vert
927.1829	39.25	pk	12.1	23	74.35	94	-19.65	193	140	Vert
927.1829	35.03	qp	12.1	23	70.13	94	-23.87	193	140	Vert
Horizontal 900 - 930MHz										
905.1929	27.55	qp	12	23.1	62.65	94	-31.35	24	202	Horz
905.1929	34.04	pk	12	23.1	69.14	94	-24.86	24	202	Horz
909.3432	34.01	pk	12	23	69.01	94	-24.99	24	202	Horz
909.3432	28.4	qp	12	23	63.4	94	-30.6	24	202	Horz
911.6518	27.92	qp	12	23	62.92	94	-31.08	24	202	Horz
911.6518	33.65	pk	12	23	68.65	94	-25.35	24	202	Horz
914.737	33.63	pk	12	22.9	68.53	94	-25.47	24	202	Horz
914.737	28.75	qp	12	22.9	63.65	94	-30.35	24	202	Horz
917.747	28.59	qp	12	22.8	63.39	94	-30.61	24	202	Horz
917.747	33.59	pk	12	22.8	68.39	94	-25.61	24	202	Horz
927.1678	33	pk	12.1	23	68.1	94	-25.9	24	202	Horz
927.1678	28.05	qp	12.1	23	63.15	94	-30.85	24	202	Horz

LIMIT 1: 15.249

pk - Peak detector  
 qp - Quasi-Peak detector

Figure 6 Radiated Emissions Graph 30-1000 MHz (Tag #1, Y-Orientation)

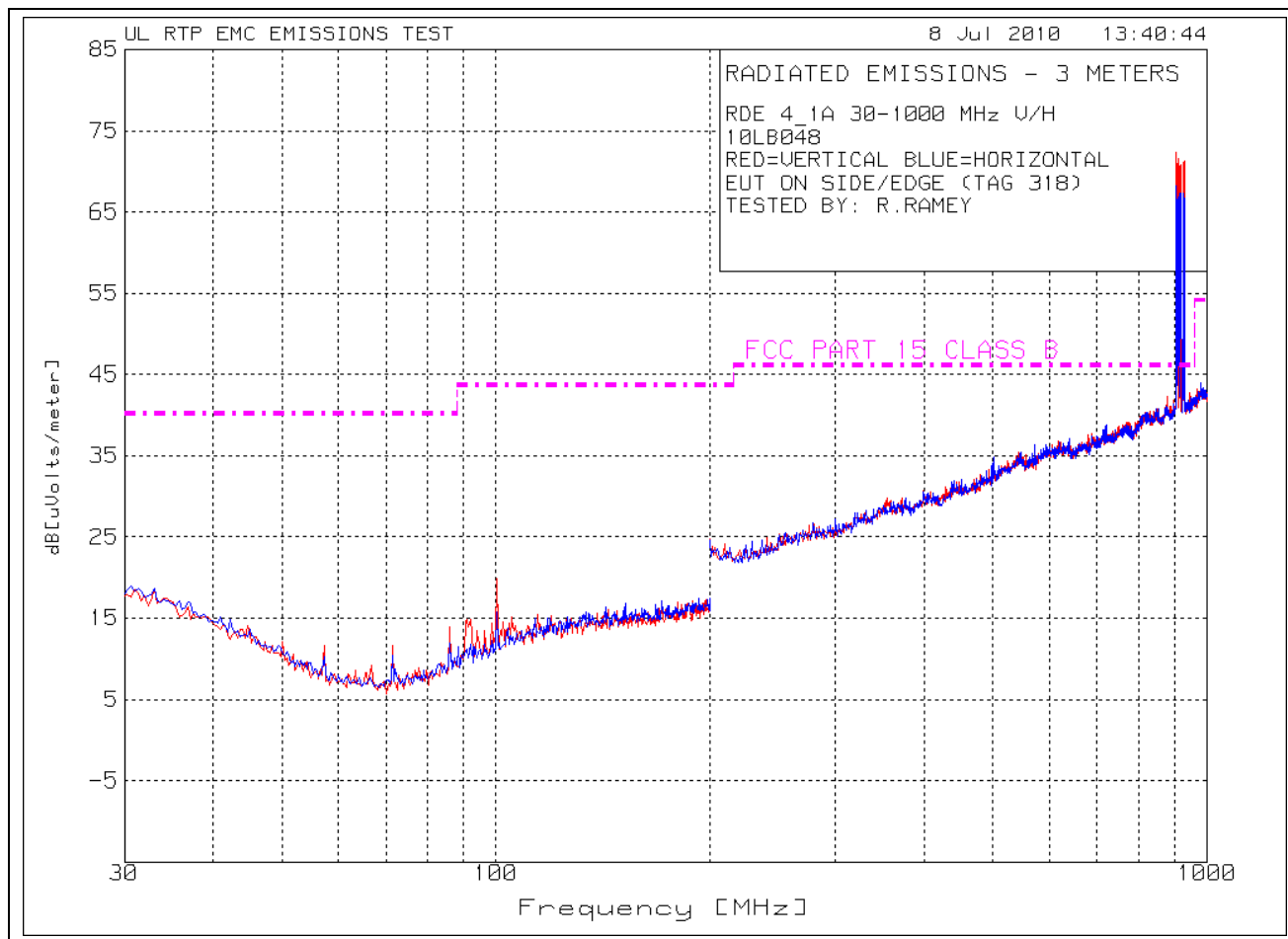


Table 7 Radiated Emissions Data Points (Tag #1, Y-Orientation)

RDE 4\_1A 30-1000 MHz V/H  
10LB048  
RED=VERTICAL BLUE=HORIZONTAL  
EUT ON SIDE/EDGE (TAG T42-140)  
TESTED BY: R.RAMEY

Marker Number	Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	FCC-B Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol. [V/H]
Vertical 30 - 200MHz										
1	57.2545	30.68	pk	-26.6	7.5	11.58	40	-28.42	100	Vert
2	71.5631	31.9	pk	-26.5	6.3	11.7	40	-28.3	100	Vert
3	85.8717	32.11	pk	-26.6	8.4	13.91	40	-26.09	100	Vert
4	92.004	31.93	pk	-26.5	9.4	14.83	43.5	-28.67	100	Vert
5	100.1804	35.69	pk	-26.6	10.8	19.89	43.5	-23.61	100	Vert
Horizontal 30 - 200MHz										
6	151.9639	28.35	pk	-26.4	14.9	16.85	43.5	-26.65	250	Horz

pk - Peak detector

Figure 7 Radiated Emissions Graph 1-10 GHz (Tag #1, Y-Orientation)

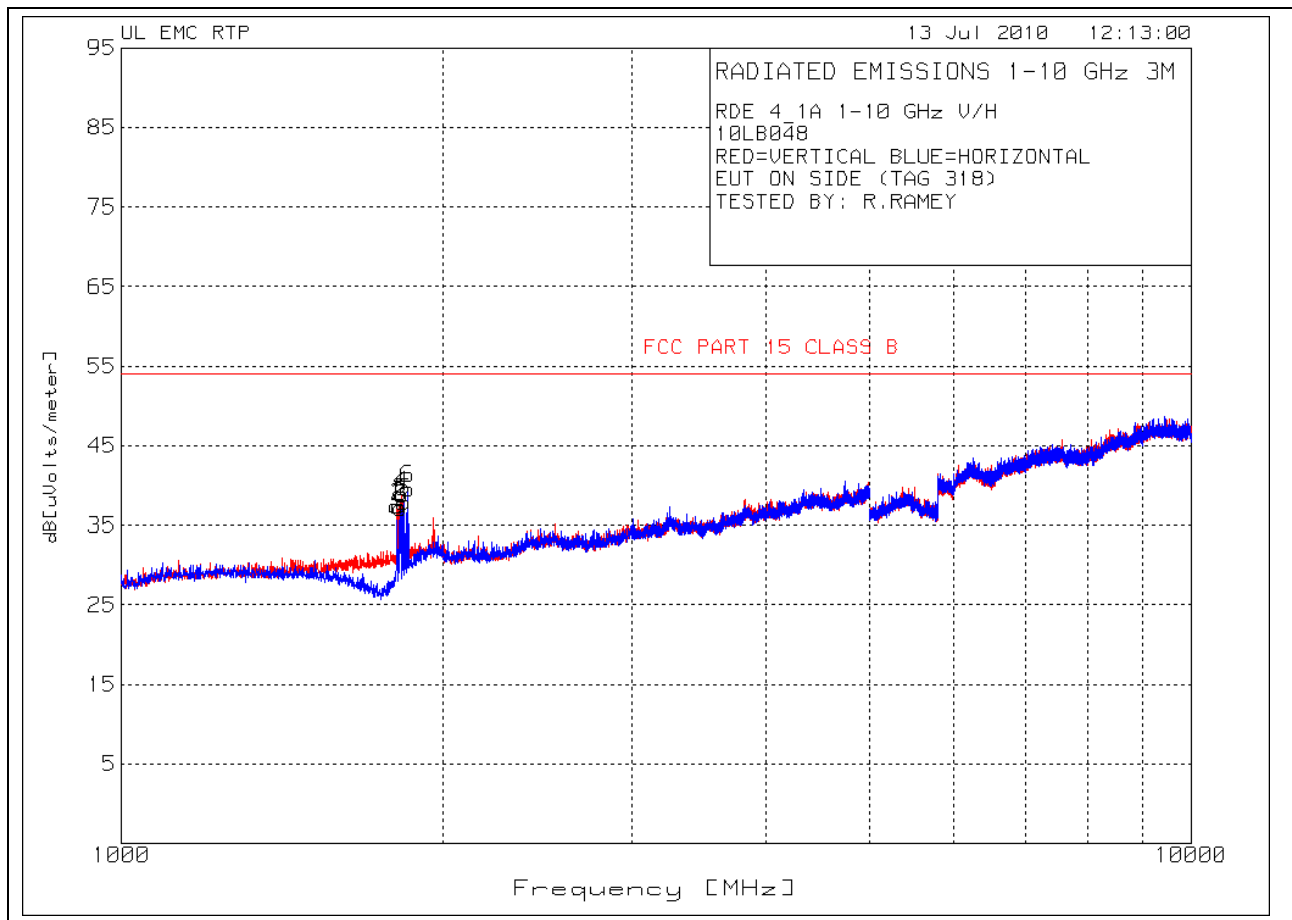


Table 8 Radiated Emissions Data Points (Tag #1, Y-Orientation)

RDE 4\_1A 1-10 GHz V/H  
10LB048  
RED=VERTICAL BLUE=HORIZONTAL  
EUT ON SIDE (TAG T42-140)  
TESTED BY: R.RAMEY

Marker Number	Test Freq. [MHz]	Meter Reading [dBuV]	Det. Type	Cbl/Amp Factor [dB]	Ant. Factor [dB]	Field Strength [dBuV/m]	15.209 Limit [dBuV/m]	Margin [dB]	Height [cm]	Pol. [V/H]
Vertical 1000 - 2000MHz										
1	1808.5	73.4	pk	-62.9	26.9	37.4	54	-16.6	150	Vert
2	1817	73.4	pk	-62.9	26.9	37.4	54	-16.6	150	Vert
3	1823	73.1	pk	-62.9	27	37.2	54	-16.8	150	Vert
4	1829	74.7	pk	-62.8	27	38.9	54	-15.1	150	Vert
5	1836	73.7	pk	-62.8	27	37.9	54	-16.1	150	Vert
Horizontal 1000 - 2000MHz										
6	1853	75.3	pk	-62.8	27.1	39.6	54	-14.4	150	Horz

pk - Peak detector

## Appendix A

### Accreditations and Authorizations



NVLAP Lab code: 200246-0

NVLAP: The National Institute of Standards and Technology (NIST) administers the National Voluntary Laboratory Accreditation Program (NVLAP). NVLAP is comprised of laboratory accreditation programs (LAPs) which are established on the basis of requests and demonstrated need. Each LAP includes specific calibration and/or test standards and related methods and protocols assembled to satisfy the unique needs for accreditation in a field of testing or calibration. NVLAP accredits public and private laboratories based on evaluation of their technical qualifications and competence to carry out specific calibrations or tests. Accreditation criteria are established in accordance with the U.S. Code of Federal Regulations (CFR, Title 15, Part 285), NVLAP Procedures and General Requirements, and encompass the requirements of ISO/IEC 17025. For a full scope listing see <http://ts.nist.gov/ts/htdocs/210/214/scopes/2002460.htm>



FCC: Details of the measurement facilities used for these tests have been filed with the Federal Communications Commission's Laboratory in Columbia, Maryland (Ref. No. 91039).



Industry Canada Industrie Canada

Industry of Canada: Accredited by Industry Canada for performance of radiated measurements. Our test site complies with RSP 100, Issue 7, Section 3.3. File #: 2180C



VCCI: Accepted as an Associate Member to the VCCI. The measurement facilities detailed in this test report have been registered in accordance with Regulations for Voluntary Control Measures, Article 8. Registration Nos.:

- Test Station 5 (Location A) C-2427, R-722
- Test Station 4 (Location E) C-743, T-236

- Test Station 1 (Location D) C-742, T-235
- Test Station 6 (Location C) C-744, T-237

Job Number: 1001211364 File Number:  
Model Number: 4 Tags and 1 Reader  
Client Name: RadarFind Corp.

Page 24 of 24



ICASA: ICASA (Independent Communications Authority of South Africa) has appointed UL as a Designated Test Laboratory to test Telecommunications equipment for type approval in compliance with CISPR 22 to assist in fulfilling its mandate under section 54(1) of the Telecommunications Act, 1996 (Act 103 of 1996).



NIST/CAB: Validated by the European Commission as a U.S. Conformity Assessment Body (CAB) of the U.S.-EU Mutual Recognition Agreement (MRA) for the Electromagnetic Compatibility - Council Directive 2004/108/EC, Annex III (2-3). Also validated for the Telecommunication Equipment-Council Directive 99/5/EC, Annex III and IV, Identification Number: 0983.

NIST/CAB: Provisioned to act as a U.S. Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the Asia Pacific Economic Cooperation (APEC) MRA between the American Institute in Taiwan (AIT) and the United States. Our laboratory is considered qualified to test equipment subject to the applicable EMC regulations of the Chinese Taipei Bureau of Standards, Metrology and Inspection (BSMI) which require testing to CNS 13438 (CISPR 22).

NIST/CAB: Recognized by the Infocomm Development Authority of Singapore (IDA) under the Asia Pacific Economic Cooperation Mutual Recognition Agreement (APEC MRA). Our laboratory is provisionally designated to act as a Conformity Assessment Body (CAB) under Appendix B, Phase I Procedures, of the APEC MRA. Our scope of designation includes IDA TS EMC (CISPR 22), IEC 61000-4-2, -4-3, -4-4, -4-5, and -4-6.