Advanced
Compliance Laboratory

6 Randolph Way
Hillsborough, NJ 08844
Tel: (908) 927 9288
Fax: (908) 927 0728

ELECTROMAGNETIC EMISSION COMPLIANCE REPORT

of

PIPSQUEAK TAG
MODEL: 00001pip
FCC ID: 2AAXK00001PIP

August 28, 2013

This report concerns (check one): Original grant _X_ Class II change _____
Equipment type: Low Power Intentional Radiator

Test Specifications:
____FCC Part 15C Sec. 15.249
____Industry Canada RSS-210 (Issue 8) & RSS-Gen (Issue 3)

Deferred grant requested per 47 CF 0.457(d)(1)(ii)? yes _____ no __x__
If yes, defer until: _____ (date)
Company agrees to notify the Commission by _____ (date)
of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared for:	INPOINT SYSTEM INC.
Report prepared by:	Advanced Compliance Lab
Report number:	0048-130816-01-TX

NVLAP®

Lab Code: 200101 **The test result in this report IS supported and covered by the NVLAP accreditation**

Table of Contents

Figures

1. GENERAL INFORMATION

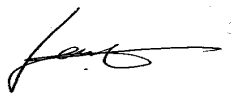
1.1 Verification of Compliance

EUT:	PIPSQUEAK TAG
Model:	00001pip
Applicant:	Inpoint System Inc.
Test Type:	FCC Part 15.249
Result:	PASS
Tested by:	ADVANCED COMPLIANCE LABORATORY
Test Date:	August 28, 2013
Report Number:	0048-130816-01-TX

The above equipment was tested by Compliance Laboratory, Advanced Technologies, Inc. for compliance with the requirement set forth in the FCC rules and regulations Part 15 subpart C. This said equipment in the configuration described in the report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

The estimated uncertainty of the test result is given as following. The method of uncertainty calculation is provided in Advanced Compliance Lab. Doc. No. 0048-01-01.

	Prob. Dist.	Uncertainty(dB)	Uncertainty(dB)	Uncertainty(dB)
		30-1000MHz	1-6.5GHz	Conducted
Combined Std. Uncertainty u_c	norm.	±2.36	±2.99	±1.83



Wei Li
Lab Manager
Advanced Compliance Lab

Date August 28,2013

1.2 Equipment Modifications

N/A

1.3 Product Information

System Configuration

ITEM	DESCRIPTION	FCC ID	CABLE
Product(1)	PIPSQUEAK TAG	2AAXK00001PIP	
Housing	PLASTICS		
Power Supply	3V DC Battery		
Operation Freq.	922MHz		
Receiver	00001pip(RX)	Verification	

(1) EUT submitted for grant.

1.4 Test Methodology

Radiated tests were performed according to the procedures in ANSI C63.4-2003 at an antenna to EUT distance of 3 meters.

1.5 Test Facility

The open area test site and conducted measurement facility used to collect the radiated and conducted data are located at Hillsborough, New Jersey, USA. This site is accepted by FCC to perform measurements under Part 15 or 18 (Registration # 90601) and also designated by IC as "**site IC 3130**". This site The NVLAP Lab code for accreditation of FCC EMC Test Method is: 200101-0.

1.6 Test Equipment

Manufacture	Model	Serial No.	Description	Cal Due dd/mm/yy
Hewlett-Packard	HP8546A	3448A00290	EMI Receiver	15/10/13
EMCO	3104C	9307-4396	20-300MHz Biconical Antenna	15/01/14
EMCO	3146	9008-2860	200-1000MHz Log-Periodic Antenna	15/01/14
Electro-Meterics	ALR-25M/30	289	10KHz-30MHz Active Loop Antenna	28/05/14
Fischer Custom	LISN-2	900-4-0008	Line Impedance Stabilization Networks	18/03/14
Fischer Custom	LISN-2	900-4-0009	Line Impedance Stabilization Networks	24/03/14
EMCO	3115	4945	Double Ridge Guide Horn Antenna	22/01/14

All Test Equipment Used are Calibrated Traceable to NIST Standards.

1.7 Statement for the Document Use

This report shall not be reproduced except in full, without the written approval of the laboratory. And this report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. & Canada Government.

2. PRODUCT LABELING

Inpoint System **PIPSQUEAK TAG**
Model No.: 00001pip
FCC ID: 2AAXK00001PIP

This device complies with part 15 of the FCC Rules. Operating is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Figuare 2.1 ID Label
(ID shown on the EUT)

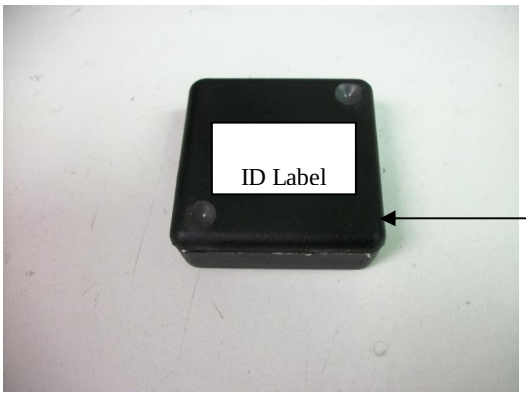


Figure 2.2 Location of the Label

3. SYSTEM TEST CONFIGURATION

3.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it). And its antenna was permanently surface-mounted on the PCB.
Testing was performed as EUT was continuously operated at the following frequency channels: 922MHz.

Fresh battery was used for extended operating time.

3.2 Special Accessories

N/A

3.3 Configuration of Tested System

Figure 3.x illustrate this system, which is tested standing along.

X-Orientation

Y-Orientation

Z- Orientation

Figure 3.1 Radiated Test Setup

4. SYSTEM SCHEMATICS

See Attachment.

Figure 4.1 System Schematics

5. RADIATED EMISSION DATA

5.1 Field Strength Calculation

The corrected field strength is automatically calculated by EMI Receiver using following:

$$FS = RA + AF + CF + AG$$

where FS: Corrected Field Strength in dBμV/m
RA: Amplitude of EMI Receiver before correction in dBμV
AF: Antenna Factor in dB/m
CF: Cable Attenuation Factor in dB
AG: Built-in Preamplifier Gain in dB (Stored in receiver as part of the calibration data)

THE "DUTY CYCLE CORRECTION FACTOR" FOR SPURIOUS RADIATED EMISSIONS IS;
20 log * (0.4 ms / 100 ms) = -48 dB, WHICH WAS USED TO CORRECT THE AVERAGE RADIATED EMISSION READINGS when necessary.

5.2 Test Methods and Conditions

The initial step in collecting radiated data is a EMI Receiver scan of the measurement range below 30MHz using peak detector and 9KHz IF bandwidth / 30KHz video bandwidth. For the range 30MHz - 1GHz, 100KHz IF bandwidth / 100KHz video bandwidth are used. Both bandwidths are 1MHz for above 1GHz measurement. Up to 10th harmonics were investigated.

5.3 Test Data

The following data lists the significant emission frequencies, polarity and position, peak reading of the EMI Receiver, the FCC limit, and the difference between the peak reading and the limit. Explanation of the correction and calculation are given in section 5.1.

Test Personnel: 

Typed/Printed Name: Edward Lee Date: August 28,2013

Radiated Test Data (922MHz)

Frequency (MHz)	Polarity (V,H) Position (X,Y,Z)	Antenna Height (m)	Azimuth (Degree)	Peak Reading at 3m (2) (dBuV/m)	Peak Reading After Correction (dBuV/m)	FCC 3m Limit (1) (dBuV/m)	Difference (dBuV/m)
922	V/X	1.2	135	77.9		94(1)	-16.1
1844	V/X	1.1	180	48.7		54(2)	-5.3
2766	V/X	1.1	235	49.8		54	-4.2
922	H/X	1.1	090	87.9		94	-6.1
1844	H/X	1.0	180	46.5		54	-7.5
2766	H/X	1.0	235	51.3		54	-2.7
922	V/Y	1.2	000	87.0		94	-7
1844	V/Y	1.1	330	47.4		54	-6.6
2766	V/Y	1.1	045	50.5		54	-3.5
922	H/Y	1.1	235	87.1		94	-6.9
1844	H/Y	1.0	090	46.5		54	-7.5
2766	H/Y	1.0	180	47.8		54	-6.2
922	V/Z	1.2	270	89.2		94	-4.8
1844	V/Z	1.1	090	44.9		54	-9.1
2766	V/Z	1.1	135	52.4		54	-1.6
922	H/Z	1.1	045	84.2		94	-9.8
1844	H/Z	1.0	330	48.3		54	-5.7
2766	H/Z	1.0	135	48.5		54	-5.5

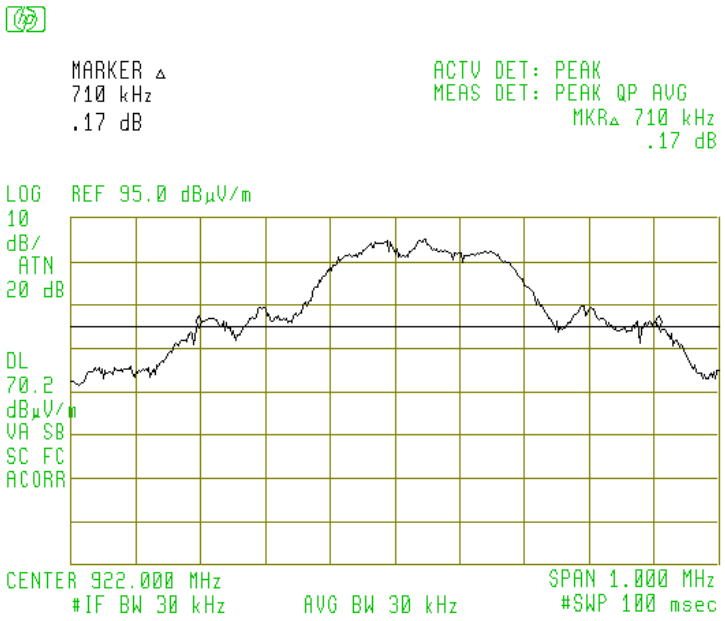
(1) The limit for emissions within the 902-928MHz band is 50mV(94dB) per FCC Sec. 15.249 . The limit for its harmonics is 500uV (54dB). Other spurious emissions shall be lower than either its fundamental by 50dB or the limit defined in Sec. 15.209, whichever is higher.
(2) If the peak reading is less than the FCC quasi-peak or average limit, it'll be not necessary to show the measured/ calculated quasi-peak or average reading.

Other Spurious outside of the band 922MHz

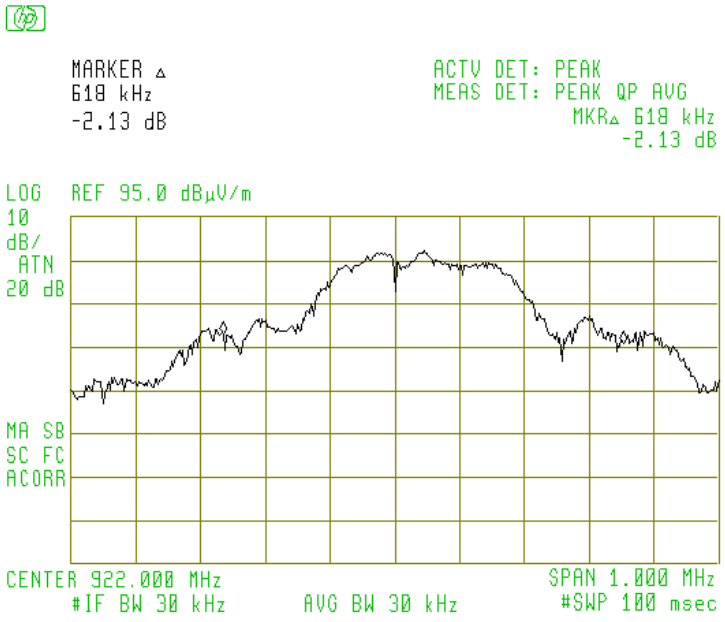
Frequency (MHz)	Polarity (V,H) Position (X,Y,Z)	Antenna Height (m)	Azimuth (Degree)	Peak * Reading at 3m (2) (dBuV/m)	Peak Reading After Correction (dBuV/m)	FCC 3m Limit (1) (dBuV/m)	Difference (dBuV/m)
157	H/X	1.4	090	34.3		40.0	-5.7
290	H/X	1.3	200	32.1		46.5	-14.4
406	H/X	1.2	240	33.3		46.5	-13.2
500	H/X	1.0	000	35.1		46.5	-11.4
880	V/X	1.1	235	40.1		46.5	-6.4
148	V/Z	1.1	135	34.4		40.0	-5.6
508	V/Z	1.1	225	36.3		46.5	-10.2
578	V/Z	1.1	045	36.7		46.5	-9.8
604	V/Z	1.2	090	34.1		46.5	-12.4
760	V/Z	1.0	180	39.6		46.5	-6.9

* If the peak reading is less than the FCC quasi-peak or average limit, it'll be not necessary to show the measured/ calculated quasi-peak or average reading.

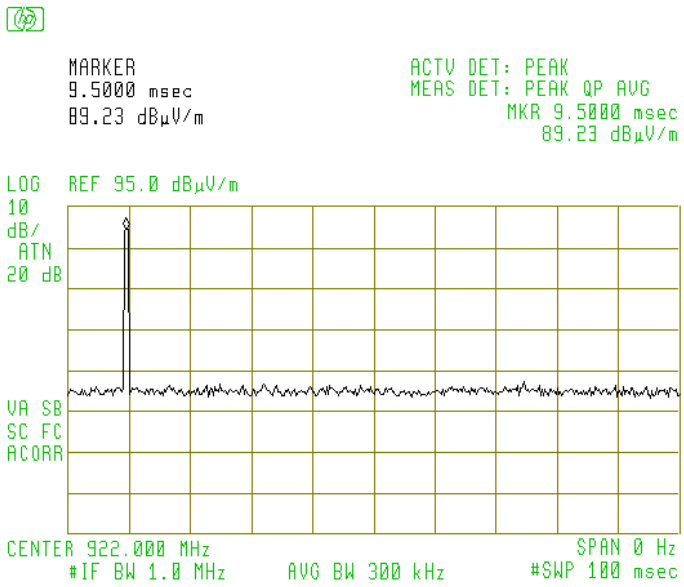
Comparing to the limit defined in FCC Sec. 15.209, emissions below the limit by 20dB were not recorded.

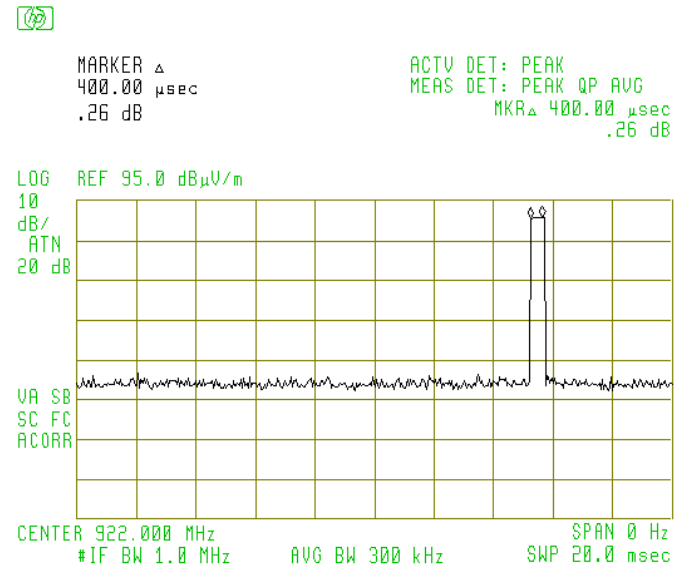


20dB Bandwidth Plot



99% Bandwidth Plot





Duty Cycle Plot