

**FCC PART 15 SUBPART B and C  
TEST REPORT**

*for*

**HUB TRANSCEIVER**

**MODEL: PRH-1000**

Prepared for

BRAYDEN AUTOMATION CORPORATION  
 6230 AVIATION CIRCLE  
 LOVELAND, COLORADO 80538

Prepared by: *Kyle Fujimoto*

KYLE FUJIMOTO

Approved by: *James Ross*

JAMES ROSS

COMPATIBLE ELECTRONICS INC.  
 114 OLINDA DRIVE  
 BREA, CALIFORNIA 92823  
 (714) 579-0500

DATE: MAY 4, 2013

	REPORT BODY	APPENDICES					TOTAL
		A	B	C	D	E	
PAGES	17	2	2	13	18	54	

This report shall not be reproduced except in full, without the written approval of Compatible Electronics.

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Agoura Division  
 2337 Troutdale Drive  
 Agoura, CA 91301  
 (818) 597-0600

Silverado Division  
 19121 El Toro Road  
 Silverado, CA 92676  
 (949) 589-0700

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400

## TABLE OF CONTENTS

Section / Title	PAGE
<b>GENERAL REPORT SUMMARY</b>	4
<b>SUMMARY OF TEST RESULTS</b>	4
1. PURPOSE	5
2. ADMINISTRATIVE DATA	6
2.1 Location of Testing	6
2.2 Traceability Statement	6
2.3 Cognizant Personnel	6
2.4 Date Test Sample was Received	6
2.5 Disposition of the Test Sample	6
2.6 Abbreviations and Acronyms	6
3. APPLICABLE DOCUMENTS	7
4. DESCRIPTION OF TEST CONFIGURATION	8
4.1 Description of Test Configuration – Emissions	8
4.1.1 Cable Construction and Termination	9
5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT	10
5.1 EUT and Accessory List	10
5.2 Emissions Test Equipment	11
6. TEST SITE DESCRIPTION	12
6.1 Test Facility Description	12
6.2 EUT Mounting, Bonding and Grounding	12
6.3 Facility Environmental Characteristics	12
7. TEST PROCEDURES	13
7.1 RF Emissions	13
7.1.1 Conducted Emissions Test	13
7.1.2 Radiated Emissions (Spurious and Harmonics) Test	14
7.1.3 RF Emissions Test Results	16
8. CONCLUSIONS	17

## LIST OF APPENDICES

APPENDIX	TITLE
A	Laboratory Accreditations and Recognitions
B	Modifications to the EUT
C	Additional Models Covered Under This Report
D	Diagram, Charts, and Photos <ul style="list-style-type: none"> <li>• Test Setup Diagram</li> <li>• Antenna and Amplifier Factors</li> <li>• Radiated Emissions Photos</li> </ul>
E	Data Sheets

## LIST OF FIGURES

FIGURE	TITLE
1	Conducted Emissions Test Setup
2	Plot Map And Layout of Radiated Test Site

## GENERAL REPORT SUMMARY

Compatible Electronics Inc. generates this electromagnetic emission test report, which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested: Hub Transceiver  
 Model: PRH-1000  
 S/N: N/A

Product Description: See Expository Statement

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Brayden Automation Corporation  
 6230 Aviation Circle  
 Loveland, Colorado 80538

Test Date(s): April 16, 17, and 18, 2013

Test Specifications: Emissions requirements  
 CFR Title 47, Part 15, Subpart B and Subpart C, Sections 15.205, 15.209, and 15.249

Test Procedure: ANSI C63.4

Test Deviations: The test procedure was not deviated from during the testing.

## SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions 150 kHz to 30 MHz	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.249.
2	Radiated RF Emissions 10 kHz to 9300 MHz (Transmitter and Digital Portion)	Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.249.

## 1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the Hub Transceiver, Model: PRH-1000 (EUT). The Emissions measurements were performed according to the measurement procedure described in ANSI C63.4. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the Class B specification limits defined by CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.207, 15.209, and 15.249 for the transmitter portion.



## 2. ADMINISTRATIVE DATA

### 2.1 Location of Testing

The Emissions tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California.

### 2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

### 2.3 Cognizant Personnel

Brayden Automation Corporation

William H. Brayden President

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer  
James Ross Test Engineer

### 2.4 Date Test Sample was Received

The test sample was received prior to the initial test date of April 16, 2013.

### 2.5 Disposition of the Test Sample

The test sample has not been returned to Brayden Automation Corporation as of the date of the test report.

### 2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

FCC	Federal Communications Commission
RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
ITE	Information Technology Equipment
LISN	Line Impedance Stabilization Network
NVLAP	National Voluntary Laboratory Accreditation Program
CFR	Code of Federal Regulations
N/A	Not Applicable
Ltd.	Limited
Inc.	Incorporated
NCR	No Calibration Required

### 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this Emissions Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2009	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

---

## 4. DESCRIPTION OF TEST CONFIGURATION

### 4.1 Description of Test Configuration – Emissions

The Hub Transceiver, Model: PRH-1000 (EUT) was mounted vertically and connected to a hub main board. The hub main board also had its K1to K8 and Y1 to Y8 ports terminated by 1000 ohm resistors. The EUT was continuously transmitting and receiving.

The EUT is DC powered, however it gets its power from the hub main board which can be connected to the AC public mains.

It was determined that the emissions were at their highest level when the EUT was operating in the above configuration. The final emissions data was taken in this mode of operation and any cables were maximized. All initial investigations were performed with the measurement receiver in manual mode scanning the frequency range continuously. Photographs of the test setup are in Appendix D of this report.

#### 4.1.1 **Cable Construction and Termination**

**Cable 1** This is a 1-meter unshielded cable connecting the K1 and Y1 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 2** This is a 1-meter unshielded cable connecting the K2 and Y2 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 3** This is a 1-meter unshielded cable connecting the K3 and Y3 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 4** This is a 1-meter unshielded cable connecting the K4 and Y4 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 5** This is a 1-meter unshielded cable connecting the K5 and Y5 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 6** This is a 1-meter unshielded cable connecting the K6 and Y6 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 7** This is a 1-meter unshielded cable connecting the K7 and Y7 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 8** This is a 1-meter unshielded cable connecting the K8 and Y8 ports of the hub main board to a 1000 ohm resistor. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

**Cable 9** This is a 1-meter shielded cable connecting the TB2 port of the hub main board to the EUT. The cable is hard wired at each end. The cable was bundled to a length of 40-centimeters.

## 5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

### 5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
HUB TRANSCEIVER (EUT)	BRAYDEN AUTOMATION CORPORATION	PRH-1000	N/A	TITPRH-1000
HUB MAIN BOARD	BRAYDEN AUTOMATION CORPORATION	PRH-1	N/A	N/A

## 5.2 Emissions Test Equipment

EQUIPMENT TYPE	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	CALIBRATION DATE	CALIBRATION DUE DATE
<b>GENERAL TEST EQUIPMENT USED IN LAB B</b>					
Computer	Compaq	CQ5210F	CNX9360CF9	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MD	N/A	N/A
EMI Receiver	Rohde & Schwarz	ESIB40	100194	November 19, 2012	2 Years
<b>GENERAL TEST EQUIPMENT USED IN LAB D</b>					
Computer	Hewlett Packard	p6716f	MXX1030PX0	N/A	N/A
Monitor	Hewlett Packard	HPs2031a	3CQ046N3MG	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8568B	2517A01563	May 30, 2012	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	2648A15285	May 30, 2012	1 Year
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	May 30, 2012	1 Year
<b>RF RADIATED EMISSIONS TEST EQUIPMENT</b>					
Biconical Antenna	Com Power	AB-900	43028	May 24, 2012	1 Year
Log Periodic Antenna	Com Power	AL-100	16252	May 24, 2012	1 Year
Preamplifier	Com-Power	CPPA-102	1017	December 27, 2012	1 Year
Preamplifier	Com-Power	PA-118	181656	December 28, 2012	1 Year
Loop Antenna	Com-Power	AL-130	17089	January 29, 2013	2 Years
Horn Antenna	Com-Power	AH-118	071175	February 29, 2012	2 Years
Antenna Mast	Com Power	AM-100	N/A	N/A	N/A
LISN (EUT)	Com Power	LI-215	12078	June 20, 2011	2 Years
LISN (Accessory)	Com Power	LI-215	12076	June 20, 2011	2 Years
Transient Limiter	Seward	252A910	1	November 7, 2012	1 Year

## 6. TEST SITE DESCRIPTION

### 6.1 Test Facility Description

Please refer to section 2.1 and 7.1.2 of this report for Emissions test location.

### 6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

### 6.3 Facility Environmental Characteristics

When applicable refer to the data sheets in Appendix E for the relative humidity, air temperature, and barometric pressure.

## 7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

### 7.1 RF Emissions

#### 7.1.1 Conducted Emissions Test

The measurement receiver was used as a measuring meter. The data was collected with the measurement receiver in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the measurement receiver's input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the measurement receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

#### Test Results:

The EUT (via the Hub Main Board) complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.207, 15.209 and 15.249.

## 7.1.2

### Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer, along with the quasi-peak adapter, and EMI Receiver were used as a measuring meter. Amplifiers were used to increase the sensitivity of the instrument. The Com-Power Preamplifier Model: CPPA-102 was used for frequencies from 30 MHz to 1 GHz, the Com-Power Microwave Preamplifier Model: PA-118 was used for frequencies from 1 GHz to 9.3 GHz. The spectrum analyzer and EMI Receiver were used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer and EMI receiver records the highest measured reading over the sweeps.

The quasi-peak function was used only for those readings which are marked accordingly on the data sheets.

The frequencies above 1 GHz were averaged manually by narrowing the video filter down to 10 Hz and putting the sweep time on AUTO on the spectrum analyzer to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
10 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 9.3 GHz	1 MHz	Horn Antennas

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT by the Radiated Emission Manual Test software. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gun sight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the vertical axis in order to ensure accurate results.

### Radiated Emissions (Spurious and Harmonics) Test (continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3-meter test distance from 30 MHz to 9.3 GHz and at a 10-meter distance from 10 kHz to 30 MHz to obtain the final test data.

#### Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Sections 15.209 and 15.249.

### 7.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS  
 Hub Transceiver, Model: PRH-1000

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
0.637 (BL) (Rx Mode)	41.48	46.00	-4.52
0.637 (BL) (Tx Mode)	41.38	46.00	-4.62
0.641 (WL) (Rx Mode)	41.24	46.00	-4.76
0.634 (WL) (Tx Mode)	39.34	46.00	-6.66
4.204 (WL) (Tx Mode)	37.76	46.00	-8.24
2.995 (BL) (Rx Mode)	36.73	46.00	-9.27

Table 2.0 RADIATED EMISSION RESULTS  
 Hub Transceiver, Model: PRH-1000

Frequency MHz	Corrected Reading* dBuV	Specification Limit dBuV	Delta (Cor. Reading – Spec. Limit) dB
912.37 (V)	93.96 (QP)	94	-0.04
921.37 (V)	93.95 (QP)	94	-0.05
903.37 (V)	93.69 (QP)	94	-0.31
912.37 (H)	85.05 (QP)	94	-8.95
921.37 (H)	85.03 (QP)	94	-8.97
903.37 (H)	83.04 (QP)	94	-10.96

Notes:

\* The complete emissions data is given in Appendix E of this report.

(BL) Black Lead  
 (WL) White Lead  
 (H) Horizontal  
 (V) Vertical  
 (QP) Quasi-Peak

---

## 8. CONCLUSIONS

The Hub Transceiver, Model: PRH-1000 (EUT), as tested, meets all of the Class B specification limits defined in CFR Title 47, Part 15, Subpart B for the digital portion; and the limits defined in Subpart C, sections 15.205, 15.209, and 15.249 for the transmitter portion.



## APPENDIX A

### ***LABORATORY ACCREDITATIONS AND RECOGNITIONS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## LABORATORY ACCREDITATIONS AND RECOGNITIONS



For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025. Please follow the link to the NIST/NVLAP site for each of our facilities' NVLAP certificate and scope of accreditation  
[NVLAP listing links](#)

[Agoura Division](#) / [Brea Division](#) / [Silverado/Lake Forest Division](#)

.Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfillment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."



**ANSI listing** [CETCB](#)



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).

**US/EU MRA list** [NIST MRA site](#)



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).

**APEC MRA list** [NIST MRA site](#)

We are also listed for IT products by the following country/agency:



**VCCI Support member:** Please visit [http://www.vcci.jp/vcci\\_e/](http://www.vcci.jp/vcci_e/)



**FCC Listing, from FCC OET site**  
[FCC test lab search](https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm) <https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>



Compatible Electronics IC listing can be found at:  
<http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home>

## APPENDIX B

### ***MODIFICATIONS TO THE EUT***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

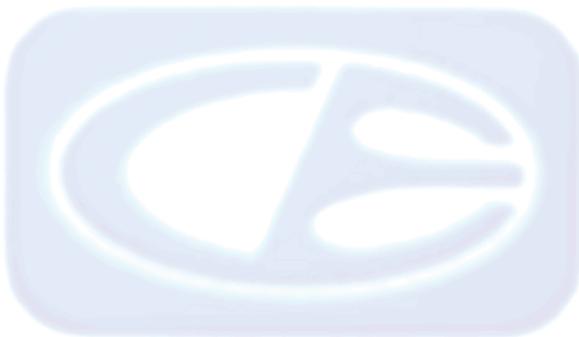
Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.249 and/or FCC **Class B** specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.



## APPENDIX C

### ***ADDITIONAL MODELS COVERED UNDER THIS REPORT***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

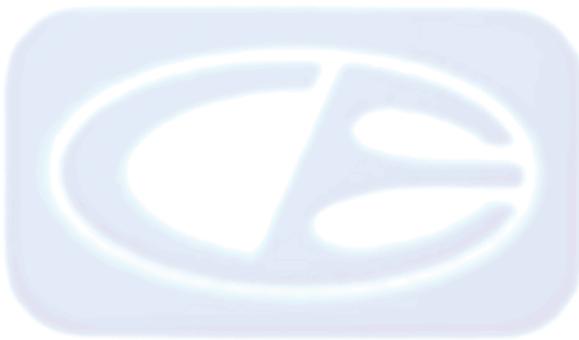
## **ADDITIONAL MODELS COVERED UNDER THIS REPORT**

### **USED FOR THE PRIMARY TEST**

Hub Transceiver  
Model: PRH-1000  
S/N: N/A

### **ALSO APPROVED UNDER THIS REPORT:**

There were no additional models covered under this report.



## APPENDIX D

### ***DIAGRAMS, CHARTS, AND PHOTOS***

---

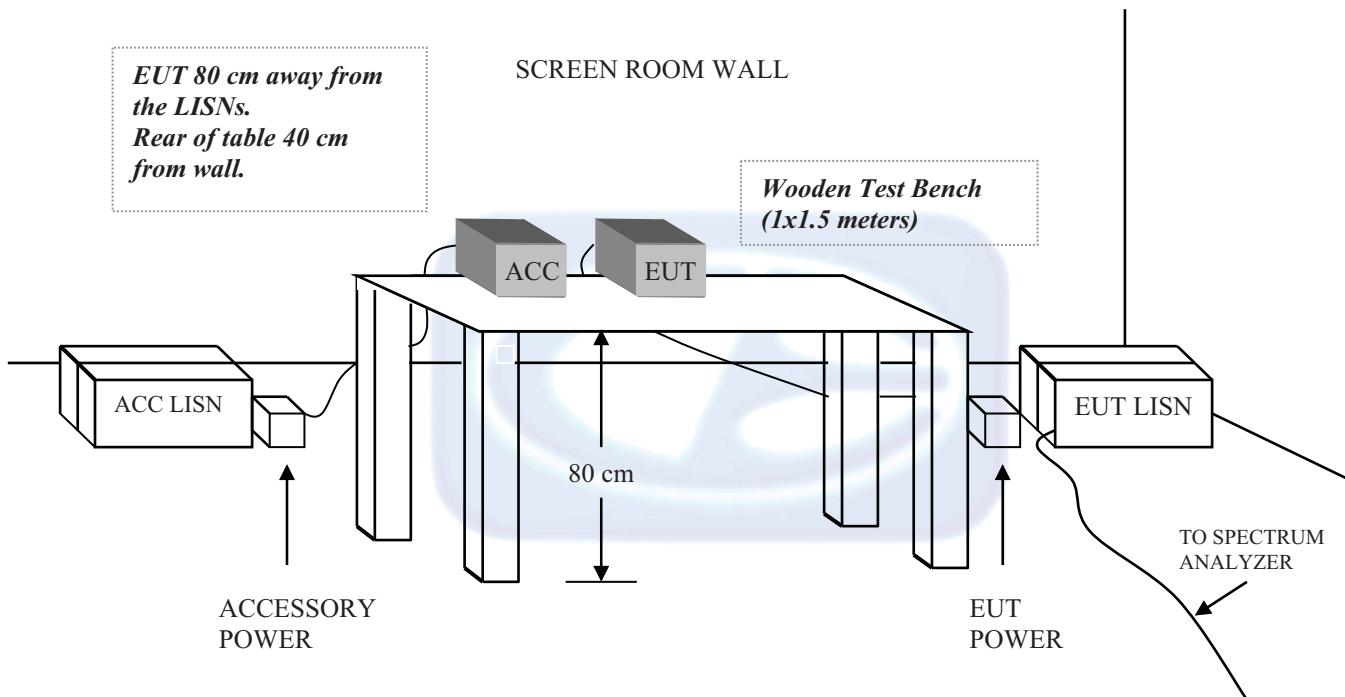
**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

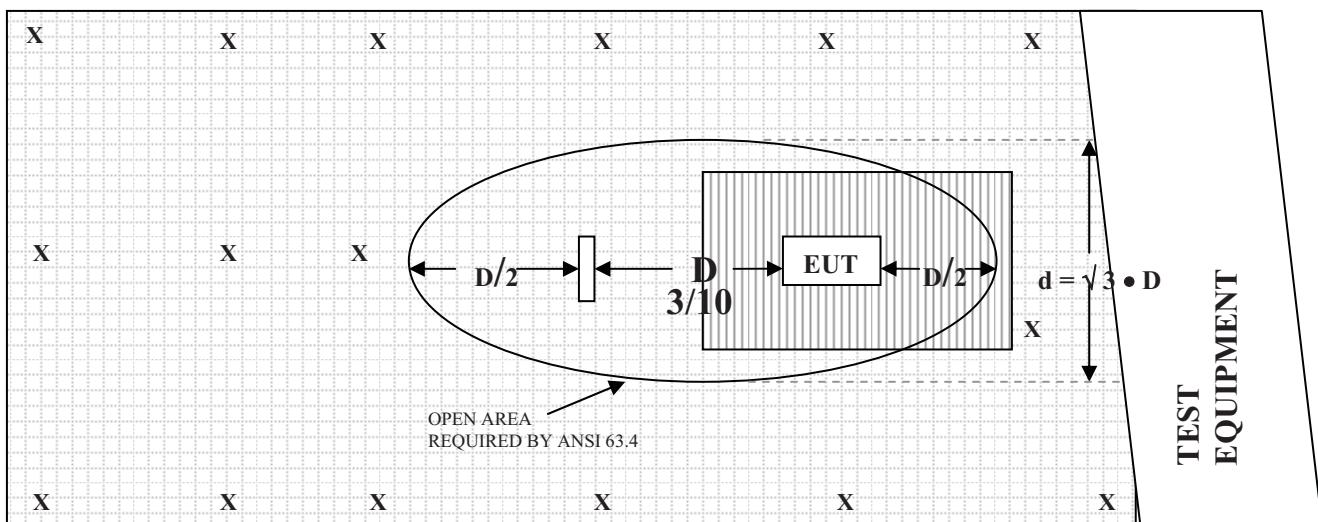
**FIGURE 1: CONDUCTED EMISSIONS TEST SETUP**



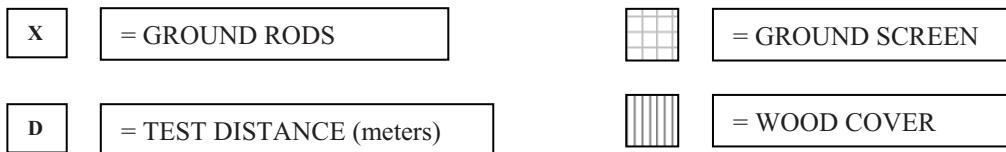
**FIGURE 2: PLOT MAP AND LAYOUT OF  
THE RADIATED TEST SITE**

**OPEN LAND > 15 METERS**

**OPEN LAND > 15 METERS**



**OPEN LAND > 15 METERS**



# COM-POWER AL-130

## LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: JANUARY 29, 2013

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-42.5	9
0.01	-42.3	9.2
0.02	-42.1	9.4
0.03	-41.4	10.1
0.04	-41.8	9.7
0.05	-42.4	9.1
0.06	-42.3	9.2
0.07	-42.5	9
0.08	-42.4	9.1
0.09	-42.5	9
0.1	-42.5	9
0.2	-42.7	8.8
0.3	-42.6	8.9
0.4	-42.5	9
0.5	-42.7	8.8
0.6	-42.7	8.8
0.7	-42.5	9
0.8	-42.3	9.2
0.9	-42.2	9.3
1	-42.2	9.3
2	-41.8	9.7
3	-41.7	9.8
4	-41.7	9.8
5	-41.5	10
6	-41.6	9.9
7	-41.4	10.1
8	-41	10.5
9	-40.8	10.7
10	-41.3	10.2
15	-41.4	10.1
20	-41.2	10.3
25	-42.6	8.9
30	-41.7	9.8

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 43028

CALIBRATION DATE: MAY 24, 2012

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.80	120	13.20
35	11.20	125	13.30
40	11.90	140	11.60
45	10.70	150	11.80
50	11.40	160	12.70
60	10.30	175	14.80
70	7.60	180	15.70
80	5.70	200	15.80
90	7.90	250	14.80
100	10.70	300	19.80

**COM-POWER AL-100**
**LOG PERIODIC ANTENNA**
**S/N: 16252**
**CALIBRATION DATE: MAY 24, 2012**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.00	700	20.30
350	13.20	750	20.80
400	14.50	800	21.00
450	15.40	850	23.30
500	15.80	900	21.70
550	16.60	950	24.20
600	18.90	1000	24.30
650	19.10		

**COM POWER AH-118**
**HORN ANTENNA**
**S/N: 071175**
**CALIBRATION DATE: FEBRUARY 29, 2012**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	23.6	10.0	37.7
1.5	22.0	10.5	38.4
2.0	28.7	11.0	38.0
2.5	29.3	11.5	38.2
3.0	30.6	12.0	39.0
3.5	30.4	12.5	42.4
4.0	31.1	13.0	40.8
4.5	33.4	13.5	40.0
5.0	35.3	14.0	39.7
5.5	35.1	14.5	43.5
6.0	36.9	15.0	42.7
6.5	37.4	15.5	39.7
7.0	37.6	16.0	39.2
7.5	36.2	16.5	39.7
8.0	38.4	17.0	42.2
8.5	39.3	17.5	47.6
9.0	37.4	18.0	51.2
9.5	38.0		

**COM-POWER CPPA-102**
**PREAMPLIFIER**
**S/N: 1017**
**CALIBRATION DATE: DECEMBER 27, 2012**

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
1	36.9	225	38.14
3	38.1	250	38.15
5	38.1	275	38.14
8	38.2	300	38.18
10	38.3	350	38.22
20	38.2	400	38.26
30	38.3	450	37.53
40	38.2	500	38.24
50	38.5	550	38.53
60	38.5	600	38.69
70	38.4	650	38.66
80	38.4	700	38.58
90	38.5	750	38.37
100	38.4	800	38.23
125	38.6	850	37.68
150	38.4	900	37.38
175	38.5	950	36.82
200	38.5	1000	36.14

**COM-POWER PA-118**
**PREAMPLIFIER**
**S/N: 181656**
**CALIBRATION DATE: DECEMBER 28, 2012**

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.68	6.0	25.75
1.1	25.08	6.5	25.28
1.2	25.70	7.0	24.83
1.3	25.98	7.5	24.49
1.4	26.11	8.0	24.38
1.5	26.23	8.5	25.06
1.6	26.34	9.0	25.55
1.7	26.39	9.5	25.32
1.8	26.44	10.0	25.25
1.9	26.45	11.0	24.99
2.0	26.48	12.0	25.08
2.5	26.59	13.0	24.44
3.0	26.67	14.0	25.02
3.5	26.66	15.0	26.12
4.0	26.82	16.0	25.67
4.5	26.46	17.0	24.33
5.0	26.22	18.0	26.75
5.5	25.98		



**FRONT VIEW**

BRAYDEN AUTOMATION CORPORATION  
HUB TRANSCEIVER  
MODEL: PRH-1000  
FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400



**REAR VIEW**

BRAYDEN AUTOMATION CORPORATION  
HUB TRANSCEIVER  
MODEL: PRH-1000  
FCC SUBPART B AND C – RADIATED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400



**FRONT VIEW**

BRAYDEN AUTOMATION CORPORATION  
HUB TRANSCEIVER  
MODEL: PRH-1000  
FCC SUBPART B AND C – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400



**REAR VIEW**

BRAYDEN AUTOMATION CORPORATION  
HUB TRANSCEIVER  
MODEL: PRH-1000  
FCC SUBPART B AND C – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**APPENDIX E**

***DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## ***RADIATED EMISSIONS***

### ***DATA SHEETS***

---

Brea Division  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

Agoura Division  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

Silverado Division  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

Lake Forest Division  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

 Date: 04/16/2013  
 Lab: D  
 Tested By: Kyle Fujimoto

**Low Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.37	94.14	V	94	0.14	Peak	1	90	
903.37	93.69	V	94	-0.31	QP	1	90	
1806.74	44.77	V	74	-29.23	Peak	1.25	135	
1806.74	42.41	V	54	-11.59	Avg	1.25	135	
2710.11	40.19	V	74	-33.81	Peak	1.35	145	
2710.11	29.95	V	54	-24.05	Avg	1.35	145	
3613.48	38.21	V	74	-35.79	Peak	1.25	155	
3613.48	25.33	V	54	-28.67	Avg	1.25	155	
4516.85	40.59	V	74	-33.41	Peak	1.35	165	
4516.85	27.96	V	54	-26.04	Avg	1.35	165	
5420.22	42.97	V	74	-31.03	Peak	1.45	175	
5420.22	30.81	V	54	-23.19	Avg	1.45	175	
6323.59	50.52	V	74	-23.48	Peak	1.55	185	
6323.59	36.21	V	54	-17.79	Avg	1.55	185	
7226.96	46.13	V	74	-27.87	Peak	1.65	195	
7226.96	34.24	V	54	-19.76	Avg	1.65	195	
8130.33	50.61	V	74	-23.39	Peak	1.25	185	
8130.33	37.76	V	54	-16.24	Avg	1.25	185	
9033.7	49.77	V	74	-24.23	Peak	1.15	175	
9033.7	37.29	V	54	-16.71	Avg	1.15	175	

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

Date: 04/16/2013

Lab: D

Tested By: Kyle Fujimoto

**Low Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
903.37	85.54	H	94	-8.46	Peak	1	90	
903.37	83.04	H	94	-10.96	QP	1	90	
1806.74	38.59	H	74	-35.41	Peak	1.25	155	
1806.74	31.65	H	54	-22.35	Avg	1.25	155	
2710.11	40.41	H	74	-33.59	Peak	1.35	165	
2710.11	33.07	H	54	-20.93	Avg	1.35	165	
3613.48	36.69	H	74	-37.31	Peak	1.25	175	
3613.48	24.64	H	54	-29.36	Avg	1.25	175	
4516.85	40.55	H	74	-33.45	Peak	1.35	185	
4516.85	27.79	H	54	-26.21	Avg	1.35	185	
5420.22	42.71	H	74	-31.29	Peak	1.25	195	
5420.22	30.59	H	54	-23.41	Avg	1.25	195	
6323.59	48.01	H	74	-25.99	Peak	1.35	165	
6323.59	35.82	H	54	-18.18	Avg	1.35	165	
7226.96	46.26	H	74	-27.74	Peak	1.45	175	
7226.96	34.25	H	54	-19.75	Avg	1.45	175	
8130.33	49.96	H	74	-24.04	Peak	1.55	185	
8130.33	37.53	H	54	-16.47	Avg	1.55	185	
9033.7	49.88	H	74	-24.12	Peak	1.25	165	
9033.7	37.21	H	54	-16.79	Avg	1.25	165	

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

 Date: 04/16/2013  
 Lab: D  
 Tested By: Kyle Fujimoto

**Middle Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
912.37	94.71	V	94	0.71	Peak	1	90	
912.37	93.96	V	94	-0.04	QP	1	90	
1824.74	43.12	V	74	-30.88	Peak	1.25	165	
1824.74	39.31	V	54	-14.69	Avg	1.25	165	
2737.11	40.53	V	74	-33.47	Peak	1.35	155	
2737.11	35.01	V	54	-18.99	Avg	1.35	155	
3649.48	37.96	V	74	-36.04	Peak	1.25	155	
3649.48	25.03	V	54	-28.97	Avg	1.25	155	
4561.85	41.48	V	74	-32.52	Peak	1.25	165	
4561.85	29.11	V	54	-24.89	Avg	1.25	165	
5474.22	43.85	V	74	-30.15	Peak	1.25	155	
5474.22	31.05	V	54	-22.95	Avg	1.25	155	
6386.59	47.95	V	74	-26.05	Peak	1.35	165	
6386.59	36.92	V	54	-17.08	Avg	1.35	165	
7298.96	46.02	V	74	-27.98	Peak	1.15	180	
7298.96	33.95	V	54	-20.05	Avg	1.15	180	
8211.33	49.28	V	74	-24.72	Peak	1.25	165	
8211.33	38.09	V	54	-15.91	Avg	1.25	165	
9123.7	50.61	V	74	-23.39	Peak	1.35	175	
9123.7	37.89	V	54	-16.11	Avg	1.35	175	

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

 Date: 04/16/2013  
 Lab: D  
 Tested By: Kyle Fujimoto

**Middle Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
912.37	85.31	H	94	-8.69	Peak	1	90	
912.37	85.05	H	94	-8.95	QP	1	90	
1824.74	32.86	H	74	-41.14	Peak	1.25	135	
1824.74	24.81	H	54	-29.19	Avg	1.25	135	
2737.11	39.31	H	74	-34.69	Peak	1.35	145	
2737.11	29.56	H	54	-24.44	Avg	1.35	145	
3649.48	36.39	H	74	-37.61	Peak	1.45	155	
3649.48	24.98	H	54	-29.02	Avg	1.45	155	
4561.85	44.72	H	74	-29.28	Peak	1.55	165	
4561.85	29.23	H	54	-24.77	Avg	1.55	165	
5474.22	40.71	H	74	-33.29	Peak	1.65	175	
5474.22	30.37	H	54	-23.63	Avg	1.65	175	
6386.59	47.19	H	74	-26.81	Peak	1.75	185	
6386.59	34.66	H	54	-19.34	Avg	1.75	185	
7298.96	48.99	H	74	-25.01	Peak	1.25	165	
7298.96	34.31	H	54	-19.69	Avg	1.25	165	
8211.33	51.12	H	74	-22.88	Peak	1.35	175	
8211.33	39.11	H	54	-14.89	Avg	1.35	175	
9123.7	51.69	H	74	-22.31	Peak	1.45	185	
9123.7	40.58	H	54	-13.42	Avg	1.45	185	

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

Date: 04/16/2013

Lab: D

Tested By: Kyle Fujimoto

**High Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
921.37	94.58	V	94	0.58	Peak	1	90	
921.37	93.95	V	94	-0.05	QP	1	90	
1842.74	31.76	V	74	-42.24	Peak	1.25	165	
1842.74	23.97	V	54	-30.03	Avg	1.25	165	
2764.11	37.15	V	74	-36.85	Peak	1.35	185	
2764.11	24.05	V	54	-29.95	Avg	1.35	185	
3685.48	36.96	V	74	-37.04	Peak	1.45	195	
3685.48	24.53	V	54	-29.47	Avg	1.45	195	
4606.85	40.63	V	74	-33.37	Peak	1.55	205	
4606.85	28.61	V	54	-25.39	Avg	1.55	205	
5528.22	42.21	V	74	-31.79	Peak	1.45	215	
5528.22	30.61	V	54	-23.39	Avg	1.45	215	
6449.59	45.83	V	74	-28.17	Peak	1.65	235	
6449.59	34.45	V	54	-19.55	Avg	1.65	235	
7370.96	46.07	V	74	-27.93	Peak	1.75	180	
7370.96	34.27	V	54	-19.73	Avg	1.75	180	
8292.33	50.41	V	74	-23.59	Peak	1.25	165	
8292.33	38.44	V	54	-15.56	Avg	1.25	165	
9213.7	50.19	V	74	-23.81	Peak	1.35	145	
9213.7	37.84	V	54	-16.16	Avg	1.35	145	

**FCC 15.249**

 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000

 Date: 04/16/2013  
 Lab: D  
 Tested By: Kyle Fujimoto

**High Channel - Transmit Mode**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
921.37	86.58	H	94	-7.42	Peak	1	90	
921.37	85.03	H	94	-8.97	QP	1	90	
1842.74	31.86	H	74	-42.14	Peak	1.25	225	
1842.74	20.51	H	54	-33.49	Avg	1.25	225	
2764.11	42.07	H	74	-31.93	Peak	1.35	235	
2764.11	33.25	H	54	-20.75	Avg	1.35	235	
3685.48	37.91	H	74	-36.09	Peak	1.25	165	
3685.48	25.33	H	54	-28.67	Avg	1.25	165	
4606.85	41.27	H	74	-32.73	Peak	1.35	175	
4606.85	28.66	H	54	-25.34	Avg	1.35	175	
5528.22	43.31	H	74	-30.69	Peak	1.25	185	
5528.22	30.65	H	54	-23.35	Avg	1.25	185	
6449.59	47.14	H	74	-26.86	Peak	1.35	205	
6449.59	34.46	H	54	-19.54	Avg	1.35	205	
7370.96	46.53	H	74	-27.47	Peak	1.25	165	
7370.96	34.49	H	54	-19.51	Avg	1.25	165	
8292.33	50.16	H	74	-23.84	Peak	1.35	175	
8292.33	38.05	H	54	-15.95	Avg	1.35	175	
9213.7	49.31	H	74	-24.69	Peak	1.45	185	
9213.7	37.65	H	54	-16.35	Avg	1.45	185	

FCC Class B and FCC 15.249

Brayden Automation Corporation  
Hub Transceiver  
Model: PRH-1000

Date: 04/17/2013

## Lab: B

Tested By: Kyle Fujimoto

## **Digital Portion and Non-Harmonic Emissions of the Transmitter - 1 GHz to 9.3 GHz Receiver Portion of the EUT - 1 GHz to 9.3 GHz**

Freq. (MHz)	Level (dBuV)	Pol (v/h)	Limit	Margin	Peak / QP / Avg	Ant. Height (m)	Table Angle (deg)	Comments
								Non Emissions Detected from the Digital Portion of the EUT from 1 GHz to 9.3 GHz
								No Emissions Detected from the Non-Harmonic Emissions of the Transmitter for the EUT from 1 GHz to 9.3 GHz
								No Emissions Detected from the Receiver for the EUT from 1 GHz to 9.3 GHz
								No Emissions Detected at the Band Edge of 902 MHz when the EUT was operating at the low channel
								No Emissions Detected at the Band Edge of 928 MHz when the EUT was operating at the high channel

**Test Location** : Compatible Electronics **Page** : 1/1

**Customer** : Brayden Automation Corporation **Date** : 04 / 15 / 2013

**Manufacturer** : Brayden Automation Corporation **Time** : 10:23:49 AM

**Eut name** : Hub Transceiver **Lab** : D

**Model** : PRH-1000 **Test Distance** : 3.00

**Serial #** : N/A

**Specification** : FCC B

**Distance correction factor (20 \* log(test/spec))** : 0.00

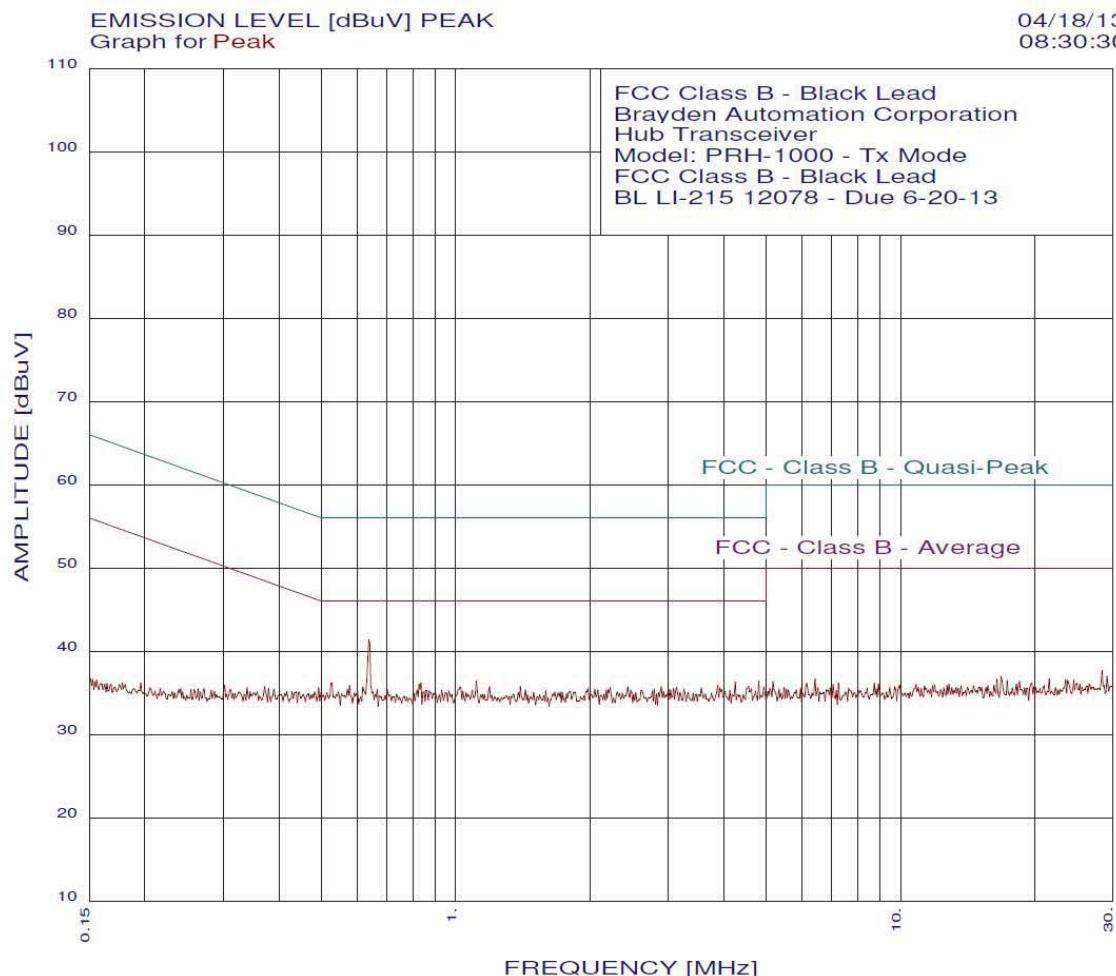
**Test Mode** : Spurious Emissions - 10 kHz to 1 GHz - Tx and Rx Modes

Polarity: Horizontal and Vertical

Clock(s): 16 MHz

Test Engineer: Kyle Fujimoto

Pol	Freq	Rdng	Cable	Ant	Amp	Cor'd	Limit	Delta
	MHz	dBuV	loss	factor	gain	rdg = R	dBuV/m	R-L
1V	61.502	49.60	0.63	9.89	38.48	21.64	40.00	-18.36
2V	80.083	51.10	0.80	5.72	38.40	19.22	40.00	-20.78
3V	84.018	46.20	0.84	6.58	38.44	15.18	40.00	-24.82
4V	153.328	43.70	1.31	12.10	38.41	18.70	43.50	-24.80
5H	223.981	35.80	1.50	15.32	38.15	14.46	46.00	-31.54
6H	500.000	39.20	2.80	15.80	38.24	19.56	46.00	-26.44
7V	692.648	45.10	3.47	20.12	38.59	30.10	46.00	-15.90



page 1/1

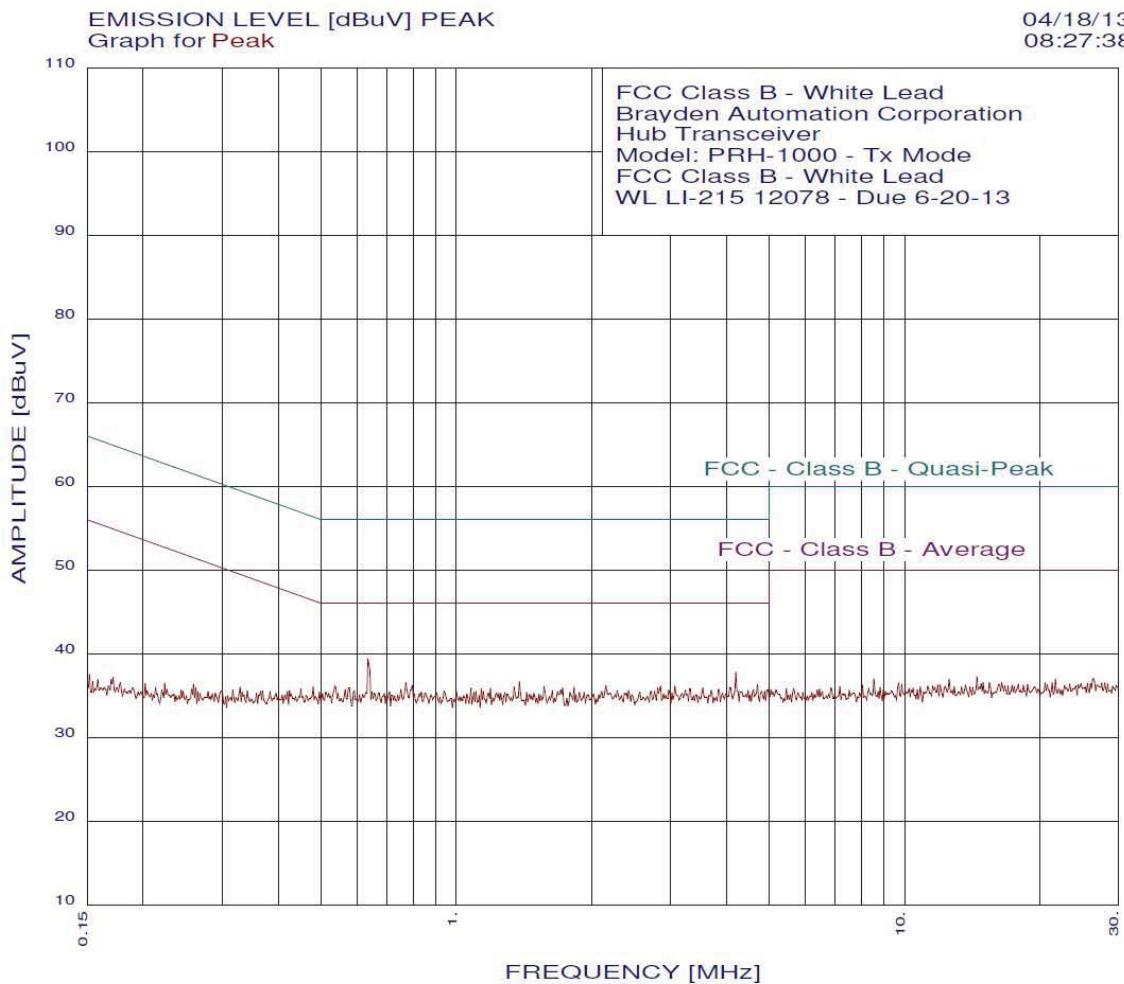
04/18/13 08:30:30

FCC Class B - Black Lead  
 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000 - Tx Mode  
 FCC Class B - Black Lead  
 BL LI-215 12078 - Due 6-20-13  
 Test Engineer : Kyle Fujimoto

## 39 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.637	41.38	46.00	-4.62
2	1.112	36.41	46.00	-9.59
3	4.799	36.39	46.00	-9.61
4	4.249	36.27	46.00	-9.73
5	0.835	36.23	46.00	-9.77
6	0.524	36.21	46.00	-9.79
7	0.577	35.89	46.00	-10.11
8	3.882	35.86	46.00	-10.14
9	4.552	35.79	46.00	-10.21
10	1.397	35.74	46.00	-10.26
11	2.900	35.73	46.00	-10.27
12	1.191	35.72	46.00	-10.28
13	2.436	35.71	46.00	-10.29
14	1.021	35.70	46.00	-10.30
15	4.928	35.70	46.00	-10.30
16	3.141	35.64	46.00	-10.36
17	2.226	35.61	46.00	-10.39
18	3.924	35.56	46.00	-10.44
19	3.565	35.55	46.00	-10.45
20	3.091	35.54	46.00	-10.46
21	1.981	35.50	46.00	-10.50
22	0.492	35.61	46.14	-10.53
23	3.260	35.44	46.00	-10.56
24	3.011	35.43	46.00	-10.57
25	2.796	35.43	46.00	-10.57
26	2.055	35.40	46.00	-10.60
27	0.665	35.37	46.00	-10.63
28	0.701	35.36	46.00	-10.64
29	1.434	35.34	46.00	-10.66
30	2.610	35.32	46.00	-10.68
31	0.929	35.31	46.00	-10.69
32	4.137	35.27	46.00	-10.73
33	1.594	35.26	46.00	-10.74
34	0.858	35.23	46.00	-10.77
35	0.872	35.23	46.00	-10.77
36	2.766	35.23	46.00	-10.77
37	0.963	35.21	46.00	-10.79
38	1.038	35.20	46.00	-10.80
39	4.722	35.19	46.00	-10.81



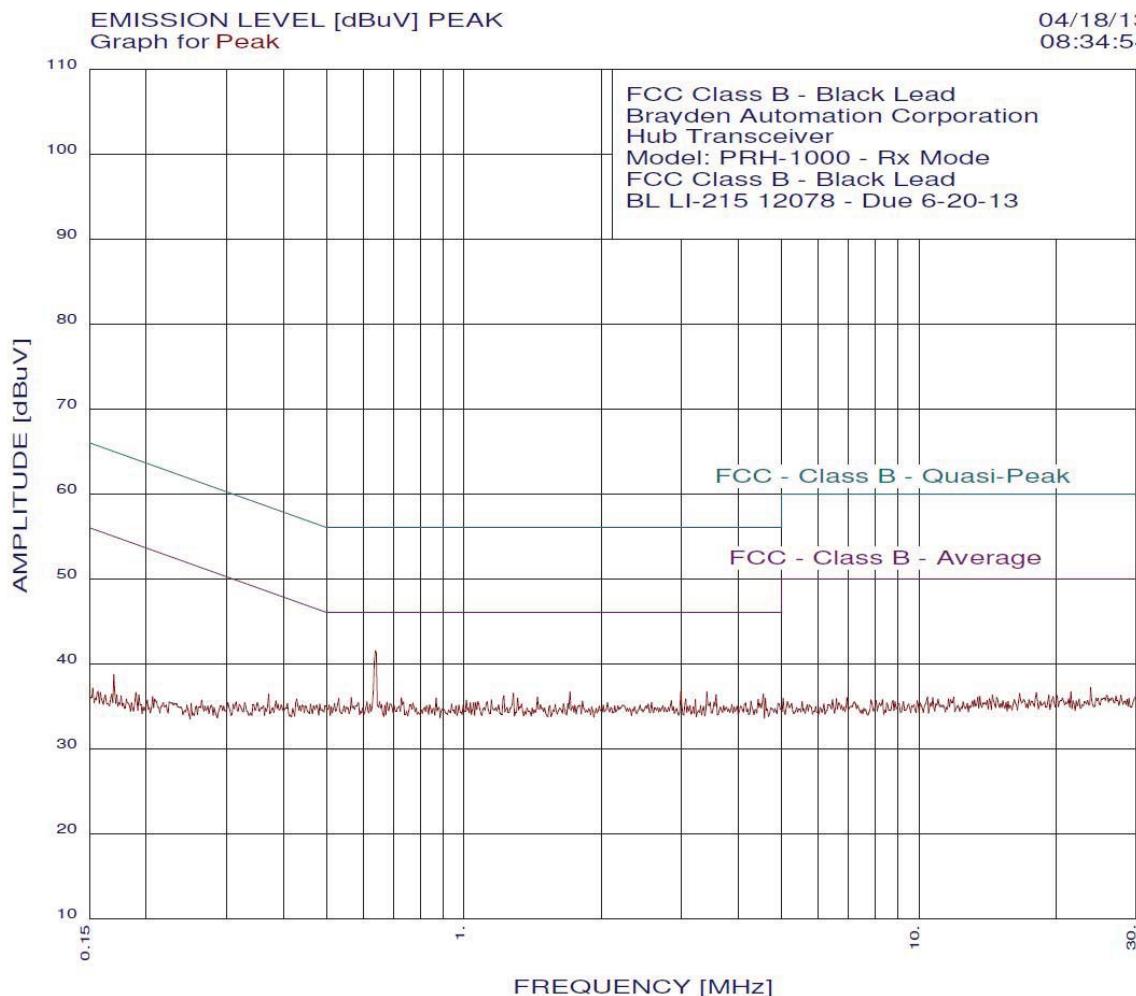
page 1/1

04/18/13 08:27:38

FCC Class B - White Lead  
 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000 - Tx Mode  
 FCC Class B - White Lead  
 WL LI-215 12078 - Due 6-20-13  
 Test Engineer : Kyle Fujimoto

39 highest peaks above -50.00 dB of FCC - Class B - Average limit line  
 Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.634	39.34	46.00	-6.66
2	4.204	37.76	46.00	-8.24
3	1.382	36.64	46.00	-9.36
4	0.771	36.51	46.00	-9.49
5	4.696	36.28	46.00	-9.72
6	0.796	36.20	46.00	-9.80
7	2.156	36.17	46.00	-9.83
8	0.535	36.12	46.00	-9.88
9	3.075	36.11	46.00	-9.89
10	2.855	36.09	46.00	-9.91
11	1.569	36.06	46.00	-9.94
12	1.345	36.03	46.00	-9.97
13	1.830	35.96	46.00	-10.04
14	4.092	35.96	46.00	-10.04
15	0.577	35.94	46.00	-10.06
16	3.547	35.88	46.00	-10.12
17	1.726	35.86	46.00	-10.14
18	1.077	35.86	46.00	-10.14
19	1.191	35.80	46.00	-10.20
20	1.136	35.78	46.00	-10.22
21	3.328	35.75	46.00	-10.25
22	0.564	35.73	46.00	-10.27
23	3.841	35.73	46.00	-10.27
24	0.751	35.71	46.00	-10.29
25	3.243	35.63	46.00	-10.37
26	0.479	35.99	46.36	-10.37
27	3.702	35.61	46.00	-10.39
28	2.979	35.59	46.00	-10.41
29	2.423	35.58	46.00	-10.42
30	2.286	35.58	46.00	-10.42
31	4.480	35.57	46.00	-10.43
32	1.637	35.56	46.00	-10.44
33	0.939	35.55	46.00	-10.45
34	0.592	35.55	46.00	-10.45
35	2.766	35.49	46.00	-10.51
36	4.877	35.49	46.00	-10.51
37	1.148	35.48	46.00	-10.52
38	1.106	35.47	46.00	-10.53
39	1.000	35.43	46.00	-10.57



page 1/1

04/18/13 08:34:54

FCC Class B - Black Lead  
 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000 - Rx Mode  
 FCC Class B - Black Lead  
 BL LI-215 12078 - Due 6-20-13  
 Test Engineer : Kyle Fujimoto

## 39 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

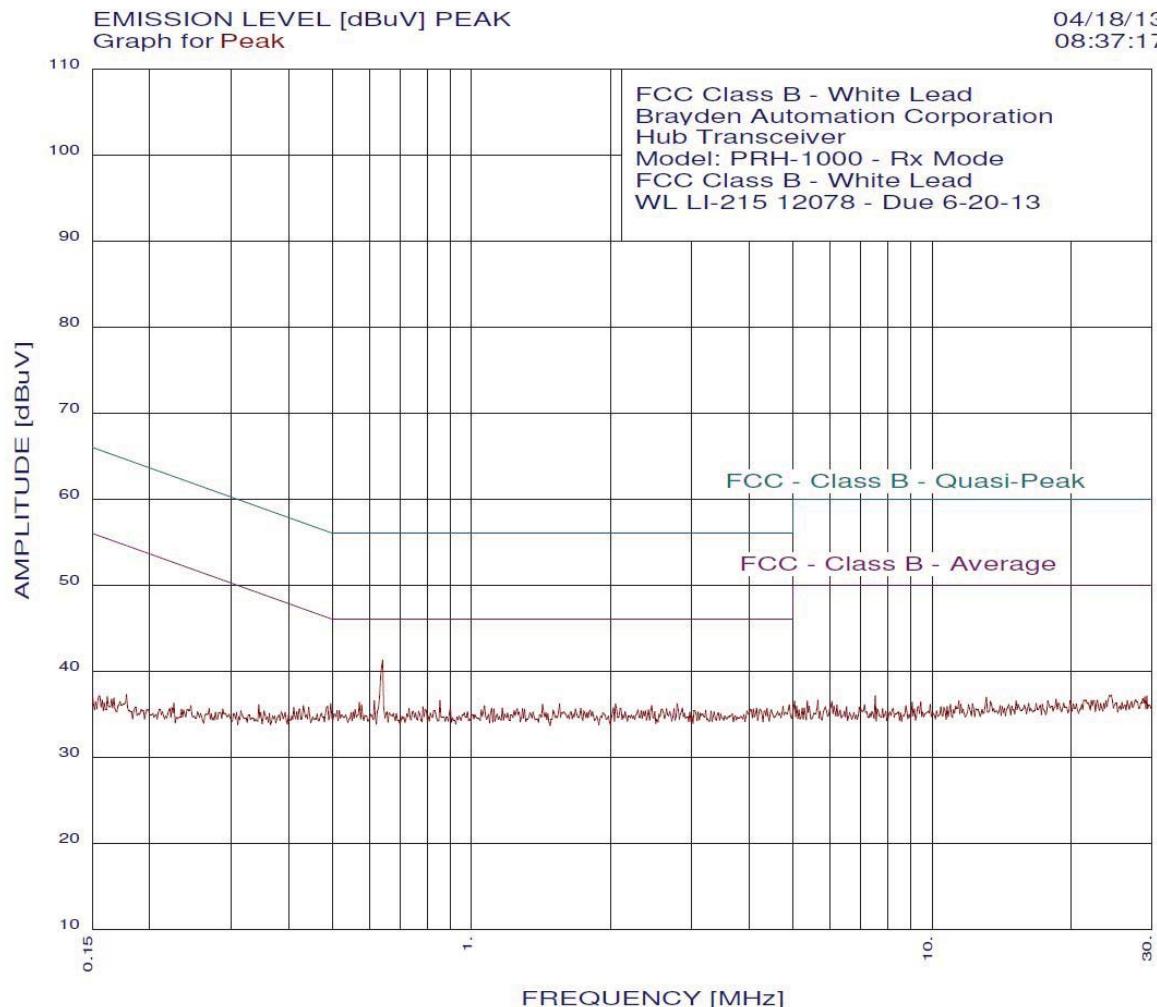
Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.637	41.48	46.00	-4.52
2	2.995	36.73	46.00	-9.27
3	1.708	36.67	46.00	-9.33
4	3.419	36.65	46.00	-9.35
5	1.283	36.53	46.00	-9.47
6	4.552	36.39	46.00	-9.61
7	3.585	36.35	46.00	-9.65
8	1.223	36.22	46.00	-9.78
9	1.449	36.04	46.00	-9.96
10	0.564	36.00	46.00	-10.00
11	0.728	35.95	46.00	-10.05
12	1.311	35.93	46.00	-10.07
13	0.867	35.93	46.00	-10.07
14	0.530	35.90	46.00	-10.10
15	4.600	35.89	46.00	-10.11
16	3.075	35.84	46.00	-10.16
17	3.226	35.74	46.00	-10.26
18	1.148	35.71	46.00	-10.29
19	1.011	35.70	46.00	-10.30
20	2.855	35.63	46.00	-10.37
21	1.820	35.58	46.00	-10.42
22	4.272	35.58	46.00	-10.42
23	1.124	35.51	46.00	-10.49
24	1.072	35.51	46.00	-10.49
25	0.611	35.49	46.00	-10.51
26	0.676	35.47	46.00	-10.53
27	2.582	35.42	46.00	-10.58
28	1.049	35.40	46.00	-10.60
29	1.032	35.40	46.00	-10.60
30	2.066	35.40	46.00	-10.60
31	4.159	35.37	46.00	-10.63
32	0.771	35.35	46.00	-10.65
33	1.654	35.27	46.00	-10.73
34	0.939	35.21	46.00	-10.79
35	3.882	35.16	46.00	-10.84
36	1.586	35.16	46.00	-10.84
37	0.839	35.13	46.00	-10.87
38	0.974	35.11	46.00	-10.89
39	0.669	35.07	46.00	-10.93

Brea Division  
 114 Olinda Drive  
 Brea, CA 92823  
 (714) 579-0500

Agoura Division  
 2337 Troutdale Drive  
 Agoura, CA 91301  
 (818) 597-0600

Silverado Division  
 19121 El Toro Road  
 Silverado, CA 92676  
 (949) 589-0700

Lake Forest Division  
 20621 Pascal Way  
 Lake Forest, CA 92630  
 (949) 587-0400



page 1/1

04/18/13 08:37:17

FCC Class B - White Lead  
 Brayden Automation Corporation  
 Hub Transceiver  
 Model: PRH-1000 - Rx Mode  
 FCC Class B - White Lead  
 WL LI-215 12078 - Due 6-20-13  
 Test Engineer : Kyle Fujimoto

39 highest peaks above -50.00 dB of FCC - Class B - Average limit line

Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.641	41.24	46.00	-4.76
2	0.853	36.58	46.00	-9.42
3	0.614	36.55	46.00	-9.45
4	0.570	36.34	46.00	-9.66
5	2.796	36.19	46.00	-9.81
6	2.055	36.16	46.00	-9.84
7	1.552	36.16	46.00	-9.84
8	1.426	36.15	46.00	-9.85
9	0.494	36.20	46.09	-9.90
10	4.902	36.09	46.00	-9.91
11	0.577	36.04	46.00	-9.96
12	2.462	35.98	46.00	-10.02
13	1.066	35.95	46.00	-10.05
14	0.783	35.80	46.00	-10.20
15	2.034	35.76	46.00	-10.24
16	0.899	35.76	46.00	-10.24
17	2.870	35.69	46.00	-10.31
18	1.166	35.69	46.00	-10.31
19	4.384	35.67	46.00	-10.33
20	1.106	35.67	46.00	-10.33
21	2.100	35.67	46.00	-10.33
22	0.486	35.89	46.23	-10.34
23	4.159	35.66	46.00	-10.34
24	1.726	35.66	46.00	-10.34
25	0.731	35.62	46.00	-10.38
26	1.290	35.62	46.00	-10.38
27	1.256	35.61	46.00	-10.39
28	2.751	35.59	46.00	-10.41
29	2.651	35.59	46.00	-10.41
30	2.582	35.59	46.00	-10.41
31	1.118	35.57	46.00	-10.43
32	4.227	35.56	46.00	-10.44
33	1.304	35.52	46.00	-10.48
34	2.423	35.48	46.00	-10.52
35	2.298	35.48	46.00	-10.52
36	1.810	35.46	46.00	-10.54
37	3.226	35.43	46.00	-10.57
38	0.516	35.41	46.00	-10.59
39	0.510	35.41	46.00	-10.59