



Underwriters Laboratories Inc.  
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(631) 271-6200

Job Number: 1001313517  
Project Number: 10CA58780  
File Number: MC15896  
Date: 2011-01-07  
Model: RRD-6NA  
FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

## Electromagnetic Compatibility Test Report

For

**LUTRON ELECTRONICS INC**

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Underwriters Laboratories Inc.  
1285 Walt Whitman Rd.  
Melville, NY 11747

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Tel: (631) 271-6200 Fax: (631)439-6095

Job Number: 1001313517 File Number: MC15896 Page 2 of 89  
Model Number: RRD-6NA  
Client Name: LUTRON ELECTRONICS INC  
FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

## Test Report Details

Tests Performed By: **Underwriters Laboratories Inc.  
1285 Walt Whitman Rd.  
Melville, NY 11747**

Tests Performed For: **LUTRON ELECTRONICS INC  
7200 SUTTER ROAD  
COOPERBURG, PA 18036**

Applicant Contact: **BOB SPEHALSKI**  
Phone: **(610) 282-7424**  
E-mail: **RSPEHALSKI@LUTRON.COM**

Test Report Date: **2011-01-07**

Product Type: **Wall Mounted Dimmer/Switch**

Product standards: **FCC Part 15, Subpart C, 15.231, RSS-GEN, RSS-210**

Model Number: **RRD-6NA**

Sample Serial Number: **Not Available**

EUT Category: **Periodic Low Power Transmitter**

Testing Start Date: **14 Dec 2010**

Date Testing Complete: **22 Dec 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.

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Report Revision History

Revision Date	Description	Revised By	Revision Reviewed By
None	Original	N/A	N/A

**1.0 GENERAL - Product Description**

**1.1 Equipment Description**

The DUT is a wall-mounted dimmer/switch. It contains a FM transceiver and an antenna, which is not accessible to the user. It is used as part of an integrated lighting control system. The purpose of the RF communication is to transmit and receive command signals. Transmitted commands allow the triggering of system events. Received commands allow for updating of control indicator status.

Per FCC Part 2.1093 (C) this device is not required to undergo testing for radio-frequency radiation exposure.

Antenna description: Permanently attached to the RF circuit board and the transmit antenna type is a dipole antenna.

The EUT is only intended in being installed in the upright position and does not transmit at predetermined intervals. The transmissions are triggered by the button push.

Testing in this report represents the following models. These are electrically identical  
 RRD-6NA  
 HQRD-6NA  
 CCD-6NA  
 MRF-6ELV-120

**RRD-6NA is the base unit, used for commercial purposes. RRD-RNA-U is the Model number, of the base unit's construction, for certification with Industry Canada.**

**1.2 Equipment Marking Plate**

Not Available

**1.3 Device Configuration During Test**

**1.3.1 Equipment Used During Test:**

Use	Product Type	Manufacturer	Model	Comments
EUT	Wall Mounted Dimmer/Switch	LUTRON ELECTRONICS INC	RRD-6NA	None
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	Mains	AC	Y	N	None
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					

**1.3.3 EUT Internal Operating Frequencies:**

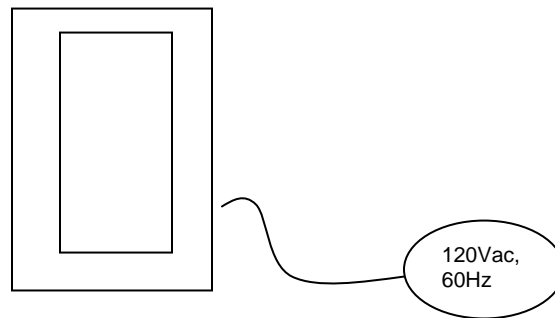
Frequency (MHz)	Description
0.00625	Data rate
0.203	IF
13	Microcontroller
431-437	Operating Band channels

**1.3.4 Power Interface:**

Mode # /Rated	Voltage (V)	Current (A)	Power (W)	Frequency (DC/AC-Hz)	Phases (#)	Comments
Rated	120	-	-	AC – 60Hz	1	None
1	120	-	-	AC – 60Hz	1	None

**1.4 Block Diagram:**

The diagram below illustrates the configuration of the equipment above.



### 1.5 EUT Configurations

Mode #	Description
1	Stand-alone

### 1.6 EUT Operation Modes

Mode #	Description
1	Constant transmitting at 431MHz, packet mode
2	Constant transmitting at 437MHz, packet mode
3	Receive mode 431MHz
4	Receive mode 437MHz
5	433MHz, normally operating
6	Receive Mode at 434MHz



## 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
47 CFR Part 15, Subpart B	Code of Federal Regulations, Part 15, Radio Frequency Devices	2009
47 CFR Part 15, Subpart C	Code of Federal Regulations, Part 15, Radio Frequency Devices	2009
RSS-GEN, Issue 3	General Requirements and Information for the Certification of Radiocommunication Equipment	2010
RSS-210, Issue 8	Low-power License-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment	2010

**2.4 Results Summary**

This product is considered Periodic Transmitter with a Class B receiver

Requirement – Test	Result (Compliant / Non-Compliant)*
Cease Operation	Compliant
Conducted Emissions - Mains	Compliant
Occupied Bandwidth	Compliant
99% Power Occupied Bandwidth	Compliant
Pulse Train - Averaging Factor	Compliant
Radiated Emissions - Intentional	Compliant
Radiated Emissions - Unintentional	Compliant

Test Engineer:



Bob DeLisi (Ext.22452)  
 Senior Staff Engineer  
 International EMC Services  
 Conformity Assessment Services-

Reviewer:



Mike Antola(Ext.23053)  
 Senior Project Engineer  
 International EMC Services  
 Conformity Assessment Services

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 B, Radio Frequency Devices
Code of Federal Regulations Title 47	Part 15, Subpart C, Radio Frequency Devices
Industry Canada	RSS-GEN, RSS-210

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
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#### Sample Calculations

Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:

- Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)
- Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)
- Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

**4.1 Test Conditions and Results – MAINS TERMINAL – CONDUCTED EMISSIONS**

Test Description	Measurements were made on a ground plane. All power was connected to the system through Artificial Mains Network (AMN). Conducted voltage measurements on mains lines were made at the output of the AMN.	
Basic Standard	FCC Part 15, Subpart C, 15.231	
UL LPG	80-EM-S0026	
	Frequency range on each side of line	Measurement Point
Fully configured sample scanned over the following frequency range	150kHz to 30MHz	Mains
<b>Limits - Class B</b>		
Frequency (MHz)	Limit (dB $\mu$ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50
Supplementary information: None		

**Table 1 Conducted Emissions EUT Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
1	1	2
1	1	3
1	1	4
Supplementary information: None		

Job Number: 1001313517 File Number: MC15896  
 Model Number: RRD-6NA  
 Client Name: LUTRON ELECTRONICS INC  
 FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

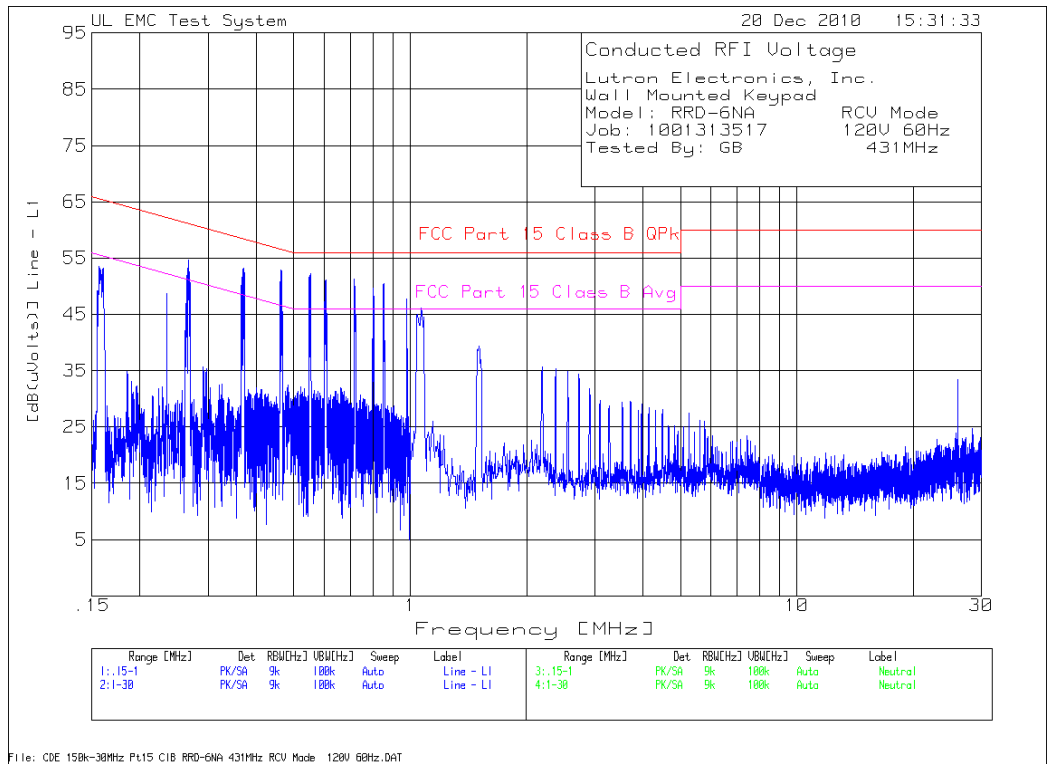
**Table 2 Conducted Emissions Test Equipment**

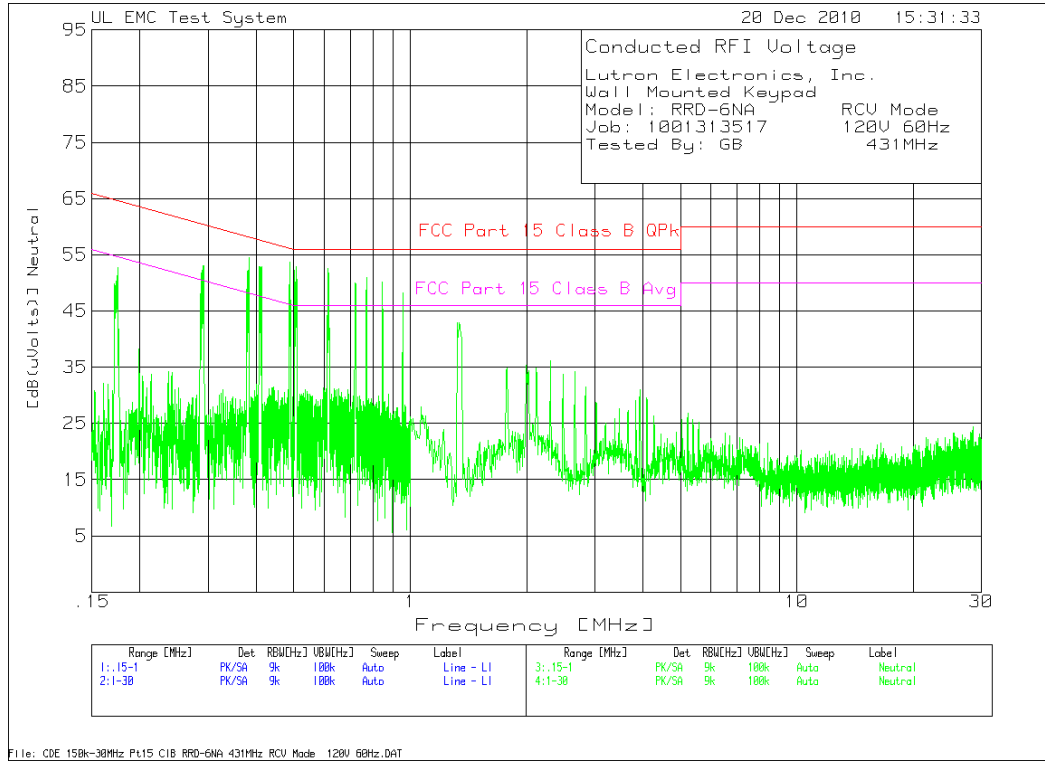
<b>Test Equipment Used</b>					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Conducted Emissions – GP 1					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2010-01-10	2011-01-11
LISN	Solar	9252-50-R-24-BNC	ME5A-636	2010-03-26	2010-03-31
Switch Driver	HP	11713A	44397	N/A	N/A
RF Switch Box	UL	4	44404	N/A	N/A
Measurement Software	UL	Version 9.3	44736	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	83III	ME5B-305	2010-02-01	2011-02-01

**Figure 1 Test Setup for Conducted Emissions**



**Figure 2 Conducted Emissions Graph – RCV Mode (431MHz)**





**Table 3 Conducted Emissions Data Points – RCV Mode (431MHz)**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
Line - L1 .15 - 1MHz										
.15724	41.77	10	0	51.77	65.6	55.6	-	-	-	-
				Margin [dB]:	-13.83	-3.83	-	-	-	-
.23519	38.75	10	0	48.75	62.3	52.3	-	-	-	-
				Margin [dB]:	-13.55	-3.55	-	-	-	-
.2671	42.59	10	0	52.59	61.2	51.2	-	-	-	-
				Margin [dB]:	-8.61	1.39	-	-	-	-
.3703	39.9	10	0	49.9	58.5	48.5	-	-	-	-
				Margin [dB]:	-8.6	1.4	-	-	-	-
.46373	39.9	10	0	49.9	56.6	46.6	-	-	-	-
				Margin [dB]:	-6.7	3.3	-	-	-	-
.54757	38.99	10	0	48.99	56	46	-	-	-	-
				Margin [dB]:	-7.01	2.99	-	-	-	-
.60539	38.24	10	0	48.24	56	46	-	-	-	-
				Margin [dB]:	-7.76	2.24	-	-	-	-
.71699	37.18	10	0	47.18	56	46	-	-	-	-
				Margin [dB]:	-8.82	1.18	-	-	-	-
.80265	35.87	10	0	45.87	56	46	-	-	-	-
				Margin [dB]:	-10.13	-.13	-	-	-	-
.85308	36.28	10	0	46.28	56	46	-	-	-	-



Job Number: 1001313517 File Number: MC15896  
 Model Number: RRD-6NA  
 Client Name: LUTRON ELECTRONICS INC  
 FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

.98013	33.89 QP	10	Margin [dB]:	-9.72	.28	-	-	-	-
			0	43.89	56	46	-	-	-
			Margin [dB]:	-12.11	-2.11	-	-	-	-
Line - L1 1 - 30MHz									
1.0637	33.8 QP	10.1	0	43.9	56	46	-	-	-
			Margin [dB]:	-12.1	-2.1	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

- PK - Peak detector
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - average log detection
- Av - average detection
- CAV - CISPR average detection
- RMS - RMS detection
- CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.17528	39.18 QP	10.1	0	49.28	64.7	54.7	-	-	-	-
			Margin [dB]:		-15.42	-5.42	-	-	-	-
.29192	41.3 QP	10.1	0	51.4	60.5	50.5	-	-	-	-
			Margin [dB]:		-9.1	.9	-	-	-	-
.38225	40.35 QP	10.1	0	50.45	58.2	48.2	-	-	-	-
			Margin [dB]:		-7.75	2.25	-	-	-	-
.40956	41.02 QP	10.1	0	51.12	57.7	47.7	-	-	-	-
			Margin [dB]:		-6.58	3.42	-	-	-	-
.48815	38.99 QP	10.1	0	49.09	56.2	46.2	-	-	-	-
			Margin [dB]:		-7.11	2.89	-	-	-	-
.50625	39.64 QP	10.1	0	49.74	56	46	-	-	-	-
			Margin [dB]:		-6.26	3.74	-	-	-	-
.61207	38.15 QP	10.1	0	48.25	56	46	-	-	-	-
			Margin [dB]:		-7.75	2.25	-	-	-	-
.72186	37.04 QP	10.1	0	47.14	56	46	-	-	-	-
			Margin [dB]:		-8.86	1.14	-	-	-	-
.77182	36.51 QP	10.1	0	46.61	56	46	-	-	-	-
			Margin [dB]:		-9.39	.61	-	-	-	-
.84746	35.96 QP	10.1	0	46.06	56	46	-	-	-	-
			Margin [dB]:		-9.94	.06	-	-	-	-
.95716	33.92 QP	10.1	0	44.02	56	46	-	-	-	-
			Margin [dB]:		-11.98	-1.98	-	-	-	-
Neutral 1 - 30MHz										
1.33671	28.82 QP	10.1	0	38.92	56	46	-	-	-	-
			Margin [dB]:		-17.08	-7.08	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.15724	22.26 Av	10	0	32.26	65.6	55.6	-	-	-	-
			Margin [dB]:		-33.34	-23.34	-	-	-	-
.23519	19.32 Av	10	0	29.32	62.3	52.3	-	-	-	-
			Margin [dB]:		-32.98	-22.98	-	-	-	-
.2671	21.92 Av	10	0	31.92	61.2	51.2	-	-	-	-
			Margin [dB]:		-29.28	-19.28	-	-	-	-
.3703	21.16 Av	10	0	31.16	58.5	48.5	-	-	-	-
			Margin [dB]:		-27.34	-17.34	-	-	-	-
.46373	20.82 Av	10	0	30.82	56.6	46.6	-	-	-	-
			Margin [dB]:		-25.78	-15.78	-	-	-	-
.54757	20.09 Av	10	0	30.09	56	46	-	-	-	-
			Margin [dB]:		-25.91	-15.91	-	-	-	-
.60539	20.26 Av	10	0	30.26	56	46	-	-	-	-
			Margin [dB]:		-25.74	-15.74	-	-	-	-
.71699	19.72 Av	10	0	29.72	56	46	-	-	-	-
			Margin [dB]:		-26.28	-16.28	-	-	-	-
.80265	18.6 Av	10	0	28.6	56	46	-	-	-	-
			Margin [dB]:		-27.4	-17.4	-	-	-	-
.85308	18.61 Av	10	0	28.61	56	46	-	-	-	-
			Margin [dB]:		-27.39	-17.39	-	-	-	-
.98013	15.66 Av	10	0	25.66	56	46	-	-	-	-
			Margin [dB]:		-30.34	-20.34	-	-	-	-
Line - L1 1 - 30MHz										
1.0637	15.99 Av	10.1	0	26.09	56	46	-	-	-	-
			Margin [dB]:		-29.91	-19.91	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

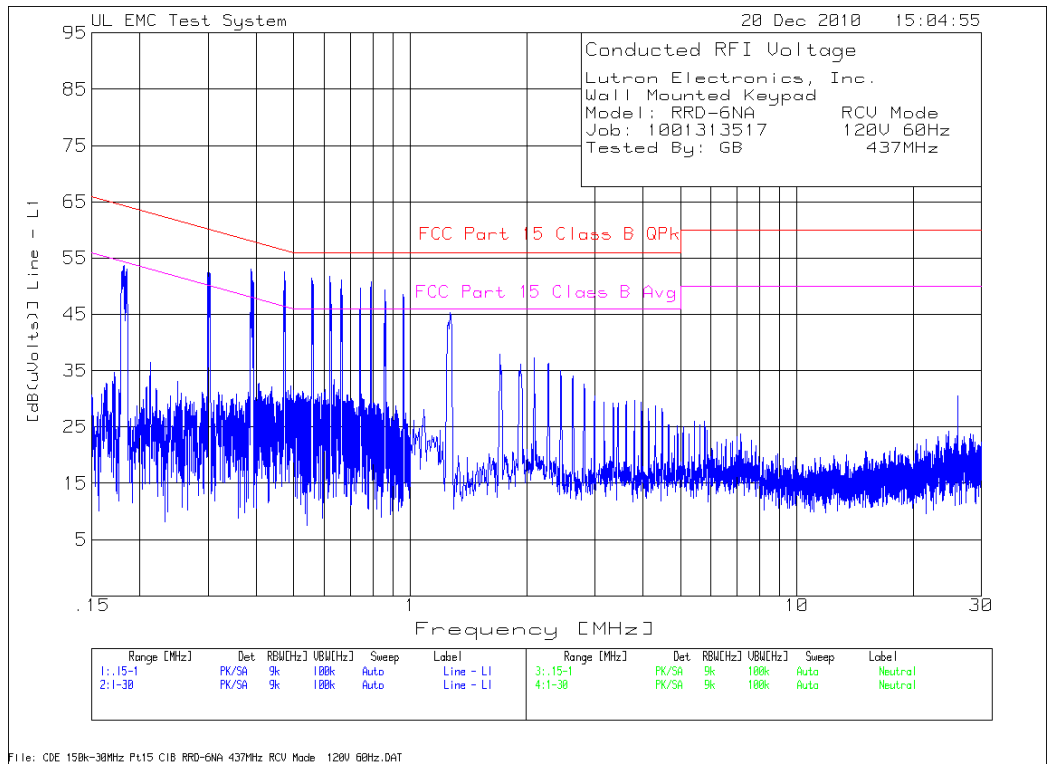
Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.17528	20.37 Av	10.1	0	30.47	64.7	54.7	-	-	-	-
			Margin [dB]:		-34.23	-24.23	-	-	-	-
.29192	21.98 Av	10.1	0	32.08	60.5	50.5	-	-	-	-
			Margin [dB]:		-28.42	-18.42	-	-	-	-
.38225	20.6 Av	10.1	0	30.7	58.2	48.2	-	-	-	-
			Margin [dB]:		-27.5	-17.5	-	-	-	-
.40956	21.01 Av	10.1	0	31.11	57.7	47.7	-	-	-	-
			Margin [dB]:		-26.59	-16.59	-	-	-	-
.48815	20.25 Av	10.1	0	30.35	56.2	46.2	-	-	-	-
			Margin [dB]:		-25.85	-15.85	-	-	-	-
.50625	21.07 Av	10.1	0	31.17	56	46	-	-	-	-
			Margin [dB]:		-24.83	-14.83	-	-	-	-
.61207	19.72 Av	10.1	0	29.82	56	46	-	-	-	-
			Margin [dB]:		-26.18	-16.18	-	-	-	-
.72186	18.63 Av	10.1	0	28.73	56	46	-	-	-	-
			Margin [dB]:		-27.27	-17.27	-	-	-	-
.77182	18.73 Av	10.1	0	28.83	56	46	-	-	-	-
			Margin [dB]:		-27.17	-17.17	-	-	-	-
.84746	17.64 Av	10.1	0	27.74	56	46	-	-	-	-
			Margin [dB]:		-28.26	-18.26	-	-	-	-
.95716	16.12 Av	10.1	0	26.22	56	46	-	-	-	-
			Margin [dB]:		-29.78	-19.78	-	-	-	-
Neutral 1 - 30MHz										
1.33671	8.74 Av	10.1	0	18.84	56	46	-	-	-	-
			Margin [dB]:		-37.16	-27.16	-	-	-	-

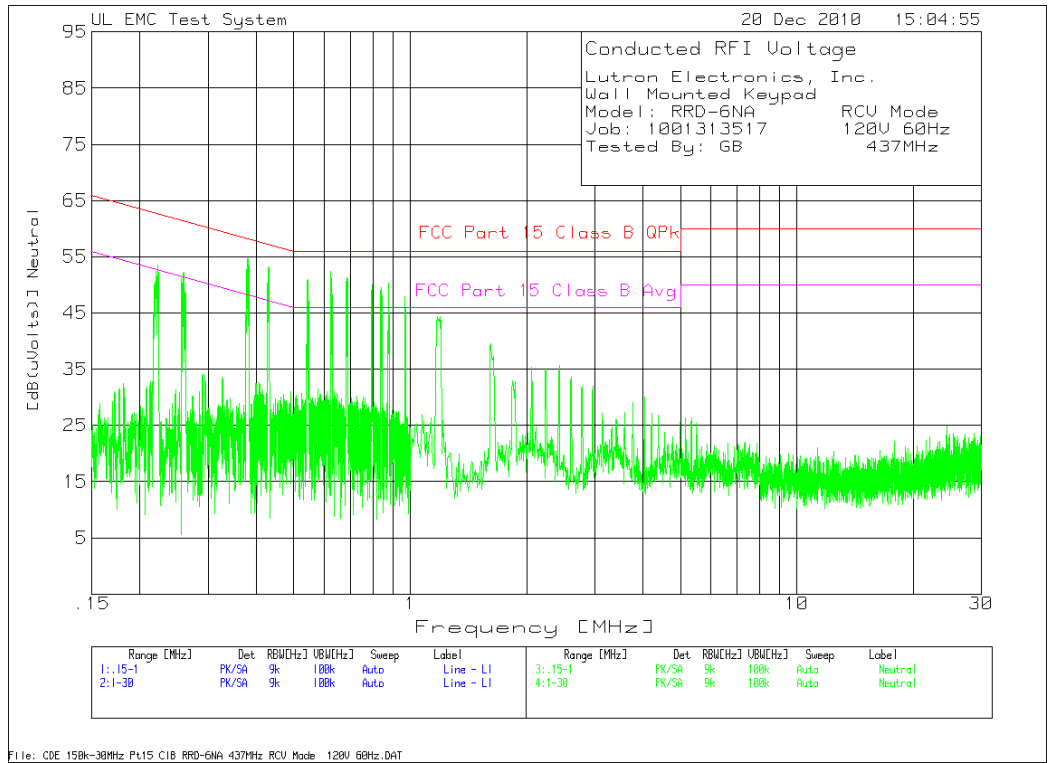
NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

**Figure 3 Conducted Emissions Graph – RCV Mode (437MHz)**





**Table 4 Conducted Emissions Data Points – RCV Mode (437MHz)**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.18141	40.49 QP	10	0	50.49	64.4	54.4	-	-	-	-
				Margin [dB]:	-13.91	-3.91	-	-	-	-
.29931	41.37 QP	10	0	51.37	60.3	50.3	-	-	-	-
				Margin [dB]:	-8.93	1.07	-	-	-	-
.38691	40.56 QP	10	0	50.56	58.1	48.1	-	-	-	-
				Margin [dB]:	-7.54	2.46	-	-	-	-
.4719	39.26 QP	10	0	49.26	56.5	46.5	-	-	-	-
				Margin [dB]:	-7.24	2.76	-	-	-	-
.55663	39.7 QP	10	0	49.7	56	46	-	-	-	-
				Margin [dB]:	-6.3	3.7	-	-	-	-
.61868	38.62 QP	10	0	48.62	56	46	-	-	-	-
				Margin [dB]:	-7.38	2.62	-	-	-	-
.6626	38.55 QP	10	0	48.55	56	46	-	-	-	-
				Margin [dB]:	-7.45	2.55	-	-	-	-
.74433	36.82 QP	10	0	46.82	56	46	-	-	-	-
				Margin [dB]:	-9.18	.82	-	-	-	-
.79192	36.01 QP	10	0	46.01	56	46	-	-	-	-
				Margin [dB]:	-9.99	.01	-	-	-	-
.86135	36.05 QP	10	0	46.05	56	46	-	-	-	-
				Margin [dB]:	-9.95	.05	-	-	-	-
.95881	34.18 QP	10	0	44.18	56	46	-	-	-	-
				Margin [dB]:	-11.82	-1.82	-	-	-	-
Line - L1 1 - 30MHz										
1.27281	30.73 QP	10.1	0	40.83	56	46	-	-	-	-
				Margin [dB]:	-15.17	-5.17	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.22215	40.01 QP	10.1	0	50.11	62.7	52.7	-	-	-	-
			Margin [dB]:		-12.59	-2.59	-	-	-	-
.25904	36.1 QP	10.1	0	46.2	61.5	51.5	-	-	-	-
			Margin [dB]:		-15.3	-5.3	-	-	-	-
.37966	40.32 QP	10.1	0	50.42	58.3	48.3	-	-	-	-
			Margin [dB]:		-7.88	2.12	-	-	-	-
.43151	39.66 QP	10.1	0	49.76	57.2	47.2	-	-	-	-
			Margin [dB]:		-7.44	2.56	-	-	-	-
.54443	38.53 QP	10.1	0	48.63	56	46	-	-	-	-
			Margin [dB]:		-7.37	2.63	-	-	-	-
.62255	38.17 QP	10.1	0	48.27	56	46	-	-	-	-
			Margin [dB]:		-7.73	2.27	-	-	-	-
.68746	37.88 QP	10.1	0	47.98	56	46	-	-	-	-
			Margin [dB]:		-8.02	1.98	-	-	-	-
.7934	36.69 QP	10.1	0	46.79	56	46	-	-	-	-
			Margin [dB]:		-9.21	.79	-	-	-	-
.8393	35.19 QP	10.1	0	45.29	56	46	-	-	-	-
			Margin [dB]:		-10.71	-.71	-	-	-	-
.87877	35.39 QP	10.1	0	45.49	56	46	-	-	-	-
			Margin [dB]:		-10.51	-.51	-	-	-	-
.96745	34.83 QP	10.1	0	44.93	56	46	-	-	-	-
			Margin [dB]:		-11.07	-1.07	-	-	-	-
Neutral 1 - 30MHz										
1.18532	31.08 QP	10.1	0	41.18	56	46	-	-	-	-
			Margin [dB]:		-14.82	-4.82	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection



Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.18141	20.48 Av	10	0	30.48	64.4	54.4	-	-	-	-
			Margin [dB]:		-33.92	-23.92	-	-	-	-
.29931	21.72 Av	10	0	31.72	60.3	50.3	-	-	-	-
			Margin [dB]:		-28.58	-18.58	-	-	-	-
.38691	20.18 Av	10	0	30.18	58.1	48.1	-	-	-	-
			Margin [dB]:		-27.92	-17.92	-	-	-	-
.4719	20.74 Av	10	0	30.74	56.5	46.5	-	-	-	-
			Margin [dB]:		-25.76	-15.76	-	-	-	-
.55663	20.3 Av	10	0	30.3	56	46	-	-	-	-
			Margin [dB]:		-25.7	-15.7	-	-	-	-
.61868	19.97 Av	10	0	29.97	56	46	-	-	-	-
			Margin [dB]:		-26.03	-16.03	-	-	-	-
.6626	20.49 Av	10	0	30.49	56	46	-	-	-	-
			Margin [dB]:		-25.51	-15.51	-	-	-	-
.74433	18.85 Av	10	0	28.85	56	46	-	-	-	-
			Margin [dB]:		-27.15	-17.15	-	-	-	-
.79192	18.11 Av	10	0	28.11	56	46	-	-	-	-
			Margin [dB]:		-27.89	-17.89	-	-	-	-
.86135	18.42 Av	10	0	28.42	56	46	-	-	-	-
			Margin [dB]:		-27.58	-17.58	-	-	-	-
.95881	16.19 Av	10	0	26.19	56	46	-	-	-	-
			Margin [dB]:		-29.81	-19.81	-	-	-	-
Line - L1 1 - 30MHz										
1.27281	10.94 Av	10.1	0	21.04	56	46	-	-	-	-
			Margin [dB]:		-34.96	-24.96	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

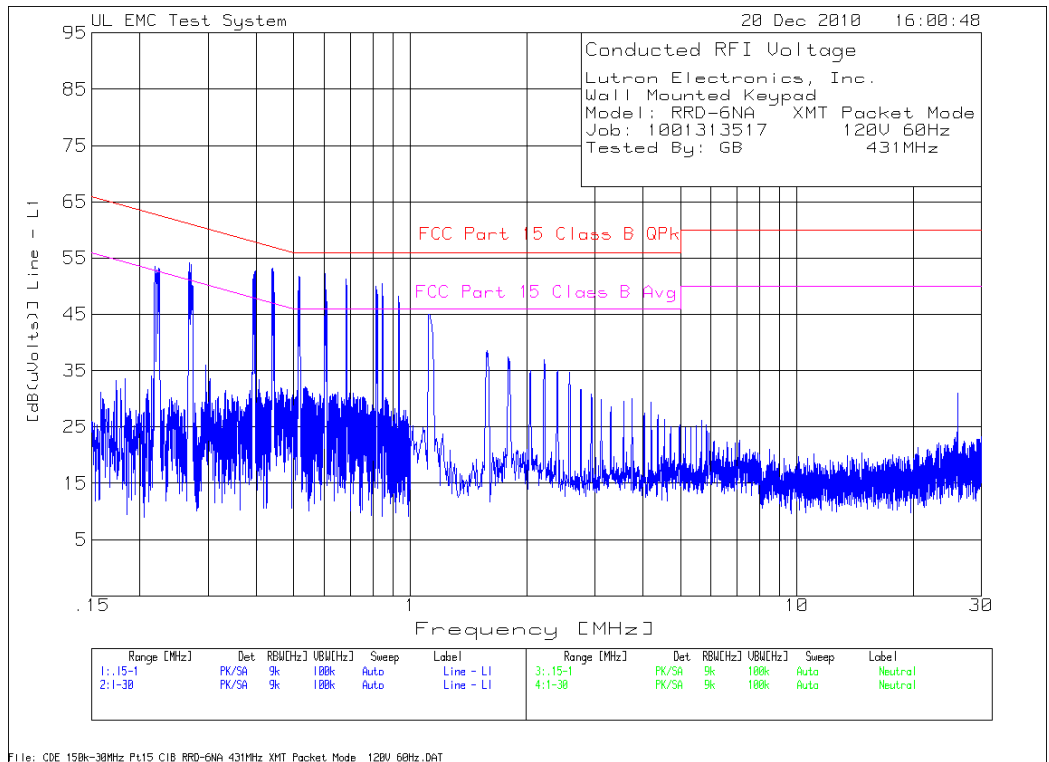
Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.22215	19.84 Av	10.1	0	29.94	62.7	52.7	-	-	-	-
			Margin [dB]:		-32.76	-22.76	-	-	-	-
.25904	15.81 Av	10.1	0	25.91	61.5	51.5	-	-	-	-
			Margin [dB]:		-35.59	-25.59	-	-	-	-
.37966	20.17 Av	10.1	0	30.27	58.3	48.3	-	-	-	-
			Margin [dB]:		-28.03	-18.03	-	-	-	-
.43151	20.23 Av	10.1	0	30.33	57.2	47.2	-	-	-	-
			Margin [dB]:		-26.87	-16.87	-	-	-	-
.54443	18.45 Av	10.1	0	28.55	56	46	-	-	-	-
			Margin [dB]:		-27.45	-17.45	-	-	-	-
.62255	19.77 Av	10.1	0	29.87	56	46	-	-	-	-
			Margin [dB]:		-26.13	-16.13	-	-	-	-
.68746	19.89 Av	10.1	0	29.99	56	46	-	-	-	-
			Margin [dB]:		-26.01	-16.01	-	-	-	-
.7934	18.27 Av	10.1	0	28.37	56	46	-	-	-	-
			Margin [dB]:		-27.63	-17.63	-	-	-	-
.8393	17.04 Av	10.1	0	27.14	56	46	-	-	-	-
			Margin [dB]:		-28.86	-18.86	-	-	-	-
.87877	17.51 Av	10.1	0	27.61	56	46	-	-	-	-
			Margin [dB]:		-28.39	-18.39	-	-	-	-
.96745	17.28 Av	10.1	0	27.38	56	46	-	-	-	-
			Margin [dB]:		-28.62	-18.62	-	-	-	-
Neutral 1 - 30MHz										
1.18532	12.87 Av	10.1	0	22.97	56	46	-	-	-	-
			Margin [dB]:		-33.03	-23.03	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

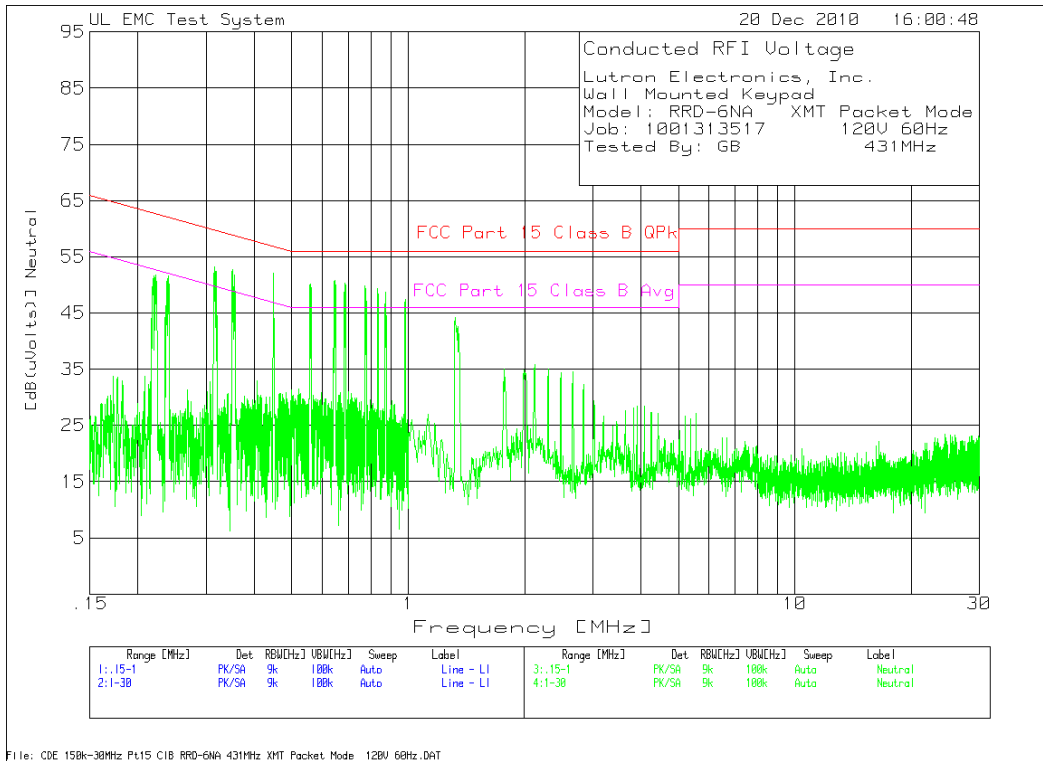
LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

**Figure 4 Conducted Emissions Graph – XMT Packet Mode (431MHz)**



Note. Limit shown is equivalent to the limits in 15.207.



**Table 5 Conducted Emissions Data Points – XMT Packet Mode (431MHz)**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.21934	39.57 QP	10	0	49.57	62.8	52.8	-	-	-	-
			Margin [dB]:		-13.23	-3.23	-	-	-	-
.26881	42.14 QP	10	0	52.14	61.2	51.2	-	-	-	-
			Margin [dB]:		-9.06	.94	-	-	-	-
.3969	40.8 QP	10	0	50.8	57.9	47.9	-	-	-	-
			Margin [dB]:		-7.1	2.9	-	-	-	-
.4398	39.27 QP	10	0	49.27	57.1	47.1	-	-	-	-
			Margin [dB]:		-7.83	2.17	-	-	-	-
.51426	38.7 QP	10	0	48.7	56	46	-	-	-	-
			Margin [dB]:		-7.3	2.7	-	-	-	-
.60225	38.36 QP	10	0	48.36	56	46	-	-	-	-
			Margin [dB]:		-7.64	2.36	-	-	-	-
.68372	37.02 QP	10	0	47.02	56	46	-	-	-	-
			Margin [dB]:		-8.98	1.02	-	-	-	-
.81571	35.29 QP	10	0	45.29	56	46	-	-	-	-
			Margin [dB]:		-10.71	-.71	-	-	-	-
.84742	35.94 QP	10	0	45.94	56	46	-	-	-	-
			Margin [dB]:		-10.06	-.06	-	-	-	-
.9336	34.23 QP	10	0	44.23	56	46	-	-	-	-
			Margin [dB]:		-11.77	-1.77	-	-	-	-
Line - L1 1 - 30MHz										
1.1215	33.16 QP	10.1	0	43.26	56	46	-	-	-	-
			Margin [dB]:		-12.74	-2.74	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.22228	40.42 QP	10.1	0	50.52	62.7	52.7	-	-	-	-
			Margin [dB]:		-12.18	-2.18	-	-	-	-
.23986	38.72 QP	10.1	0	48.82	62.1	52.1	-	-	-	-
			Margin [dB]:		-13.28	-3.28	-	-	-	-
.31495	40.11 QP	10.1	0	50.21	59.8	49.8	-	-	-	-
			Margin [dB]:		-9.59	.41	-	-	-	-
.35101	39.85 QP	10.1	0	49.95	58.9	48.9	-	-	-	-
			Margin [dB]:		-8.95	1.05	-	-	-	-
.44706	39.26 QP	10.1	0	49.36	56.9	46.9	-	-	-	-
			Margin [dB]:		-7.54	2.46	-	-	-	-
.55433	39.81 QP	10.1	0	49.91	56	46	-	-	-	-
			Margin [dB]:		-6.09	3.91	-	-	-	-
.64694	37.18 QP	10.1	0	47.28	56	46	-	-	-	-
			Margin [dB]:		-8.72	1.28	-	-	-	-
.685	37.65 QP	10.1	0	47.75	56	46	-	-	-	-
			Margin [dB]:		-8.25	1.75	-	-	-	-
.77267	36.92 QP	10.1	0	47.02	56	46	-	-	-	-
			Margin [dB]:		-8.98	1.02	-	-	-	-
.83099	36.12 QP	10.1	0	46.22	56	46	-	-	-	-
			Margin [dB]:		-9.78	.22	-	-	-	-
.87603	35.54 QP	10.1	0	45.64	56	46	-	-	-	-
			Margin [dB]:		-10.36	-.36	-	-	-	-
.98504	33.77 QP	10.1	0	43.87	56	46	-	-	-	-
			Margin [dB]:		-12.13	-2.13	-	-	-	-
Neutral 1 - 30MHz										
1.31935	30.25 QP	10.1	0	40.35	56	46	-	-	-	-
			Margin [dB]:		-15.65	-5.65	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.21934	20.47 Av	10	0	30.47	62.8	52.8	-	-	-	-
				Margin [dB]:	-32.33	-22.33	-	-	-	-
.26881	22.58 Av	10	0	32.58	61.2	51.2	-	-	-	-
				Margin [dB]:	-28.62	-18.62	-	-	-	-
.3969	20.15 Av	10	0	30.15	57.9	47.9	-	-	-	-
				Margin [dB]:	-27.75	-17.75	-	-	-	-
.4398	20.89 Av	10	0	30.89	57.1	47.1	-	-	-	-
				Margin [dB]:	-26.21	-16.21	-	-	-	-
.51426	19.85 Av	10	0	29.85	56	46	-	-	-	-
				Margin [dB]:	-26.15	-16.15	-	-	-	-
.60225	20.13 Av	10	0	30.13	56	46	-	-	-	-
				Margin [dB]:	-25.87	-15.87	-	-	-	-
.68372	19.18 Av	10	0	29.18	56	46	-	-	-	-
				Margin [dB]:	-26.82	-16.82	-	-	-	-
.81571	17.62 Av	10	0	27.62	56	46	-	-	-	-
				Margin [dB]:	-28.38	-18.38	-	-	-	-
.84742	17.64 Av	10	0	27.64	56	46	-	-	-	-
				Margin [dB]:	-28.36	-18.36	-	-	-	-
.9336	16.77 Av	10	0	26.77	56	46	-	-	-	-
				Margin [dB]:	-29.23	-19.23	-	-	-	-
Line - L1 1 - 30MHz										
1.1215	15 Av	10.1	0	25.1	56	46	-	-	-	-
				Margin [dB]:	-30.9	-20.9	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 431MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.22228	20.12 Av	10.1	0	30.22	62.7	52.7	-	-	-	-
			Margin [dB]:		-32.48	-22.48	-	-	-	-
.23986	19.2 Av	10.1	0	29.3	62.1	52.1	-	-	-	-
			Margin [dB]:		-32.8	-22.8	-	-	-	-
.31495	20.96 Av	10.1	0	31.06	59.8	49.8	-	-	-	-
			Margin [dB]:		-28.74	-18.74	-	-	-	-
.35101	19.42 Av	10.1	0	29.52	58.9	48.9	-	-	-	-
			Margin [dB]:		-29.38	-19.38	-	-	-	-
.44706	19.71 Av	10.1	0	29.81	56.9	46.9	-	-	-	-
			Margin [dB]:		-27.09	-17.09	-	-	-	-
.55433	20.44 Av	10.1	0	30.54	56	46	-	-	-	-
			Margin [dB]:		-25.46	-15.46	-	-	-	-
.64694	19.13 Av	10.1	0	29.23	56	46	-	-	-	-
			Margin [dB]:		-26.77	-16.77	-	-	-	-
.685	19.23 Av	10.1	0	29.33	56	46	-	-	-	-
			Margin [dB]:		-26.67	-16.67	-	-	-	-
.77267	18.75 Av	10.1	0	28.85	56	46	-	-	-	-
			Margin [dB]:		-27.15	-17.15	-	-	-	-
.83099	18.24 Av	10.1	0	28.34	56	46	-	-	-	-
			Margin [dB]:		-27.66	-17.66	-	-	-	-
.87603	17.77 Av	10.1	0	27.87	56	46	-	-	-	-
			Margin [dB]:		-28.13	-18.13	-	-	-	-
.98504	15.73 Av	10.1	0	25.83	56	46	-	-	-	-
			Margin [dB]:		-30.17	-20.17	-	-	-	-
Neutral 1 - 30MHz										
1.31935	9.4 Av	10.1	0	19.5	56	46	-	-	-	-
			Margin [dB]:		-36.5	-26.5	-	-	-	-

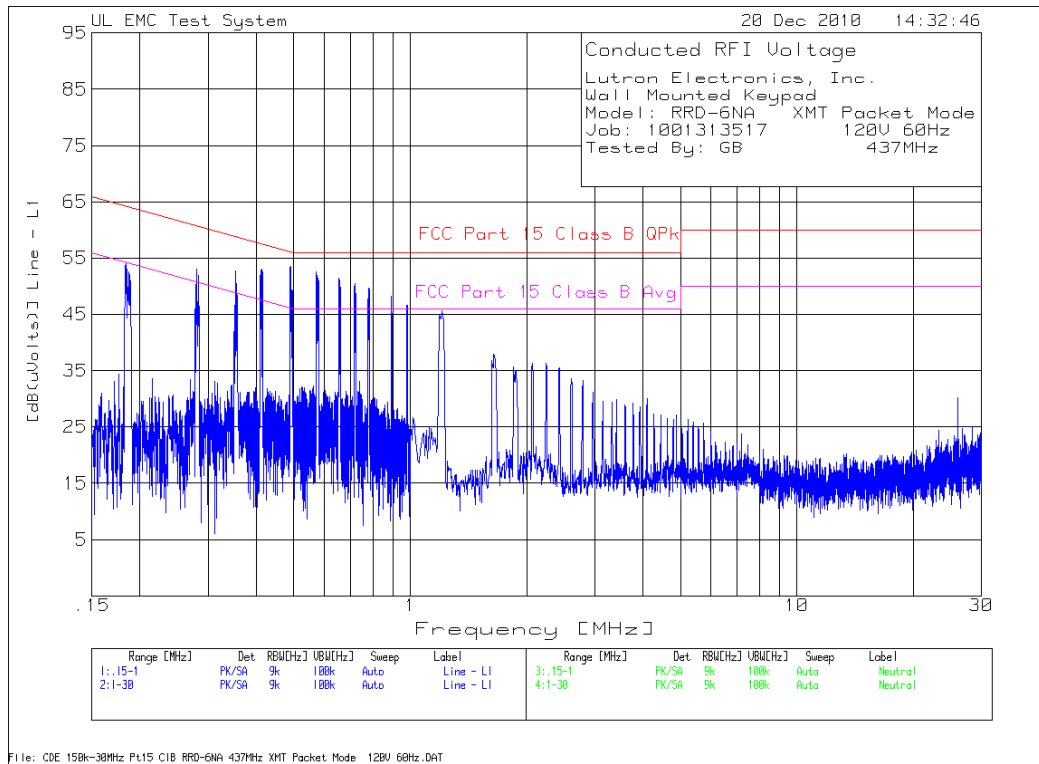
NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

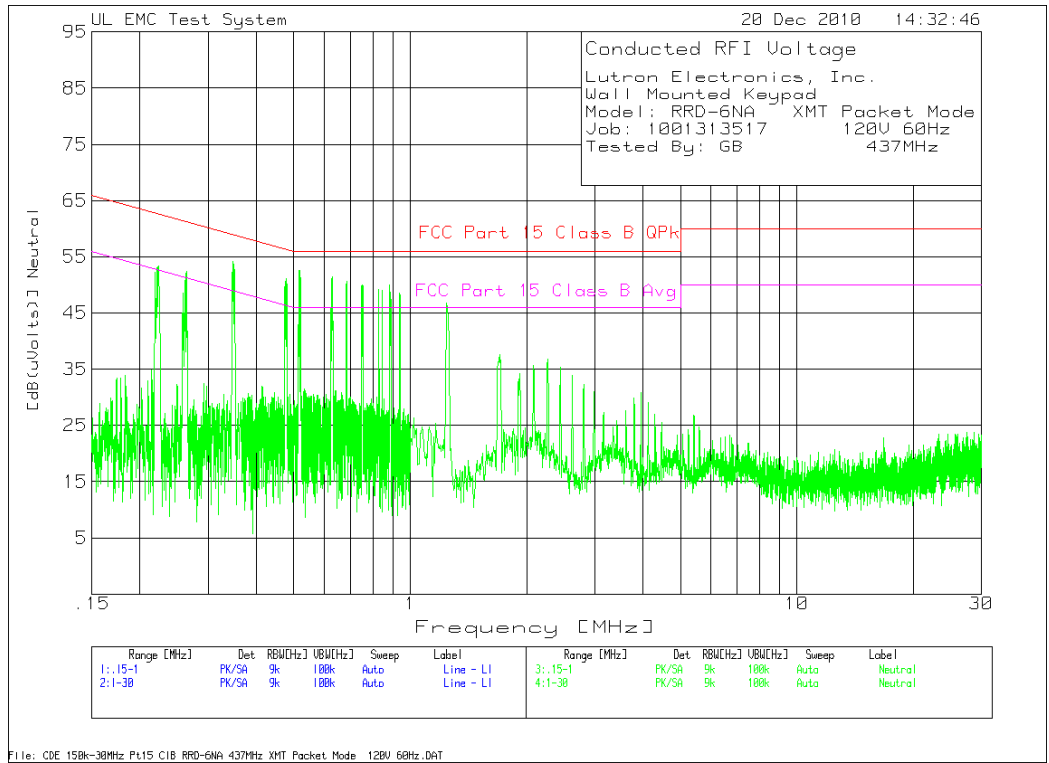
LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection



**Figure 5 Conducted Emissions Graph – XMT Packet Mode (437MHz)**





**Table 6 Conducted Emissions Data Points – XMT Packet Mode (437MHz)**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.1837	40.85 QP	10	0	50.85	64.3	54.3	-	-	-	-
				Margin [dB]:	-13.45	-3.45	-	-	-	-
.27973	38.29 QP	10	0	48.29	60.8	50.8	-	-	-	-
				Margin [dB]:	-12.51	-2.51	-	-	-	-
.35414	39.85 QP	10	0	49.85	58.9	48.9	-	-	-	-
				Margin [dB]:	-9.05	.95	-	-	-	-
.41368	41.69 QP	10	0	51.69	57.6	47.6	-	-	-	-
				Margin [dB]:	-5.91	4.09	-	-	-	-
.48956	39.35 QP	10	0	49.35	56.2	46.2	-	-	-	-
				Margin [dB]:	-6.85	3.15	-	-	-	-
.57153	38.85 QP	10	0	48.85	56	46	-	-	-	-
				Margin [dB]:	-7.15	2.85	-	-	-	-
.65357	36.77 QP	10	0	46.77	56	46	-	-	-	-
				Margin [dB]:	-9.23	.77	-	-	-	-
.71776	37.78 QP	10	0	47.78	56	46	-	-	-	-
				Margin [dB]:	-8.22	1.78	-	-	-	-
.78175	36.48 QP	10	0	46.48	56	46	-	-	-	-
				Margin [dB]:	-9.52	.48	-	-	-	-
.89479	35.8 QP	10	0	45.8	56	46	-	-	-	-
				Margin [dB]:	-10.2	-.2	-	-	-	-
.98139	33.92 QP	10	0	43.92	56	46	-	-	-	-
				Margin [dB]:	-12.08	-2.08	-	-	-	-
Line - L1 1 - 30MHz										
1.19669	30.93 QP	10.1	0	41.03	56	46	-	-	-	-
				Margin [dB]:	-14.97	-4.97	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Neutral .15 - 1MHz										
.22356	40.11 QP	10.1	0	50.21	62.7	52.7	-	-	-	-
			Margin [dB]:		-12.49	-2.49	-	-	-	-
.26391	40.99 QP	10.1	0	51.09	61.3	51.3	-	-	-	-
			Margin [dB]:		-10.21	-.21	-	-	-	-
.34811	40.1 QP	10.1	0	50.2	59	49	-	-	-	-
			Margin [dB]:		-8.8	1.2	-	-	-	-
.47426	39.3 QP	10.1	0	49.4	56.4	46.4	-	-	-	-
			Margin [dB]:		-7	3	-	-	-	-
.5164	38.46 QP	10.1	0	48.56	56	46	-	-	-	-
			Margin [dB]:		-7.44	2.56	-	-	-	-
.62704	37.8 QP	10.1	0	47.9	56	46	-	-	-	-
			Margin [dB]:		-8.1	1.9	-	-	-	-
.68591	37.8 QP	10.1	0	47.9	56	46	-	-	-	-
			Margin [dB]:		-8.1	1.9	-	-	-	-
.75035	37 QP	10.1	0	47.1	56	46	-	-	-	-
			Margin [dB]:		-8.9	1.1	-	-	-	-
.82788	36.18 QP	10.1	0	46.28	56	46	-	-	-	-
			Margin [dB]:		-9.72	.28	-	-	-	-
.84617	35.58 QP	10.1	0	45.68	56	46	-	-	-	-
			Margin [dB]:		-10.32	-.32	-	-	-	-
.88439	35.44 QP	10.1	0	45.54	56	46	-	-	-	-
			Margin [dB]:		-10.46	-.46	-	-	-	-
.9376	33.95 QP	10.1	0	44.05	56	46	-	-	-	-
			Margin [dB]:		-11.95	-1.95	-	-	-	-
Neutral 1 - 30MHz										
1.23767	30.37 QP	10.1	0	40.47	56	46	-	-	-	-
			Margin [dB]:		-15.53	-5.53	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB(uVolts)]	Limit:1	2	3	4	5	6
=====										
Line - L1 .15 - 1MHz										
.1837	20.77 Av	10	0	30.77	64.3	54.3	-	-	-	-
			Margin [dB]:		-33.53	-23.53	-	-	-	-
.27973	17.96 Av	10	0	27.96	60.8	50.8	-	-	-	-
			Margin [dB]:		-32.84	-22.84	-	-	-	-
.35414	20.29 Av	10	0	30.29	58.9	48.9	-	-	-	-
			Margin [dB]:		-28.61	-18.61	-	-	-	-
.41368	20.88 Av	10	0	30.88	57.6	47.6	-	-	-	-
			Margin [dB]:		-26.72	-16.72	-	-	-	-
.48956	20.78 Av	10	0	30.78	56.2	46.2	-	-	-	-
			Margin [dB]:		-25.42	-15.42	-	-	-	-
.57153	20.51 Av	10	0	30.51	56	46	-	-	-	-
			Margin [dB]:		-25.49	-15.49	-	-	-	-
.65357	18.68 Av	10	0	28.68	56	46	-	-	-	-
			Margin [dB]:		-27.32	-17.32	-	-	-	-
.71776	19.63 Av	10	0	29.63	56	46	-	-	-	-
			Margin [dB]:		-26.37	-16.37	-	-	-	-
.78175	18.01 Av	10	0	28.01	56	46	-	-	-	-
			Margin [dB]:		-27.99	-17.99	-	-	-	-
.89479	17.11 Av	10	0	27.11	56	46	-	-	-	-
			Margin [dB]:		-28.89	-18.89	-	-	-	-
.98139	15.86 Av	10	0	25.86	56	46	-	-	-	-
			Margin [dB]:		-30.14	-20.14	-	-	-	-
Line - L1 1 - 30MHz										
1.19669	11.94 Av	10.1	0	22.04	56	46	-	-	-	-
			Margin [dB]:		-33.96	-23.96	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested By: GB 437MHz

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	[dB(uVolts)]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Neutral .15 - 1MHz										
.22356	21.31 Av	10.1	0	31.41	62.7	52.7	-	-	-	-
			Margin [dB]:		-31.29	-21.29	-	-	-	-
.26391	20.38 Av	10.1	0	30.48	61.3	51.3	-	-	-	-
			Margin [dB]:		-30.82	-20.82	-	-	-	-
.34811	21.31 Av	10.1	0	31.41	59	49	-	-	-	-
			Margin [dB]:		-27.59	-17.59	-	-	-	-
.47426	20.88 Av	10.1	0	30.98	56.4	46.4	-	-	-	-
			Margin [dB]:		-25.42	-15.42	-	-	-	-
.5164	19.51 Av	10.1	0	29.61	56	46	-	-	-	-
			Margin [dB]:		-26.39	-16.39	-	-	-	-
.62704	19.38 Av	10.1	0	29.48	56	46	-	-	-	-
			Margin [dB]:		-26.52	-16.52	-	-	-	-
.68591	19.97 Av	10.1	0	30.07	56	46	-	-	-	-
			Margin [dB]:		-25.93	-15.93	-	-	-	-
.75035	18.72 Av	10.1	0	28.82	56	46	-	-	-	-
			Margin [dB]:		-27.18	-17.18	-	-	-	-
.82788	18.64 Av	10.1	0	28.74	56	46	-	-	-	-
			Margin [dB]:		-27.26	-17.26	-	-	-	-
.84617	17.78 Av	10.1	0	27.88	56	46	-	-	-	-
			Margin [dB]:		-28.12	-18.12	-	-	-	-
.88439	16.8 Av	10.1	0	26.9	56	46	-	-	-	-
			Margin [dB]:		-29.1	-19.1	-	-	-	-
.9376	15.75 Av	10.1	0	25.85	56	46	-	-	-	-
			Margin [dB]:		-30.15	-20.15	-	-	-	-
Neutral 1 - 30MHz										
1.23767	11.68 Av	10.1	0	21.78	56	46	-	-	-	-
			Margin [dB]:		-34.22	-24.22	-	-	-	-

NOTE: "+" - Indicates an emission level in excess of the applicable limit (s).

LIMIT 1: FCC Part 15 Class B QPk  
 LIMIT 2: FCC Part 15 Class B Avg

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - average log detection  
 Av - average detection  
 CAV - CISPR average detection  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Job Number: 1001313517 File Number: MC15896 Page 39 of 89  
Model Number: RRD-6NA  
Client Name: LUTRON ELECTRONICS INC  
FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

**4.2 Test Conditions and Results – Occupied Bandwidth**

Test Description	Measurements were made in the laboratory environment. A Dipole (or equivalent) antenna tuned to the transmit frequency was attached to the input of a spectrum analyzer. The device was operated and the spectrum analyzer resolution bandwidth set per the appropriate standard.
Basic Standard	FCC Part 15, Subpart C, 15.215; ANSI C63.10:2009, RSS-GEN
<b>Occupied Bandwidth Limits</b>	
0.25% of Fundamental	

**Table 7 Occupied Bandwidth Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
1	1	2
Supplementary information: None		

**Table 8 Occupied Bandwidth Spectrum Analyzer Settings**

Resolution Bandwidth (MHz)	Occupied Bandwidth Requirements	
	dBc	%
10kHz	-20	99
Supplementary information: None		

**Table 9 Occupied Bandwidth Test Equipment**

<b>Test Equipment Used</b>					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2010-01-12	2011-02-12
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2011-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	87III	ME5B-218	2010-02-01	2011-02-01



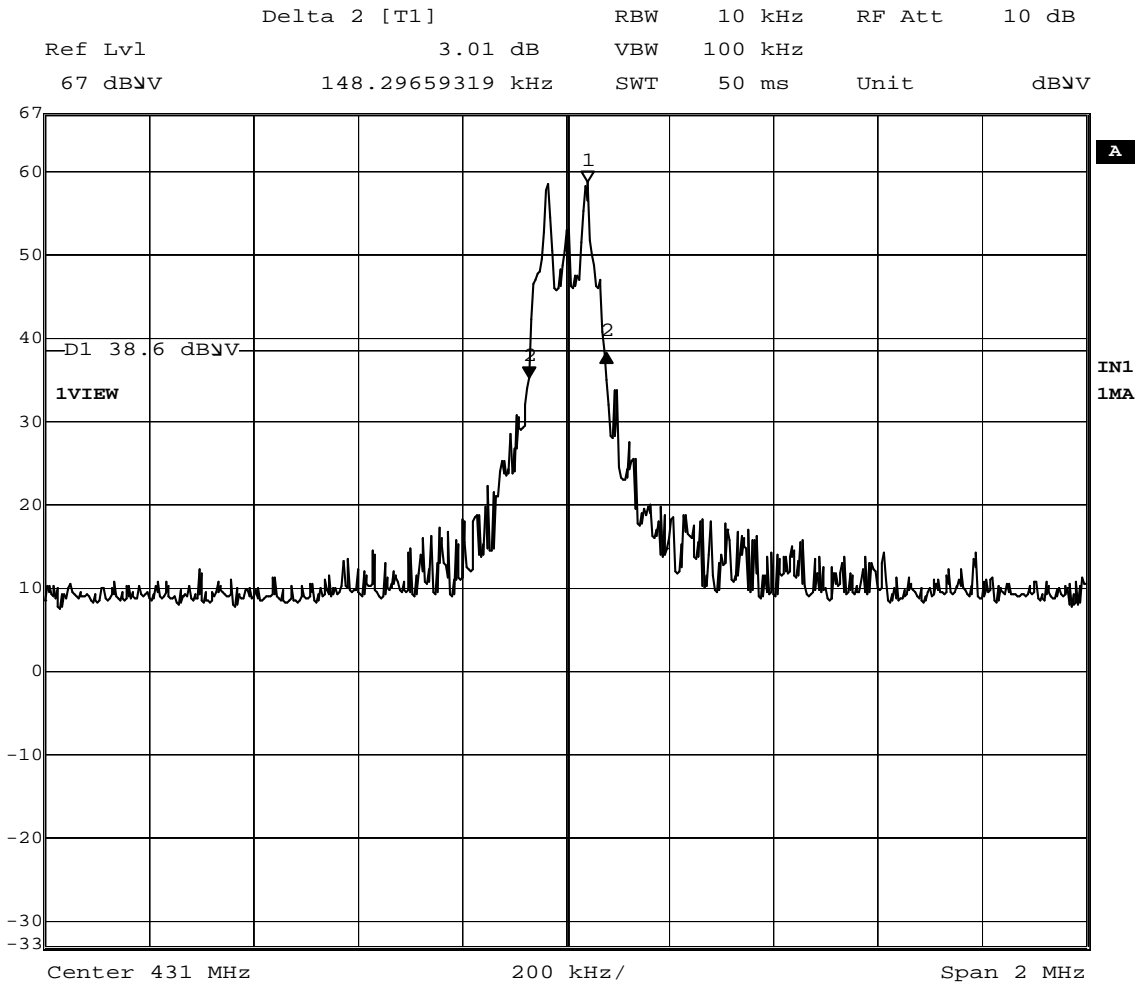
**Figure 6 Test Setup for Occupied Bandwidth**



**Table 10 Occupied Bandwidth Test Equipment**

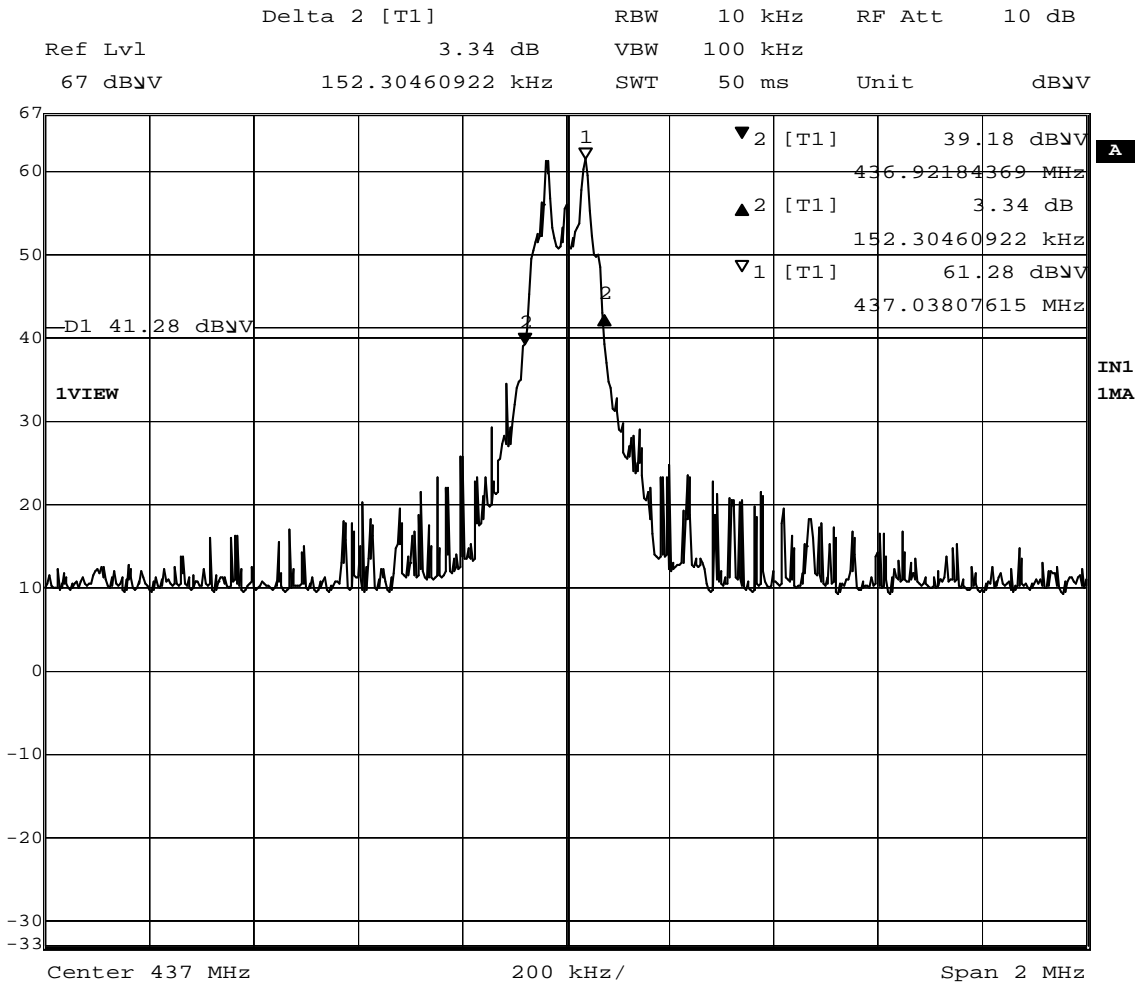
Power Mode	Frequency (MHz)	20dB OBW (kHz)	99% OBW (kHz)	Limit (MHz)	Result
AC	431	148.3	140.3	1.08	Pass
AC	437	152.3	140.3	1.09	Pass

**Figure 7 Occupied Bandwidth Graph – 431MHz 20dB**



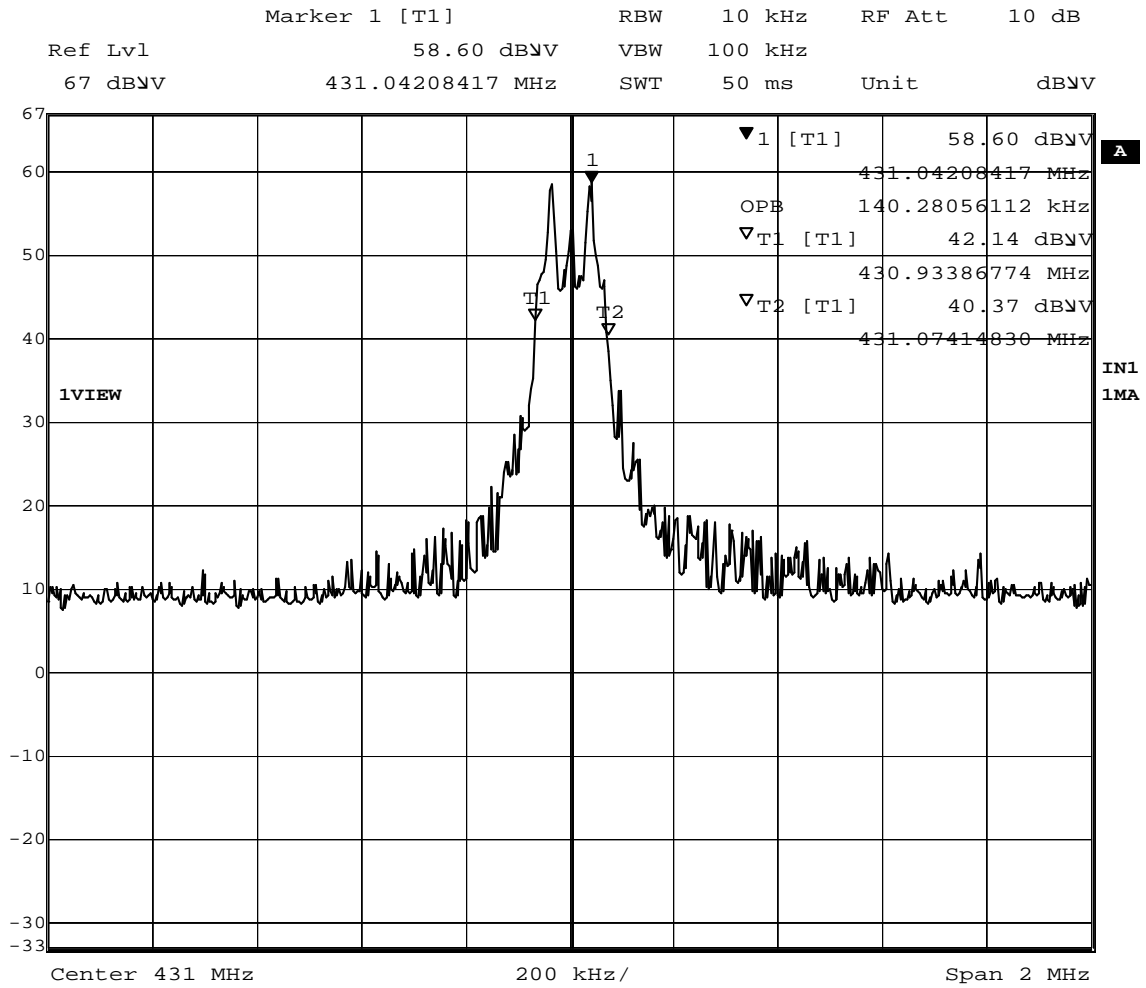
Date: 22.DEC.2010 07:26:36

Figure 8 Occupied Bandwidth Graph – 437MHz 20dB



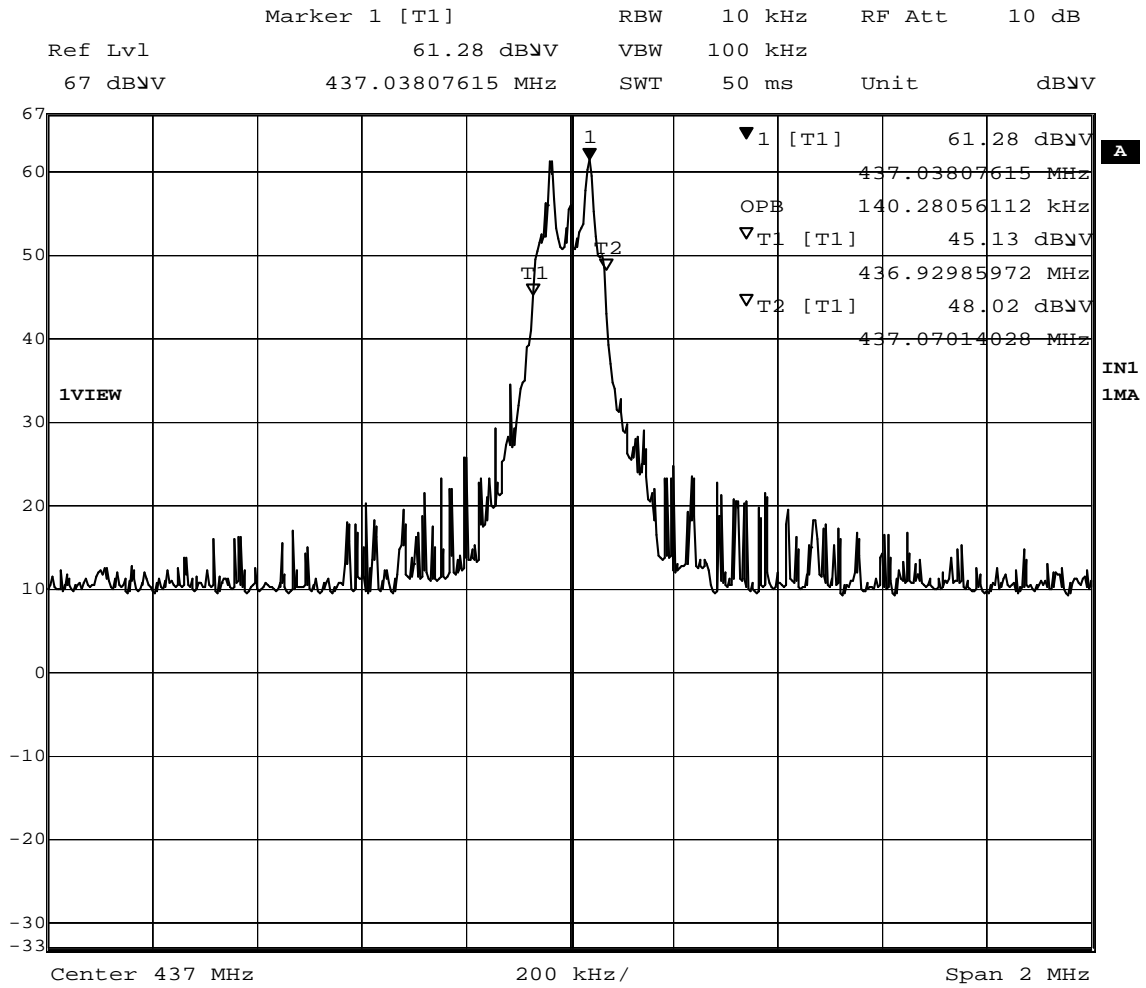
Date: 22.DEC.2010 07:30:42

**Figure 9 Occupied Bandwidth Graph – 431MHz 99 Percent**



Date: 22.DEC.2010 07:27:16

**Figure 10 Occupied Bandwidth Graph – 437MHz 99 Percent**



Date: 22.DEC.2010 07:31:04

**4.3 Test Conditions and Results – Cease Operation**

Test Description	Measurements were made in the laboratory environment. A Dipole (or equivalent) antenna tuned to the transmit frequency was attached to the input of a spectrum analyzer. The device was operated and the transmission time measured with the spectrum analyzer set to zero span at the fundamental frequency.
Basic Standard	FCC Part 15, Subpart C, 15.215; ANSI C63.10:2009, RSS-GEN
<b>Cease Operation Limits</b>	
The transmissions shall stop within 5 seconds of either a button being released or if automatically controlled transmissions shall be stopped 5 seconds after transmissions begin.	

**Table 11 Cease Operation Configuration Settings**

Power Interface Mode	EUT Configurations Mode	EUT Operation Mode
1	1	5
Supplementary information: None		

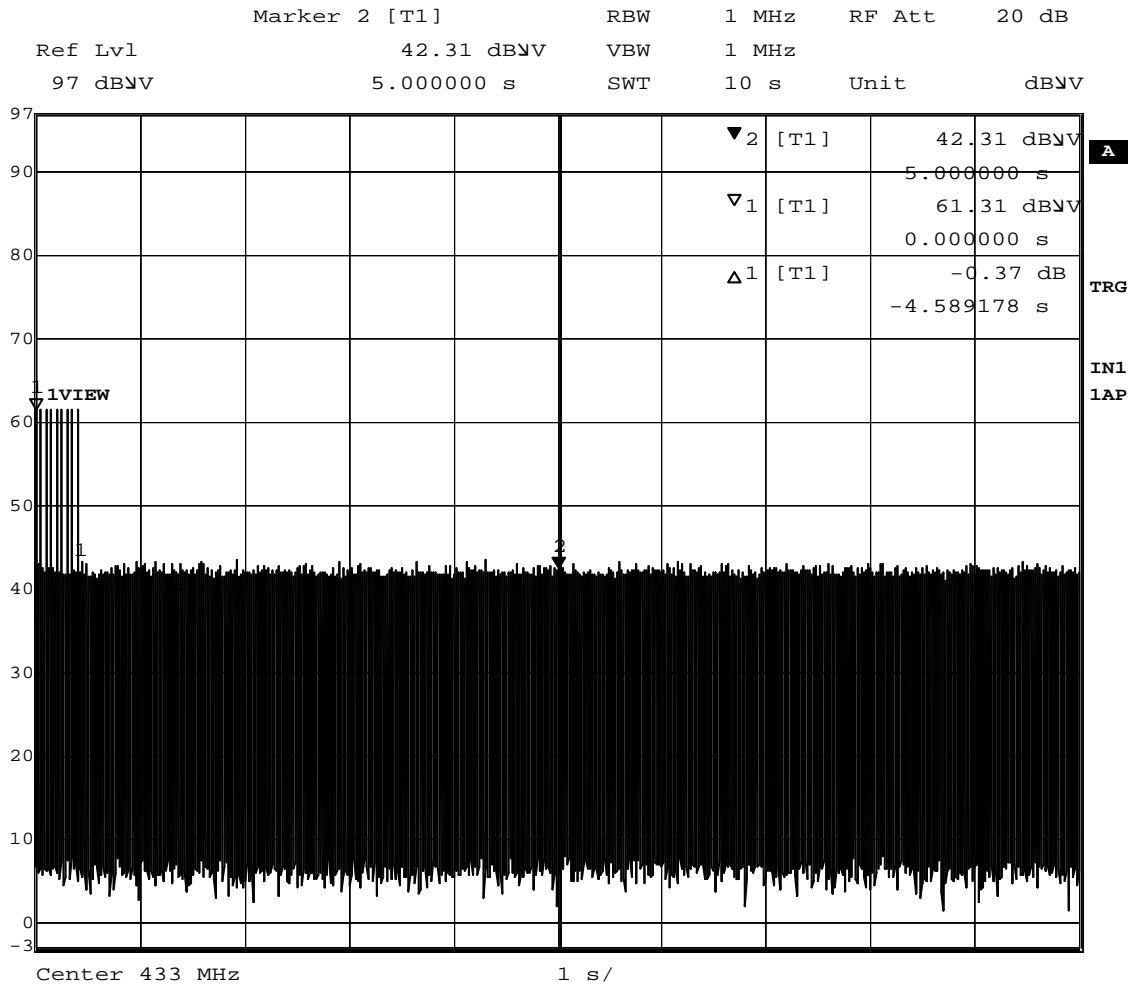
**Table 12 Cease Operation Test Equipment**

<b>Test Equipment Used</b>					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2010-01-12	2011-02-12
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2011-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	87III	ME5B-218	2010-02-01	2011-02-01

**Figure 11 Test Setup for Cease Operation**



**Figure 12 Cease Operation Graph**



Date: 22.DEC.2010 07:37:45



**4.4 Test Conditions and Results – Pulse Train**

Test Description	Measurements were made in the laboratory environment. A Dipole (or equivalent) antenna tuned to the transmit frequency was attached to the input of a spectrum analyzer. The pulse train was measured with the spectrum analyzer set to zero span at the fundamental frequency.	
Basic Standard	FCC Part 15 Subpart A, 15.35	
<b>Pulse Train Limits</b>		
There are no limits for this test. This data is used to calculate the averaging correction factor that is applied to the measured peak radiated emissions results.		

**Table 13 Pulse Train Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	5
Supplementary information: None		

**Table 14 Pulse Train Calculation**

Pulse Width (mS)	Total Transmission time or 100ms which ever is lesser	Average Correction Factor (dB) $20\log\left(\frac{PulseWidth}{TotalTransmissionTime}\right)$
10	100	-20

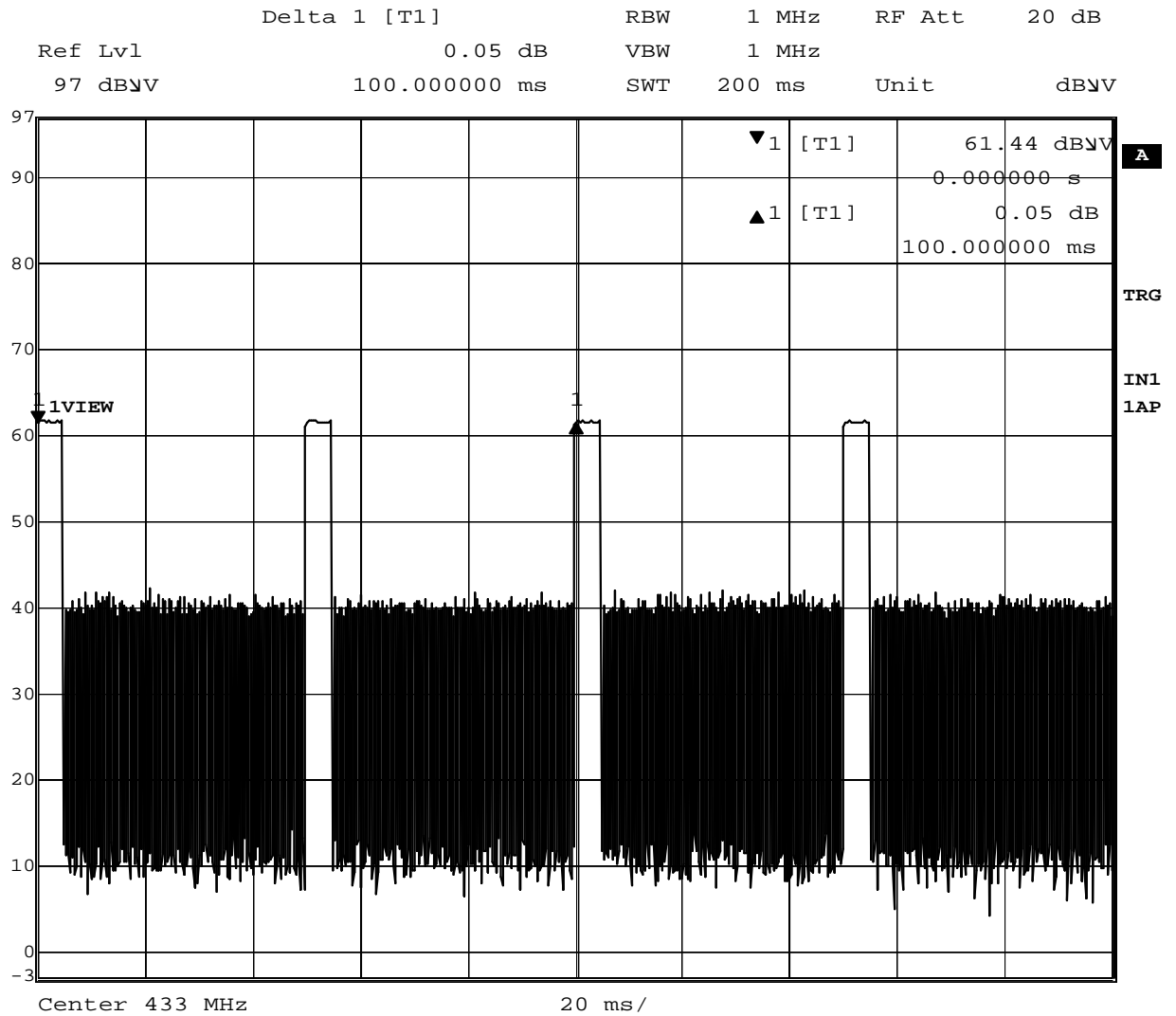
**Table 15 Pulse Train Test Equipment**

<b>Test Equipment Used</b>					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2010-01-12	2011-02-12
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2011-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	87III	ME5B-218	2010-02-01	2011-02-01

**Figure 13 Test Setup for Pulse Train**

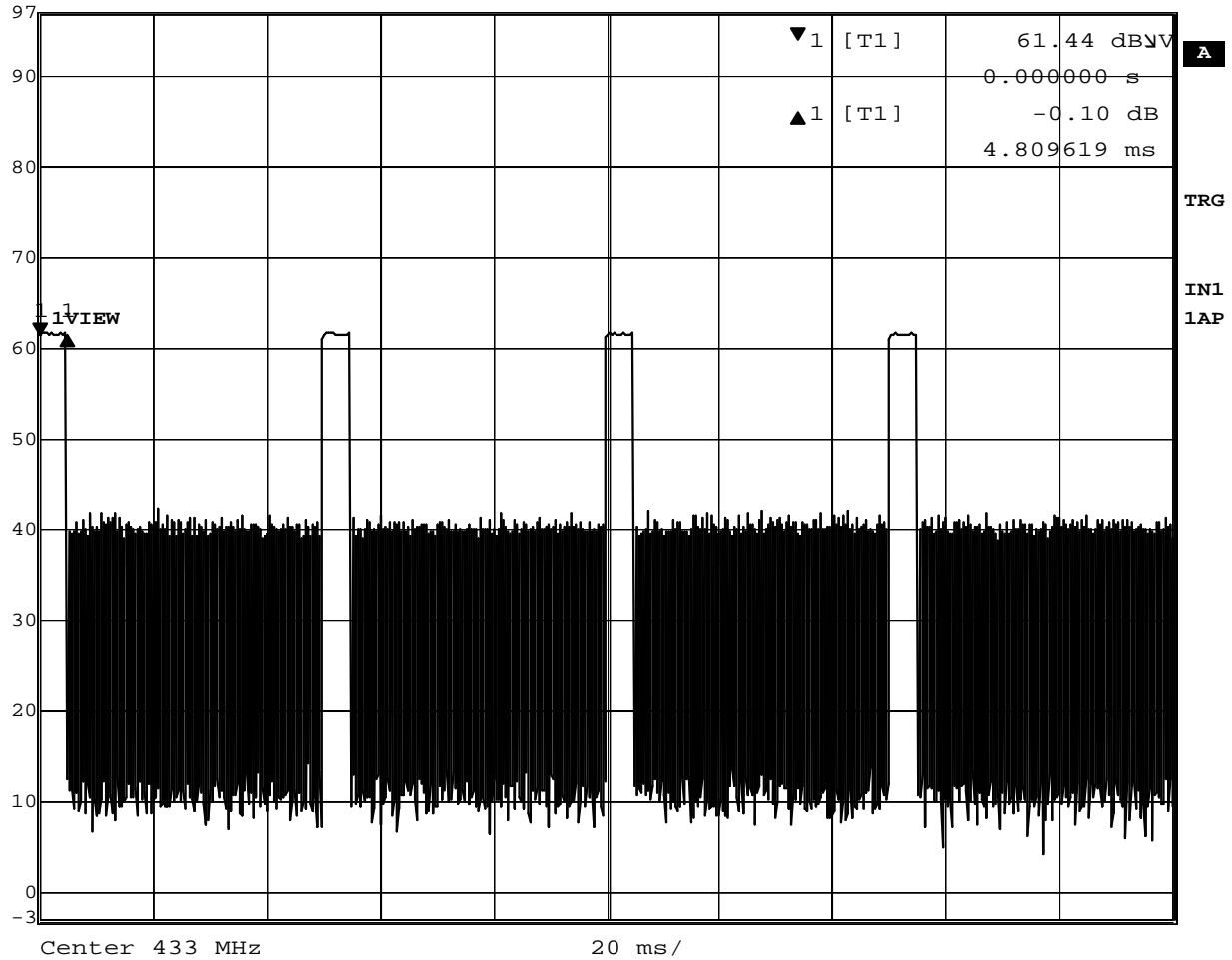


**Figure 14 Pulse Train Graphs – Plots 1, 2 & 3**



Date: 22.DEC.2010 07:48:27

Delta 1 [T1] RBW 1 MHz RF Att 20 dB  
 Ref Lvl -0.10 dB VBW 1 MHz  
 97 dBμV 4.809619 ms SWT 200 ms Unit dBμV



Date: 22.DEC.2010 07:47:11



**4.5 Test Conditions and Results – RADIATED EMISSIONS - Intentional**

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4:2003. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 3-meters below 1GHz and 4-meters above 1GHz. 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.		
Basic Standard	FCC Part 15, Subpart C, 15.209, 15.231; RSS-210		
UL LPG	80-EM-S0029		
	Frequency range	Measurement Point	
Fully configured sample scanned over the following frequency range	30 MHz – 1GHz	(3 meter measurement distance)	
Fully configured sample scanned over the following frequency range	1GHz – 5 GHz	(4 meter measurement distance)	
<b>Limits</b>			
Frequency (MHz)	Limit (dBµV/m)		
	Quasi-Peak	Average	
	General Emissions	Fundamental	Spurious
0.009 – 0.490	128.5 – 93.8	-	-
0.490 – 1.705	73.8 – 63	-	-
1.705 – 30	69.5	-	-
30 – 88	40	-	-
88 – 216	43.5	-	-
216-960	46	-	-
960-1000	54	-	-
1000-10000	-	-	51.5*
431	-	80.7	-
437	-	80.9	-
Harmonics of the Fundamental 431	-	-	60.7 @ 3-meters 58.2 @ 4-meters*
Harmonics of the Fundamental 437	-	-	60.9 @ 3-meters 58.4 @ 4-meters*
Supplementary information: Spurious limits are only applied against products of the transmitter. All other emissions must meet the general limits. Emissions of clocks and associated harmonics below 30MHz do not fall in restricted bands.			
* Limits above 1GHz have been reduced by 2.5dB to account for the 4-meter measurement distance.			

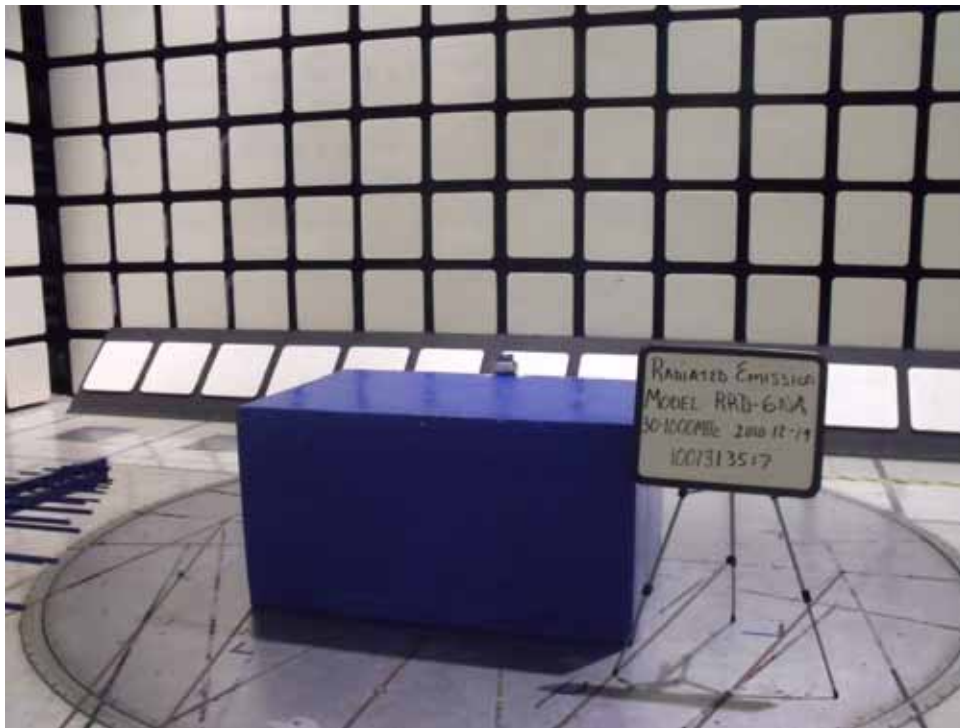
**Table 16 Radiated Emissions EUT Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	1
1	1	2
Supplementary information: None		

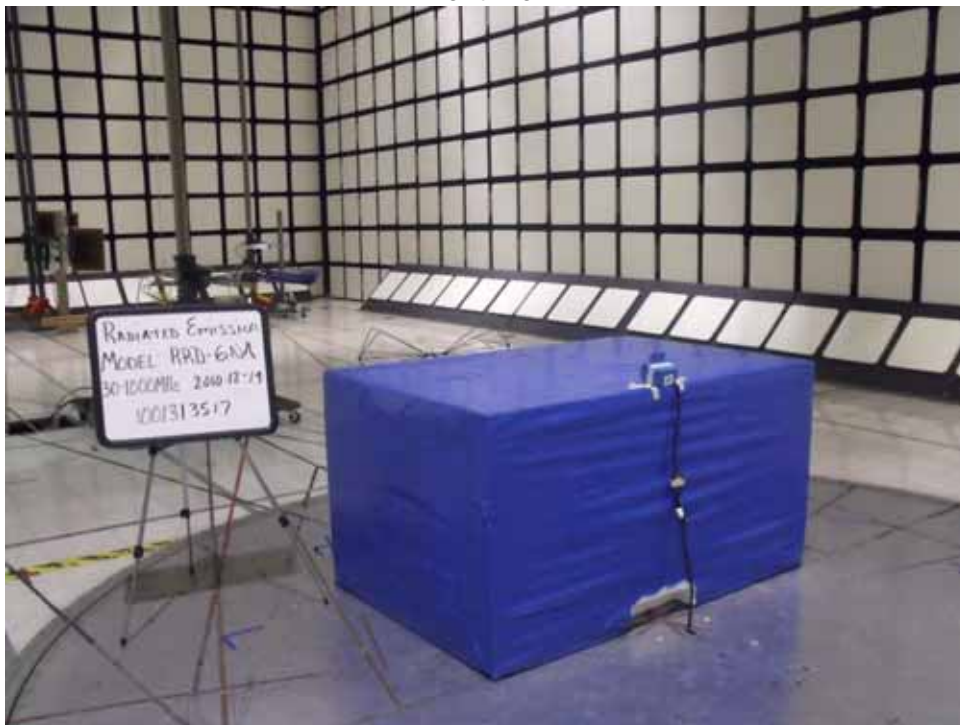
**Table 17 Radiated Emissions Test Equipment**

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2010-02-22	22 Feb 11
Bicon Antenna	Schaffner	VBA6106A	43441	2010-09-09	2011-09-09
Log-P Antenna	Schaffner	UPA6109	44067	2010-04-26	2011-04-26
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-02-01	2011-02-01
Multimeter	Fluke	83III	ME5B-305	2010-08-03	2012-08-03
Above 1GHz (Band Optimized System)					
Spectrum Analyzer	Agilent	E7405A	19695	2010-02-01	2011-02-01
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	N/A	N/A
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	N/A	N/A
Horn Antenna (4-8 GHz)	ETS	3161-03	48106	N/A	N/A
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-02-01	2011-02-01
Multimeter	Fluke	83III	ME5B-305	2010-08-03	2012-08-03

**Figure 15 Test setup for Radiated Emissions – XMT Mode**

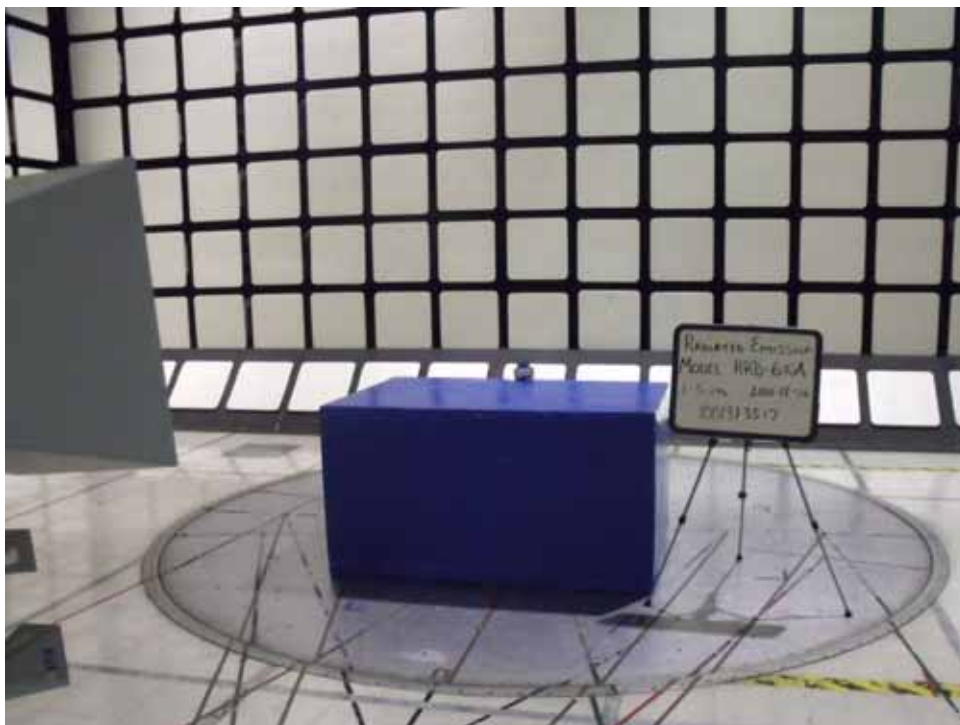


**Front View**



**Rear View**



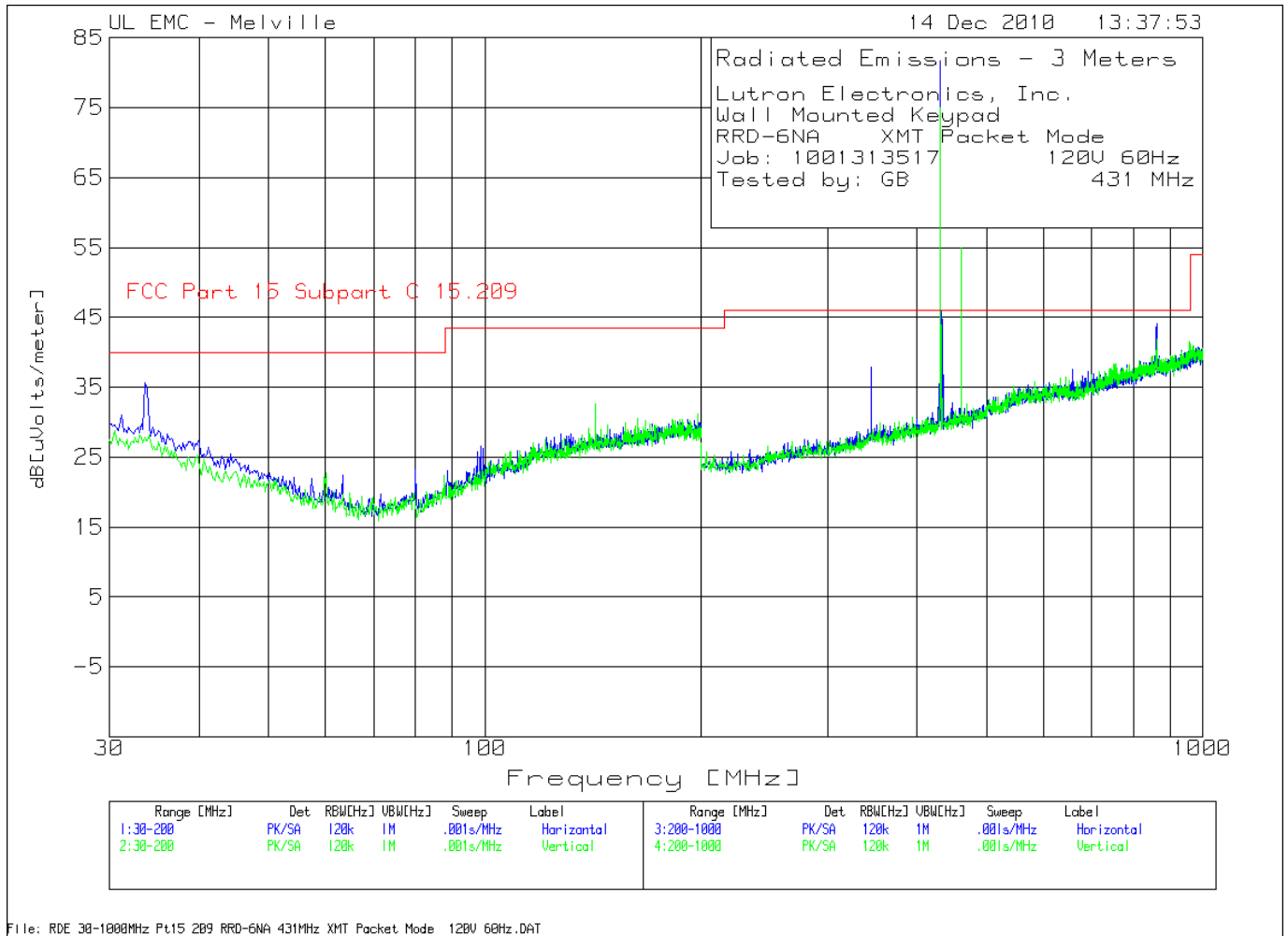


Front View



Rear View

**Figure 16 Radiated Emissions Graph**



**Table 18 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Horizontal 30 - 200MHz -----											
1	33.5736	17.99 PK	.3	17.3	35.59	40	-	-	-	-	-
				Margin [dB]		-4.41	-	-	-	-	-
-----											
Horizontal 200 - 1000MHz -----											
2	430.9155	63.64 PK	1.2	16.8	81.64	46	-	-	-	-	-
				Margin [dB]		35.64	-	-	-	-	-
3	432.5163	26.32 PK	1.2	16.9	44.42	46	-	-	-	-	-
				Margin [dB]		-1.58	-	-	-	-	-
4	434.5173	26.77 PK	1.1	16.9	44.77	46	-	-	-	-	-
				Margin [dB]		-1.23	-	-	-	-	-
5	862.3312	19.37 PK	1.6	23.1	44.07	46	-	-	-	-	-
				Margin [dB]		-1.93	-	-	-	-	-
-----											
Vertical 200 - 1000MHz -----											
6	430.9155	57.42 PK	1.2	16.4	75.02	46	-	-	-	-	-
				Margin [dB]		29.02	-	-	-	-	-
7	460.9305	36.57 PK	1.2	17.1	54.87	46	-	-	-	-	-
				Margin [dB]		8.87	-	-	-	-	-
8	862.3312	17.19 PK	1.6	23.1	41.89	46	-	-	-	-	-
				Margin [dB]		-4.11	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector  
 QP - Quasi-Peak detector

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

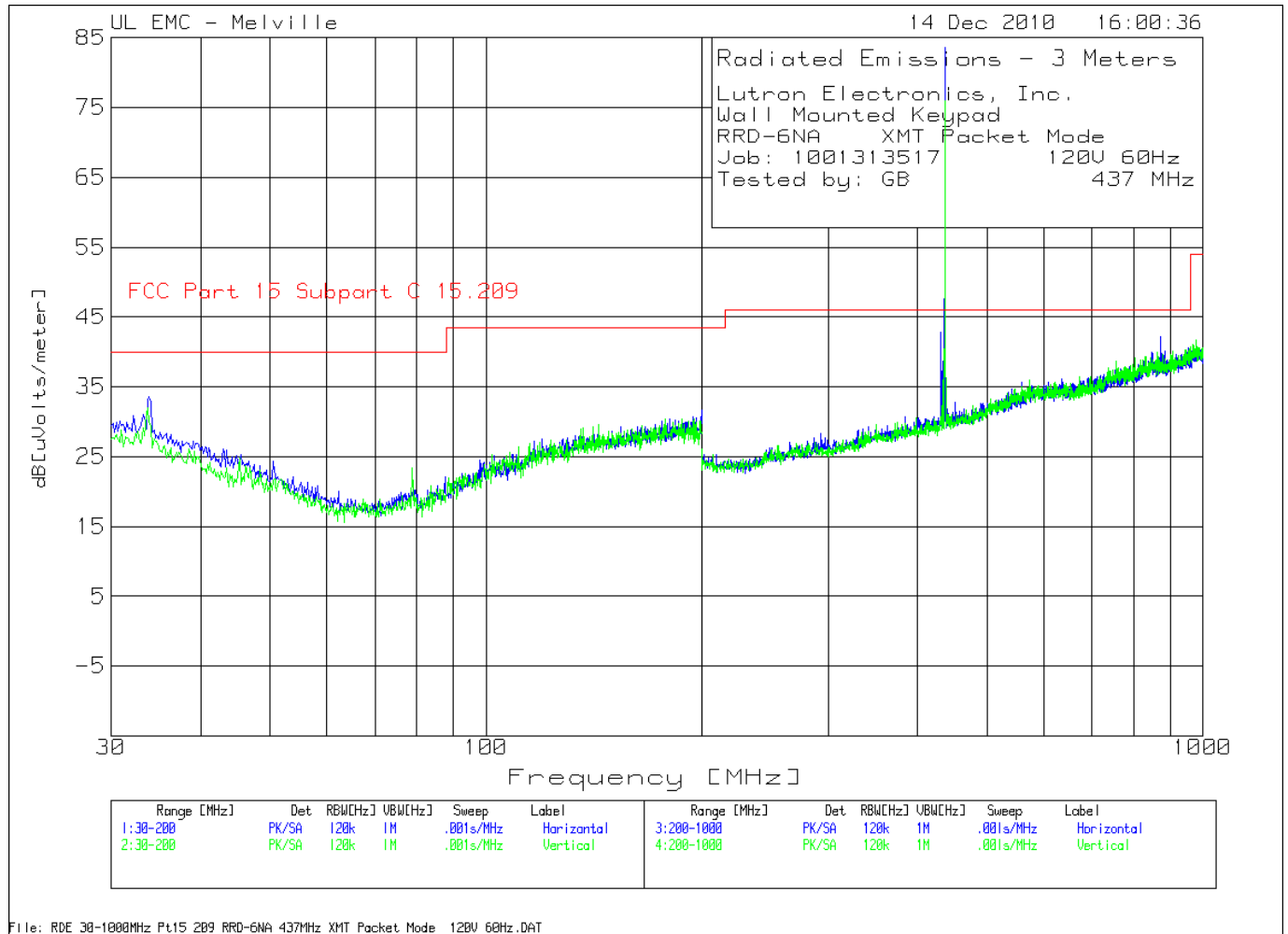
Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
=====										
Horizontal 30 - 200MHz										
33.58	6.98 QP	.3	17.3	24.58	40	-	-	-	-	-
Azimuth: 147 Height:400 Horz					Margin [dB]:	-15.42	-	-	-	-
Horizontal 200 - 1000MHz										
431	65.38 PK	1.2	16.8	63.38*	-	80.7	-	-	-	-
Azimuth: 35 Height:224 Horz					Margin [dB]:	-	-17.32	-	-	-
432.5	8.68 QP	1.2	16.9	26.78	46	-	-	-	-	-
Azimuth: 319 Height:263 Horz					Margin [dB]:	-19.22	-	-	-	-
434.5	6.71 QP	1.1	16.9	24.71	46	-	-	-	-	-
Azimuth: 40 Height:169 Horz					Margin [dB]:	-21.29	-	-	-	-
862.3	7.84 QP	1.6	23.1	32.54	46	-	-	-	-	-
Azimuth: 81 Height:109 Horz					Margin [dB]:	-13.46	-	-	-	-
Vertical 200 - 1000MHz										
431	59.55 PK	1.2	16.4	57.15*	-	80.7	-	-	-	-
Azimuth: 285 Height:112 Vert					Margin [dB]:	-	-23.55	-	-	-
460.8151	6.51 QP	1.2	17.1	24.81	46	-	-	-	-	-
Azimuth: 168 Height:368 Vert					Margin [dB]:	-21.19	-	-	-	-
862.3445	7.72 QP	1.6	23.1	32.42	46	-	-	-	-	-
Azimuth: 58 Height:379 Vert					Margin [dB]:	-13.58	-	-	-	-
862.5194	15.11 PK	1.6	23	39.71	46	-	-	-	-	-
Azimuth: 58 Height:379 Vert					Margin [dB]:	-6.29	-	-	-	-

**\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)**

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

- PK - Peak detector (Maximized)
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection

**Figure 17 Radiated Emissions Graph**



**Table 19 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Horizontal 30 - 200MHz -----											
1	33.9139	16.19 PK	.3	17.1	33.59	40	-	-	-	-	-
				Margin [dB]		-6.41	-	-	-	-	-
-----											
Horizontal 200 - 1000MHz -----											
2	431.3157	24.82 PK	1.2	16.8	42.82	46	-	-	-	-	-
				Margin [dB]		-3.18	-	-	-	-	-
3	434.9175	29.6 PK	1.1	16.9	47.6	46	-	-	-	-	-
				Margin [dB]		1.6	-	-	-	-	-
4	436.9185	65.6 PK	1.1	16.9	83.6	46	-	-	-	-	-
				Margin [dB]		37.6	-	-	-	-	-
7	874.3372	17.6 PK	1.6	23	42.2	46	-	-	-	-	-
				Margin [dB]		-3.8	-	-	-	-	-
-----											
Vertical 200 - 1000MHz -----											
5	433.3167	18.26 PK	1.2	16.5	35.96	46	-	-	-	-	-
				Margin [dB]		-10.04	-	-	-	-	-
6	436.9185	58.19 PK	1.1	16.6	75.89	46	-	-	-	-	-
				Margin [dB]		29.89	-	-	-	-	-
8	958.7794	14.22 PK	1.7	24.5	40.42	46	-	-	-	-	-
				Margin [dB]		-5.58	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector  
 QP - Quasi-Peak detector

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

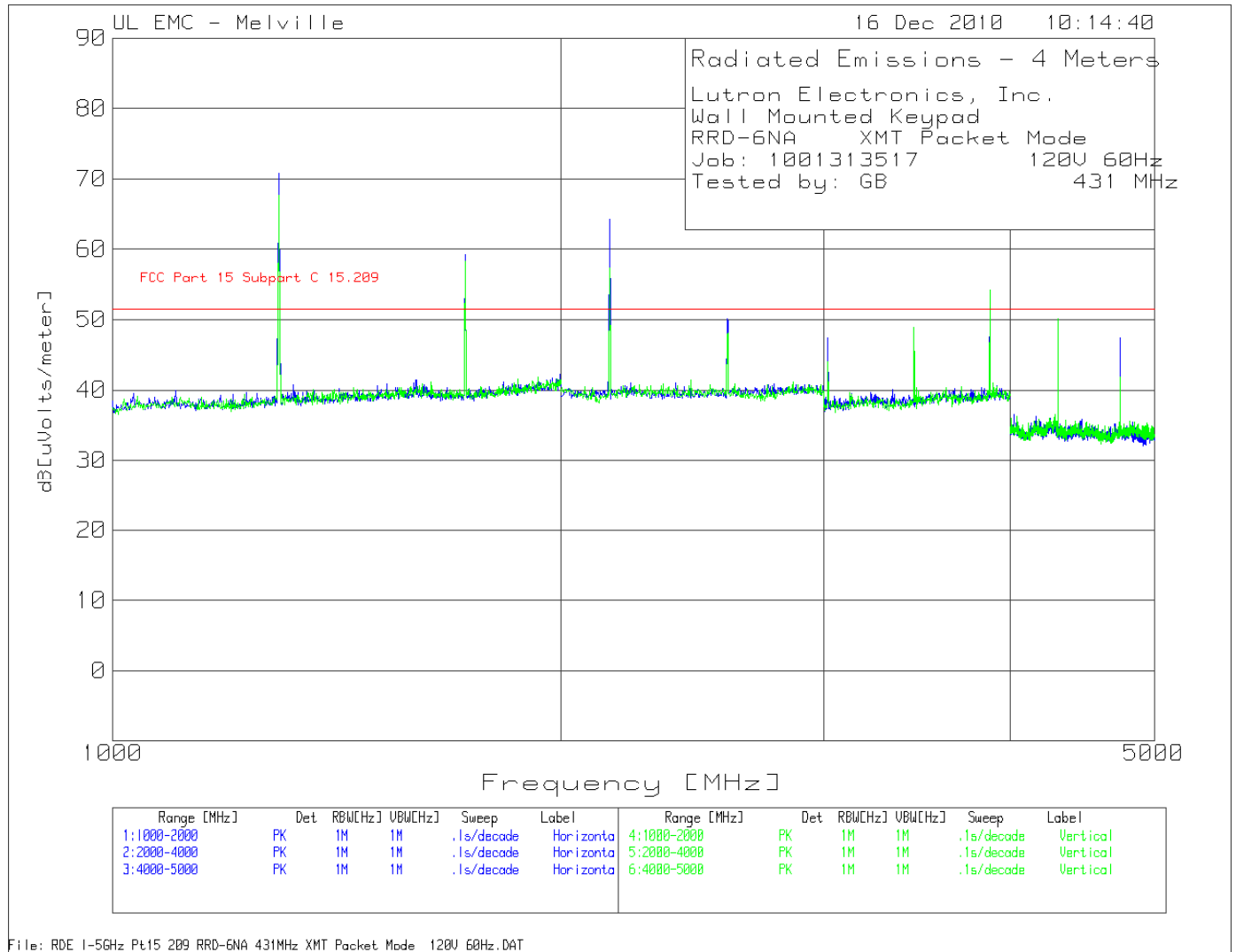
Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Horizontal 200 - 1000MHz										
431.3	6.65 QP	1.2	16.8	24.65	46	-	-	-	-	-
Azimuth: 229 Height:301 Horz					Margin [dB]:	-21.35	-	-	-	-
434.9	8.41 QP	1.1	16.9	26.41	46	-	-	-	-	-
Azimuth: 242 Height:203 Horz					Margin [dB]:	-19.59	-	-	-	-
436.9539	67.9 PK	1.1	16.9	65.9*	-	80.9	-	-	-	-
Azimuth: 335 Height:213 Horz					Margin [dB]:	-15.00	-	-	-	-
874.3388	12.31 PK	1.6	23	36.91	46	-	-	-	-	-
Azimuth: 20 Height:189 Horz					Margin [dB]:	-9.09	-	-	-	-
874.3388	7.78 QP	1.6	23	32.38	46	-	-	-	-	-
Azimuth: 20 Height:189 Horz					Margin [dB]:	-13.62	-	-	-	-
Vertical 200 - 1000MHz										
433.3	22.45 PK	1.2	16.5	40.15	46	-	-	-	-	-
Azimuth: 224 Height:105 Vert					Margin [dB]:	-5.85	-	-	-	-
436.9	59.41 PK	1.1	16.6	57.11*	-	80.9	-	-	-	-
Azimuth: 286 Height:112 Vert					Margin [dB]:	-23.79	-	-	-	-
958.7	8.01 QP	1.7	24.4	34.11	46	-	-	-	-	-
Azimuth: 297 Height:344 Vert					Margin [dB]:	-11.89	-	-	-	-

**\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)**

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

- PK - Peak detector (Maximized)
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection

**Figure 18 Test setup for Radiated Emissions**





**Table 20 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Horizontal 1000 - 2000MHz -----											
1	1292.135	95.53 PK	-45.13	20.4	70.8	51.5	-	-	-	-	-
		Height:100	Horz	Margin [dB]		19.3	-	-	-	-	-
2	1724.095	82.89 PK	-44.38	20.8	59.31	51.5	-	-	-	-	-
		Height:250	Horz	Margin [dB]		7.81	-	-	-	-	-
-----											
Horizontal 2000 - 4000MHz -----											
3	2154.806	87.04 PK	-44.21	21.4	64.23	51.5	-	-	-	-	-
		Height:100	Horz	Margin [dB]		12.73	-	-	-	-	-
4	2584.27	72.33 PK	-43.49	21.3	50.14	51.5	-	-	-	-	-
		Height:249	Horz	Margin [dB]		-1.36	-	-	-	-	-
5	3018.727	68.92 PK	-42.94	21.5	47.48	51.5	-	-	-	-	-
		Height:249	Horz	Margin [dB]		-4.02	-	-	-	-	-
6	3448.19	64.7 PK	-42.96	22.1	43.84	51.5	-	-	-	-	-
		Height:249	Horz	Margin [dB]		-7.66	-	-	-	-	-
7	3880.15	74.25 PK	-42.94	22.6	53.91	51.5	-	-	-	-	-
		Height:249	Horz	Margin [dB]		2.41	-	-	-	-	-
-----											
Horizontal 4000 - 5000MHz -----											
8	4309.484	71.19 PK	-52.64	27.7	46.25	51.5	-	-	-	-	-
		Height:100	Horz	Margin [dB]		-5.25	-	-	-	-	-
9	4742.097	73.53 PK	-53.29	27.2	47.44	51.5	-	-	-	-	-
		Height:100	Horz	Margin [dB]		-4.06	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Vertical 1000 - 2000MHz -----											
10	1292.135	92.38 PK	-45.13	20.4	67.65	51.5	-	-	-	-	-
		Height:100 Vert		Margin [dB]		16.15	-	-	-	-	-
11	1724.095	81.94 PK	-44.38	20.8	58.36	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		6.86	-	-	-	-	-
-----											
Vertical 2000 - 4000MHz -----											
12	2154.806	80.55 PK	-44.21	21	57.34	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		5.84	-	-	-	-	-
13	2586.767	70.08 PK	-43.49	21.5	48.09	51.5	-	-	-	-	-
		Height:100 Vert		Margin [dB]		-3.41	-	-	-	-	-
14	3018.727	65.3 PK	-42.94	21.7	44.06	51.5	-	-	-	-	-
		Height:100 Vert		Margin [dB]		-7.44	-	-	-	-	-
15	3448.19	69.65 PK	-42.96	22.2	48.89	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		-2.61	-	-	-	-	-
16	3877.653	74.58 PK	-42.94	22.6	54.24	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		2.74	-	-	-	-	-
-----											
Vertical 4000 - 5000MHz -----											
17	4309.484	75 PK	-52.64	27.8	50.16	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		-1.34	-	-	-	-	-
18	4742.097	68.08 PK	-53.29	27.1	41.89	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		-9.61	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

- PK - Peak detector
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
Horizontal 1000 - 2000MHz										
1293	97.06 PK	-45.16	20.5	52.4*	-	58.2	-	-	-	-
Azimuth: 146 Height:221 Horz					Margin [dB]:	-5.8	-	-	-	-
1724	84.43 PK	-44.39	20.8	40.84*	-	58.2	-	-	-	-
Azimuth: 252 Height:338 Horz					Margin [dB]:	-17.36	-	-	-	-
Horizontal 2000 - 4000MHz										
2155.35	84.63 PK	-44.21	21.4	41.82*	-	58.2	-	-	-	-
Azimuth: 229 Height:340 Horz					Margin [dB]:	-16.38	-	-	-	-
2585.7	71.19 PK	-43.5	21.3	48.99	-	58.2	-	-	-	-
Azimuth: 224 Height:317 Horz					Margin [dB]:	-9.21	-	-	-	-
3017.455	66.72 PK	-42.94	21.5	45.28	51.5	-	-	-	-	-
Azimuth: 106 Height:313 Horz					Margin [dB]:	-6.22	-	-	-	-
3448	69.81 PK	-42.96	22.1	48.95	51.5	-	-	-	-	-
Azimuth: 136 Height:380 Horz					Margin [dB]:	-2.55	-	-	-	-
3879.675	73.72 PK	-42.94	22.6	33.38*	51.5	-	-	-	-	-
Azimuth: 239 Height:344 Horz					Margin [dB]:	-18.12	-	-	-	-
Horizontal 4000 - 5000MHz										
4309.784	67.55 PK	-52.63	27.7	42.62	51.5	-	-	-	-	-
Azimuth: 253 Height:296 Horz					Margin [dB]:	-8.88	-	-	-	-
4741.7625	67.47 PK	-53.29	27.2	41.38	51.5	-	-	-	-	-
Azimuth: 267 Height:216 Horz					Margin [dB]:	-10.12	-	-	-	-

\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

PK - Peak detector (Maximized)  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

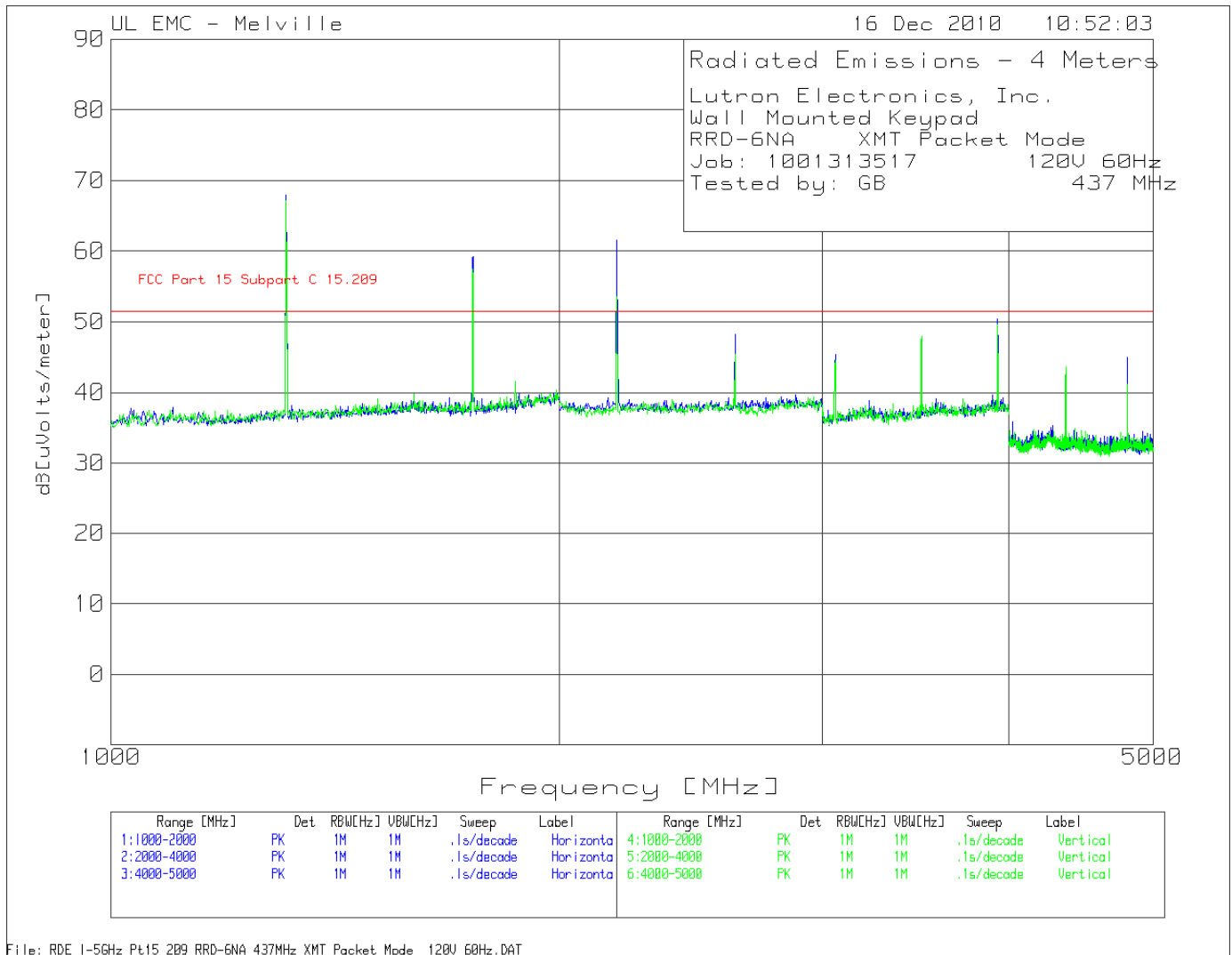
Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Vertical 1000 - 2000MHz										
1292	79.5 PK	-45.13	20.4	34.77*	-	58.2	-	-	-	-
Azimuth: 55	Height:165	Vert		Margin [dB]:	-	-23.43	-	-	-	-
1724.0004	79.68 PK	-44.38	20.8	56.1	-	58.2	-	-	-	-
Azimuth: 176	Height:169	Vert		Margin [dB]:	-	-2.1	-	-	-	-
Vertical 2000 - 4000MHz										
2154.675	77.53 PK	-44.22	21	54.31	-	58.2	-	-	-	-
Azimuth: 236	Height:374	Vert		Margin [dB]:	-	-3.89	-	-	-	-
2586	71.96 PK	-43.49	21.5	49.97	-	58.2	-	-	-	-
Azimuth: 160	Height:204	Vert		Margin [dB]:	-	-8.23	-	-	-	-
3017.2375	68.02 PK	-42.94	21.7	46.78	51.5	-	-	-	-	-
Azimuth: 119	Height:366	Vert		Margin [dB]:	-4.72	-	-	-	-	-
3448	69.58 PK	-42.96	22.2	48.82	51.5	-	-	-	-	-
Azimuth: 233	Height:329	Vert		Margin [dB]:	-2.68	-	-	-	-	-
3879.6625	71.15 PK	-42.94	22.6	50.81	51.5	-	-	-	-	-
Azimuth: 319	Height:289	Vert		Margin [dB]:	-0.69	-	-	-	-	-
Vertical 4000 - 5000MHz										
4309	67.54 PK	-52.64	27.8	42.7	51.5	-	-	-	-	-
Azimuth: 159	Height:395	Vert		Margin [dB]:	-8.8	-	-	-	-	-
4740.775	69 PK	-53.29	27.1	42.81	51.5	-	-	-	-	-
Azimuth: 97	Height:341	Vert		Margin [dB]:	-8.69	-	-	-	-	-

**\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)**

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

PK - Peak detector (Maximized)  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

**Figure 19 Radiated Emissions Graph**



**Table 21 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Horizontal 1000 - 2000MHz -----											
1	1310.861	92.5 PK	-45.09	20.5	67.91	51.5	-	-	-	-	-
		Height:100 Horz		Margin [dB]		16.41	-	-	-	-	-
2	1749.064	82.71 PK	-44.33	20.8	59.18	51.5	-	-	-	-	-
		Height:100 Horz		Margin [dB]		7.68	-	-	-	-	-
-----											
Horizontal 2000 - 4000MHz -----											
3	2184.769	84 PK	-44	21.5	61.5	51.5	-	-	-	-	-
		Height:249 Horz		Margin [dB]		10	-	-	-	-	-
4	2621.723	70.45 PK	-43.56	21.4	48.29	51.5	-	-	-	-	-
		Height:249 Horz		Margin [dB]		-3.21	-	-	-	-	-
5	3061.174	66.81 PK	-42.99	21.6	45.42	51.5	-	-	-	-	-
		Height:249 Horz		Margin [dB]		-6.08	-	-	-	-	-
6	3498.127	66.71 PK	-42.86	22.2	46.05	51.5	-	-	-	-	-
		Height:249 Horz		Margin [dB]		-5.45	-	-	-	-	-
7	3932.584	70.47 PK	-42.81	22.7	50.36	51.5	-	-	-	-	-
		Height:249 Horz		Margin [dB]		-1.14	-	-	-	-	-
-----											
Horizontal 4000 - 5000MHz -----											
8	4370.216	67.3 PK	-52.71	27.6	42.19	51.5	-	-	-	-	-
		Height:100 Horz		Margin [dB]		-9.31	-	-	-	-	-
9	4806.988	71.41 PK	-53.55	27.1	44.96	51.5	-	-	-	-	-
		Height:100 Horz		Margin [dB]		-6.54	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
-----											
Vertical 1000 - 2000MHz											
10	1310.861	91.71 PK	-45.09	20.5	67.12	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		15.62	-	-	-	-	-
11	1747.815	80.98 PK	-44.35	20.8	57.43	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		5.93	-	-	-	-	-
-----											
Vertical 2000 - 4000MHz											
12	2184.769	76.38 PK	-44	21.2	53.58	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		2.08	-	-	-	-	-
13	2621.723	67.61 PK	-43.56	21.4	45.45	51.5	-	-	-	-	-
		Height:100 Vert		Margin [dB]		-6.05	-	-	-	-	-
14	3061.174	65.72 PK	-42.99	21.8	44.53	51.5	-	-	-	-	-
		Height:100 Vert		Margin [dB]		-6.97	-	-	-	-	-
15	3498.127	68.41 PK	-42.86	22.4	47.95	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		-3.55	-	-	-	-	-
16	3932.584	69.76 PK	-42.81	22.7	49.65	51.5	-	-	-	-	-
		Height:249 Vert		Margin [dB]		-1.85	-	-	-	-	-
-----											
Vertical 4000 - 5000MHz											
17	4370.216	68.68 PK	-52.71	27.7	43.67	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		-7.83	-	-	-	-	-
18	4806.988	67.13 PK	-53.55	27.3	40.88	51.5	-	-	-	-	-
		Height:250 Vert		Margin [dB]		-10.62	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart C 15.209

- PK - Peak detector
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Horizontal 1000 - 2000MHz										
1311.6375	89.34 PK	-45.1	20.5	44.74*	51.5	-	-	-	-	-
Azimuth: 106 Height:387 Horz					Margin [dB]:	-6.76	-	-	-	-
1749	70.2 PK	-44.33	20.8	46.67	51.5	-	-	-	-	-
Azimuth: 202 Height:373 Horz					Margin [dB]:	-4.83	-	-	-	-
Horizontal 2000 - 4000MHz										
2184.5375	83.36 PK	-44.01	21.5	40.85*	-	58.4	-	-	-	-
Azimuth: 210 Height:163 Horz					Margin [dB]:	-17.55	-	-	-	-
2621.75	71.94 PK	-43.56	21.4	49.78	51.5	-	-	-	-	-
Azimuth: 224 Height:392 Horz					Margin [dB]:	-1.72	-	-	-	-
3059.225	69.64 PK	-42.94	21.6	48.3	51.5	-	-	-	-	-
Azimuth: 224 Height:119 Horz					Margin [dB]:	-3.2	-	-	-	-
3932.9125	70.83 PK	-42.82	22.7	50.71	51.5	-	-	-	-	-
Azimuth: 276 Height:257 Horz					Margin [dB]:	-.79	-	-	-	-
Horizontal 4000 - 5000MHz										
4370	71.56 PK	-52.71	27.6	46.45	51.5	-	-	-	-	-
Azimuth: 159 Height:326 Horz					Margin [dB]:	-5.05	-	-	-	-
4807.7875	68.69 PK	-53.54	27.1	42.25	51.5	-	-	-	-	-
Azimuth: 189 Height:267 Horz					Margin [dB]:	-9.25	-	-	-	-

**\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)**

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

- PK - Peak detector (Maximized)
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection



Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA XMT Packet Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Vertical 1000 - 2000MHz										
1311.65	86.77 PK	-45.1	20.5	42.17*	51.5	-	-	-	-	-
Azimuth: 183 Height:275 Vert					Margin [dB]:	-9.33	-	-	-	-
1748.2625	79.85 PK	-44.35	20.8	56.3	-	58.4	-	-	-	-
Azimuth: 334 Height:260 Vert					Margin [dB]:	-	-2.1	-	-	-
Vertical 2000 - 4000MHz										
2185.275	79.68 PK	-44	21.2	56.88	-	58.4	-	-	-	-
Azimuth: 273 Height:359 Vert					Margin [dB]:	-	-1.52	-	-	-
2621.725	73.87 PK	-43.56	21.4	51.71	-	58.4	-	-	-	-
Azimuth: 154 Height:387 Vert					Margin [dB]:	-	-6.69	-	-	-
3059.5875	64.21 PK	-42.95	21.8	43.06	51.5	-	-	-	-	-
Azimuth: 268 Height:354 Vert					Margin [dB]:	-8.44	-	-	-	-
3496.3125	69.28 PK	-42.88	22.4	48.8	51.5	-	-	-	-	-
Azimuth: 189 Height:221 Vert					Margin [dB]:	-2.7	-	-	-	-
3496.3125	69.41 PK	-42.88	22.4	48.93	51.5	-	-	-	-	-
Azimuth: 153 Height:243 Horz					Margin [dB]:	-2.57	-	-	-	-
3933.1	71.53 PK	-42.82	22.7	31.41*	51.5	-	-	-	-	-
Azimuth: 199 Height:258 Vert					Margin [dB]:	-20.09	-	-	-	-
Vertical 4000 - 5000MHz										
4370	67.66 PK	-52.71	27.7	42.65	51.5	-	-	-	-	-
Azimuth: 241 Height:347 Vert					Margin [dB]:	-8.85	-	-	-	-
4807.4375	71.28 PK	-53.55	27.3	45.03	51.5	-	-	-	-	-
Azimuth: 278 Height:333 Vert					Margin [dB]:	-6.47	-	-	-	-

\*Duty Cycle Correction Factor of 20dB applied (See Section 4.4 for calculation)

LIMIT 1: FCC Part 15 Subpart C 15.209  
 LIMIT 1: FCC Part 15 Subpart C 15.231

- PK - Peak detector (Maximized)
- QP - Quasi-Peak detector
- LnAv - Linear average detector
- LgAv - Average log detector
- Av - Average detector
- CAV - CISPR Average detector
- RMS - RMS detection
- CRMS - CISPR RMS detection

**4.6 Test Conditions and Results – RADIATED EMISSIONS - Unintentional**

Test Description	Measurements were made in a 10-meter semi-anechoic chamber that complies to CISPR 16/ANSI C63.4:2003. Preliminary (peak) measurements were performed at an antenna to EUT separation distance of 10-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.	
Basic Standard	FCC Part 15, Subpart B	
UL LPG	80-EM-S0029	
	Frequency range	Measurement Point
Fully configured sample scanned over the following frequency range	30MHz – 1GHz	(10 meter measurement distance)
Fully configured sample scanned over the following frequency range	1GHz – 2GHz	(4 meter measurement distance)
<b>Limits - Class B</b>		
Frequency (MHz)	Limit (dBµV/m)	
	Quasi-Peak	Average
30 to 230	30	NA
230 to 1000	37	NA
1000 to 2000	NA	51.5*
Supplementary information: * Limits above 1GHz have been reduced by 2.5dB to account for the 4-meter measurement distance.		

**Table 22 Radiated Emissions EUT Configuration Settings**

Power Interface Mode #	EUT Configurations Mode #	EUT Operation Mode #
1	1	3
1	1	4
Supplementary information: None		

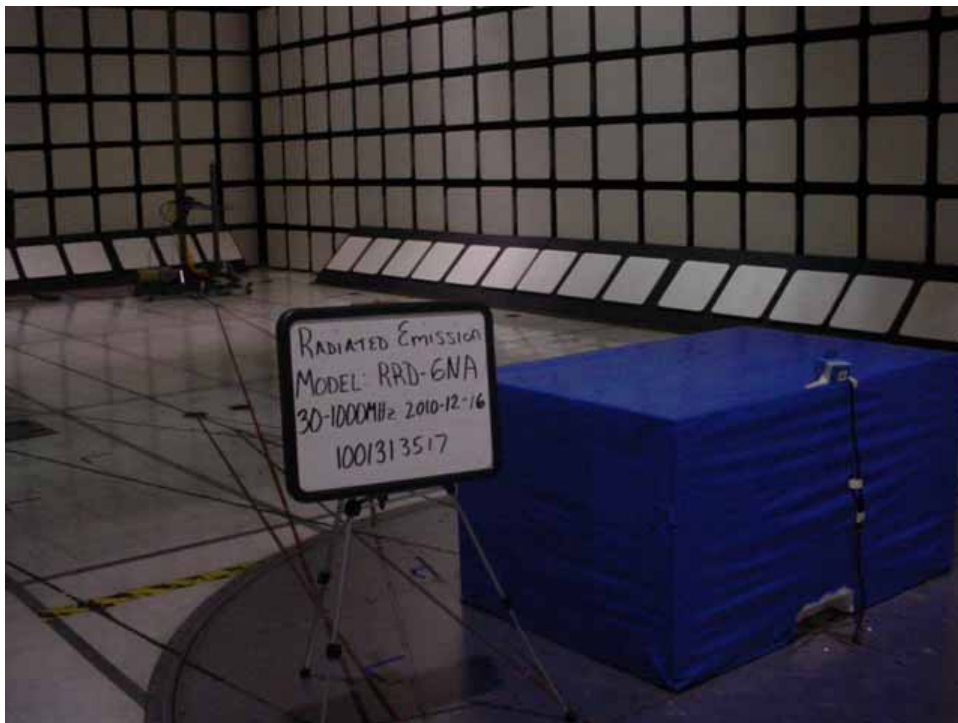
**Table 23 Radiated Emissions Test Equipment**

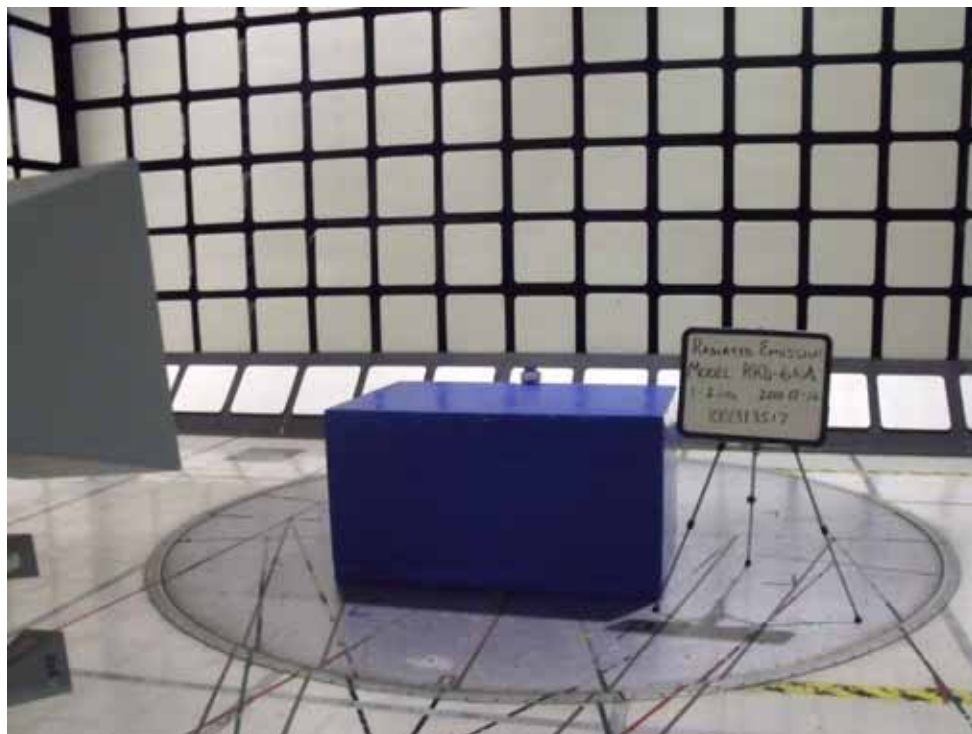
Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2010-02-22	2011-02-22
Bicon Antenna	Schaffner	VBA6106A	54	2010-04-05	2011-04-05
Log-P Antenna	Schaffner	UPA6109	44068	2010-04-05	2011-04-05
Switch Driver	HP	11713A	ME7A-627	N/A	N/A
Bias Tee	Miteq	AM-1523-7687	44392	N/A	N/A
Bias Tee	Miteq	AM-1523-7687	44393	N/A	N/A
Preamp	Miteq	AM-3A-000110-7687	44391	N/A	N/A
Preamp	Miteq	AM-3A-000110-7687	44394	N/A	N/A
System Controller	Sunol Sciences	SC99V	44396	N/A	N/A
Camera Controller	Panasonic	WV-CU254	44395	N/A	N/A
RF Switch Box	UL	1	44398	N/A	N/A
Measurement Software	UL	Version 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	83III	ME5B-305	2010-02-01	2011-02-01
Above 1GHz (Band Optimized System)					
Spectrum Analyzer	Agilent	E7405A	19695	2010-02-01	2011-02-01
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	N/A	N/A
Signal Path Controller	HP	11713A	50250	N/A	N/A
Gain Controller	HP	11713A	50251	N/A	N/A
RF Switch / Preamp Fixture	UL	BOMS1	50249	N/A	N/A
System Controller	UL	BOMS2	50252	N/A	N/A
Measurement Software	UL	Version 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	83III	ME5B-305	2010-02-01	2011-02-01

**Figure 20 Test setup for Radiated Emissions**



**Front View**



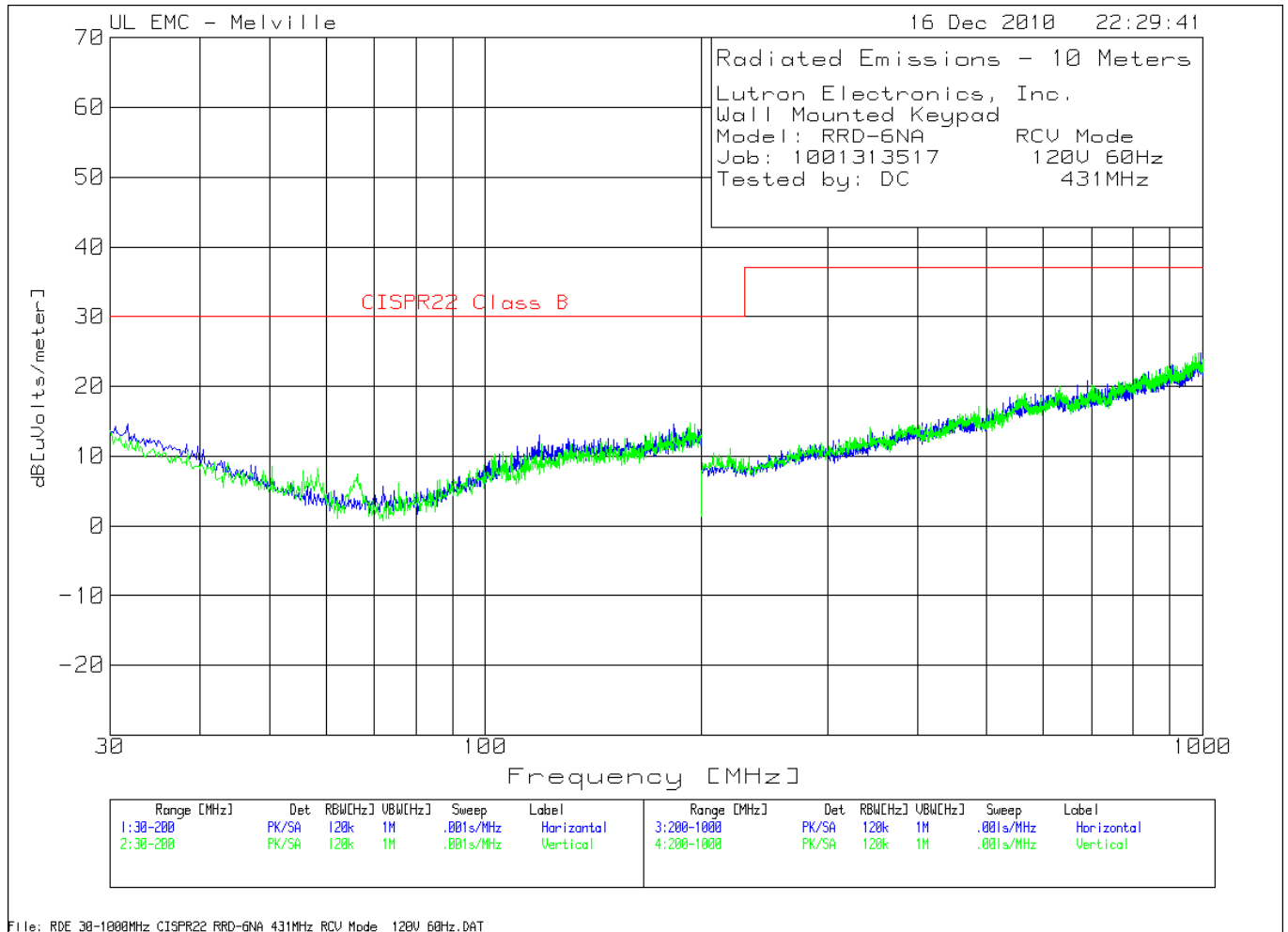


Front View



Rear View

**Figure 21 Radiated Emissions Graph**



**Table 24 Radiated Emissions Data Points**

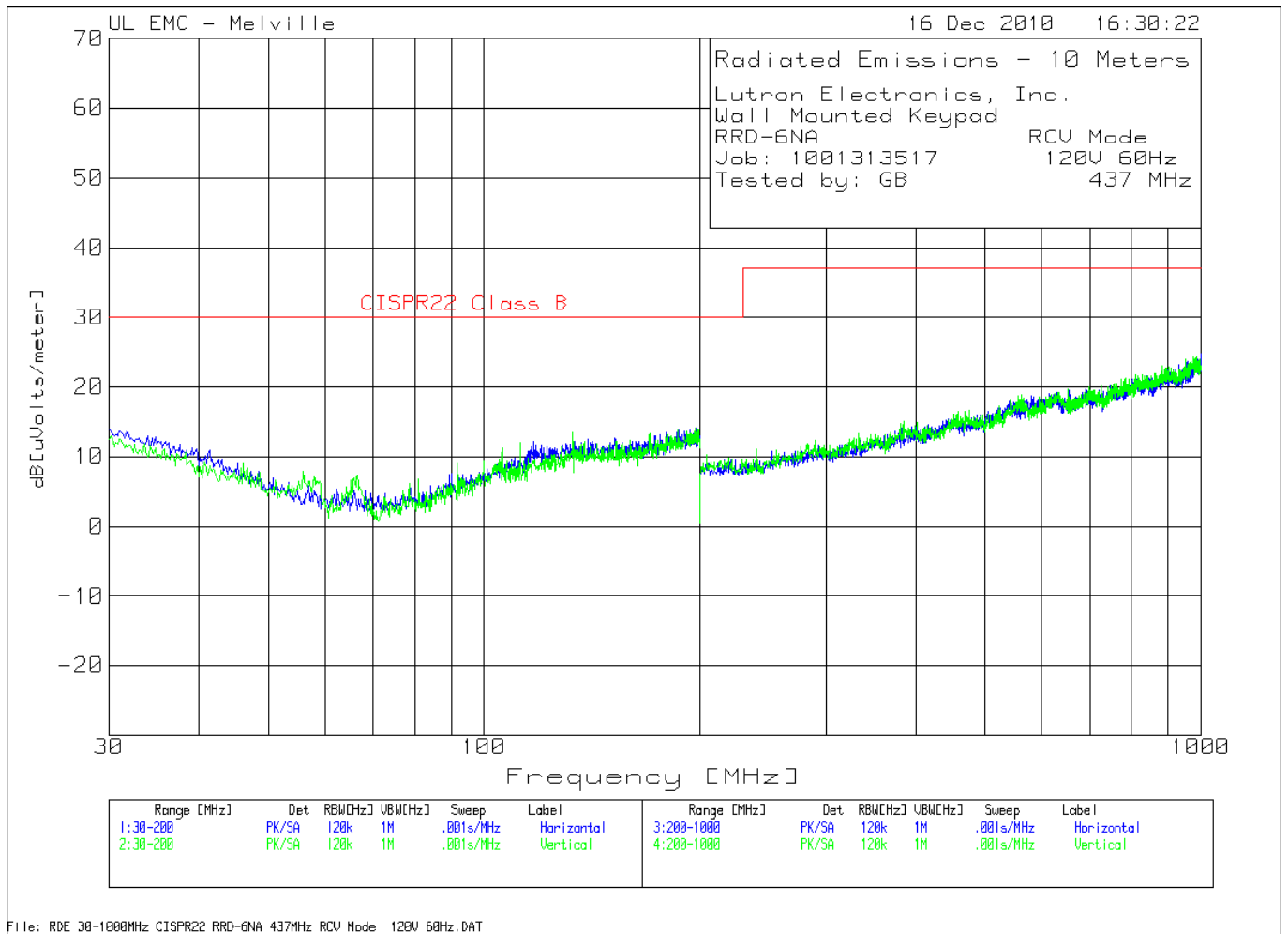
Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 Model: RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: DC 431MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 30 - 200MHz -----											
1	31.7017	33.56 PK	-36	17.1	14.66	30	-	-	-	-	-
	Azimuth:72	Height:250	Horz	Margin [dB]		-15.34	-	-	-	-	-
2	118.8288	35.36 PK	-35.6	13.3	13.06	30	-	-	-	-	-
	Azimuth:38	Height:102	Horz	Margin [dB]		-16.94	-	-	-	-	-
3	183.3233	34.24 PK	-35.3	15.6	14.54	30	-	-	-	-	-
	Azimuth:135	Height:102	Horz	Margin [dB]		-15.46	-	-	-	-	-
Vertical 30 - 200MHz -----											
4	50.4204	34.77 PK	-35.9	9.7	8.57	30	-	-	-	-	-
	Azimuth:121	Height:100	Vert	Margin [dB]		-21.43	-	-	-	-	-
5	58.4184	36.76 PK	-35.9	7.4	8.26	30	-	-	-	-	-
	Azimuth:121	Height:100	Vert	Margin [dB]		-21.74	-	-	-	-	-
6	66.2462	37.18 PK	-35.7	5.9	7.38	30	-	-	-	-	-
	Azimuth:1	Height:100	Vert	Margin [dB]		-22.62	-	-	-	-	-
7	193.023	33.38 PK	-35.3	16.6	14.68	30	-	-	-	-	-
	Azimuth:58	Height:100	Vert	Margin [dB]		-15.32	-	-	-	-	-
Horizontal 200 - 1000MHz -----											
8	689.8449	32.16 PK	-32	20.7	20.86	37	-	-	-	-	-
	Azimuth:20	Height:300	Horz	Margin [dB]		-16.14	-	-	-	-	-
9	992.7964	31.81 PK	-31.2	24.2	24.81	37	-	-	-	-	-
	Azimuth:12	Height:101	Horz	Margin [dB]		-12.19	-	-	-	-	-
Vertical 200 - 1000MHz -----											
10	985.5928	31.61 PK	-31.3	24.5	24.81	37	-	-	-	-	-
	Azimuth:132	Height:400	Vert	Margin [dB]		-12.19	-	-	-	-	-

LIMIT 1: CISPR22 Class B

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection  
 CRMS - CISPR RMS detection

**Figure 22 Radiated Emissions Graph**





**Table 25 Radiated Emissions Data Points**

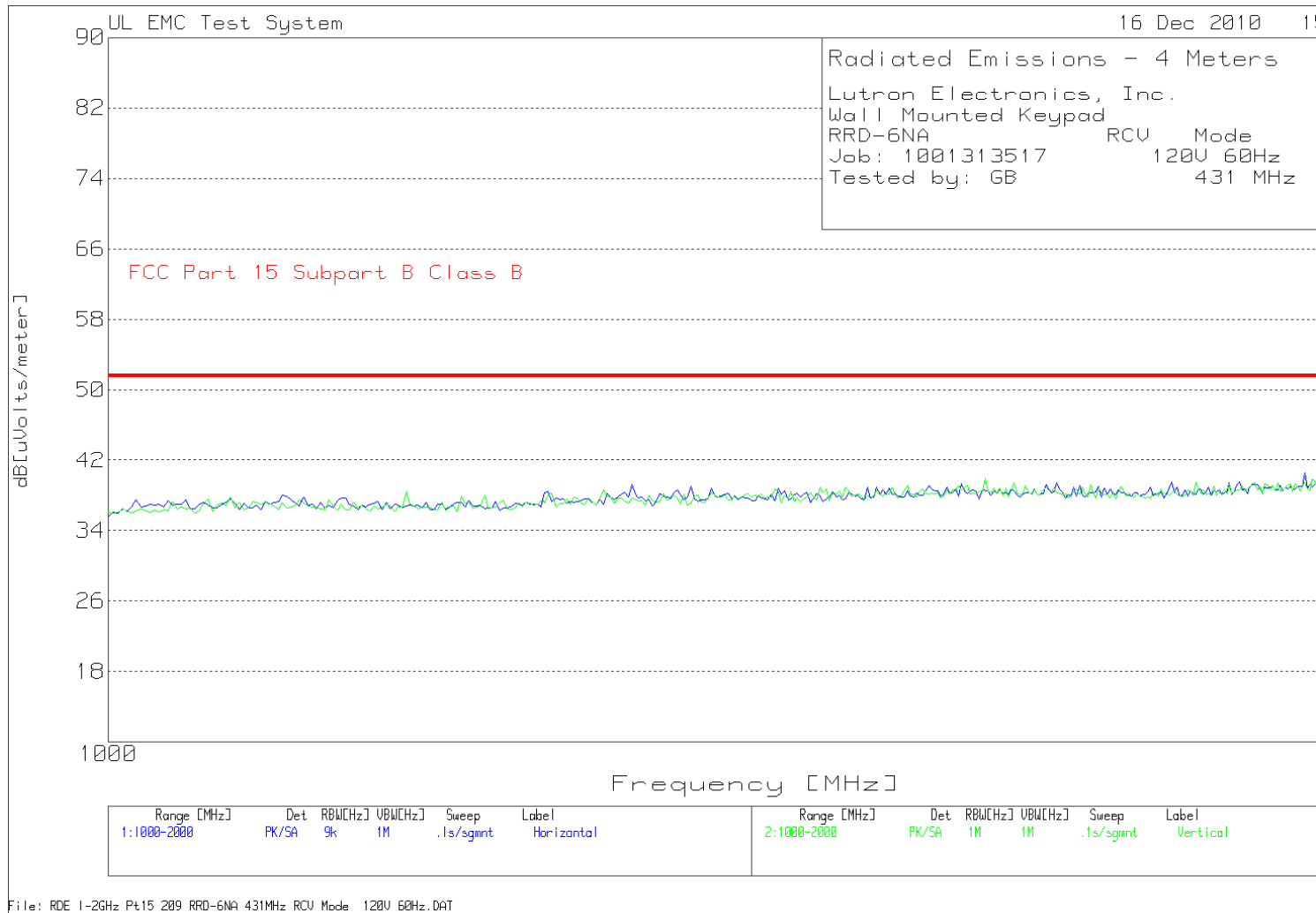
Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

No.	Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1	2	3	4	5	6
Horizontal 30 - 200MHz -----											
1	41.4014	33.33 PK	-35.8	13.4	10.93	30	-	-	-	-	-
	Azimuth:17	Height:400	Horz	Margin [dB]		-19.07	-	-	-	-	-
2	56.8869	34.41 PK	-35.9	7.3	5.81	30	-	-	-	-	-
	Azimuth:169	Height:100	Horz	Margin [dB]		-24.19	-	-	-	-	-
3	117.2973	34.67 PK	-35.6	13.1	12.17	30	-	-	-	-	-
	Azimuth:1	Height:250	Horz	Margin [dB]		-17.83	-	-	-	-	-
4	153.5435	32.23 PK	-35.4	14.8	11.63	30	-	-	-	-	-
	Azimuth:328	Height:250	Horz	Margin [dB]		-18.37	-	-	-	-	-
Vertical 30 - 200MHz -----											
5	40.7207	32.1 PK	-35.9	13	9.2	30	-	-	-	-	-
	Azimuth:57	Height:100	Vert	Margin [dB]		-20.8	-	-	-	-	-
6	57.9079	35.58 PK	-35.9	7.5	7.18	30	-	-	-	-	-
	Azimuth:7	Height:100	Vert	Margin [dB]		-22.82	-	-	-	-	-
7	66.5866	37.09 PK	-35.7	5.8	7.19	30	-	-	-	-	-
	Azimuth:24	Height:100	Vert	Margin [dB]		-22.81	-	-	-	-	-
8	106.0661	34.91 PK	-35.7	12	11.21	30	-	-	-	-	-
	Azimuth:120	Height:100	Vert	Margin [dB]		-18.79	-	-	-	-	-
9	112.3624	35.71 PK	-35.6	12	12.11	30	-	-	-	-	-
	Azimuth:24	Height:100	Vert	Margin [dB]		-17.89	-	-	-	-	-
10	132.953	34.94 PK	-35.5	14	13.44	30	-	-	-	-	-
	Azimuth:282	Height:100	Vert	Margin [dB]		-16.56	-	-	-	-	-
Horizontal 200 - 1000MHz -----											
11	385.2926	32.99 PK	-33.2	15.2	14.99	37	-	-	-	-	-
	Azimuth:7	Height:100	Horz	Margin [dB]		-22.01	-	-	-	-	-
12	655.4277	31.41 PK	-31.9	20	19.51	37	-	-	-	-	-
	Azimuth:17	Height:300	Horz	Margin [dB]		-17.49	-	-	-	-	-
13	977.5888	30.3 PK	-31.4	24.1	23	37	-	-	-	-	-
	Azimuth:263	Height:100	Horz	Margin [dB]		-14	-	-	-	-	-
Vertical 200 - 1000MHz -----											
14	240.02	34.17 PK	-34.4	11.3	11.07	37	-	-	-	-	-
	Azimuth:162	Height:400	Vert	Margin [dB]		-25.93	-	-	-	-	-
15	556.1781	31.26 PK	-32.1	19.6	18.76	37	-	-	-	-	-
	Azimuth:168	Height:100	Vert	Margin [dB]		-18.24	-	-	-	-	-
16	811.906	31.61 PK	-32	22.2	21.81	37	-	-	-	-	-
	Azimuth:297	Height:400	Vert	Margin [dB]		-15.19	-	-	-	-	-
17	976.7884	31.18 PK	-31.5	24.6	24.28	37	-	-	-	-	-
	Azimuth:58	Height:300	Vert	Margin [dB]		-12.72	-	-	-	-	-

LIMIT 1: CISPR22 Class B

PK - Peak detector  
 QP - Quasi-Peak detector  
 LnAv - Linear average detector  
 LgAv - Average log detector  
 Av - Average detector  
 CAV - CISPR Average detector  
 RMS - RMS detection

**Figure 23 Radiated Emissions Graph**



**Table 26 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 431 MHz

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level	Limit:1	2	3	4	5	6
=====											
Horizontal 1000 - 2000MHz -----											
1	1160	17.27 PK	0	19.9	37.17	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-14.33	-	-	-	-	-
2	1322.5	18.68 PK	0	20.5	39.18	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-12.32	-	-	-	-	-
3	1507.5	18.08 PK	0	20.8	38.88	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.62	-	-	-	-	-
4	1660	18.48 PK	0	20.9	39.38	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.12	-	-	-	-	-
5	1800	17.87 PK	0	21	38.87	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.63	-	-	-	-	-
6	1937.5	18.28 PK	0	21.8	40.08	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-11.42	-	-	-	-	-

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level	Limit:1	2	3	4	5	6
=====											
Vertical 1000 - 2000MHz -----											
7	1172.5	18.5 PK	0	19.9	38.4	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-13.1	-	-	-	-	-
8	1267.5	17.84 PK	0	20.3	38.14	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-13.36	-	-	-	-	-
9	1427.5	17.98 PK	0	20.7	38.68	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.82	-	-	-	-	-
10	1482.5	18.1 PK	0	20.8	38.9	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.6	-	-	-	-	-
11	1597.5	18.69 PK	0	21.2	39.89	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-11.61	-	-	-	-	-
12	1867.5	17.99 PK	0	21.4	39.39	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-12.11	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart B Class B  
 LIMIT 2: NONE  
 LIMIT 3: NONE  
 LIMIT 4: NONE  
 LIMIT 5: NONE  
 LIMIT 6: NONE

PK - Peak detector  
 QP - Quasi-Peak detector  
 LgAv - Log average detection  
 LnAv - Linear average detector

**Figure 24 Radiated Emissions Graph**



**Table 27 Radiated Emissions Data Points**

Lutron Electronics, Inc.  
 Wall Mounted Keypad  
 RRD-6NA RCV Mode  
 Job: 1001313517 120V 60Hz  
 Tested by: GB 437 MHz

Test	Meter	Gain/Loss	Transducer	Level	Limit:1	2	3	4	5	6
No. Frequency	Reading	Factor	Factor	dB[uVolts/meter]						
[MHz]	[dB(uV)]	[dB]	[dB]							
=====										
Horizontal 1000 - 2000MHz -----										
1	1100	19.32 PK	0	20	39.32	51.5	-	-	-	-
		Height:100		Margin [dB]	-12.18		-	-	-	-
2	1222.5	18.39 PK	0	20	38.39	51.5	-	-	-	-
		Height:100		Margin [dB]	-13.11		-	-	-	-
3	1322.5	18.87 PK	0	20.5	39.37	51.5	-	-	-	-
		Height:100		Margin [dB]	-12.13		-	-	-	-
4	1452.5	17.97 PK	0	20.8	38.77	51.5	-	-	-	-
		Height:100		Margin [dB]	-12.73		-	-	-	-
5	1622.5	18.15 PK	0	21.1	39.25	51.5	-	-	-	-
		Height:250		Margin [dB]	-12.25		-	-	-	-
6	1931.25	18.24 PK	0	21.8	40.04	51.5	-	-	-	-
		Height:100		Margin [dB]	-11.46		-	-	-	-

Job Number: 1001313517 File Number: MC15896  
 Model Number: RRD-6NA  
 Client Name: LUTRON ELECTRONICS INC  
 FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

Test No.	Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level	Limit:1	2	3	4	5	6
=====											
Vertical 1000 - 2000MHz -----											
7	1032.5	18.64 PK	0	19.5	38.14	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-13.36	-	-	-	-	-
8	1127.5	18.16 PK	0	19.9	38.06	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-13.44	-	-	-	-	-
9	1255	17.84 PK	0	20.2	38.04	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-13.46	-	-	-	-	-
10	1435	18.45 PK	0	20.7	39.15	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-12.35	-	-	-	-	-
11	1510	18.34 PK	0	20.8	39.14	51.5	-	-	-	-	-
		Height:100		Margin [dB]		-12.36	-	-	-	-	-
12	1722.5	18.74 PK	0	20.8	39.54	51.5	-	-	-	-	-
		Height:250		Margin [dB]		-11.96	-	-	-	-	-

LIMIT 1: FCC Part 15 Subpart B Class B  
 LIMIT 2: NONE  
 LIMIT 3: NONE  
 LIMIT 4: NONE  
 LIMIT 5: NONE  
 LIMIT 6: NONE

PK - Peak detector  
 QP - Quasi-Peak detector  
 LgAv - Log average detection  
 LnAv - Linear average detector

## Appendix A

### Accreditations and Authorizations



NVLAP Lab code: 100255-0

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/1002550.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. 91040).



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 #: IC 2181





Job Number: 1001313517 File Number: MC15896 Page 89 of 89  
Model Number: RRD-6NA  
Client Name: LUTRON ELECTRONICS INC  
FCC ID: JPZ0076 IC ID: 2851A-JPZ0076

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.: (Radiated Emissions) R-797, (Conducted Emissions) C-832, C-83400, and C-81879 and (Conducted Emissions - Telecommunications Ports) T-1582 and T-1583.



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

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