



**FCC 47 CFR PART 15 SUBPART C  
INDUSTRY CANADA RSS-210 ISSUE 8**

**CERTIFICATION TEST REPORT**

**FOR**

**Wireless In-Wall Dimmer Switch**

**MODEL NUMBER: GT-RF2**

**FCC ID: JPZ0110  
IC: 2851A-JPZ0110**

**REPORT NUMBER: 10657820**

**ISSUE DATE: January 28, 2015**

*Prepared for*  
**LUTRON ELECTRONICS CO INC.  
7200 SUTER RD  
COOPERSBURG PA, 18036, USA**

*Prepared by*  
**UL LLC  
333 Pfingsten Rd.  
Northbrook, IL 60062  
TEL: (847) 272-8800**



NVLAP Lab code: 100414-0

Revision History

| Rev. | Issue Date | Revisions     | Revised By |
|------|------------|---------------|------------|
| --   | 20150128   | Initial Issue | BM         |

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## 1. ATTESTATION OF TEST RESULTS

**COMPANY NAME:** LUTRON ELECTRONICS CO INC.  
7200 SUTER RD  
COOPERSBURG, PA, 18036, USA

**EUT DESCRIPTION:** Wireless In-Wall Dimmer Switch

**MODEL:** GT-RF2

**SERIAL NUMBER:** Non-Serialized

**DATE TESTED:** January 26, 2015 – January 27, 2015

| APPLICABLE STANDARDS                     |              |
|------------------------------------------|--------------|
| STANDARD                                 | TEST RESULTS |
| FCC PART 15 SUBPART C                    | Pass         |
| INDUSTRY CANADA RSS-210 Issue 8, Annex 1 | Pass         |
| INDUSTRY CANADA RSS-GEN Issue 4          | Pass         |

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For  
UL LLC By: Michael Ferrer

Tested By: Bart Mucha



UL LLC



UL LLC

## 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 4, and RSS-210 Issue 8.

## 3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 333 Pfingsten Road, Northbrook, IL 60062 USA.

UL NBK is accredited by NVLAP, Laboratory Code 100414-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/Standards/scopes/1004140.htm>

## 4. CALIBRATION AND UNCERTAINTY

### 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

### 4.2. SAMPLE CALCULATION

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)

### 4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

| Test               | Range       | Equipment     | Uncertainty k=2 |
|--------------------|-------------|---------------|-----------------|
| Radiated Emissions | 30-200MHz   | Bicon 3m Horz | 3.30dB          |
| Radiated Emissions | 30-130MHz   | Bicon 3m Vert | 4.84dB          |
| Radiated Emissions | 130-200MHz  | Bicon 3m Vert | 4.94dB          |
| Radiated Emissions | 200-1000MHz | LogP 3m Horz  | 3.46dB          |
| Radiated Emissions | 200-1000MHz | LogP 3m Vert  | 4.98dB          |
| Radiated Emissions | 1-6GHz      | Horn          | 5.02dB          |

Uncertainty figures are valid to a confidence level of 95%.

## **5. EQUIPMENT UNDER TEST**

### **5.1. DESCRIPTION OF EUT**

The EUT is a wireless dimmer switch intended for lighting applications. It contains a periodic transceiver that operates on single pre-set channel between 431MHz and 437MHz.

### **5.2. DESCRIPTION OF AVAILABLE ANTENNAS**

The radio utilizes an integral antenna that is not user accessible or configurable.

### **5.3. SOFTWARE AND FIRMWARE**

The firmware installed in the EUT during testing was RadioRa2 (image ID = "0795744").

The software used during testing was e81cd2d.

### **5.4. WORST-CASE CONFIGURATION AND MODE**

Testing was conducted for Radiated and Conducted emissions on the lowest and highest channels.

### **5.5. MODIFICATIONS**

No modifications were made during testing.

## 5.6. DESCRIPTION OF TEST SETUP

### SUPPORT EQUIPMENT

None

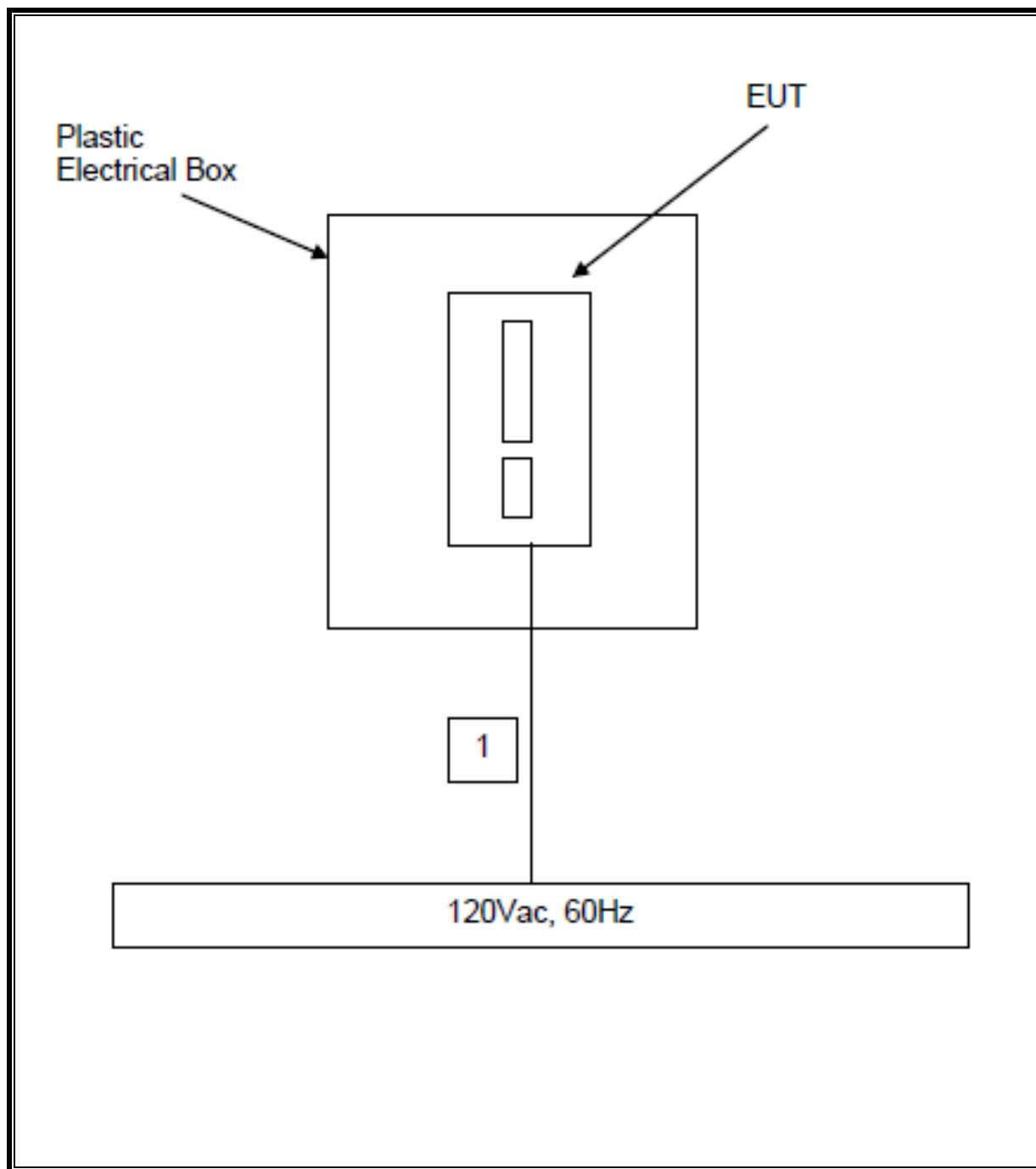
### I/O CABLES

| I/O Cable List |           |                      |                |            |                  |                   |
|----------------|-----------|----------------------|----------------|------------|------------------|-------------------|
| Cable No       | Port      | # of identical ports | Connector Type | Cable Type | Cable Length (m) | Remarks           |
| 1              | AC Mains  | 1                    | Hardwire       | Unshielded | > 3m             | None              |
| 2              | AC Output | 1                    | Hardwire       | Unshielded | > 3m             | Left Unterminated |

### TEST SETUP

The EUT was tested in a plastic electrical box as a stand-alone device.

**SETUP DIAGRAM FOR TESTS**



## 6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

### Conducted Emissions

| Description       | Manufacturer      | Model           | Identifier | Cal. Date     | Cal. Due Date |
|-------------------|-------------------|-----------------|------------|---------------|---------------|
| EMI Test Receiver | Rohde & Schwarz   | ESR             | EMC4377    | April 1, 2014 | April 1, 2015 |
| Transient Limiter | Electro-Metrics   | EM7600-2        | EMC4224    | N/A           | N/A           |
| HighPass Filter   | Solar Electronics | 2803-150        | 885551     | N/A           | N/A           |
| Attenuator        | HP                | 8494B           | 2831A00838 | N/A           | N/A           |
| LISN - L1         | Solar             | 8602-50-TS-50-N | EMC4052    | Jan 09, 2015  | Jan 10, 2016  |
| LISN - L2         | Solar             | 8602-50-TS-50-N | EMC4064    | Jan 09, 2015  | Jan 10, 2016  |

### Radiated Emissions including Duty Cycle Measurements & Bandwidth Measurements

| Description       | Manufacturer    | Model        | Identifier | Cal. Date | Cal. Due Date |
|-------------------|-----------------|--------------|------------|-----------|---------------|
| EMI Test Receiver | Rohde & Schwarz | ESCI         | EMC4328    | 20141230  | 20151231      |
| Bicon Antenna     | Chase           | VBA6106A     | EMC4078    | 20140401  | 20150401      |
| Log-P Antenna     | Chase           | UPA6109      | EMC4313    | 20141119  | 20151130      |
| EMI Test Receiver | Rohde & Schwarz | ESU          | EMC4323    | 20141227  | 20151231      |
| Antenna Array     | UL              | BOMS         | EMC4276    | 20141201  | 20151231      |
| Spectrum Analyzer | Agilent         | N9030A (PXA) | EMC4360    | 20141227  | 20151231      |

## 7. ANTENNA PORT TEST RESULTS

### 7.1. 20 dB AND 99% BW

#### LIMITS

FCC §15.231 (c)

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

IC RSS-210, A1.1.3

For the purpose of Section A1.1, the 99% Bandwidth shall be no wider than 0.25% of the center frequency for devices operating between 70-900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency.

#### TEST PROCEDURE

ANSI C63.10

The transmitter output is connected to the spectrum analyzer.

20dB Bandwidth: The RBW is set to 10 KHz. The VBW is set to 30 KHz. The sweep time is coupled. Bandwidth is determined at the points 20 dB down from the modulated carrier.

99% Bandwidth: The RBW is set to 1% to 3% of the 99 % bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

## **RESULTS**

No non-compliance noted:

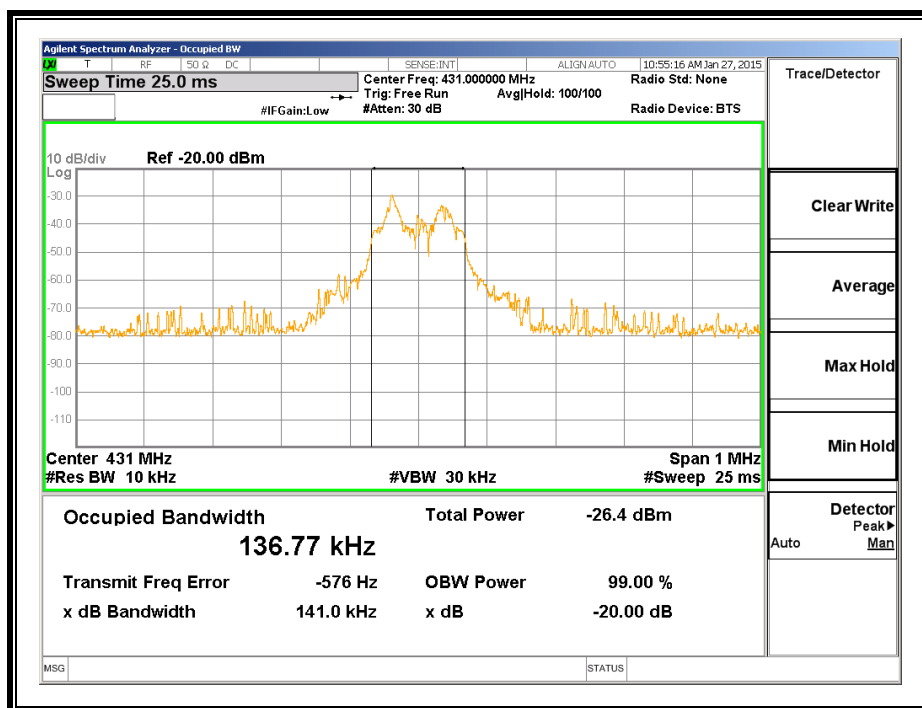
### 20dB Bandwidth

| Frequency<br>(MHz) | 20dB Bandwidth<br>(kHz) | Limit<br>(kHz) | Margin<br>(kHz) |
|--------------------|-------------------------|----------------|-----------------|
| 431                | 141.0                   | 1077.5         | -936.5          |
| 437                | 147.4                   | 1092.5         | -945.1          |

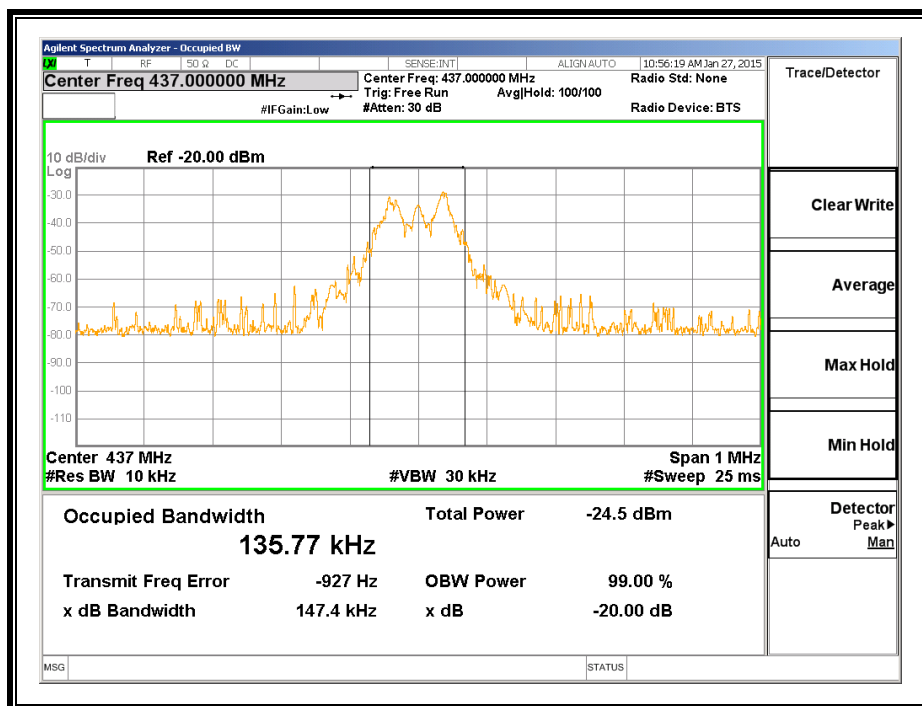
### 99% Bandwidth

| Frequency<br>(MHz) | 99% Bandwidth<br>(kHz) | Limit<br>(kHz) | Margin<br>(kHz) |
|--------------------|------------------------|----------------|-----------------|
| 431                | 132.49                 | 1077.5         | -945.01         |
| 437                | 131.57                 | 1092.5         | -960.93         |

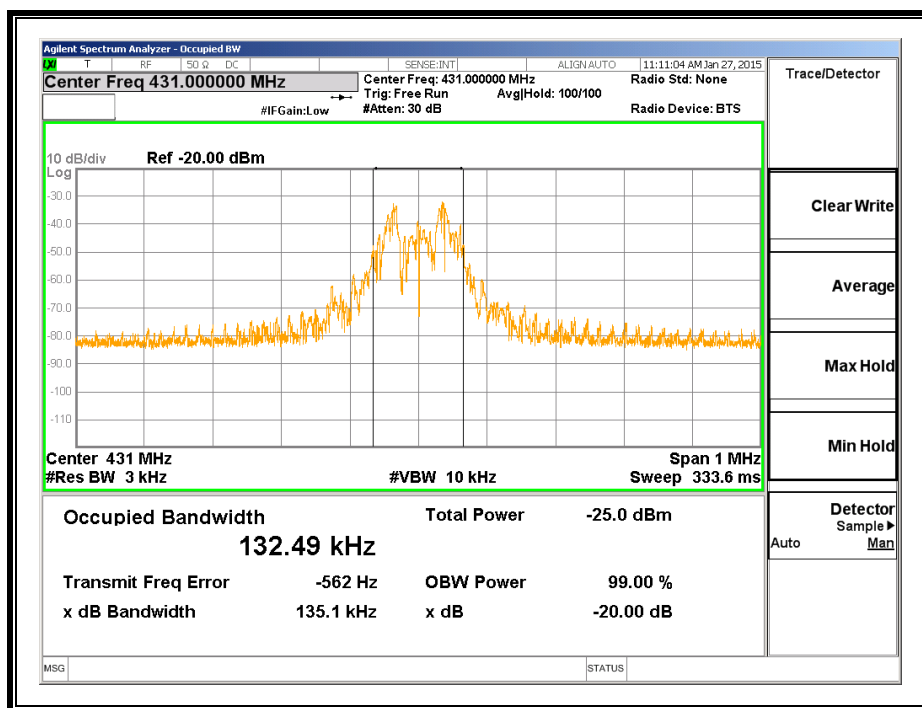
### 20dB BANDWIDTH Low Channel



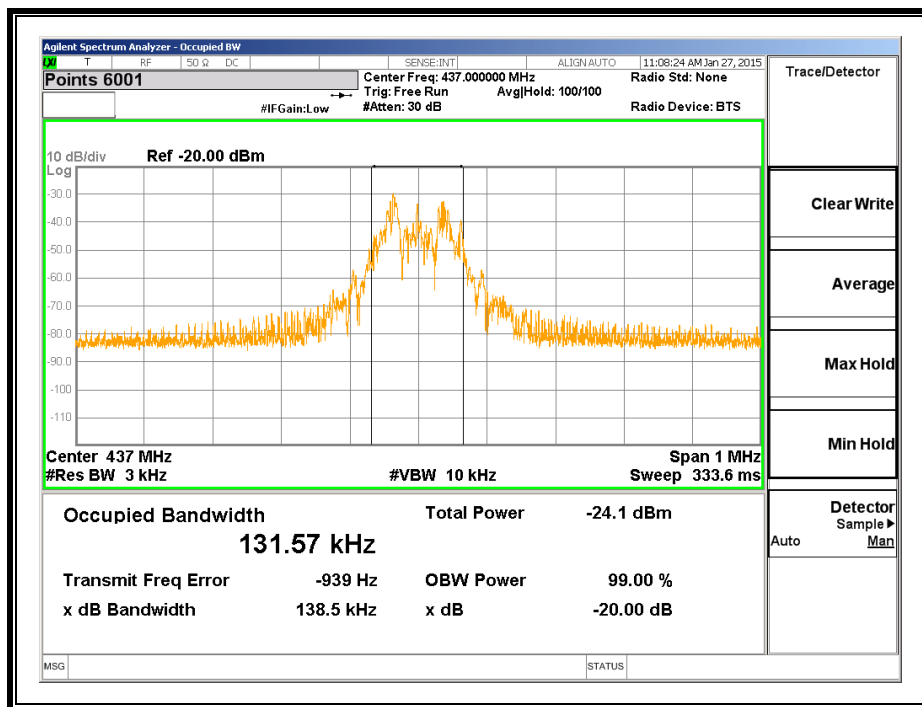
### 20dB BANDWIDTH High Channel



99% BANDWIDTH Low Channel



99% BANDWIDTH High Channel



## 7.2. DUTY CYCLE

### LIMITS

FCC §15.35 (c)

The measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 1000 kHz and the VBW is set to 1000 kHz. The sweep time is coupled and the span is set to 0 Hz. The number of pulses is measured and calculated in a 100 ms scan.

### CALCULATION

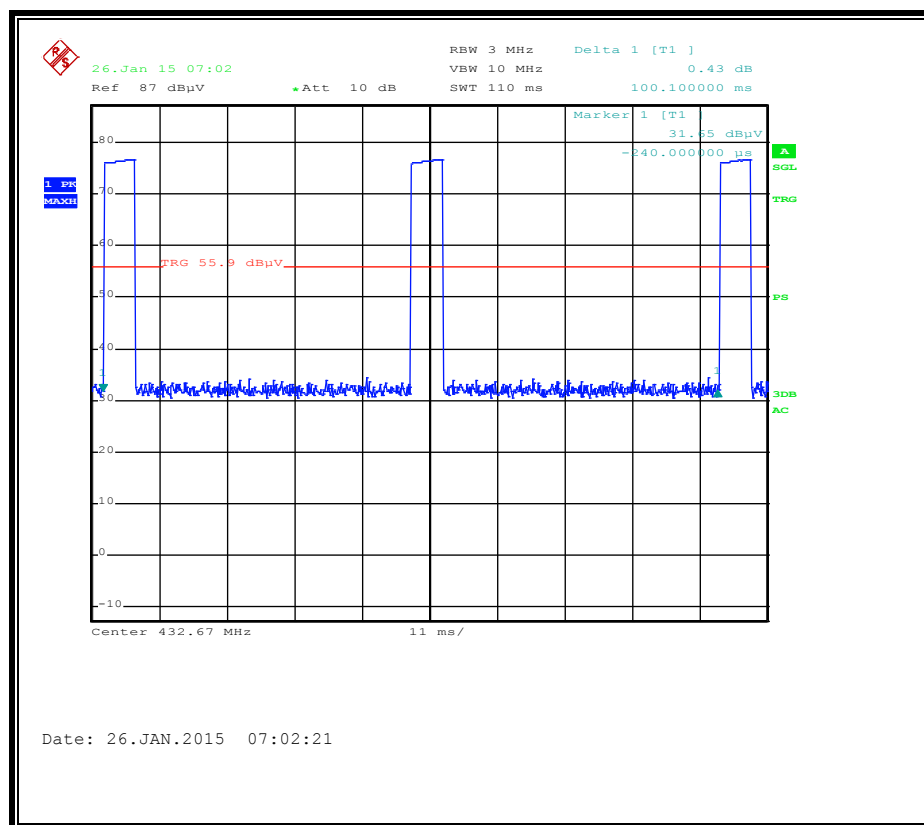
Average Reading = Peak Reading (dBuV/m) + 20log (Duty Cycle), Where Duty Cycle is (# of long pulses \* long pulse width) + (# of short pulses \* short pulse width) / 100 or T

### RESULTS

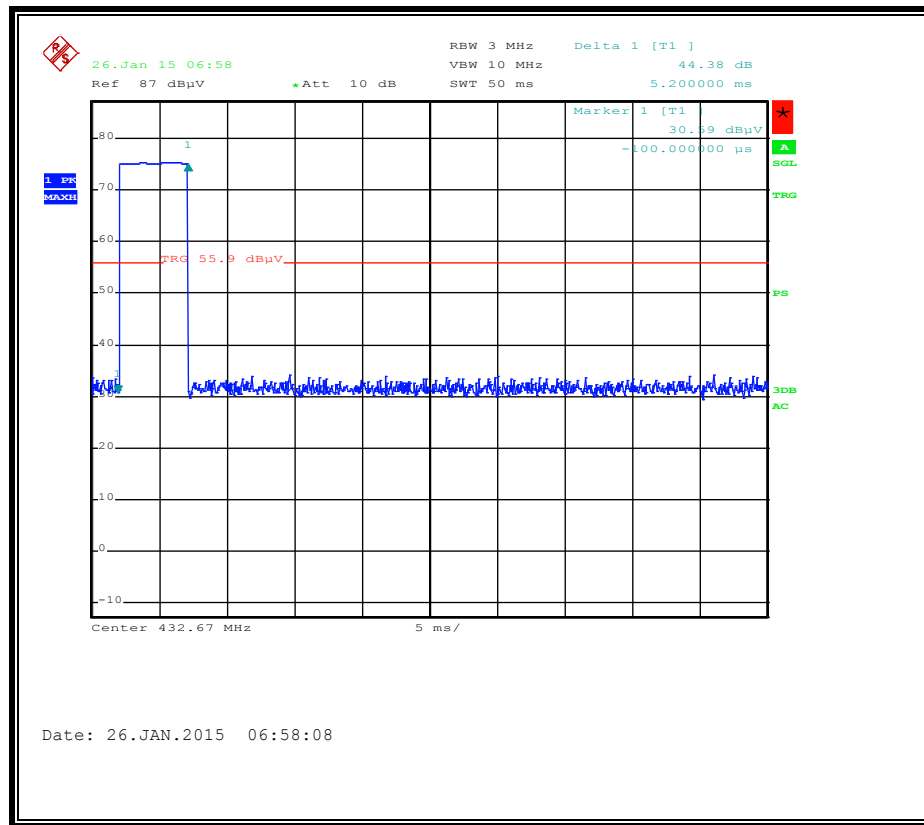
No non-compliance noted:

| One<br>Period<br>(ms) | Pulse<br>Width<br>(ms) | # of<br>Pulses | Duty<br>Cycle | 20*Log<br>Duty Cycle<br>(dB) |
|-----------------------|------------------------|----------------|---------------|------------------------------|
|                       |                        |                |               |                              |
| 100.1                 | 5.2                    | 2              | 0.104         | -19.659                      |

**Period**



## PULSE WIDTH



### 7.3. TRANSMISSION TIME

#### LIMITS

FCC §15.231 (a) (2)

IC RSS-210 A1.1.1 (b)

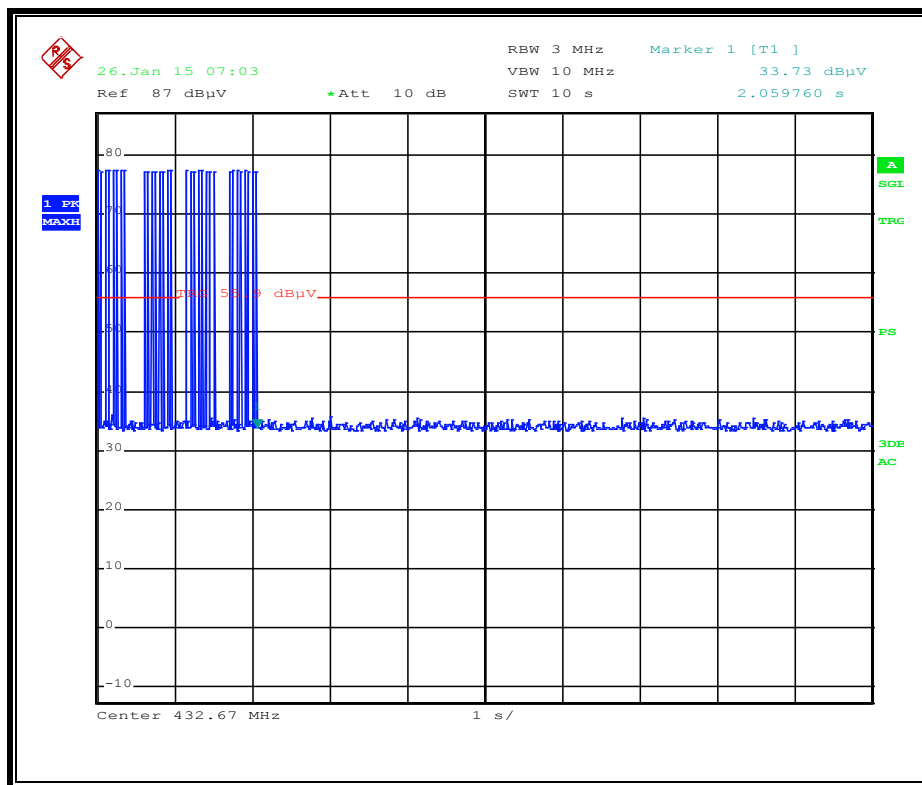
A transmitter activated automatically shall cease transmission within 5 seconds after activation.

#### TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 3000 kHz and the VBW is set to 10000 kHz. The sweep time is set to 10 seconds and the span is set to 0 Hz.

#### RESULTS

No non-compliance noted:



The device stops transmitting after 2.06s.

## 8. RADIATED EMISSION TEST RESULTS

### 8.1. TX RADIATED SPURIOUS EMISSION

#### LIMITS

FCC §15.231 (b)

IC RSS-210 A1.1.2

In addition to the provisions of § 15.205, the field strength of emissions from Intentional radiators operated under this section shall not exceed the following:

| Fundamental Frequency (MHz) | Field Strength of Fundamental Frequency (microvolts/meter) | Field Strength of Spurious Emissions (microvolts/meter) |
|-----------------------------|------------------------------------------------------------|---------------------------------------------------------|
| 40.66 - 40.70               | 2,250                                                      | 225                                                     |
| 70 - 130                    | 1,250                                                      | 125                                                     |
| 130 - 174                   | 1,250 to 3,750 <sup>1</sup>                                | 125 to 375 <sup>1</sup>                                 |
| 174 - 260                   | 3,750                                                      | 375                                                     |
| 260 - 470                   | 3,750 to 12,500 <sup>1</sup>                               | 375 to 1,250 <sup>1</sup>                               |
| Above 470                   | 12,500                                                     | 1,250                                                   |

<sup>1</sup> Linear interpolation

§15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz                        | MHz                 | MHz             | GHz              |
|----------------------------|---------------------|-----------------|------------------|
| 0.090 - 0.110              | 16.42 - 16.423      | 399.9 - 410     | 4.5 - 5.15       |
| <sup>1</sup> 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614       | 5.35 - 5.46      |
| 2.1735 - 2.1905            | 16.80425 - 16.80475 | 960 - 1240      | 7.25 - 7.75      |
| 4.125 - 4.128              | 25.5 - 25.67        | 1300 - 1427     | 8.025 - 8.5      |
| 4.17725 - 4.17775          | 37.5 - 38.25        | 1435 - 1626.5   | 9.0 - 9.2        |
| 4.20725 - 4.20775          | 73 - 74.6           | 1645.5 - 1646.5 | 9.3 - 9.5        |
| 6.215 - 6.218              | 74.8 - 75.2         | 1660 - 1710     | 10.6 - 12.7      |
| 6.26775 - 6.26825          | 108 - 121.94        | 1718.8 - 1722.2 | 13.25 - 13.4     |
| 6.31175 - 6.31225          | 123 - 138           | 2200 - 2300     | 14.47 - 14.5     |
| 8.291 - 8.294              | 149.9 - 150.05      | 2310 - 2390     | 15.35 - 16.2     |
| 8.362 - 8.366              | 156.52475 -         | 2483.5 - 2500   | 17.7 - 21.4      |
| 8.37625 - 8.38675          | 156.52525           | 2655 - 2900     | 22.01 - 23.12    |
| 8.41425 - 8.41475          | 156.7 - 156.9       | 3260 - 3267     | 23.6 - 24.0      |
| 12.29 - 12.293             | 162.0125 - 167.17   | 3332 - 3339     | 31.2 - 31.8      |
| 12.51975 - 12.52025        | 167.72 - 173.2      | 3345.8 - 3358   | 36.43 - 36.5     |
| 12.57675 - 12.57725        | 240 - 285           | 3600 - 4400     | ( <sup>2</sup> ) |
| 13.36 - 13.41              | 322 - 335.4         |                 |                  |

1 Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.  
2 Above 38.6

§15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

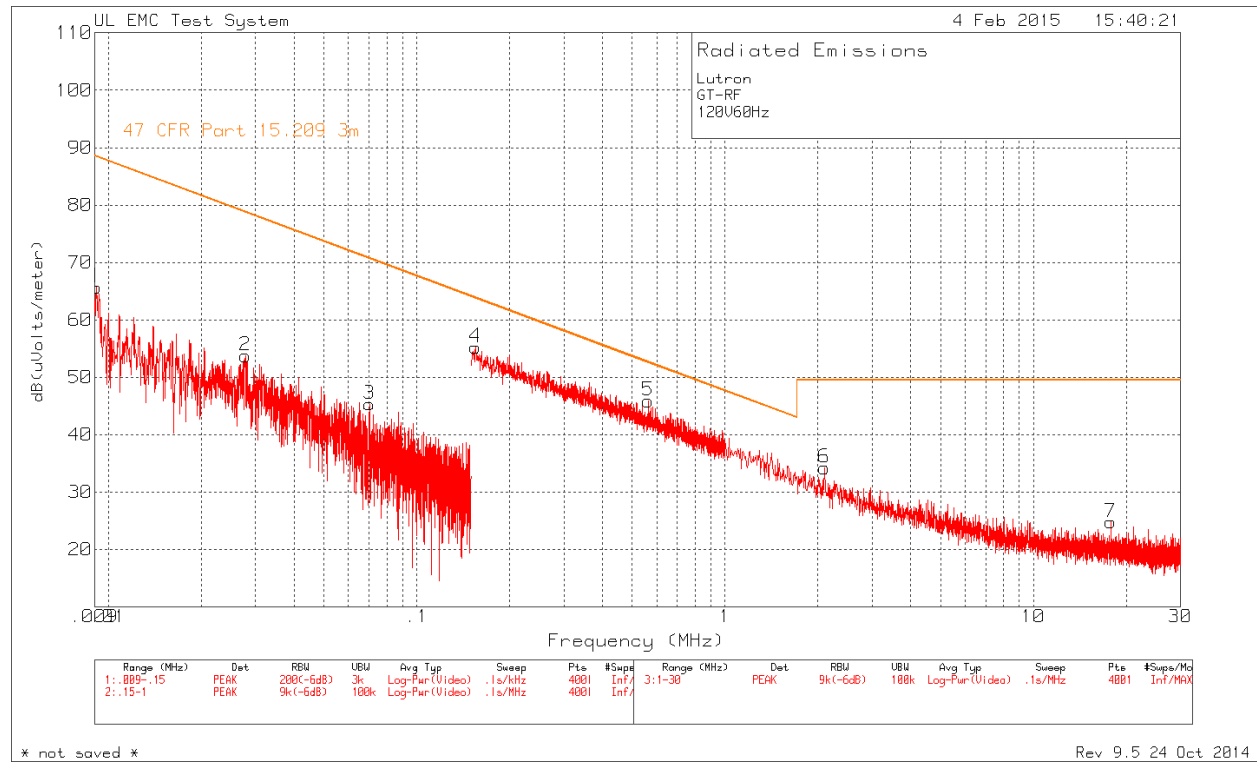
| Frequency (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-----------------|-----------------------------------|-------------------------------|
| 0.009-0.490     | 2400/F(kHz)                       | 300                           |
| 0.490-1.705     | 24000/F(kHz)                      | 30                            |
| 1.705-30.0      | 30                                | 30                            |
| 30-88           | 100**                             | 3                             |
| 88-216          | 150**                             | 3                             |
| 216-960         | 200**                             | 3                             |
| Above 960       | 500                               | 3                             |

\*\*Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

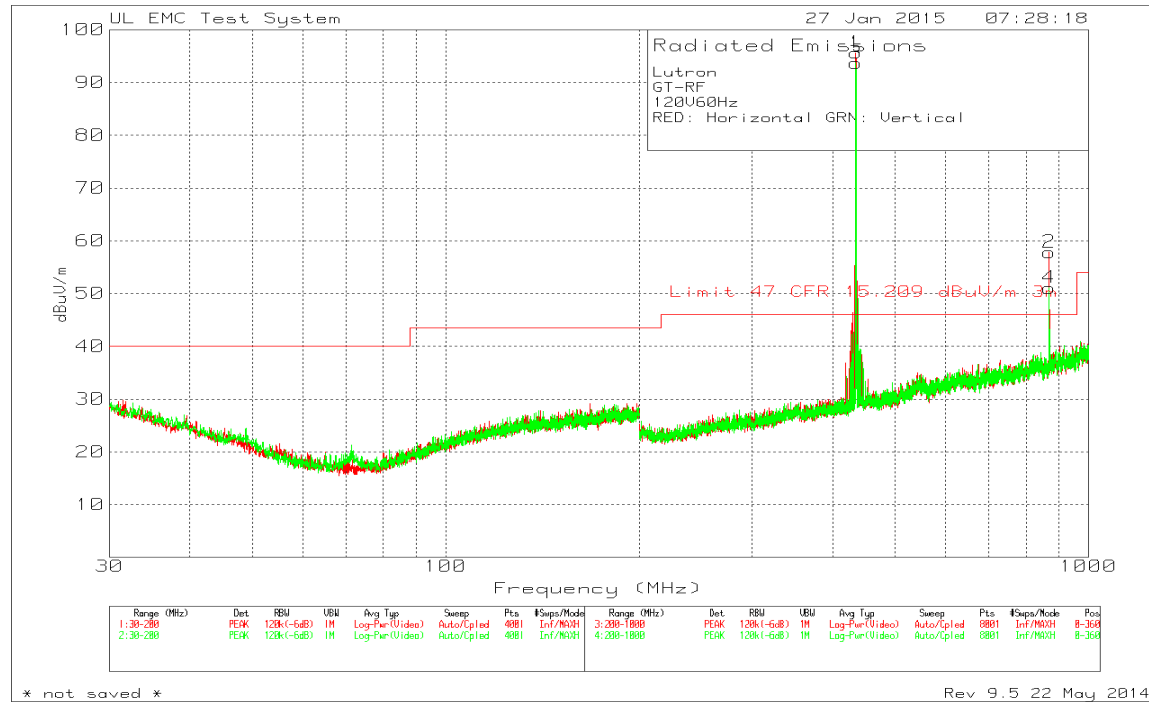
## RESULTS

### Emissions 9kHz – 30MHz



\* There were no emissions recorded between 9kHz and 30MHz

# FUNDAMENTAL, HARMONICS AND TX SPURIOUS EMISSION (30 – 1000 MHz)



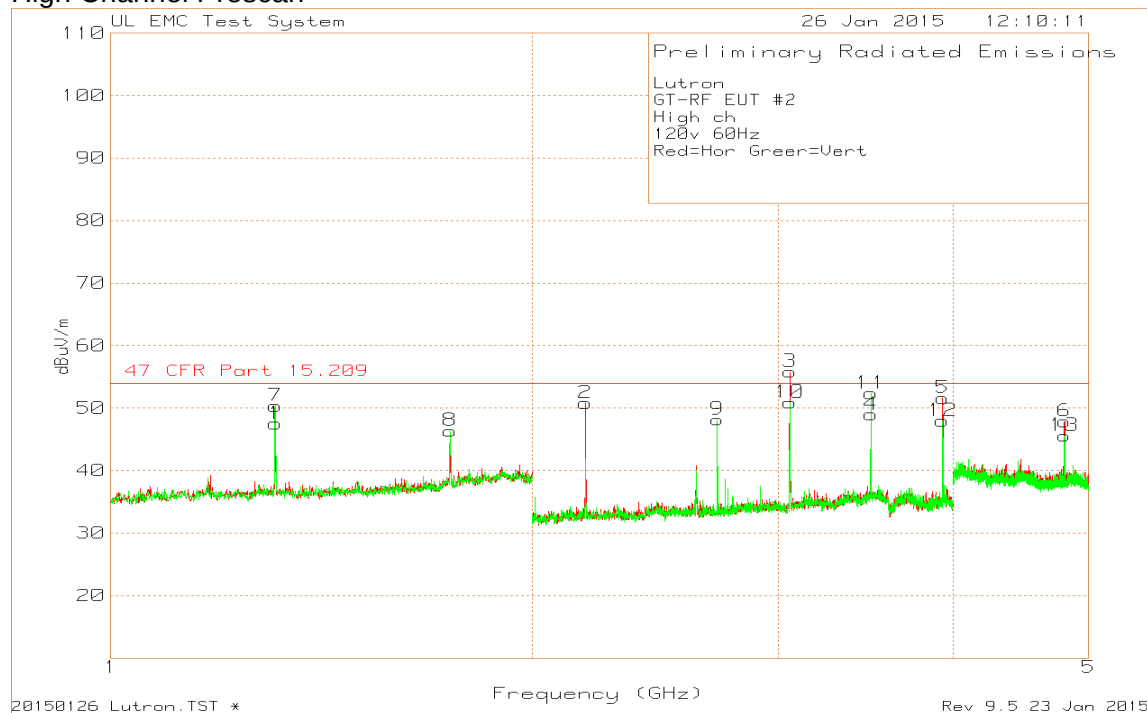
| Test Frequency (MHz) | Meter Reading (dBuV) | Detector | Antenna Factor dB/m | Path Factor dB | Peak Level dBuV/m | Peak Limit dBuV/m | Peak Margin dB | Duty Cycle Factor dB | Average level dBuV/m | Average Limit dBuV/m | Margin dB | Azimuth [Degs] | Height [cm] | Polarity |
|----------------------|----------------------|----------|---------------------|----------------|-------------------|-------------------|----------------|----------------------|----------------------|----------------------|-----------|----------------|-------------|----------|
| 431.0402             | 70.49                | PK       | 17                  | 8.5            | 95.99             | 100.72            | -4.73          | -19.65               | 76.34                | 80.72                | -4.38     | 7              | 213         | H        |
| 431.0353             | 68.98                | PK       | 17                  | 8.5            | 94.48             | 100.72            | -6.24          | -19.65               | 74.83                | 80.72                | -5.89     | 139            | 102         | V        |
| 436.9607             | 68.57                | PK       | 17.2                | 8.5            | 94.27             | 100.93            | -6.66          | -19.65               | 74.62                | 80.93                | -6.31     | 351            | 218         | H        |
| 437.0371             | 71.05                | PK       | 17.2                | 8.5            | 96.75             | 100.93            | -4.18          | -19.65               | 77.1                 | 80.93                | -3.83     | 138            | 117         | V        |
| 861.9335             | 13.83                | PK       | 23.3                | 10.2           | 47.33             | 66.02             | -18.69         | -19.65               | 27.68                | 46.02                | -18.34    | 40             | 379         | H        |
| 862.0764             | 18.09                | PK       | 23.3                | 10.2           | 51.59             | 66.02             | -14.43         | -19.65               | 31.94                | 46.02                | -14.08    | 328            | 141         | V        |
| 874.032              | 21.66                | PK       | 23                  | 10.2           | 54.86             | 66.02             | -11.16         | -19.65               | 35.21                | 46.02                | -10.81    | 303            | 104         | H        |
| 873.9212             | 16.89                | PK       | 23                  | 10.2           | 50.09             | 66.02             | -15.93         | -19.65               | 30.44                | 46.02                | -15.58    | 143            | 203         | V        |
| PK - Peak detector   |                      |          |                     |                |                   |                   |                |                      |                      |                      |           |                |             |          |

## HARMONICS AND TX SPURIOUS EMISSIONS ABOVE 1GHz

### Low Channel Prescan



### High Channel Prescan



Radiated Emissions above 1GHz Data

| Test Frequency (GHz) | Meter Reading (dBuV) | Detector | Antenna Factor dB | Path Factor dB | Peak Level dBuV/m | Peak Limit dBuV/m | Peak Margin dB | Duty Cycle Factor dB | Average Level dBuV/m | Limit 47 CFR Part 15.209 dBuV/m | Average Margin dB | Azimuth [Degs] | Height [cm] | Polarity |
|----------------------|----------------------|----------|-------------------|----------------|-------------------|-------------------|----------------|----------------------|----------------------|---------------------------------|-------------------|----------------|-------------|----------|
| Low Channel          |                      |          |                   |                |                   |                   |                |                      |                      |                                 |                   |                |             |          |
| 1.293                | 82.38                | Pk       | 25.2              | -55.71         | 51.87             | 74                | -22.13         | -19.65               | 32.22                | 54                              | -21.78            | 0-360          | 100         | H        |
| 2.155                | 80.7                 | Pk       | 21.6              | -52.47         | 49.83             | 74                | -24.17         | -19.65               | 30.18                | 54                              | -23.82            | 0-360          | 150         | H        |
| 3.017                | 84.83                | Pk       | 22.5              | -50.85         | 56.48             | 74                | -17.52         | -19.65               | 36.83                | 54                              | -17.17            | 0-360          | 150         | H        |
| 3.879                | 79.07                | Pk       | 23.9              | -51.2          | 51.77             | 74                | -22.23         | -19.65               | 32.12                | 54                              | -21.88            | 0-360          | 99          | H        |
| 4.741                | 74.33                | Pk       | 27.7              | -51.27         | 50.76             | 74                | -23.24         | -19.65               | 31.11                | 54                              | -22.89            | 0-360          | 100         | H        |
| 1.015                | 80.67                | Pk       | 24.1              | -56.51         | 48.26             | 74                | -25.74         | -19.65               | 28.61                | 54                              | -25.39            | 0-360          | 150         | V        |
| 1.293                | 83.4                 | Pk       | 25.2              | -55.71         | 52.89             | 74                | -21.11         | -19.65               | 33.24                | 54                              | -20.76            | 0-360          | 150         | V        |
| 3.017                | 80.15                | Pk       | 22.5              | -50.85         | 51.8              | 74                | -22.2          | -19.65               | 32.15                | 54                              | -21.85            | 0-360          | 100         | V        |
| 3.448                | 78.06                | Pk       | 23.5              | -51.07         | 50.49             | 74                | -23.51         | -19.65               | 30.84                | 54                              | -23.16            | 0-360          | 150         | V        |
| 3.879                | 76.69                | Pk       | 23.9              | -51.2          | 49.39             | 74                | -24.61         | -19.65               | 29.74                | 54                              | -24.26            | 0-360          | 150         | V        |
| High Channel         |                      |          |                   |                |                   |                   |                |                      |                      |                                 |                   |                |             |          |
| 1.311                | 77.85                | Pk       | 25.2              | -55.54         | 47.51             | 74                | -26.49         | -19.65               | 27.86                | 54                              | -26.14            | 0-360          | 150         | H        |
| 2.185                | 81.42                | Pk       | 21.7              | -52.28         | 50.84             | 74                | -23.16         | -19.65               | 31.19                | 54                              | -22.81            | 0-360          | 150         | H        |
| 3.059                | 83.89                | Pk       | 22.6              | -50.67         | 55.82             | 74                | -18.18         | -19.65               | 36.17                | 54                              | -17.83            | 0-360          | 150         | H        |
| 3.497                | 75.6                 | Pk       | 23.5              | -50.12         | 48.98             | 74                | -25.02         | -19.65               | 29.33                | 54                              | -24.67            | 0-360          | 100         | H        |
| 3.934                | 78.63                | Pk       | 24                | -51.03         | 51.6              | 74                | -22.4          | -19.65               | 31.95                | 54                              | -22.05            | 0-360          | 100         | H        |
| 4.808                | 70.75                | Pk       | 27.7              | -50.58         | 47.87             | 74                | -26.13         | -19.65               | 28.22                | 54                              | -25.78            | 0-360          | 150         | H        |
| 1.311                | 80.69                | Pk       | 25.2              | -55.54         | 50.35             | 74                | -23.65         | -19.65               | 30.7                 | 54                              | -23.3             | 0-360          | 150         | V        |
| 1.748                | 73.84                | Pk       | 26.5              | -53.99         | 46.35             | 74                | -27.65         | -19.65               | 26.7                 | 54                              | -27.3             | 0-360          | 150         | V        |
| 2.715                | 77.43                | Pk       | 22.1              | -51.37         | 48.16             | 74                | -25.84         | -19.65               | 28.51                | 54                              | -25.49            | 0-360          | 100         | V        |
| 3.059                | 78.95                | Pk       | 22.6              | -50.67         | 50.88             | 74                | -23.12         | -19.65               | 31.23                | 54                              | -22.77            | 0-360          | 100         | V        |
| 3.497                | 78.97                | Pk       | 23.5              | -50.12         | 52.35             | 74                | -21.65         | -19.65               | 32.7                 | 54                              | -21.3             | 0-360          | 100         | V        |
| 3.933                | 75.01                | Pk       | 24                | -51.05         | 47.96             | 74                | -26.04         | -19.65               | 28.31                | 54                              | -25.69            | 0-360          | 150         | V        |
| 4.808                | 68.45                | Pk       | 27.7              | -50.58         | 45.57             | 74                | -28.43         | -19.65               | 25.92                | 54                              | -28.08            | 0-360          | 150         | V        |
| Pk - Peak Detector   |                      |          |                   |                |                   |                   |                |                      |                      |                                 |                   |                |             |          |

## 8.2. RX & DIGITAL EMISSION

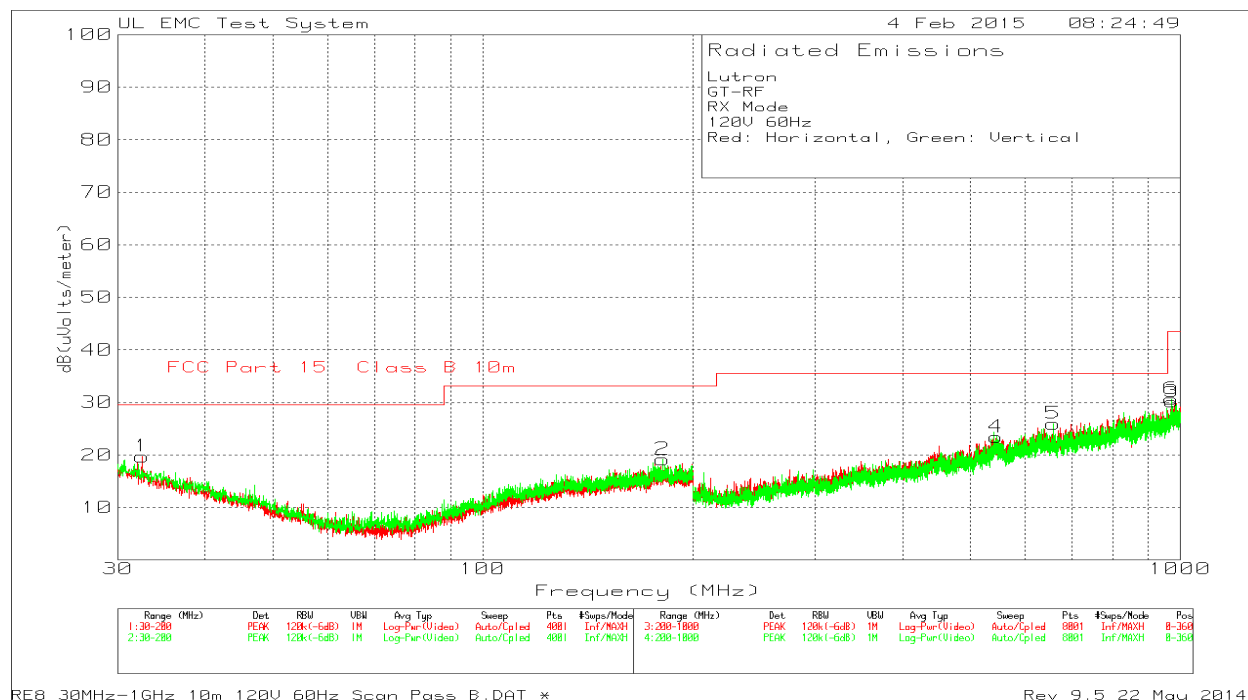
### LIMITS

#### §15.109 Radiated emission limits.

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Frequency of emission (MHz) | Field strength (microvolts/meter) |
|-----------------------------|-----------------------------------|
| 30-88                       | 100                               |
| 88-216                      | 150                               |
| 216-960                     | 200                               |
| Above 960                   | 500                               |

\* Digital radiated emissions measurements were conducted at a distance of 10m. The limits were extrapolated to the measurement distance.



\* There were no emissions recorded from the EUT. There was also no emissions recorded above 1GHz.

## 9. AC MAINS LINE CONDUCTED EMISSIONS

### LIMITS

§15.207 (a)  
IC RSS-GEN, Section 7.2.2

| Frequency of emission<br>(MHz)                   | Conducted Limit (dBμV) |           |
|--------------------------------------------------|------------------------|-----------|
|                                                  | Quasi-peak             | Average   |
| 0.15 to 0.50                                     | 66 to 56*              | 56 to 46* |
| 0.50 to 5                                        | 56                     | 46        |
| 5 to 30                                          | 60                     | 50        |
| * Decreases with the logarithm of the frequency. |                        |           |

### TEST PROCEDURE

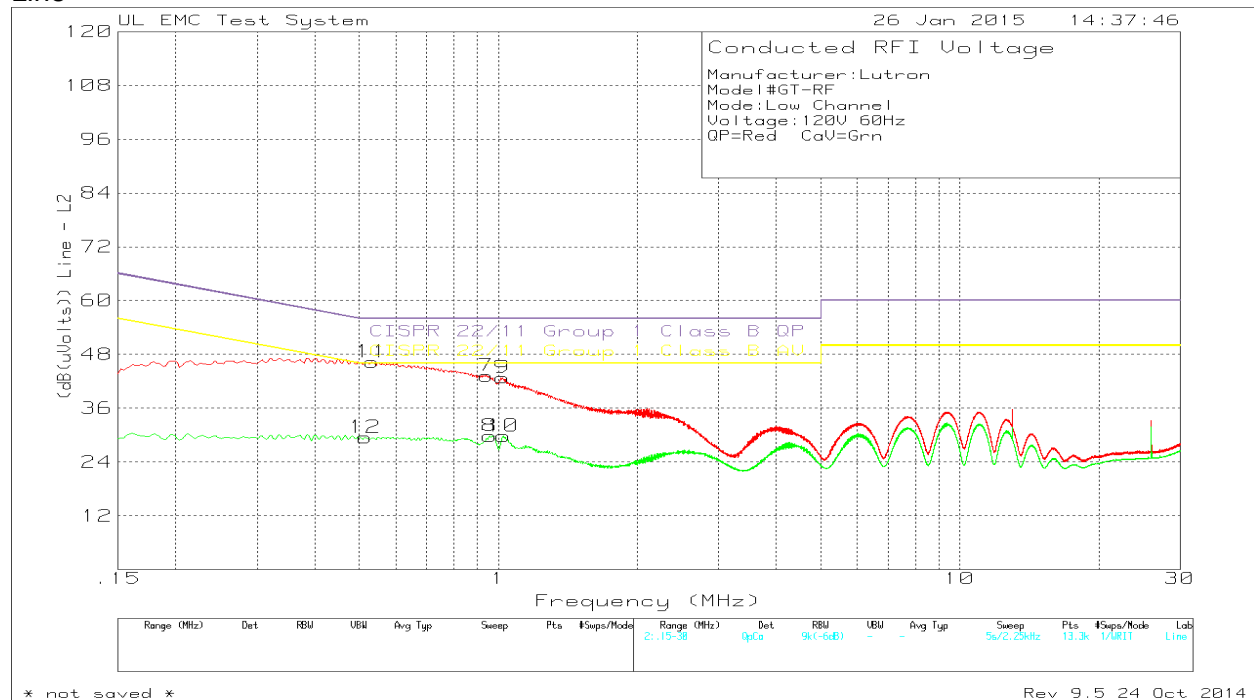
ANSI C63.10

### RESULTS

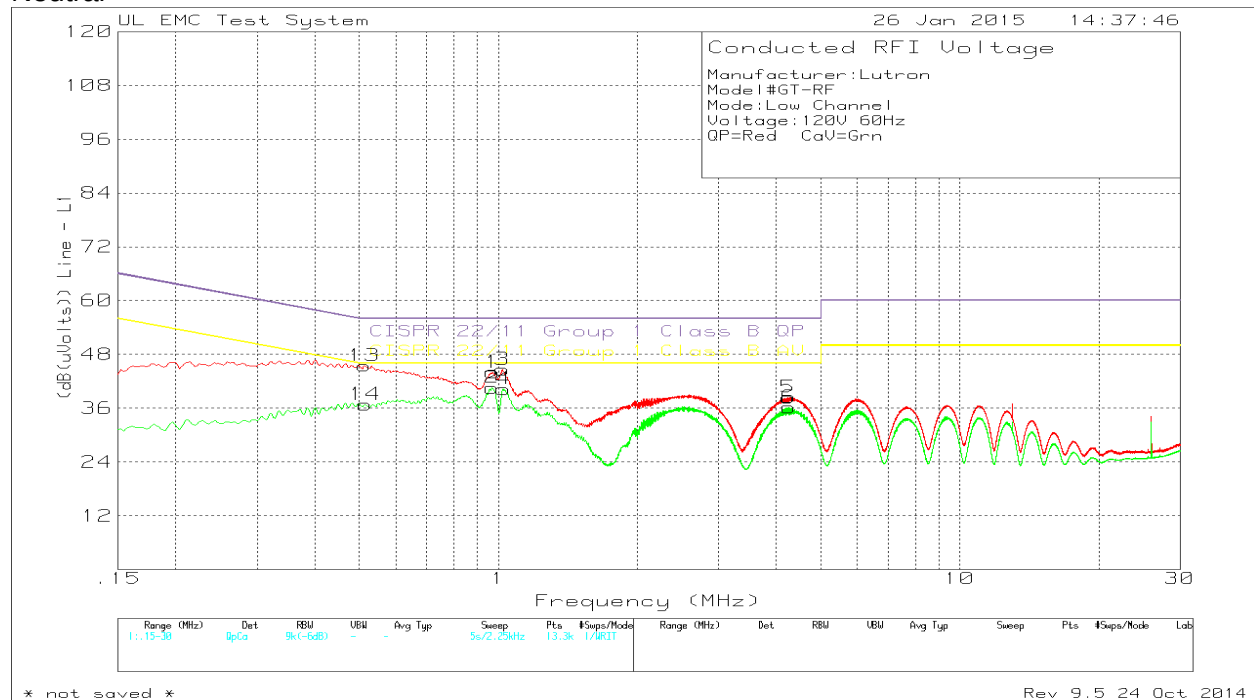
No non-compliance noted:

## Conducted Emissions Scan

Line



Neutral

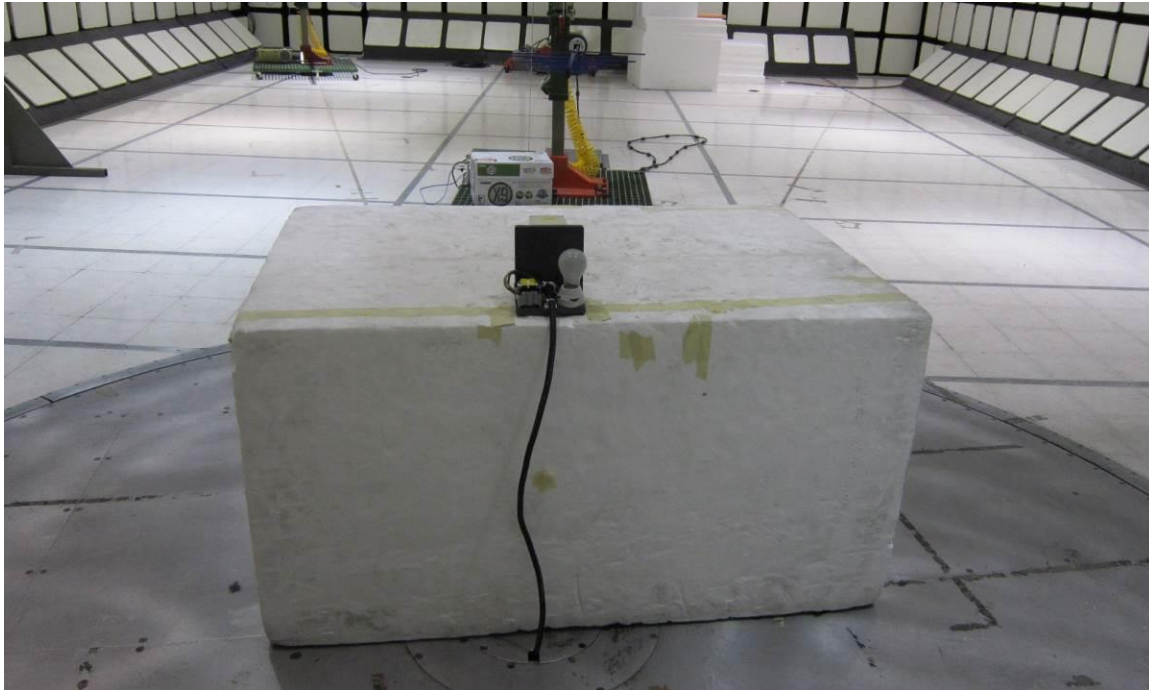


# Conducted Emissions Data

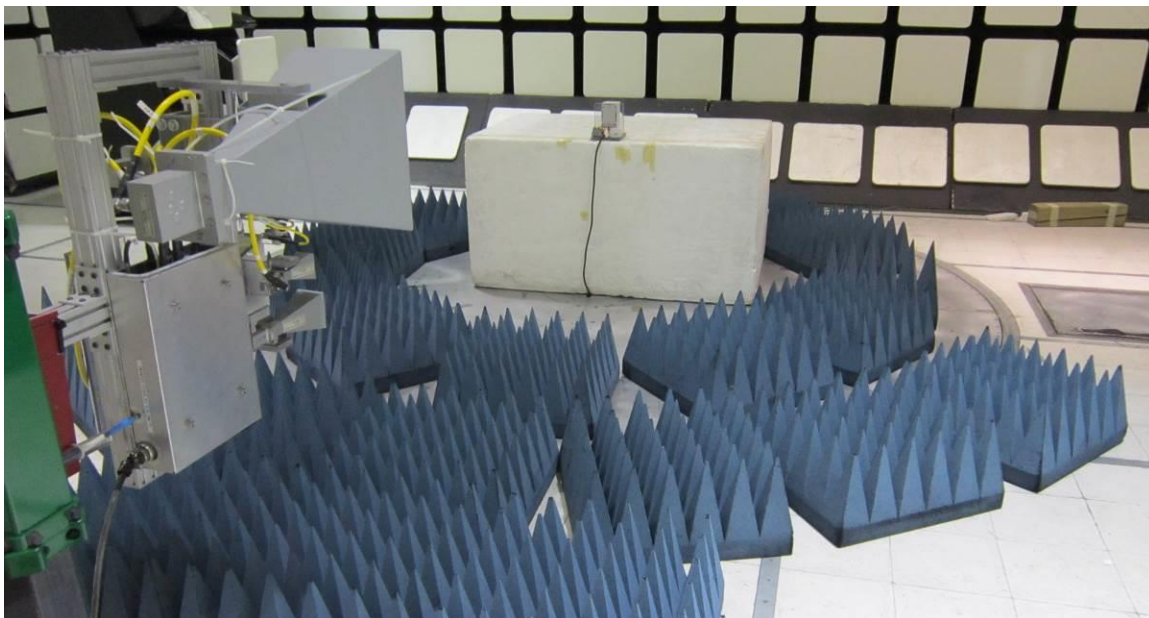
| Manufacturer: Lutron         |                      |                      |          |                |                |            |                                  |              |                                     |              |
|------------------------------|----------------------|----------------------|----------|----------------|----------------|------------|----------------------------------|--------------|-------------------------------------|--------------|
| Model#GT-RF                  |                      |                      |          |                |                |            |                                  |              |                                     |              |
| Voltage: 120V 60Hz           |                      |                      |          |                |                |            |                                  |              |                                     |              |
| QP=Red CaV=Gm                |                      |                      |          |                |                |            |                                  |              |                                     |              |
| Trace Markers                |                      |                      |          |                |                |            |                                  |              |                                     |              |
| Marker No.                   | Test Frequency (MHz) | Meter Reading (dBuV) | Detector | LISN Factor dB | Path Factor dB | Level dBuV | Limit 47 CFR Part 15.207 AV dBuV | QP Margin dB | Limit QP 47 CFR Part 15.207 AV dBuV | AV Margin dB |
| Line                         |                      |                      |          |                |                |            |                                  |              |                                     |              |
| 1                            | 0.97125              | 33.27                | Qp       | 0.1            | 10.6           | 43.97      | 56                               | -12.03       | -                                   | -            |
| 2                            | 0.969                | 29.86                | Ca       | 0.1            | 10.6           | 40.56      | -                                | -            | 46                                  | -5.44        |
| 3                            | 1.02075              | 33.87                | Qp       | 0.1            | 10.6           | 44.57      | 56                               | -11.43       | -                                   | -            |
| 4                            | 1.02525              | 29.55                | Ca       | 0.1            | 10.6           | 40.25      | -                                | -            | 46                                  | -5.75        |
| 5                            | 4.245                | 27.57                | Qp       | 0.1            | 10.7           | 38.37      | 56                               | -17.63       | -                                   | -            |
| 6                            | 4.26075              | 25.38                | Ca       | 0.1            | 10.7           | 36.18      | -                                | -            | 46                                  | -9.82        |
| 13                           | 0.51225              | 34.77                | Qp       | 0.1            | 10.6           | 45.47      | 56                               | -10.53       | -                                   | -            |
| 14                           | 0.5145               | 26.09                | Ca       | 0.1            | 10.6           | 36.79      | -                                | -            | 46                                  | -9.21        |
| Neutral                      |                      |                      |          |                |                |            |                                  |              |                                     |              |
| 7                            | 0.942                | 32.44                | Qp       | 0.1            | 10.7           | 43.24      | 56                               | -12.76       | -                                   | -            |
| 8                            | 0.95775              | 19                   | Ca       | 0.1            | 10.7           | 29.8       | -                                | -            | 46                                  | -16.2        |
| 9                            | 1.02075              | 32.04                | Qp       | 0.1            | 10.7           | 42.84      | 56                               | -13.16       | -                                   | -            |
| 10                           | 1.02525              | 18.97                | Ca       | 0.1            | 10.7           | 29.77      | -                                | -            | 46                                  | -16.23       |
| 11                           | 0.5325               | 35.49                | Qp       | 0.1            | 10.7           | 46.29      | 56                               | -9.71        | -                                   | -            |
| 12                           | 0.5145               | 18.67                | Ca       | 0.1            | 10.7           | 29.47      | -                                | -            | 46                                  | -16.53       |
| Qp - Quasi-Peak detector     |                      |                      |          |                |                |            |                                  |              |                                     |              |
| Ca - CISPR Average detection |                      |                      |          |                |                |            |                                  |              |                                     |              |

## 10. SETUP PHOTOS

### RADIATED EMISSION CONFIGURATION BELOW 1GHz



### RADIATED EMISSION CONFIGURATION ABOVE 1GHz



**Conducted Emissions**



**END OF REPORT**