



**FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8**

CERTIFICATION TEST REPORT

FOR

DIMMER

MODEL NUMBER: SZ-5NE

**FCC ID: JPZ0083
IC: 2851A-JPZ0083**

REPORT NUMBER: 1001408545

ISSUE DATE: 2011-08-12

Prepared for
**LUTRON ELECTRONICS INC
7200 SUTTER ROAD
COOPERBURG
PA 18036, USA**

Prepared by
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NVLAP LAB CODE 100255-0

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
--	2011-08-12	Initial Issue	B. DeLisi

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: LUTRON ELECTRONICS INC
7200 SUTTER ROAD
COOPERBURG, PA 18036, USA

EUT DESCRIPTION: Dimmer

MODEL: SZ-5NE

SERIAL NUMBER: NA

DATE TESTED: 2011-08-05 to 2011-08-11

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 3	Pass

Underwriters Laboratories Inc. calculated the RF Exposure of the above equipment in accordance with the requirements set forth in the above standards, using test results reported in the test report documents referenced below and/or documentation furnished by the applicant. All indications of Pass/Fail in this report are opinions expressed by Underwriters Laboratories Inc. based on interpretations of these calculations. The results show that the equipment 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 by the referenced documents. This document may not be altered or revised in any way unless done so by Underwriters Laboratories Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by Underwriters Laboratories Inc. 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 By:

Tested By:



Joseph Danisi
Lead Engineering Associate
UL

Bob DeLisi
Sr. Staff Engineer
UL

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3:2010, and RSS-210 Issue 8:2010.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 1285 Walt Whitman Rd. Melville, NY 11747, USA.

UL Melville is accredited by NVLAP, Laboratory Code 100255-0. The full scope of accreditation can be viewed at <http://ts.nist.gov/standards/scopes/1002550.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

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} &= 28.9 \text{ dBuV/m} \end{aligned}$$

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	± 3.3 dB
Radiated Disturbance, 30 to 1000 MHz	± 4.00 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a dimmer intended for residential use.

The following models are represented by the testing of the SZ-5NE:

	IC Model#
SZ-5NE	SZ-5NE-U
SZ-6NE	SZ-6NE-U
SZ-6NA	SZ-6NA-U

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an integral antenna.

5.3. SOFTWARE AND FIRMWARE

The test utility software used during testing was code supplied by Lutron Electronics Inc.

5.4. WORST-CASE CONFIGURATION AND MODE

Testing was conducted at the lowest and highest channel and only has one configuration.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

None

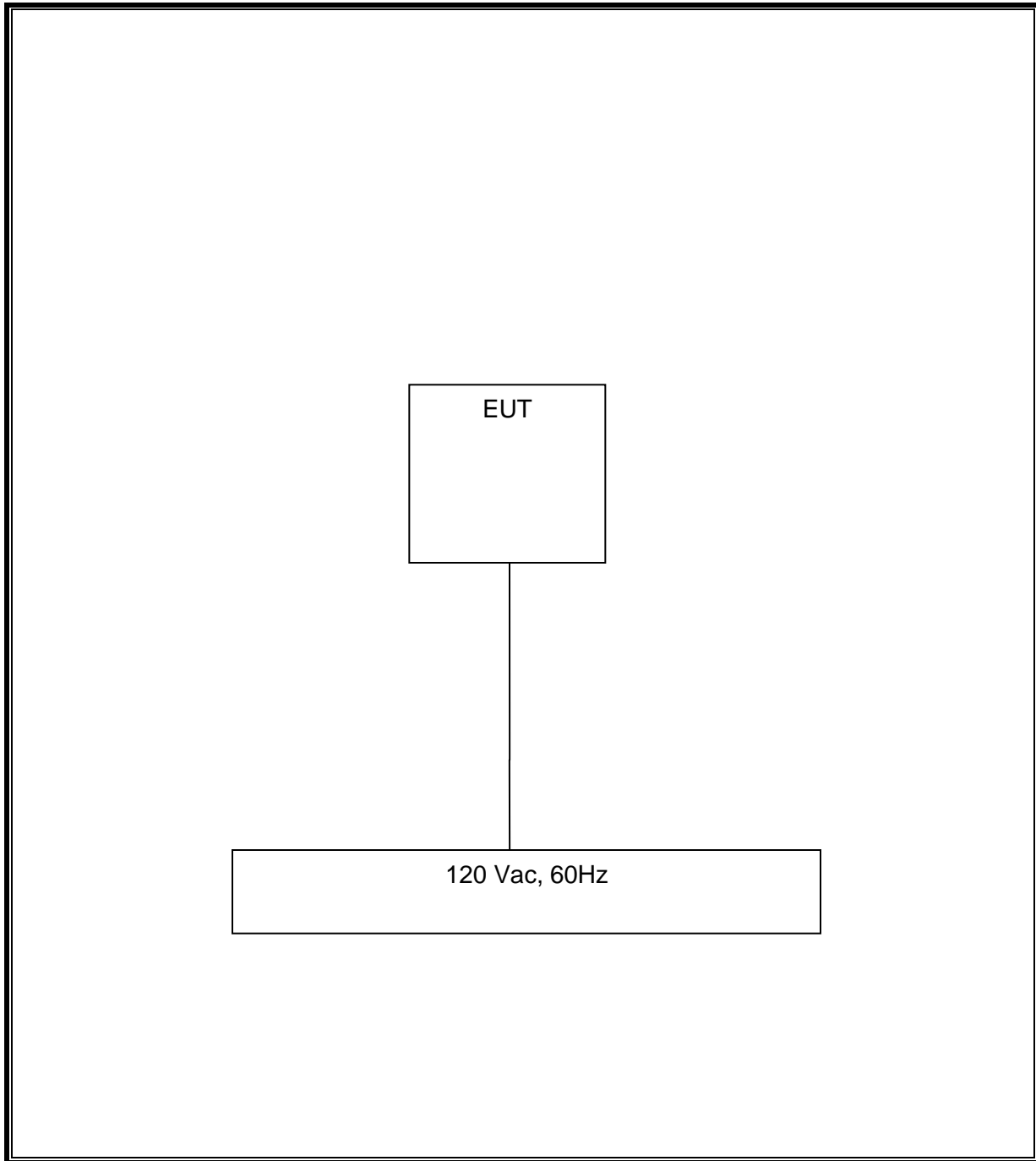
I/O CABLES

I/O CABLE LIST						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length	Remarks
1	AC	1	AC Power	Unshielded	1.5m	None

TEST SETUP

The EUT is a stand-alone device. Test software exercised the radio.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:
 Radiated Emissions - 10 Meter Chamber

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
30-1000MHz					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2011-03-01	2012-03-01
Bicon Antenna	Schaffner	VBA6106A	54	2011-04-05	2012-04-05
Log-P Antenna	Schaffner	UPA6109	44067	2011-04-29	2012-04-29
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 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29
Above 1GHz (Band Optimized System)					
Spectrum Analyzer	Agilent	E4446A	72823	2011-07-26	2012-07-26
Horn Antenna (1-2 GHz)	ETS	3161-01	51442	2008-03-28	See * below
Horn Antenna (2-4 GHz)	ETS	3161-02	48107	2007-09-27	See * below
Horn Antenna (4-8 GHz)	ETS	3161-03	48106	2007-09-27	See * below
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 9.5	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29
* - Note: As allowed by the calibration standard ANSI C63.4 Section 4.4.2, standard gain horns need only a one-time calibration. Only if physical damage occurs will the horn antenna require re-calibration. * Gain standard horn antennas (sometimes called standard gain horn antennas) need not be calibrated beyond that which is provided by the manufacturer unless they are damaged or deterioration is suspected, or they are used at a distance closer than $2D^2/\lambda$. Gain standard horn antennas have gains that are fixed by their dimensions and dimensional tolerances.					

Conducted Emissions

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Conducted Emissions – GP 1					
EMI Receiver	Rohde & Schwarz	ESIB26	ME5B-081	2011-01-27	2012-01-31
LISN	Solar	9252-50-R-24-BNC	ME5A-636	2011-02-04	2012-02-28
Switch Driver	HP	11713A	44397	N/A	N/A
RF Switch Box	UL	4	44404	N/A	N/A
Measurement Software	UL	Version 9.5	44736	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Multimeter	Fluke	87V	64386	2011-02-02	2012-02-29

Occupied Bandwidth / Cease Operation, Duty Cycle

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E4446A	72822	2011-07-02	2012-07-02
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2012-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43734	2010-03-08	2012-03-08
Measurement Software	UL	Version 9.5	44740	N/A	N/A

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 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 C63.4

The transmitter output is connected to the spectrum analyzer.

20dB Bandwidth: The RBW is set to 100 KHz. The VBW is set to 300 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:

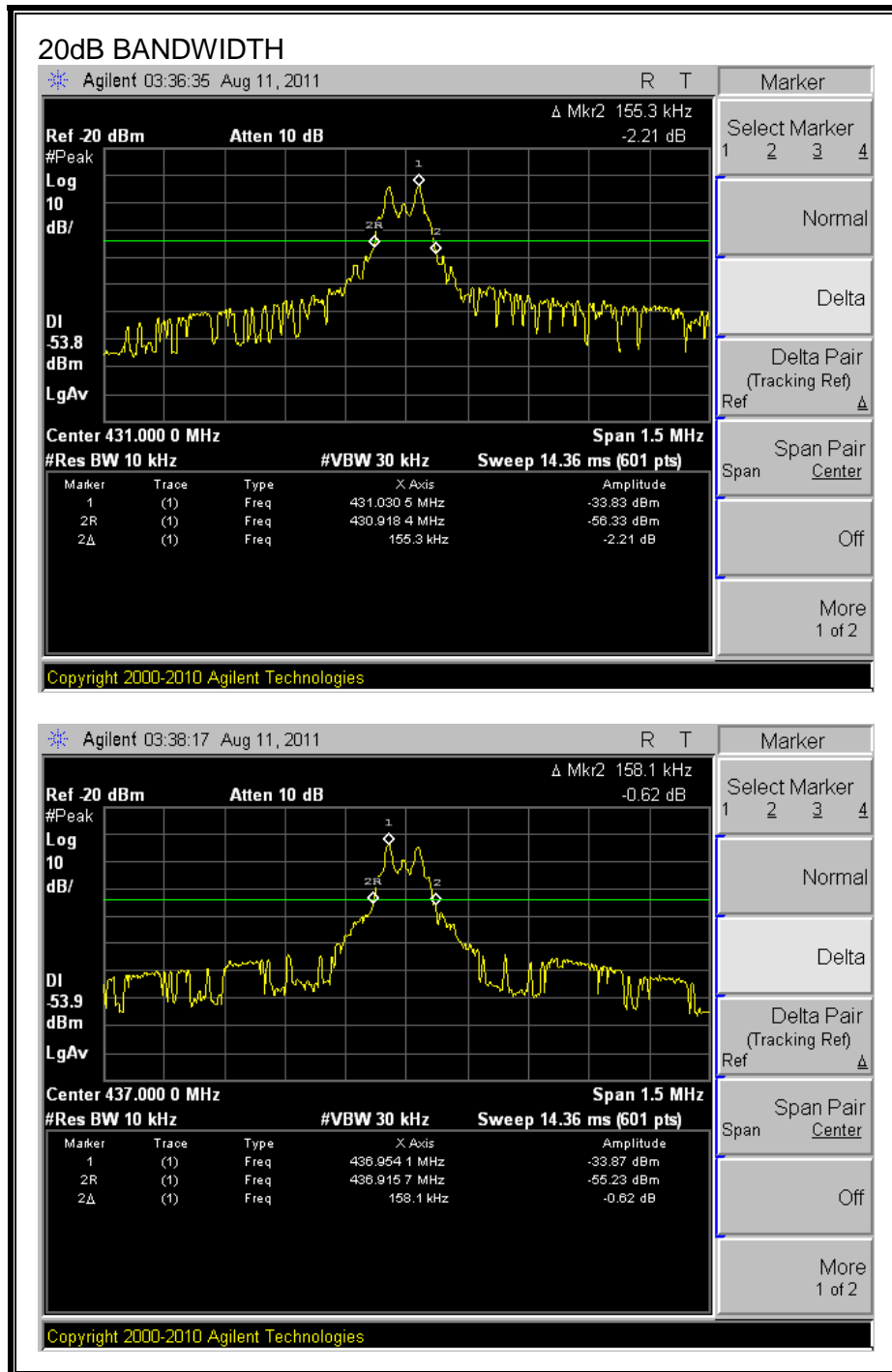
20dB Bandwidth

Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
431	155.3	1077.5	-922.2
437	158.1	1092.5	-934.4

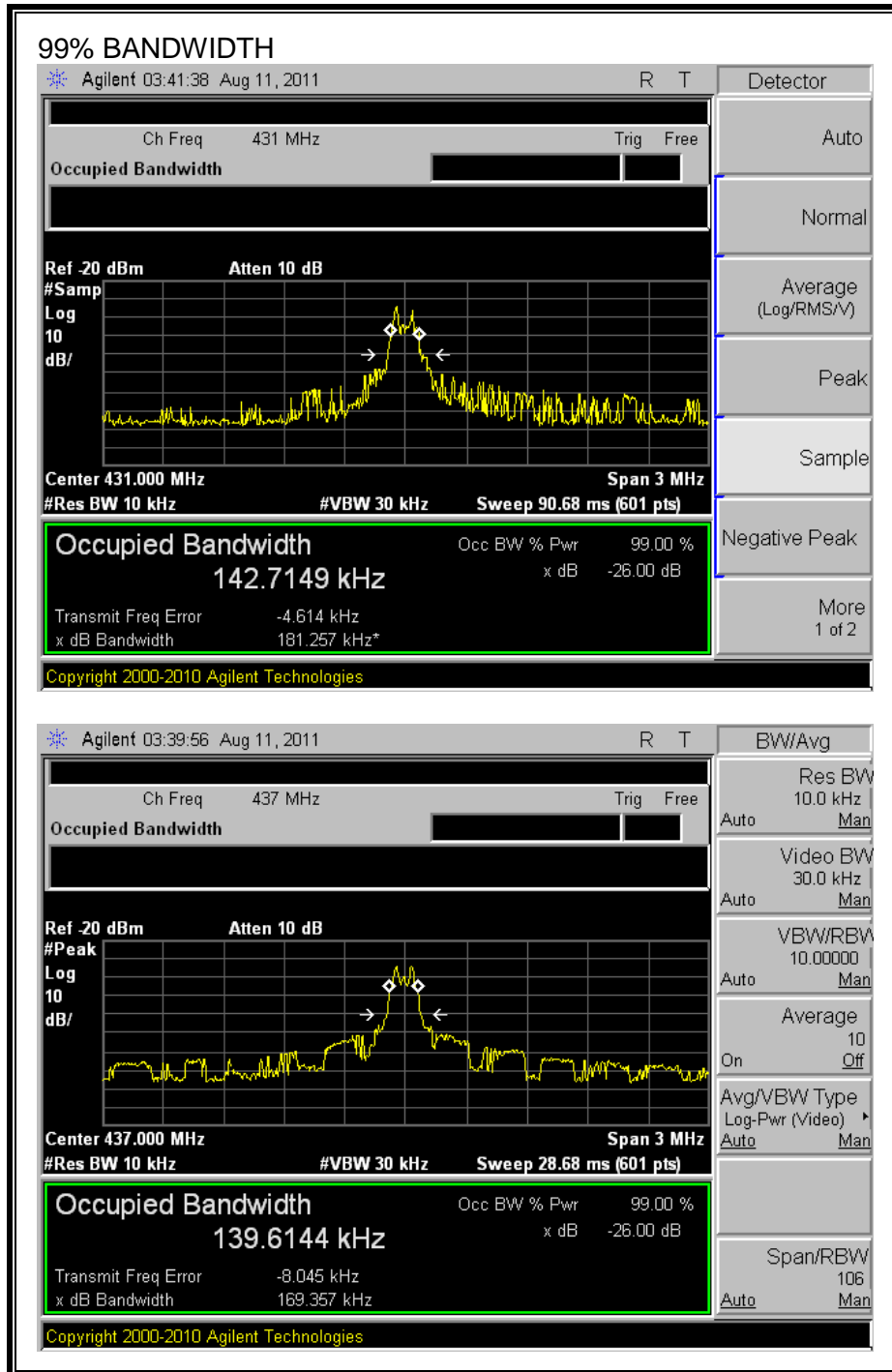
99% Bandwidth

Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
431	142.7	1077.5	-934.8
431	139.6	1077.5	-937.9

20dB BANDWIDTH



99% BANDWIDTH



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 100 kHz and the VBW is set to 100 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

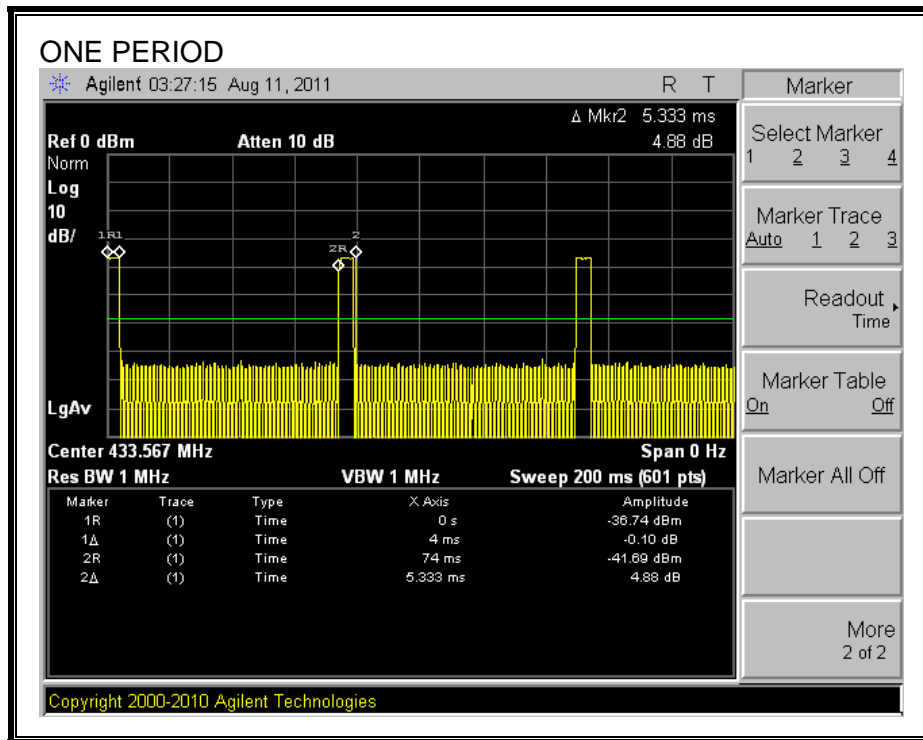
Average Reading = Peak Reading (dBuV/m) + 20log (Duty Cycle), Where Duty Cycle is (# of long pulses * long pulse width) + (# of short pulses * short pulse width) / 100 or T

RESULTS

No non-compliance noted:

One Period (ms)	Long Pulse Width (ms)	# of Long Pulses	Short Width (ms)	# of Short Pulses	Duty Cycle	20*Log Duty Cycle (dB)
100	5.333	1	4.00	1	0.093	-20.60

ONE PERIOD



7.3. TRANSMISSION TIME

LIMITS

FCC §15.231 (a) (2)

IC A1.1.1 (b)

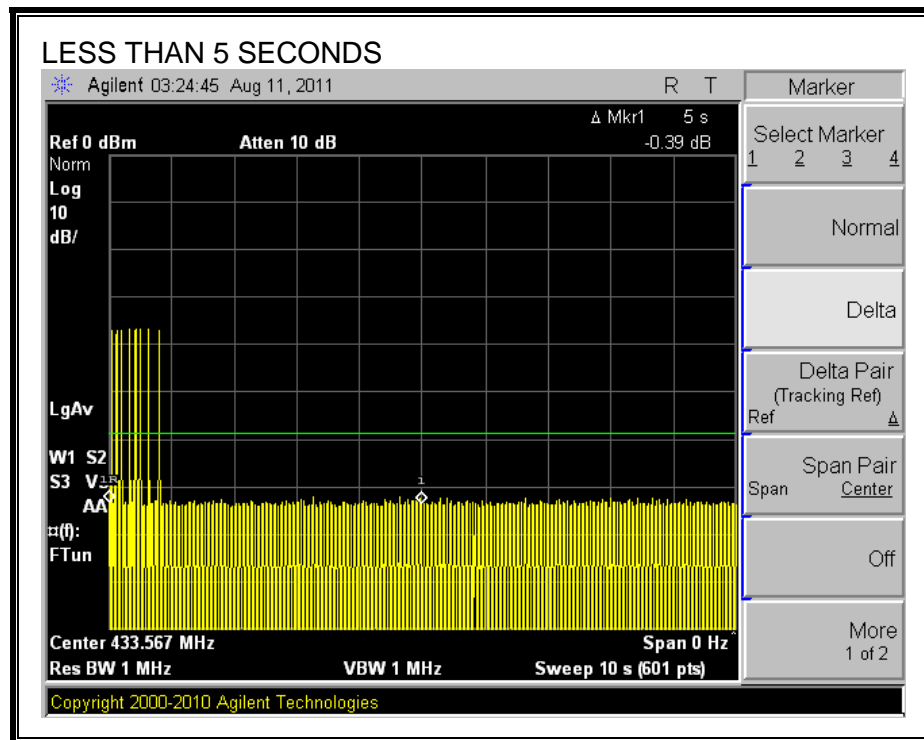
A transmitter activated automatically shall cease transmission within 5 seconds after activation.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 100 kHz and the VBW is set to 100 kHz. The sweep time is set to 10 seconds and the span is set to 0 Hz.

RESULTS

No non-compliance noted:



8. RADIATED EMISSION TEST RESULTS

8.1. TX RADIATED SPURIOUS EMISSION

LIMITS

FCC §15.231 (b)
 IC 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 ¹	125 to 375 ¹
174 - 260	3,750	375
260 - 470	3,750 to 12,500 ¹	375 to 1,250 ¹
Above 470	12,500	1,250

¹ 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
¹ 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	(²)
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)
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., Sections 15.231 and 15.241.

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

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

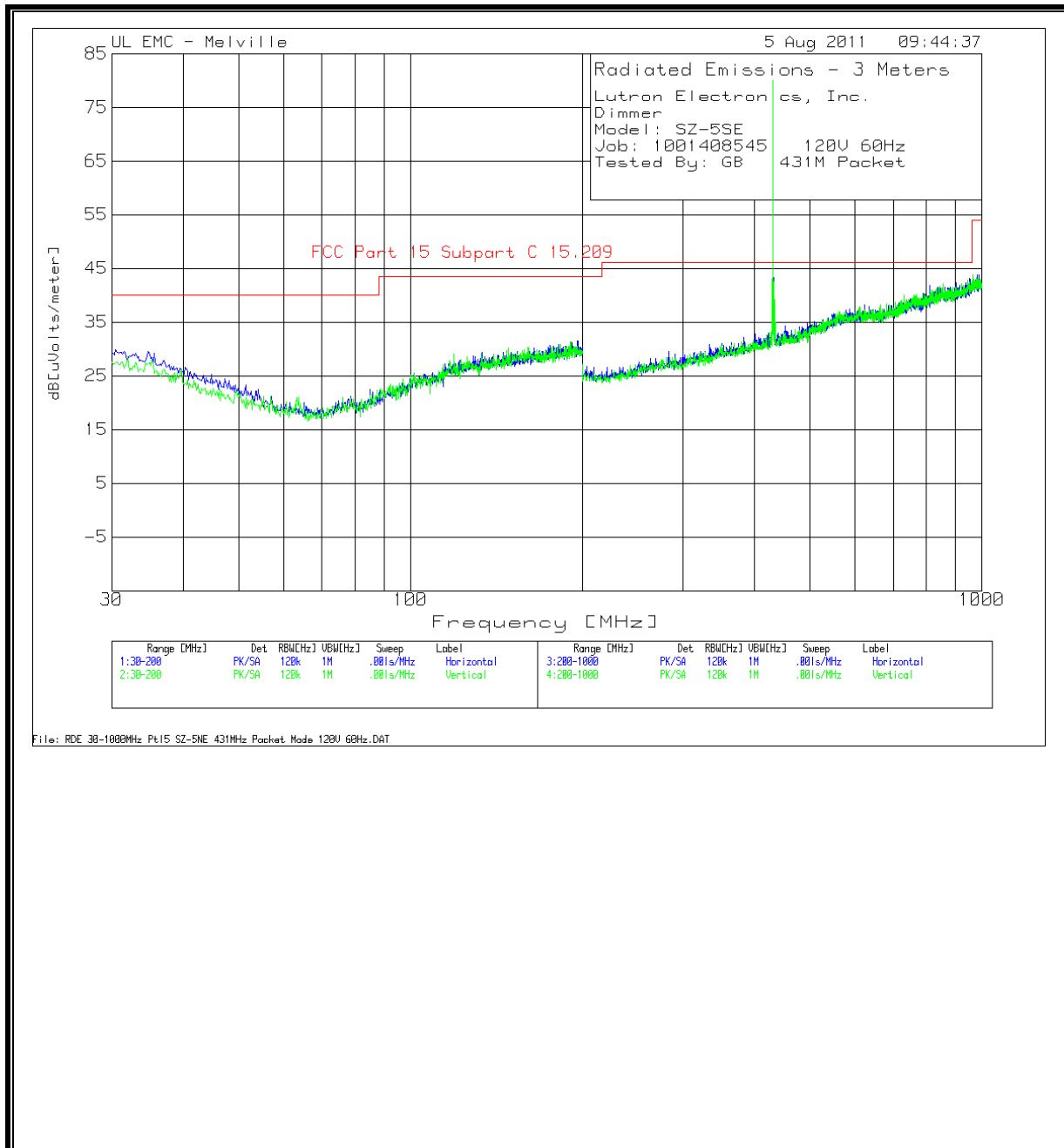
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

RESULTS

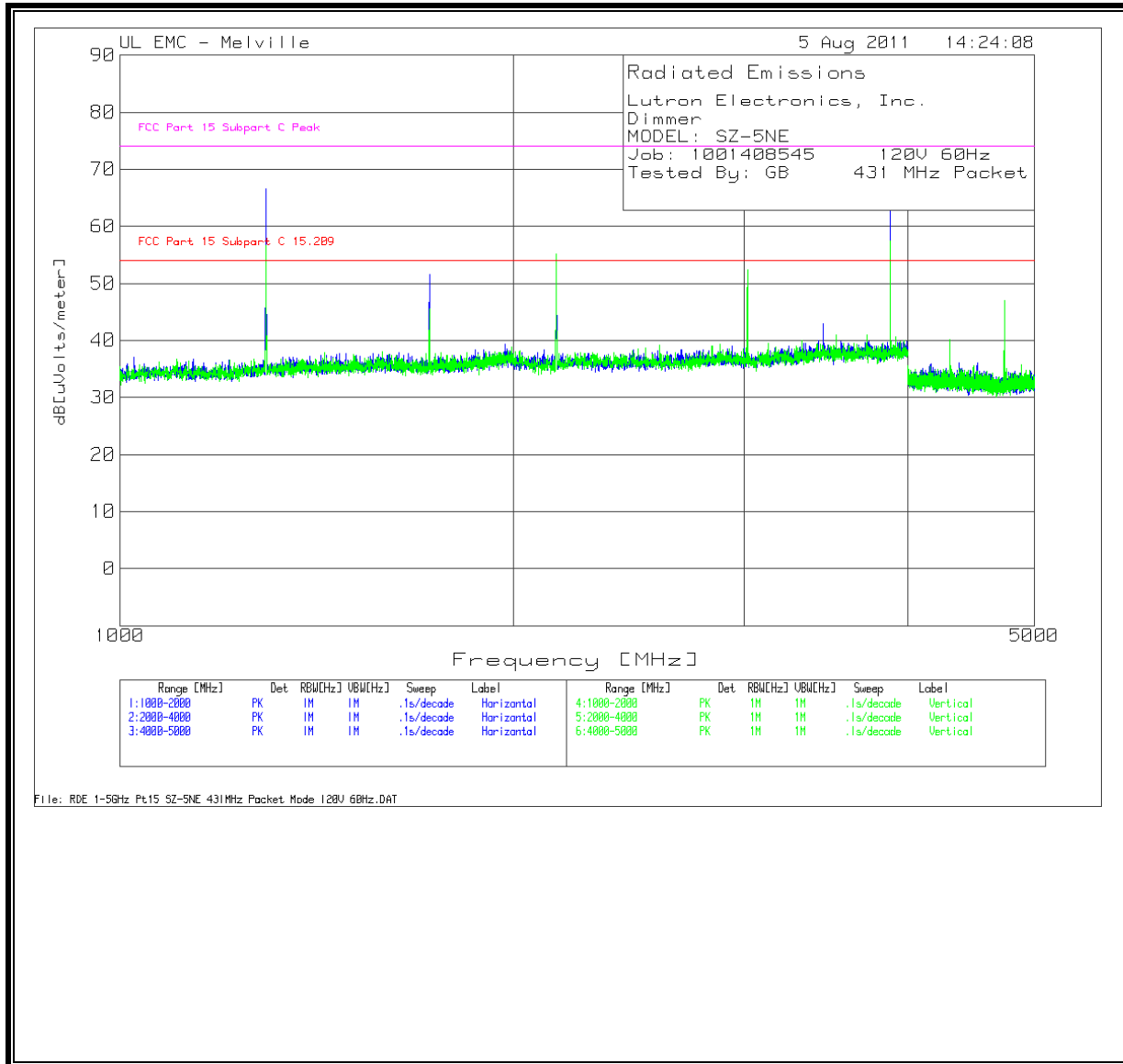
No non-compliance noted:

FUNDAMENTAL, HARMONICS AND TX SPURIOUS EMISSION (30 – 1000 MHz) 431MHz



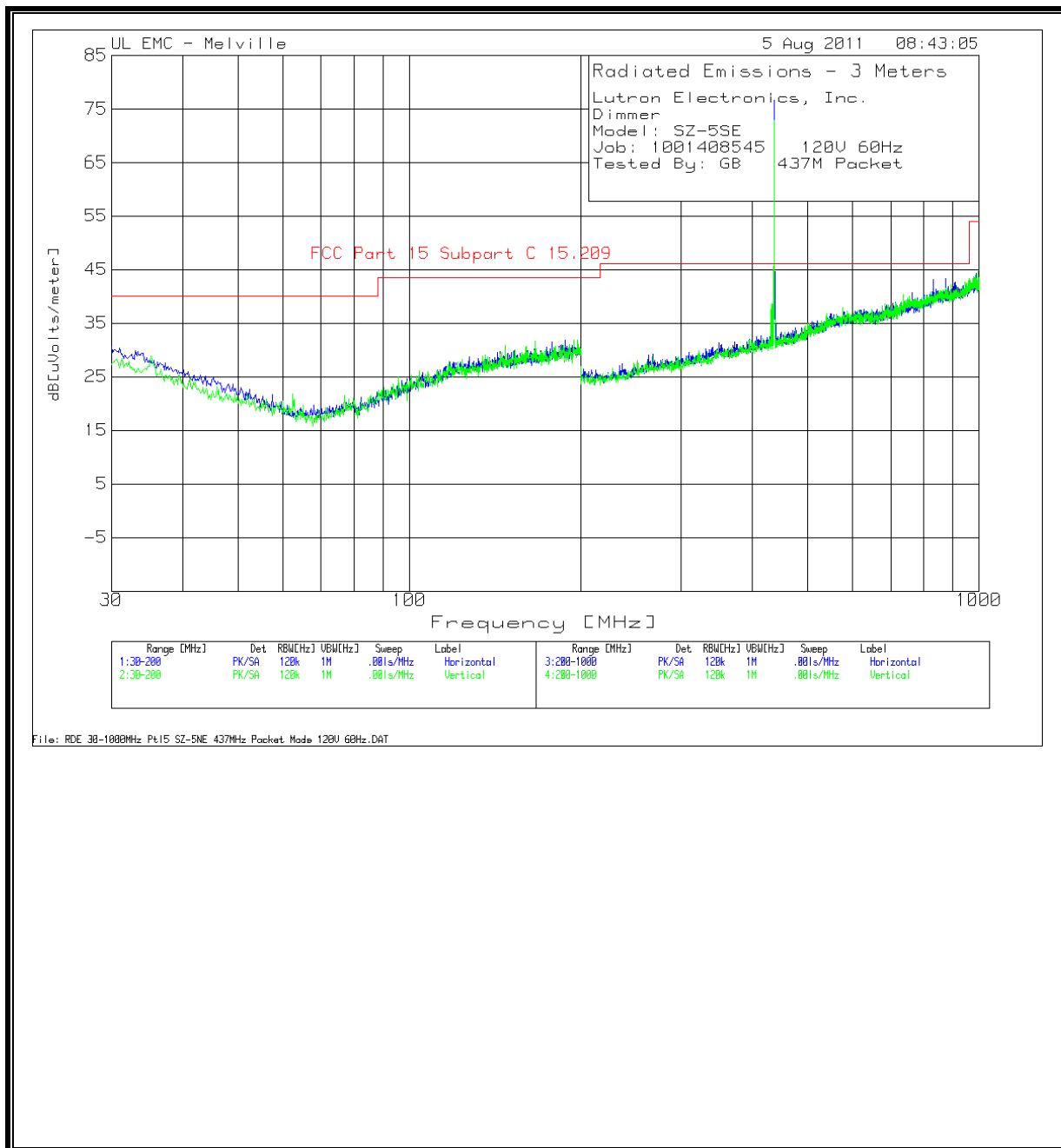
Lutron Electronics, Inc.														
Dimmer														
Model: SZ-5SE														
Job: 1001408545 120V 60Hz														
Tested By: GB 431M Packet														
Horizontal 200 - 1000MHz														
Test	Meter	Detector	LogP 3M Horz 44067 02May12	3MLoc 30- 1000MHz 02Feb12	dB[uVolts/ meter]	DCF	Corrected Level	FCC Part 15 Subpart C	Margin	FCC Part 15 Subpart C	Margin	Azimuth [Degs]	Height [cm]	Polarity
Frequency	Reading		[dB]	[dB]				15.209		15.221				
431	56.74	PK	17	2.3	76.04	20.6	55.44	-	-	80.7	-25.26	17	103	Horz
432.8521	8.46	QP	17.1	2.3	27.86	-	-	46	-18.14			40	324	Horz
810.7	8.84	QP	22.4	3.3	34.54	-	-	46	-11.46			222	290	Horz
901.8513	9.2	QP	23.2	3.5	35.9	-	-	46	-10.1			275	362	Horz
Vertical 200 - 1000MHz														
431.0313	61.92	PK	16.5	2.3	80.72	20.6	60.12	-	-	80.7	-20.58	142	140	Vert
434.018	7.96	QP	16.6	2.3	26.86	-	-	46	-19.14			30	383	Vert
435.4577	7.9	QP	16.6	2.3	26.8	-	-	46	-19.2			281	316	Vert
853.6549	8.94	QP	23.2	3.4	35.54	-	-	46	-10.46			130	281	Vert
945.0832	9.3	QP	24	3.6	36.9	-	-	46	-9.1			49	193	Vert
862	16.13	PK	23	3.4	42.53	-	-	46	-3.47			96	235	Vert
PK - Peak detector (Maximize)														
QP - Quasi-Peak detector														
LnAv - Linear Average detector														
LgAv - Log Average detector														
Av - Average detector														
CAV - CISPR Average detector														
RMS - RMS detection														
CRMS - CISPR RMS detection														

HARMONICS AND TX SPURIOUS EMISSIONS ABOVE 1GHz 431MHz



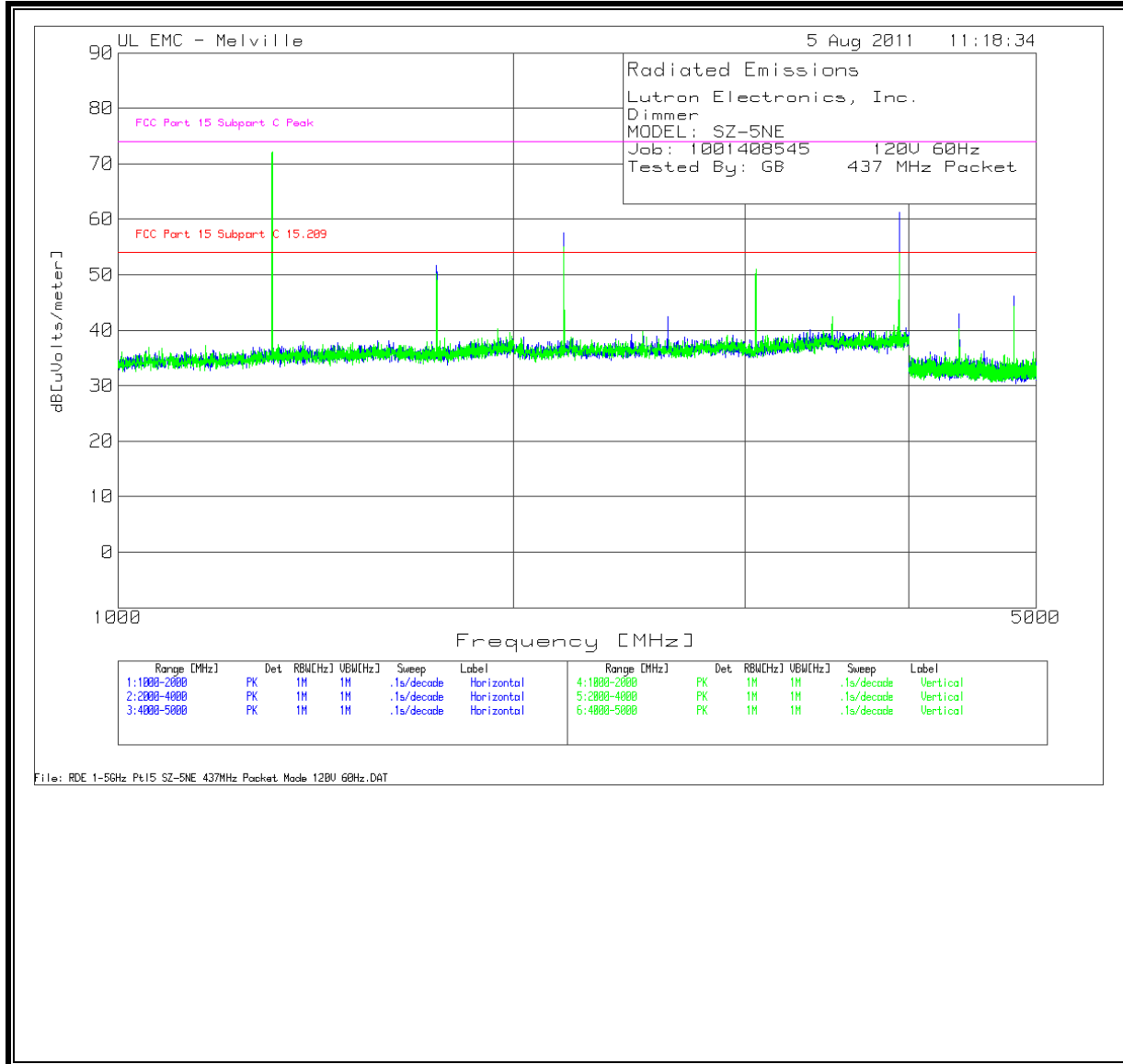
Lutron Electronics, Inc.														
Dimmer														
MODEL: S2-5NE														
Job: 1001408545 120V 60Hz														
Tested By: GB 431 MHz Packet														
Test Frequency	Meter Reading	Detector	51442 1-2GHz [dB]	BOMS Factor [dB]	dB[uVolts/meter]	DCF	Corrected Level	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C Peak	Margin	Azimuth [Degs]	Height [cm]	Polarity
Horizontal 1000 - 2000MHz														
1293.11	93.93	PK	20.5	-44.4	70.03	20.6	49.43	54	-4.57	74	-3.97	2	379	Horz
1723.86	78.52	PK	20.8	-44.14	55.18	20.6	34.58	54	-19.42	74	-18.82	121	362	Horz
Horizontal 2000 - 4000MHz														
2155.2	81.08	PK	21.4	-43.38	59.1	20.6	38.5	54	-15.5	74	-14.9	342	339	Horz
3017.22	72.58	PK	21.5	-41.97	52.11	20.6	31.51	54	-22.49	74	-21.89	348	382	Horz
3879.25	84.76	PK	22.6	-41.92	65.44	20.6	44.84	54	-9.16	74	-8.56	55	371	Horz
3448.31	65.16	PK	22.1	-41.73	45.53	20.6	24.93	54	-29.07	74	-28.47	225	139	Horz
Horizontal 4000 - 5000MHz														
4310.31	68.35	PK	27.7	-51.73	44.32	20.6	23.72	54	-30.28	74	-29.68	92	395	Horz
4742	61.05	PK	27.2	-52.57	35.68	20.6	15.08	54	-38.92	74	-38.32	276	312	Horz
Vertical 1000 - 2000MHz														
1293.02	94.32	PK	20.5	-44.41	70.41	20.6	49.81	54	-4.19	74	-3.59	262	232	Vert
1723.845	74.49	PK	20.8	-44.14	51.15	20.6	30.55	54	-23.45	74	-22.85	167	264	Vert
Vertical 2000 - 4000MHz														
2155.09	85	PK	21	-43.38	62.62	20.6	42.02	54	-11.98	74	-11.38	188	352	Vert
3017.205	75.07	PK	21.7	-41.97	54.8	20.6	34.2	54	-19.8	74	-19.2	150	349	Vert
3878.94	83.29	PK	22.6	-41.91	63.98	20.6	43.38	54	-10.62	74	-10.02	208	358	Vert
3448.05	65.35	PK	22.2	-41.73	45.82	20.6	25.22	54	-28.78	74	-28.18	222	301	Vert
Vertical 4000 - 5000MHz														
4310.36	68.24	PK	27.8	-51.73	44.31	20.6	23.71	54	-30.29	74	-29.69	360	322	Vert
4741.355	77.93	PK	27.1	-52.58	52.45	20.6	31.85	54	-22.15	74	-21.55	218	382	Vert
PK - Peak detector (maximized)														
QP - Quasi-Peak detector														
LnAv - Linear Average detector														
LgAv - Log Average detector														
Av - Average detector														
CAV - CISPR Average detector														
RMS - RMS detection														
CRMS - CISPR RMS detection														

FUNDAMENTAL, HARMONICS AND TX SPURIOUS EMISSION (30 – 1000 MHz) 437MHz



Lutron Electronics, Inc.														
Dimmer														
Model: SZ-5SE														
Job: 1001408545 120V 60Hz														
Tested By: GB 437M Packet														
Horizontal 200 - 1000MHz														
Test	Meter	Detector	LogP 3M Horz 44067	3MLoc 30- 1000MHz 02Feb12	dB[uVolts /meter]	DCF	Corrected Value	FCC Part 15 Subpart C 15.209	Margin	FCC Part 15 Subpart C 15.231	Margin	Azimuth [Degs]	Height [cm]	Polarity
Frequency	Reading		[dB]	[dB]										
436.9651	58.73	PK	17.1	2.3	78.13	20.6	57.53	-	-	80.9	-23.37	278	135	Horz
831	8.73	QP	23.1	3.3	35.13	-	-	46	-10.87	-	-	192	168	Horz
874	19.14	PK	23.3	3.4	45.84	-	-	46	-0.16	-	-	163	118	Horz
874.3	8.94	QP	23.3	3.4	35.64	-	-	46	-10.36	-	-	338	187	Horz
909.4519	9.04	QP	23.4	3.5	35.94	-	-	46	-10.06	-	-	134	400	Horz
874	14.02	PK	23.3	3.4	40.72	20.6	20.12	-	-	60.9	-40.78	360	350	Horz
Vertical 200 - 1000MHz														
431.31	7.72	QP	16.5	2.3	26.52	-	-	46	-19.48	-	-	338	266	Vert
432.2	8.19	QP	16.5	2.3	26.99	-	-	46	-19.01	-	-	1	100	Vert
432.4132	7.84	QP	16.5	2.3	26.64	-	-	46	-19.36	-	-	355	368	Vert
435.7	9.92	QP	16.6	2.3	28.82	-	-	46	-17.18	-	-	8	109	Vert
436.9549	66.15	PK	16.6	2.3	85.05	20.6	64.45	-	-	80.9	-16.45	0	127	Vert
873.8918	19.63	PK	23.3	3.4	46.33	20.6	25.73	-	-	60.9	-35.17	262	138	Vert
880.7084	9.04	QP	23.2	3.5	35.74	-	-	46	-10.26	-	-	66	107	Vert
PK - Peak detector (maximized)														
QP - Quasi-Peak detector														
LnAv - Linear Average detector														
LgAv - Log Average detector														
Av - Average detector														
CAV - CISPR Average detector														
RMS - RMS detection														
CRMS - CISPR RMS detection														

HARMONICS AND TX SPURIOUS EMISSIONS ABOVE 1GHz 437MHz



Lutron Electronics, Inc.														
Dimmer														
MODEL: SZ-5NE														
Job: 1001408545 120V 60Hz														
Tested By: GB 437 MHz Packet														
Test	Meter		51442 1-	BOMS				FCC Part		FCC Part				
Frequency	Reading	Detector	2GHz	Factor	dB[uVolts/	DCF	Corrected	Subpart C	Margin	Subpart C	Margin	Azimuth	Height	Polarity
			[dB]	[dB]	meter]		Level	15.209		Peak		[Degs]	[cm]	
Horizontal 1000 - 2000MHz														
1311.105	94.09	PK	20.5	-44.35	70.24	20.6	49.64	54	-4.36	74	-3.76	27	233	Horz
1747.98	78.41	PK	20.8	-44.14	55.07	20.6	34.47	54	-19.53	74	-18.93	126	372	Horz
Horizontal 2000 - 4000MHz														
2185.15	81.14	PK	21.5	-43.19	59.45	20.6	38.85	54	-15.15	74	-14.55	338	253	Horz
2621.74	64.31	PK	21.4	-42.5	43.21	20.6	22.61	54	-31.39	74	-30.79	253	242	Horz
3059.26	72.61	PK	21.6	-41.91	52.3	20.6	31.7	54	-22.3	74	-21.7	334	308	Horz
3932.825	81.47	PK	22.7	-41.7	62.47	20.6	41.87	54	-12.13	74	-11.53	133	288	Horz
Horizontal 4000 - 5000MHz														
4370.22	71.16	PK	27.6	-51.65	47.11	20.6	26.51	54	-27.49	74	-26.89	80	281	Horz
4806.44	75.25	PK	27.1	-52.55	49.8	20.6	29.2	54	-24.8	74	-24.2	87	192	Horz
Vertical 1000 - 2000MHz														
1311	93.74	PK	20.5	-44.35	69.89	20.6	49.29	54	-4.71	74	-4.11	274	204	Vert
1748.11	74.25	PK	20.8	-44.14	50.91	20.6	30.31	54	-23.69	74	-23.09	298	198	Vert
Vertical 2000 - 4000MHz														
2185.125	86.08	PK	21.2	-43.19	64.09	20.6	43.49	54	-10.51	74	-9.91	193	334	Vert
2625.445	59.89	PK	21.4	-42.5	38.79	20.6	18.19	54	-35.81	74	-35.21	35	154	Vert
3059.185	76.03	PK	21.8	-41.91	55.92	20.6	35.32	54	-18.68	74	-18.08	223	108	Vert
3932.6	81.98	PK	22.7	-41.71	62.97	20.6	42.37	54	-11.63	74	-11.03	203	294	Vert
Vertical 4000 - 5000MHz														
4370.32	74.01	PK	27.7	-51.66	50.05	20.6	29.45	54	-24.55	74	-23.95	218	375	Vert
4806.535	79.97	PK	27.3	-52.55	54.72	20.6	34.12	54	-19.88	74	-19.28	93	289	Vert
PK - Peak detector (Maximized)														
QP - Quasi-Peak detector														
LnAv - Linear Average detector														
LgAv - Log Average detector														
Av - Average detector														
CAV - CISPR Average detector														
RMS - RMS detection														
CRMS - CISPR RMS detection														

8.2. RX RADIATED SPURIOUS EMISSION

LIMITS

IC RSS-Gen Issue 2, section 7.2.3.2

All spurious emissions shall comply with the limits shown below:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54

Note: The lower limit shall apply at the transition frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to receive in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

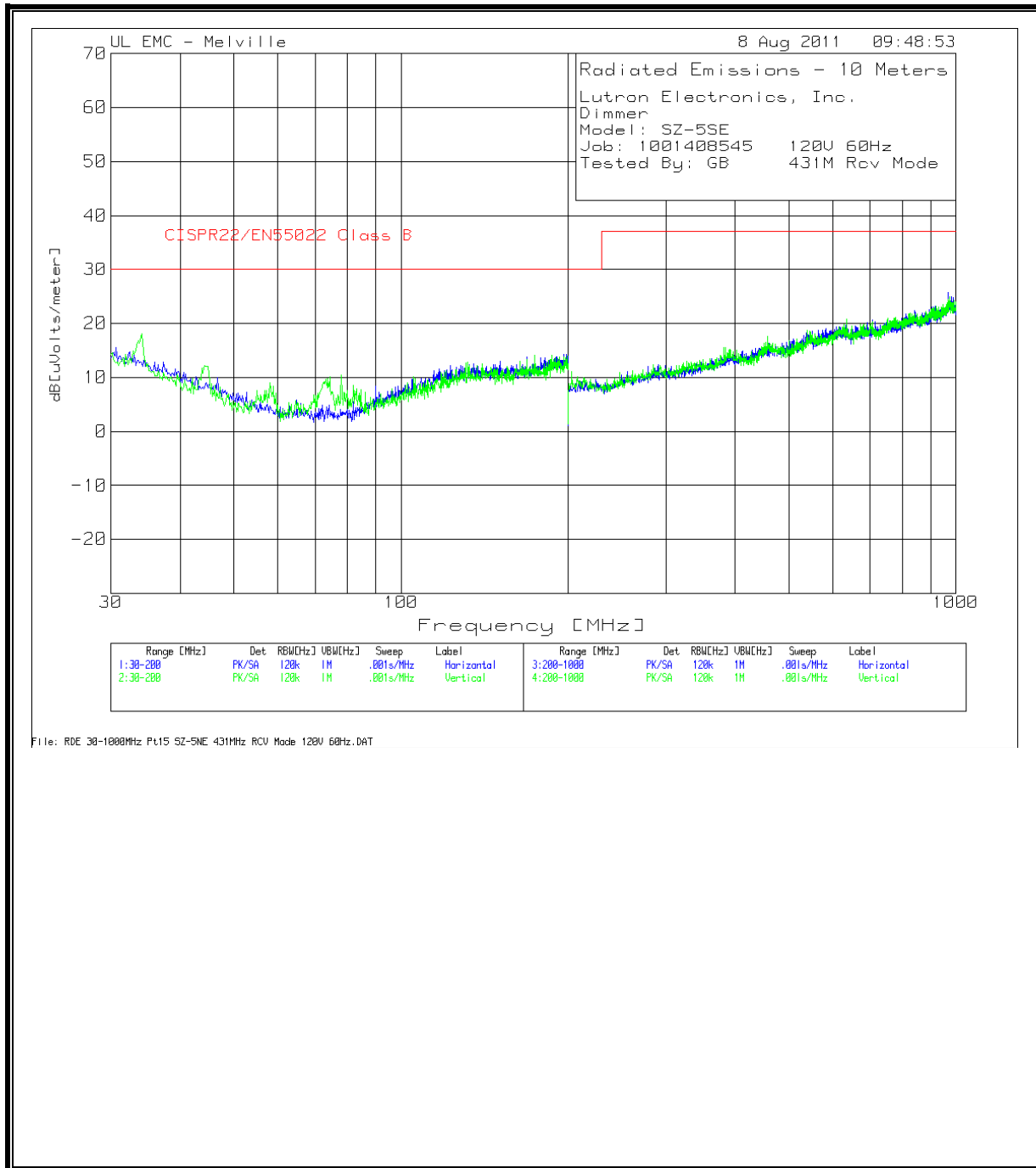
The spectrum from 30 MHz to 5th harmonic is investigated with the transmitter set to the middle channel.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

RESULTS

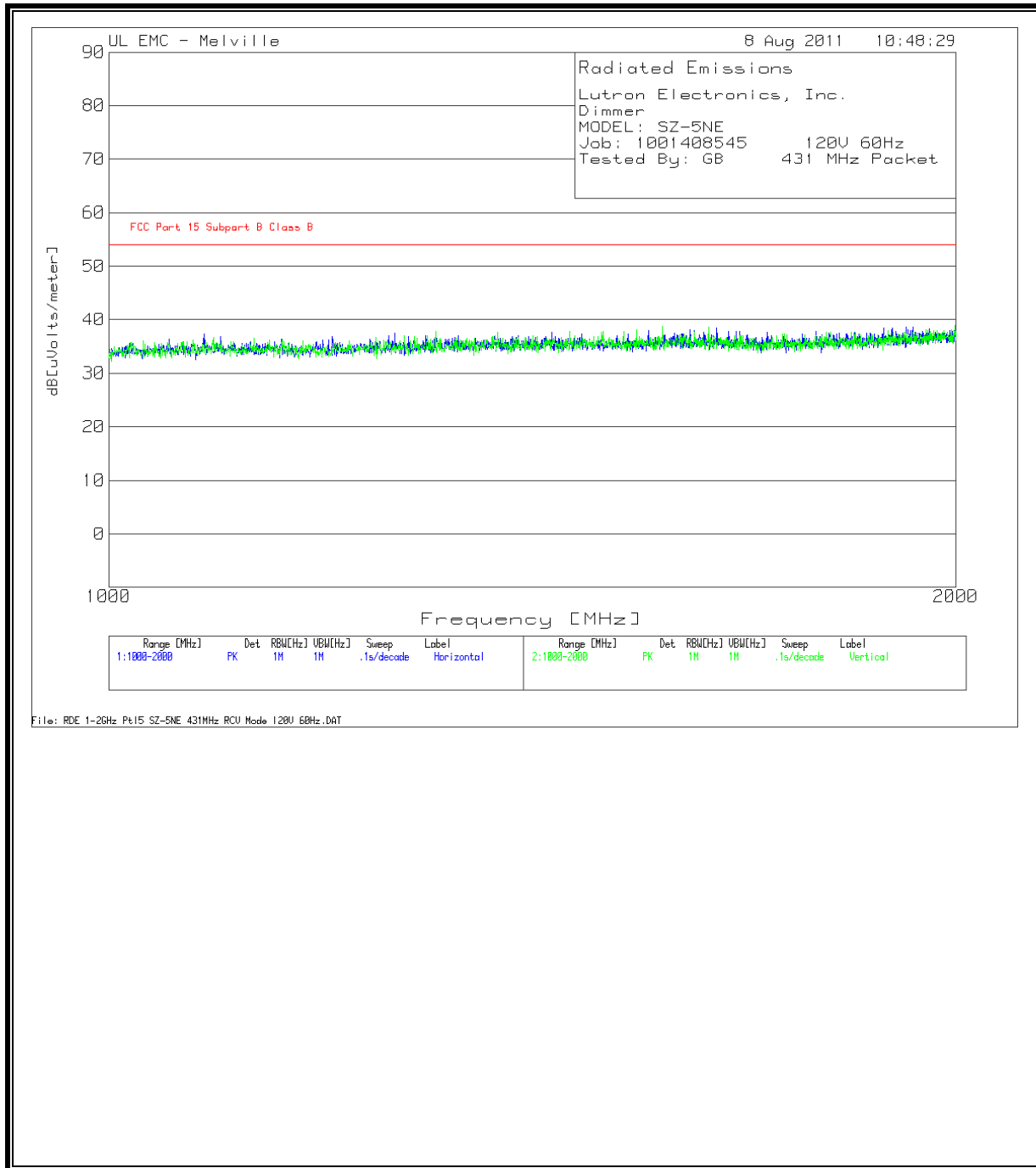
No non-compliance noted:

RECEIVER SPURIOUS EMISSION (30MHz - 1GHz) 431MHz



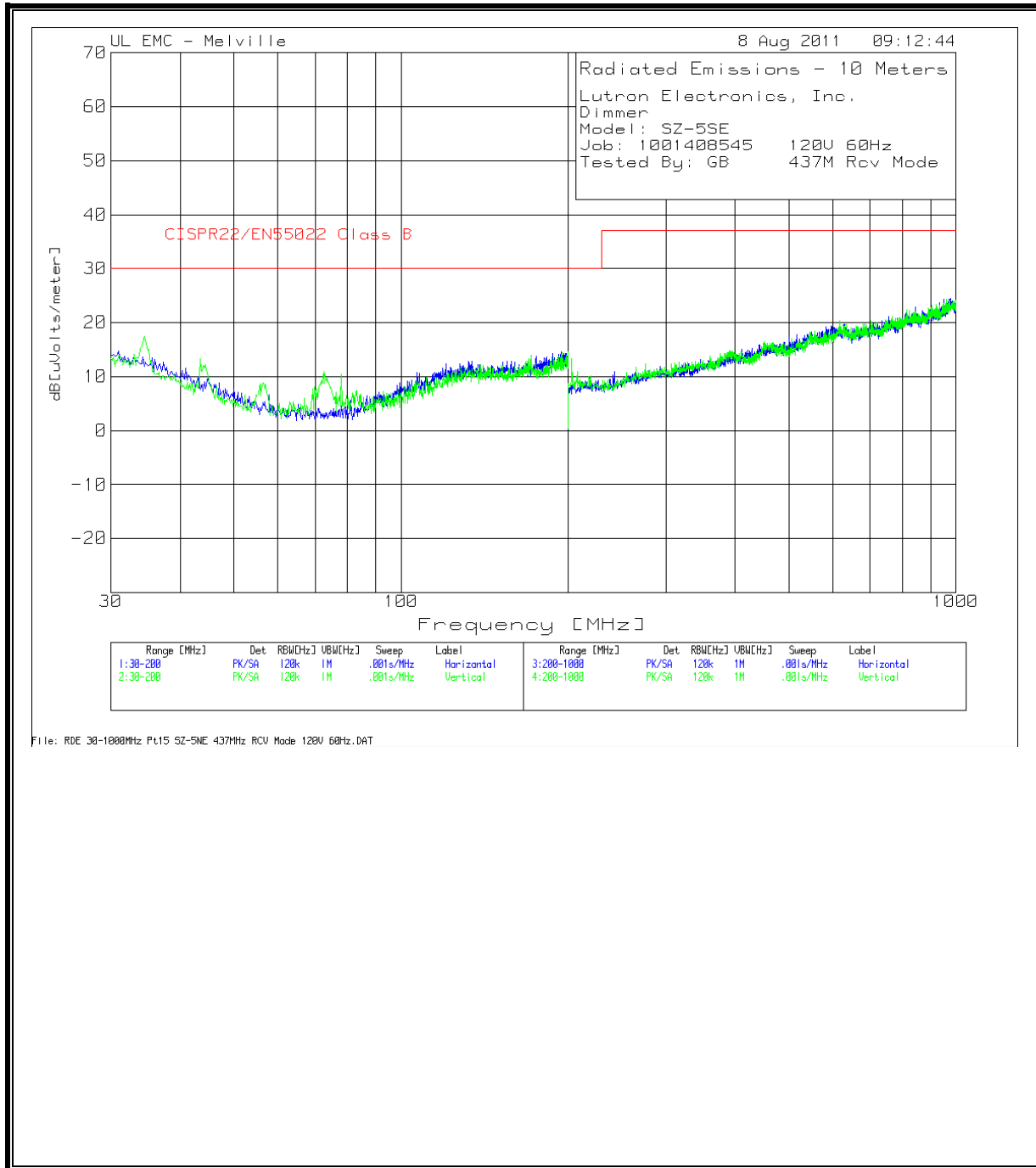
Lutron Electronics, Inc.										
Dimmer										
Model: SZ-5SE										
Job: 1001408545 120V 60Hz										
Tested By: GB 431M Rcv Mode										
Horizontal 30 - 200MHz										
Test	Meter	Detector	Bicon 10M Horz 43441 09Sep11	10MLocA 30- 1000MHz 02Feb12	dB[uVolts/ meter]	CISPR22/ EN55022 Class B	Margin	Azimuth [Degs]	Height [cm]	Polarity
Frequency	Reading		[dB]	[dB]						
168.5185	34.05	PK	15.1	-35.4	13.75	30	-16.25	328	249	Horz
Vertical 30 - 200MHz										
34.0841	38.24	PK	15.8	-36	18.04	30	-11.96	227	100	Vert
44.2943	36.58	PK	11.7	-36	12.28	30	-17.72	195	100	Vert
58.0781	37.66	PK	7.3	-35.9	9.06	30	-20.94	162	100	Vert
74.4144	38.31	PK	7.6	-35.8	10.11	30	-19.89	98	100	Vert
77.988	37.82	PK	8.3	-35.7	10.42	30	-19.58	129	100	Vert
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

RECEIVER SPURIOUS EMISSION ABOVE 1GHz – 431MHz



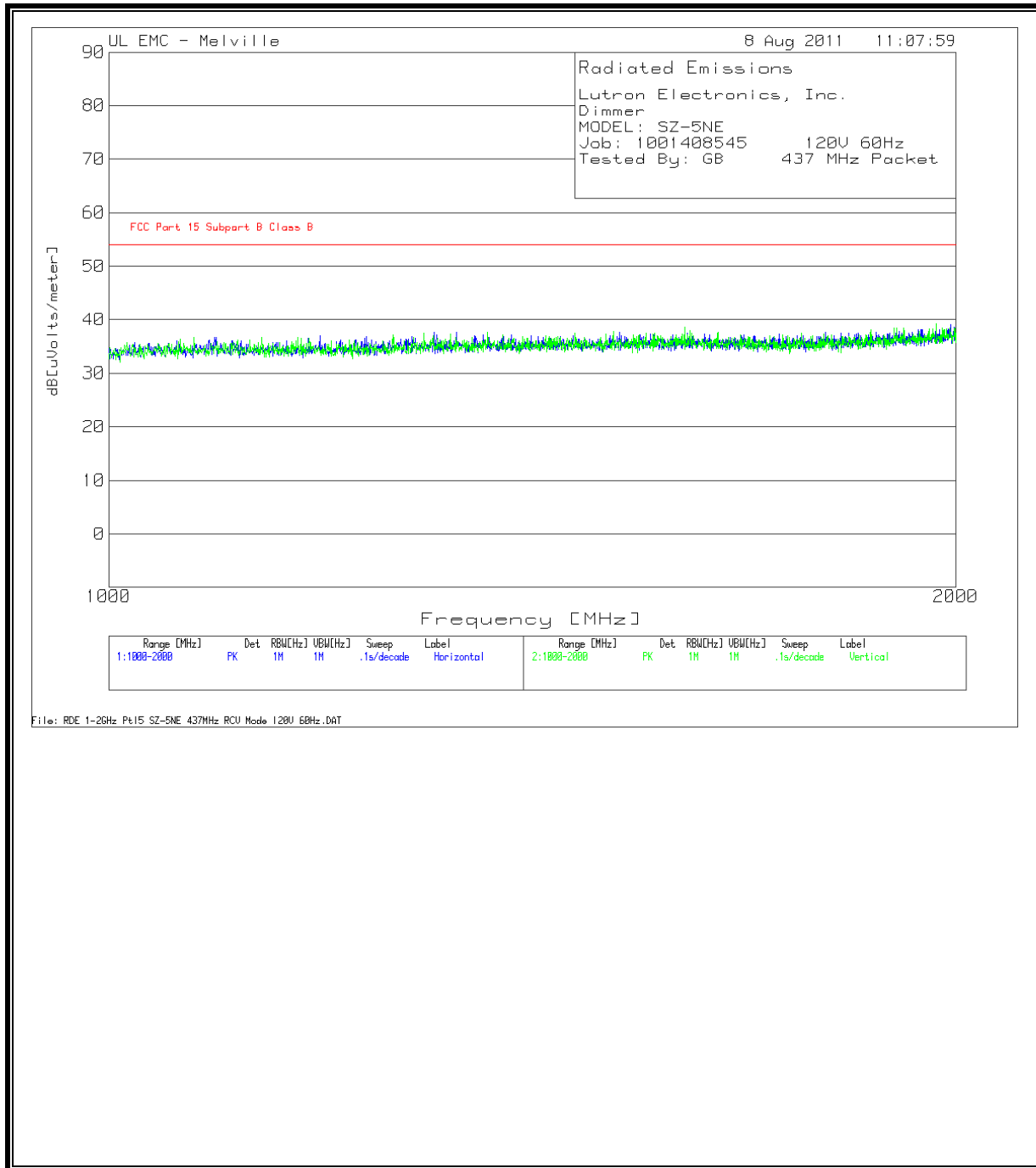
Lutron Electronics, Inc.										
Dimmer										
MODEL: SZ-5NE										
Job: 1001408545 120V 60Hz										
Tested By: GB 431 MHz Packet										
Horizontal 1000 - 2000MHz										
Test Frequency	Meter Reading	Detector	51442 1-2GHz [dB]	BOMS Factor [dB]	dB[uVolts/meter]	FCC Part 15 Subpart B Class B	Margin	Azimuth [Degs]	Height [cm]	Polarity
1081.459	62.01	PK	19.9	-44.64	37.27	54	-16.73	26	215	Horz
1095.952	61.37	PK	20	-44.51	36.86	54	-17.14	50	215	Horz
1263.868	61.56	PK	20.2	-44.32	37.44	54	-16.56	356	101	Horz
Vertical 1000 - 2000MHz										
1374.813	61.51	PK	20.6	-44.4	37.71	54	-16.29	305	100	Vert
1573.213	61.97	PK	21.1	-44.23	38.84	54	-15.16	230	100	Vert
1633.683	61.91	PK	21	-44.21	38.7	54	-15.3	154	215	Vert
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

RECEIVER SPURIOUS EMISSION (30MHz - 1GHz) 437MHz



Lutron Electronics, Inc.										
Dimmer										
Model: SZ-5SE										
Job: 1001408545 120V 60Hz										
Tested By: GB 437M Rcv Mode										
Horizontal 30 - 200MHz										
Test	Meter		Bicon	10MLocA						
Frequency	Reading	Detector	10M Horz	30-						
			43441	1000MHz		CISPR22/				
			09Sep11	02Feb12	dB[uVolts/	EN55022				
			[dB]	[dB]	meter]	Class B	Margin	Azimuth	Height	Polarity
								[Degs]	[cm]	
175.1552	33.82	PK	15.4	-35.4	13.82	30	-16.18	358	251	Horz
Vertical 30 - 200MHz										
34.4244	37.67	PK	15.8	-36	17.47	30	-12.53	113	100	Vert
43.4434	37.16	PK	12	-35.9	13.26	30	-16.74	18	100	Vert
56.3764	37.07	PK	7.7	-35.9	8.87	30	-21.13	15	100	Vert
72.7127	39.37	PK	7.3	-35.8	10.87	30	-19.13	248	100	Vert
77.988	37.78	PK	8.3	-35.7	10.38	30	-19.62	113	100	Vert
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

RECEIVER SPURIOUS EMISSION ABOVE 1GHz – 437MHz



Lutron Electronics, Inc.										
Dimmer										
MODEL: SZ-5NE										
Job: 1001408545 120V 60Hz										
Tested By: GB 437 MHz Packet										
Horizontal 1000 - 2000MHz										
Test Frequency	Meter Reading	Detector	51442 1-2GHz [dB]	BOMS Factor [dB]	dB[uVolts/meter]	FCC Part 15 Subpart B Class B	Margin	Azimuth [Degs]	Height [cm]	Polarity
1090.455	61.41	PK	19.9	-44.55	36.76	54	-17.24	1	215	Horz
1188.406	61.66	PK	19.8	-44.44	37.02	54	-16.98	51	100	Horz
1305.347	61.6	PK	20.5	-44.38	37.72	54	-16.28	204	100	Horz
1328.836	61.55	PK	20.6	-44.41	37.74	54	-16.26	77	100	Horz
Vertical 1000 - 2000MHz										
1601.699	61.57	PK	21.2	-44.21	38.56	54	-15.44	76	101	Vert
1968.016	60.82	PK	22	-43.6	39.22	54	-14.78	356	101	Vert
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

9. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207 (a)
IC RSS-GEN, Section 7.2.2

Frequency of emission (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 C63.4

RESULTS

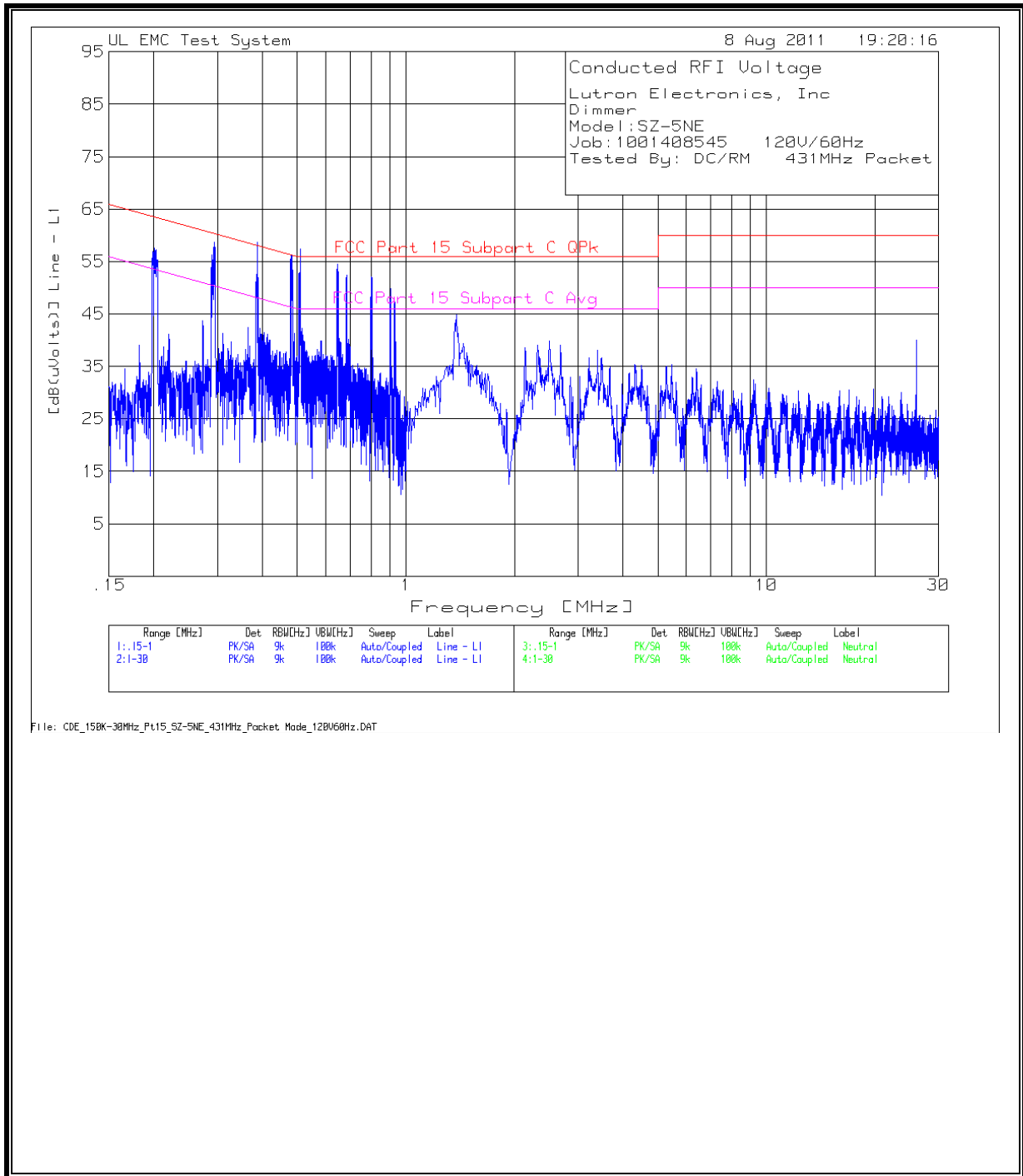
No non-compliance noted:

6 WORST EMISSIONS – 431MHz TX

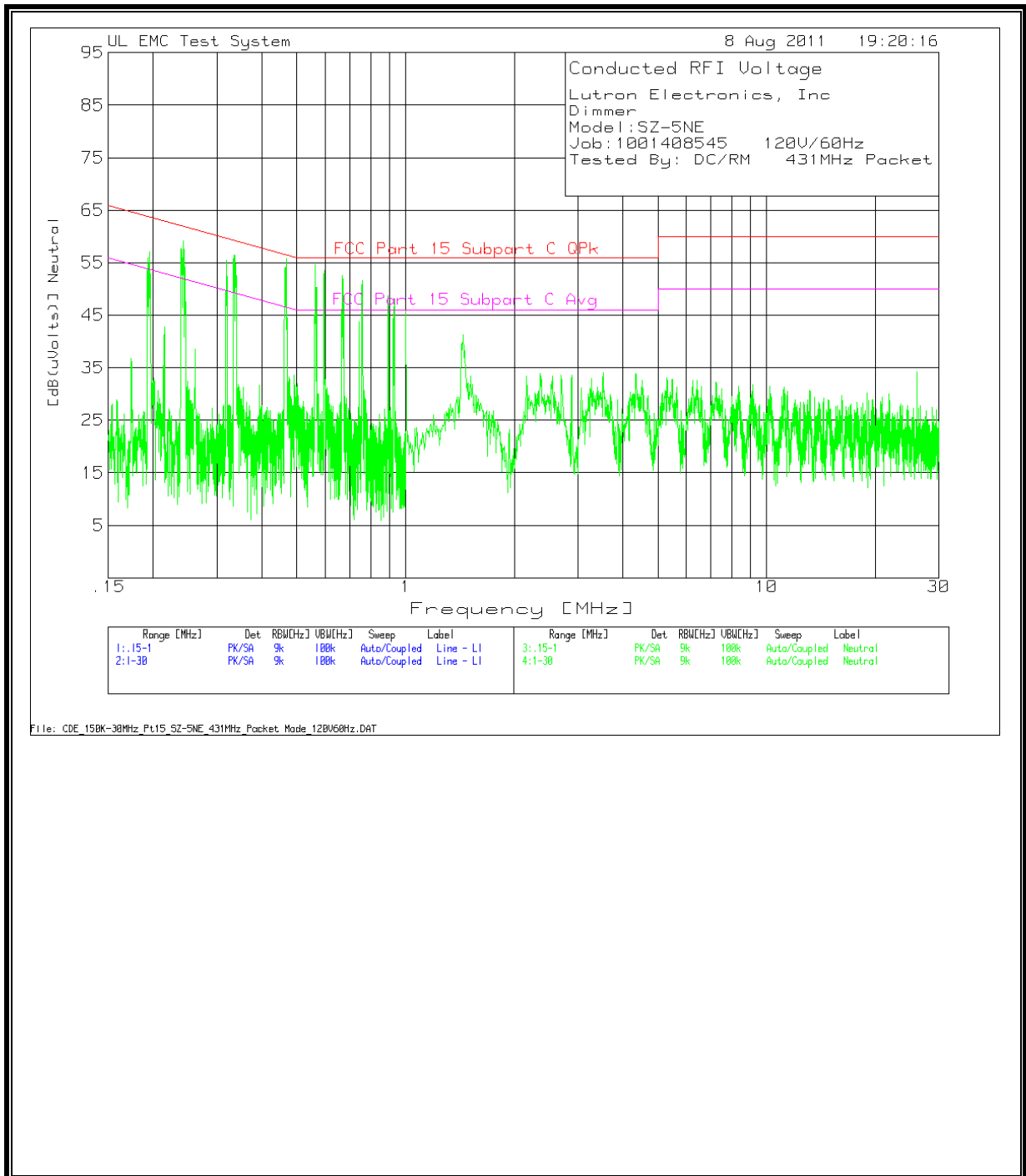
Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By: DC/RM 431MHz Packet									
Line - L1 .15 - 1MHz									
Test	Meter		5A636 with TI and Sw Line 1		FCC Part 15 Subpart C		FCC Part 15 Subpart C		
Frequency	Reading	Detector	[dB]	[dB(uVolts)]	QPk	Margin	Avg	Margin	
0.201303	7.5	QP	11.1	18.6	63.56	-44.96	53.56	-34.96	
0.293538	6.26	QP	10.7	16.96	60.42	-43.46	50.42	-33.46	
0.386818	3.38	QP	10.6	13.98	58.13	-44.15	48.13	-34.15	
0.48219	42.22	QP	10.5	52.72	56.3	-3.58	46.3	6.42	
0.510258	43.24	QP	10.5	53.74	56	-2.26	46	7.74	
0.51517	43.46	QP	10.5	53.96	56	-2.04	46	7.96	
0.582363	40.56	QP	10.5	51.06	56	-4.94	46	5.06	
0.645345	40.89	QP	10.4	51.29	56	-4.71	46	5.29	
0.653485	40.08	QP	10.4	50.48	56	-5.52	46	4.48	
0.685265	39.18	QP	10.4	49.58	56	-6.42	46	3.58	
0.692813	39.91	QP	10.4	50.31	56	-5.69	46	4.31	
0.801198	38.26	QP	10.4	48.66	56	-7.34	46	2.66	
0.905845	34.31	QP	10.4	44.71	56	-11.29	46	-1.29	
0.927443	33.41	QP	10.4	43.81	56	-12.19	46	-2.19	
0.932905	34.12	QP	10.4	44.52	56	-11.48	46	-1.48	
Neutral .15 - 1MHz									
0.195178	43.79	QP	11.2	54.99	63.81	-8.82	53.81	1.18	
0.238773	44.34	QP	10.9	55.24	62.14	-6.9	52.14	3.1	
0.24193	44.49	QP	10.9	55.39	62.03	-6.64	52.03	3.36	
0.24452	42.81	QP	10.9	53.71	61.94	-8.23	51.94	1.77	
0.318488	42.99	QP	10.7	53.69	59.75	-6.06	49.75	3.94	
0.335465	43.82	QP	10.7	54.52	59.31	-4.79	49.31	5.21	
0.463748	42.27	QP	10.5	52.77	56.63	-3.86	46.63	6.14	
0.562928	40.21	QP	10.5	50.71	56	-5.29	46	4.71	
0.593635	40.24	QP	10.5	50.74	56	-5.26	46	4.74	
0.667188	39.63	QP	10.4	50.03	56	-5.97	46	4.03	
0.74509	37.36	QP	10.4	47.76	56	-8.24	46	1.76	
0.756168	36.73	QP	10.4	47.13	56	-8.87	46	1.13	
0.760158	36.84	QP	10.4	47.24	56	-8.76	46	1.24	
0.893858	34.61	QP	10.4	45.01	56	-10.99	46	-0.99	
0.924665	33.54	QP	10.4	43.94	56	-12.06	46	-2.06	
0.92749	33.71	QP	10.4	44.11	56	-11.89	46	-1.89	
0.930373	34.15	QP	10.4	44.55	56	-11.45	46	-1.45	
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By: DC/RM 431MHz Packet									
Line - L1 .15 - 1MHz									
Test	Meter		5A636		FCC Part		FCC Part		
Frequency	Reading	Detector	with TI		15		15		
			and Sw		Subpart C		Subpart C		
			Line 1		QPk	Margin	Avg	Margin	
			[dB]	[dB(uVolts)]					
0.20123	26.35	Av	11.1	37.45	63.56	-26.11	53.56	-16.11	
0.29326	27.08	Av	10.7	37.78	60.43	-22.65	50.43	-12.65	
0.38694	27.5	Av	10.6	38.1	58.13	-20.03	48.13	-10.03	
0.4818	26.11	Av	10.5	36.61	56.31	-19.7	46.31	-9.7	
0.51014	26.7	Av	10.5	37.2	56	-18.8	46	-8.8	
0.51535	27.12	Av	10.5	37.62	56	-18.38	46	-8.38	
0.58255	25.61	Av	10.5	36.11	56	-19.89	46	-9.89	
0.6451	25.46	Av	10.4	35.86	56	-20.14	46	-10.14	
0.65401	23.73	Av	10.4	34.13	56	-21.87	46	-11.87	
0.68519	23.64	Av	10.4	34.04	56	-21.96	46	-11.96	
0.69316	25.23	Av	10.4	35.63	56	-20.37	46	-10.37	
0.80158	23.27	Av	10.4	33.67	56	-22.33	46	-12.33	
0.90626	19.78	Av	10.4	30.18	56	-25.82	46	-15.82	
0.92779	17.16	Av	10.4	27.56	56	-28.44	46	-18.44	
0.93322	14.08	Av	10.4	24.48	56	-31.52	46	-21.52	
Neutral .15 - 1MHz									
0.19575	22.67	Av	11.2	33.87	63.79	-29.92	53.79	-19.92	
0.23874	23.62	Av	10.9	34.52	62.14	-27.62	52.14	-17.62	
0.242	22.68	Av	10.9	33.58	62.03	-28.45	52.03	-18.45	
0.24462	21.28	Av	10.9	32.18	61.94	-29.76	51.94	-19.76	
0.31878	22.93	Av	10.7	33.63	59.74	-26.11	49.74	-16.11	
0.33548	23.02	Av	10.7	33.72	59.31	-25.59	49.31	-15.59	
0.4639	21.96	Av	10.5	32.46	56.62	-24.16	46.62	-14.16	
0.56265	20.54	Av	10.5	31.04	56	-24.96	46	-14.96	
0.59344	20.89	Av	10.5	31.39	56	-24.61	46	-14.61	
0.66723	20.22	Av	10.4	30.62	56	-25.38	46	-15.38	
0.74468	18.04	Av	10.4	28.44	56	-27.56	46	-17.56	
0.75616	17.02	Av	10.4	27.42	56	-28.58	46	-18.58	
0.7605	17.15	Av	10.4	27.55	56	-28.45	46	-18.45	
0.89389	15.3	Av	10.4	25.7	56	-30.3	46	-20.3	
0.92449	13.35	Av	10.4	23.75	56	-32.25	46	-22.25	
0.92788	14.28	Av	10.4	24.68	56	-31.32	46	-21.32	
0.93013	14.39	Av	10.4	24.79	56	-31.21	46	-21.21	
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

LINE 1 RESULTS



LINE 2 RESULTS

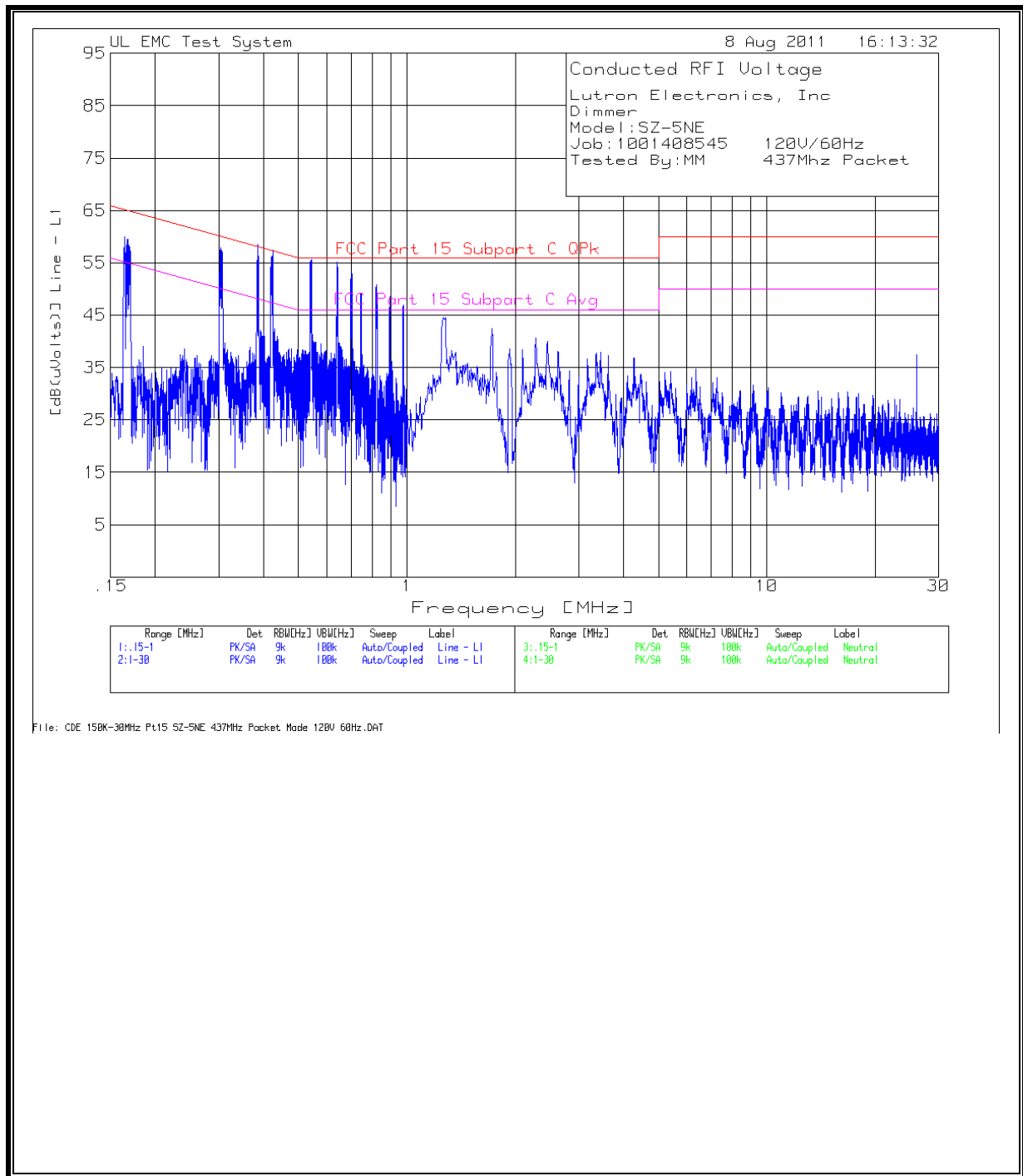


6 WORST EMISSIONS – 437MHz TX

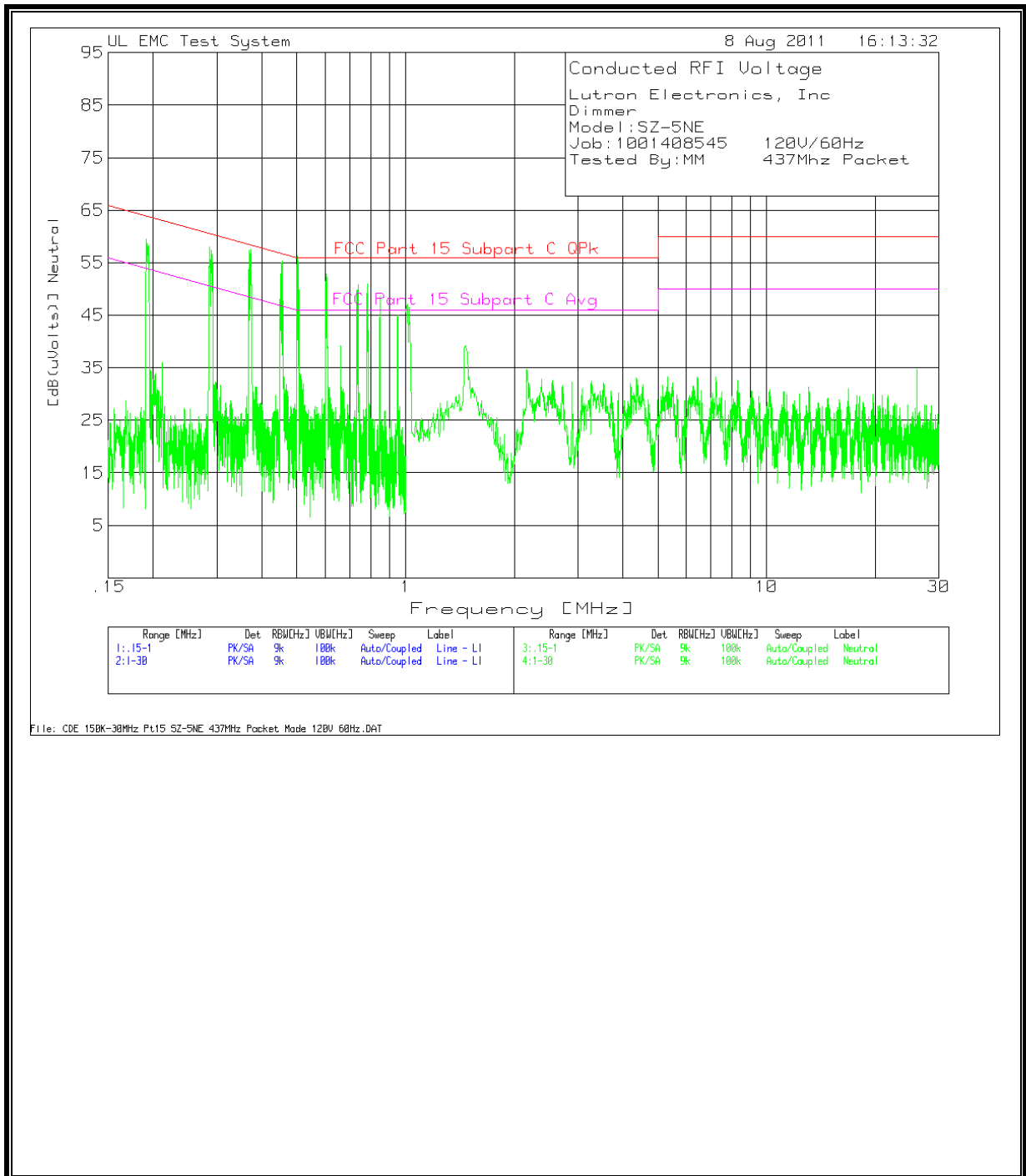
Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By:MM 437Mhz Packet									
Line - L1 .15 - 1MHz									
Test Frequency	Meter Reading	Detector	5A636 with TI and Sw Line 1 [dB]	[dB(uVolts)]	FCC Part 15 Subpart C QPk	Margin	FCC Part 15 Subpart C Avg	Margin	
0.16473	44.92	QP	11.4	56.32	65.22	-8.9	55.22	1.1	
0.303508	43.53	QP	10.7	54.23	60.15	-5.92	50.15	4.08	
0.385178	45.67	QP	10.6	56.27	58.17	-1.9	48.17	8.1	
0.42365	43.53	QP	10.6	54.13	57.38	-3.25	47.38	6.75	
0.544415	41.96	QP	10.5	52.46	56	-3.54	46	6.46	
0.639313	40.3	QP	10.4	50.7	56	-5.3	46	4.7	
0.70005	39.52	QP	10.4	49.92	56	-6.08	46	3.92	
0.745515	38.59	QP	10.4	48.99	56	-7.01	46	2.99	
0.82338	36.56	QP	10.4	46.96	56	-9.04	46	0.96	
0.896548	35.44	QP	10.4	45.84	56	-10.16	46	-0.16	
0.976505	32.86	QP	10.4	43.26	56	-12.74	46	-2.74	
Line - L1 1 - 30MHz									
1.26703	30.16	QP	10.4	40.56	56	-15.44	46	-5.44	
1.724935	28.55	QP	10.4	38.95	56	-17.05	46	-7.05	
2.270433	25.85	QP	10.4	36.25	56	-19.75	46	-9.75	
2.450215	27.08	QP	10.4	37.48	56	-18.52	46	-8.52	
Neutral .15 - 1MHz									
0.191028	43.62	QP	11.2	54.82	63.99	-9.17	53.99	0.83	
0.286733	44.39	QP	10.8	55.19	60.62	-5.43	50.62	4.57	
0.371833	42.85	QP	10.6	53.45	58.46	-5.01	48.46	4.99	
0.454443	41.59	QP	10.5	52.09	56.79	-4.7	46.79	5.3	
0.500208	41.04	QP	10.5	51.54	56	-4.46	46	5.54	
0.602935	39.37	QP	10.5	49.87	56	-6.13	46	3.87	
0.78503	35.58	QP	10.4	45.98	56	-10.02	46	-0.02	
0.849125	35.27	QP	10.4	45.67	56	-10.33	46	-0.33	
0.951253	32.73	QP	10.4	43.13	56	-12.87	46	-2.87	
Neutral 1 - 30MHz									
1.011525	32.25	QP	10.4	42.65	56	-13.35	46	-3.35	
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

Lutron Electronics, Inc										
Dimmer										
Model:SZ-5NE										
Job:1001408545 120V/60Hz										
Tested By:MM 437Mhz Packet										
Line - L1 .15 - 1MHz										
Test	Meter		5A636 with TI and Sw Line 1		FCC Part 15 Subpart C		FCC Part 15 Subpart C			
Frequency	Reading	Detector	[dB]	[dB(uVolts)]	QPk	Margin	Avg	Margin		
0.16473	25.19	Av	11.4	36.59	65.22	-28.63	55.22	-18.63		
0.303508	26.06	Av	10.7	36.76	60.15	-23.39	50.15	-13.39		
0.385178	27.06	Av	10.6	37.66	58.17	-20.51	48.17	-10.51		
0.42365	27.19	Av	10.6	37.79	57.38	-19.59	47.38	-9.59		
0.544415	25.95	Av	10.5	36.45	56	-19.55	46	-9.55		
0.639313	24.88	Av	10.4	35.28	56	-20.72	46	-10.72		
0.70005	25.02	Av	10.4	35.42	56	-20.58	46	-10.58		
0.745515	22.58	Av	10.4	32.98	56	-23.02	46	-13.02		
0.82338	19.58	Av	10.4	29.98	56	-26.02	46	-16.02		
0.896548	18.51	Av	10.4	28.91	56	-27.09	46	-17.09		
0.976505	16.28	Av	10.4	26.68	56	-29.32	46	-19.32		
Line - L1 1 - 30MHz										
1.26703	20.42	Av	10.4	30.82	56	-25.18	46	-15.18		
1.724935	17.6	Av	10.4	28	56	-28	46	-18		
2.270433	17.7	Av	10.4	28.1	56	-27.9	46	-17.9		
2.450215	19.12	Av	10.4	29.52	56	-26.48	46	-16.48		
Neutral .15 - 1MHz										
0.191028	22.83	Av	11.2	34.03	63.99	-29.96	53.99	-19.96		
0.286733	24.93	Av	10.8	35.73	60.62	-24.89	50.62	-14.89		
0.371833	22.43	Av	10.6	33.03	58.46	-25.43	48.46	-15.43		
0.454443	22.03	Av	10.5	32.53	56.79	-24.26	46.79	-14.26		
0.500208	21.12	Av	10.5	31.62	56	-24.38	46	-14.38		
0.602935	20	Av	10.5	30.5	56	-25.5	46	-15.5		
0.78503	15.83	Av	10.4	26.23	56	-29.77	46	-19.77		
0.849125	15.58	Av	10.4	25.98	56	-30.02	46	-20.02		
0.951253	13.4	Av	10.4	23.8	56	-32.2	46	-22.2		
Neutral 1 - 30MHz										
1.011525	12.13	Av	10.4	22.53	56	-33.47	46	-23.47		
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

LINE 1 RESULTS



LINE 2 RESULTS

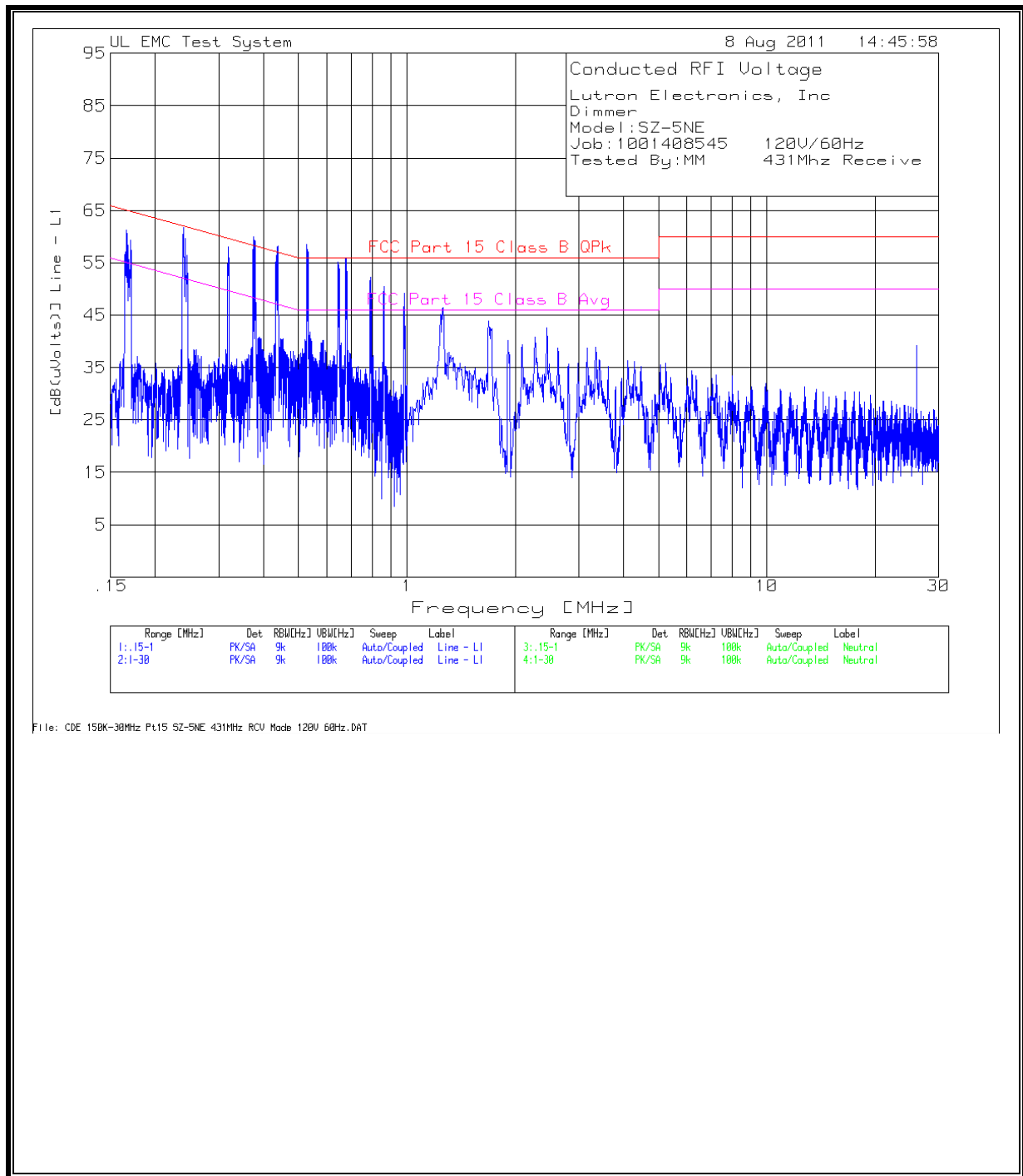


6 WORST EMISSIONS – 431MHz RX

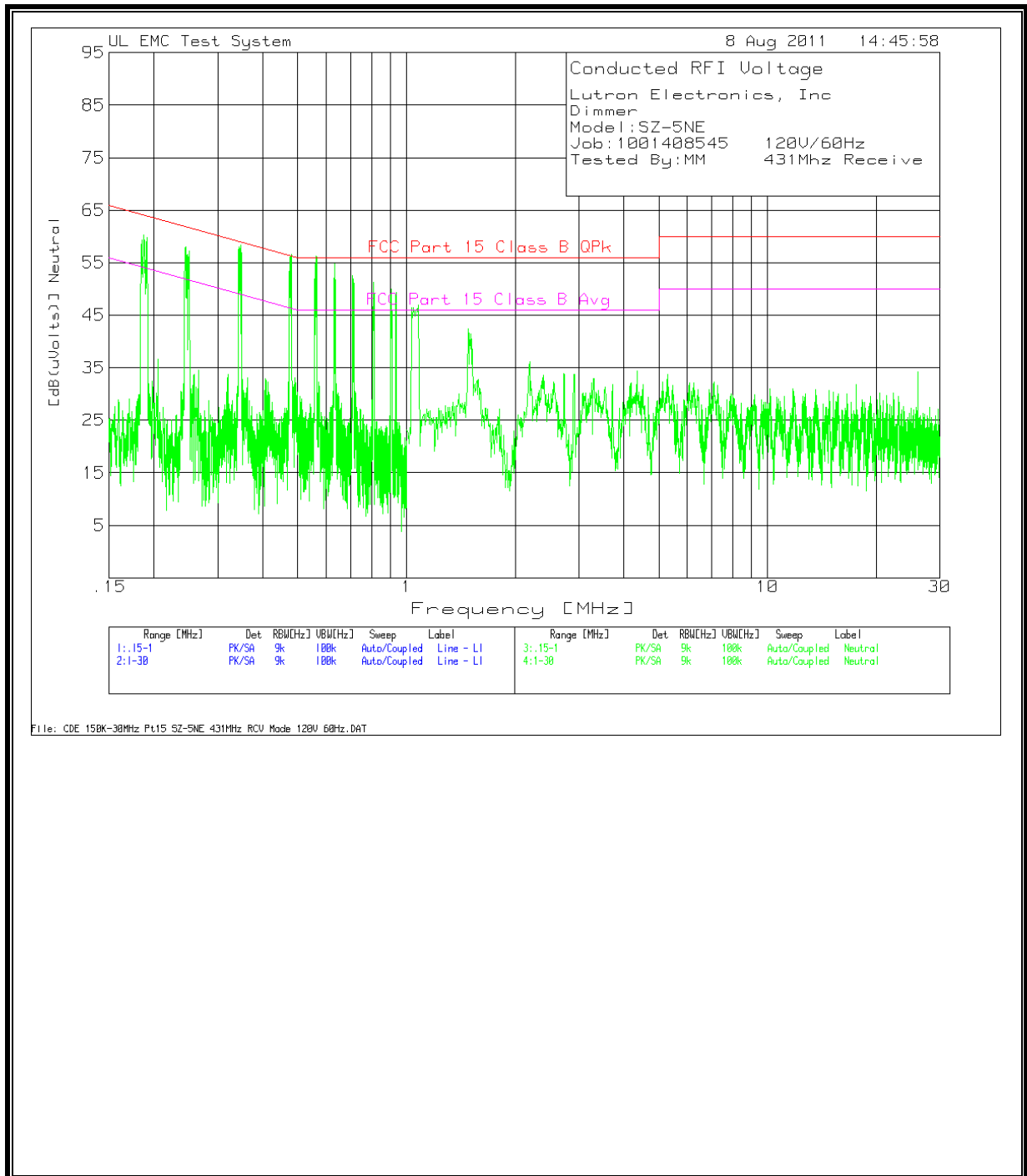
Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By:MM 431Mhz Receive									
Line - L1 .15 - 1MHz									
Test	Meter		5A636 with TI and Sw Line 1			FCC Part 15 Class B		FCC Part 15 Class B	
Frequency	Reading	Detector	[dB]	[dB(uVolts)]	QPk	Margin	Avg	Margin	
0.166213	46.12	QP	11.4	57.52	65.15	-7.63	55.15	2.37	
0.238688	46.11	QP	10.9	57.01	62.14	-5.13	52.14	4.87	
0.3193	45.23	QP	10.7	55.93	59.72	-3.79	49.72	6.21	
0.375663	44.93	QP	10.6	55.53	58.37	-2.84	48.37	7.16	
0.435845	43.84	QP	10.5	54.34	57.14	-2.8	47.14	7.2	
0.526908	43.65	QP	10.5	54.15	56	-1.85	46	8.15	
0.643028	43.01	QP	10.4	53.41	56	-2.59	46	7.41	
0.676443	40.77	QP	10.4	51.17	56	-4.83	46	5.17	
0.792995	38.1	QP	10.4	48.5	56	-7.5	46	2.5	
0.862545	36.45	QP	10.4	46.85	56	-9.15	46	0.85	
0.98432	34.48	QP	10.4	44.88	56	-11.12	46	-1.12	
Line - L1 1 - 30MHz									
1.255635	31.9	QP	10.4	42.3	56	-13.7	46	-3.7	
1.684853	29.78	QP	10.4	40.18	56	-15.82	46	-5.82	
1.911145	25.75	QP	10.4	36.15	56	-19.85	46	-9.85	
2.097148	25.41	QP	10.4	35.81	56	-20.19	46	-10.19	
2.276528	27.65	QP	10.4	38.05	56	-17.95	46	-7.95	
2.444528	27.34	QP	10.4	37.74	56	-18.26	46	-8.26	
2.630173	24.91	QP	10.4	35.31	56	-20.69	46	-10.69	
Neutral .15 - 1MHz									
0.187533	45.14	QP	11.2	56.34	64.15	-7.81	54.15	2.19	
0.24372	43.97	QP	10.9	54.87	61.97	-7.1	51.97	2.9	
0.34362	43.42	QP	10.6	54.02	59.12	-5.1	49.12	4.9	
0.476623	42.14	QP	10.5	52.64	56.4	-3.76	46.4	6.24	
0.56083	41.39	QP	10.5	51.89	56	-4.11	46	5.89	
0.633278	39.37	QP	10.5	49.87	56	-6.13	46	3.87	
0.709145	37.77	QP	10.4	48.17	56	-7.83	46	2.17	
0.809005	36.17	QP	10.4	46.57	56	-9.43	46	0.57	
0.901675	35.31	QP	10.4	45.71	56	-10.29	46	-0.29	
0.93635	34.78	QP	10.4	45.18	56	-10.82	46	-0.82	
Neutral 1 - 30MHz									
1.057965	32.22	QP	10.4	42.62	56	-13.38	46	-3.38	
1.481365	26.05	QP	10.4	36.45	56	-19.55	46	-9.55	
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By:MM 431Mhz Receive									
Line - L1 .15 - 1MHz									
Test	Meter		5A636			FCC Part		FCC Part	
Frequency	Reading	Detector	with TI	Line 1	[dB(uVolts)]	15 Class B	Margin	15 Class B	Margin
			and Sw	[dB]		QPk		Avg	
0.166213	26.26	Av		11.4	37.66	65.15	-27.49	55.15	-17.49
0.238688	27.54	Av		10.9	38.44	62.14	-23.7	52.14	-13.7
0.3193	27.54	Av		10.7	38.24	59.72	-21.48	49.72	-11.48
0.375663	26.5	Av		10.6	37.1	58.37	-21.27	48.37	-11.27
0.435845	27.24	Av		10.5	37.74	57.14	-19.4	47.14	-9.4
0.526908	25.99	Av		10.5	36.49	56	-19.51	46	-9.51
0.643028	26.16	Av		10.4	36.56	56	-19.44	46	-9.44
0.676443	24.31	Av		10.4	34.71	56	-21.29	46	-11.29
0.792995	21.64	Av		10.4	32.04	56	-23.96	46	-13.96
0.862545	19.49	Av		10.4	29.89	56	-26.11	46	-16.11
0.98432	16.85	Av		10.4	27.25	56	-28.75	46	-18.75
Line - L1 1 - 30MHz									
1.255635	21.34	Av		10.4	31.74	56	-24.26	46	-14.26
1.684853	18.17	Av		10.4	28.57	56	-27.43	46	-17.43
1.911145	7.54	Av		10.4	17.94	56	-38.06	46	-28.06
2.097148	15.34	Av		10.4	25.74	56	-30.26	46	-20.26
2.276528	19.39	Av		10.4	29.79	56	-26.21	46	-16.21
2.444528	19.02	Av		10.4	29.42	56	-26.58	46	-16.58
2.630173	16	Av		10.4	26.4	56	-29.6	46	-19.6
Neutral .15 - 1MHz									
0.187533	24.83	Av		11.2	36.03	64.15	-28.12	54.15	-18.12
0.24372	22.3	Av		10.9	33.2	61.97	-28.77	51.97	-18.77
0.34362	23.28	Av		10.6	33.88	59.12	-25.24	49.12	-15.24
0.476623	22.07	Av		10.5	32.57	56.4	-23.83	46.4	-13.83
0.56083	21.6	Av		10.5	32.1	56	-23.9	46	-13.9
0.633278	19.4	Av		10.5	29.9	56	-26.1	46	-16.1
0.709145	17.42	Av		10.4	27.82	56	-28.18	46	-18.18
0.809005	16.81	Av		10.4	27.21	56	-28.79	46	-18.79
0.901675	15.41	Av		10.4	25.81	56	-30.19	46	-20.19
0.93635	15.39	Av		10.4	25.79	56	-30.21	46	-20.21
Neutral 1 - 30MHz									
1.057965	12.83	Av		10.4	23.23	56	-32.77	46	-22.77
1.481365	15.6	Av		10.4	26	56	-30	46	-20
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

LINE 1 RESULTS



LINE 2 RESULTS

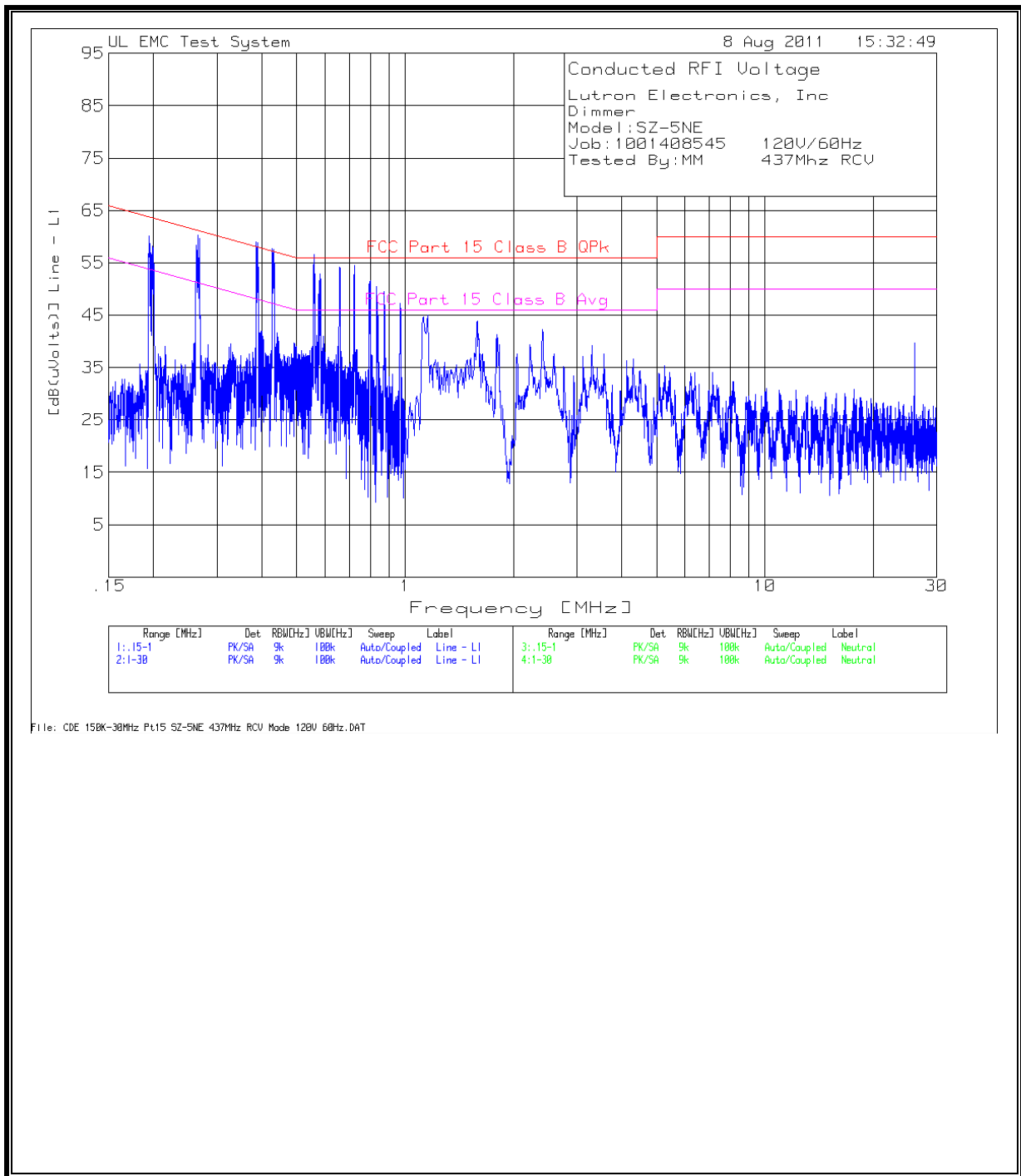


6 WORST EMISSIONS – 437MHz RX

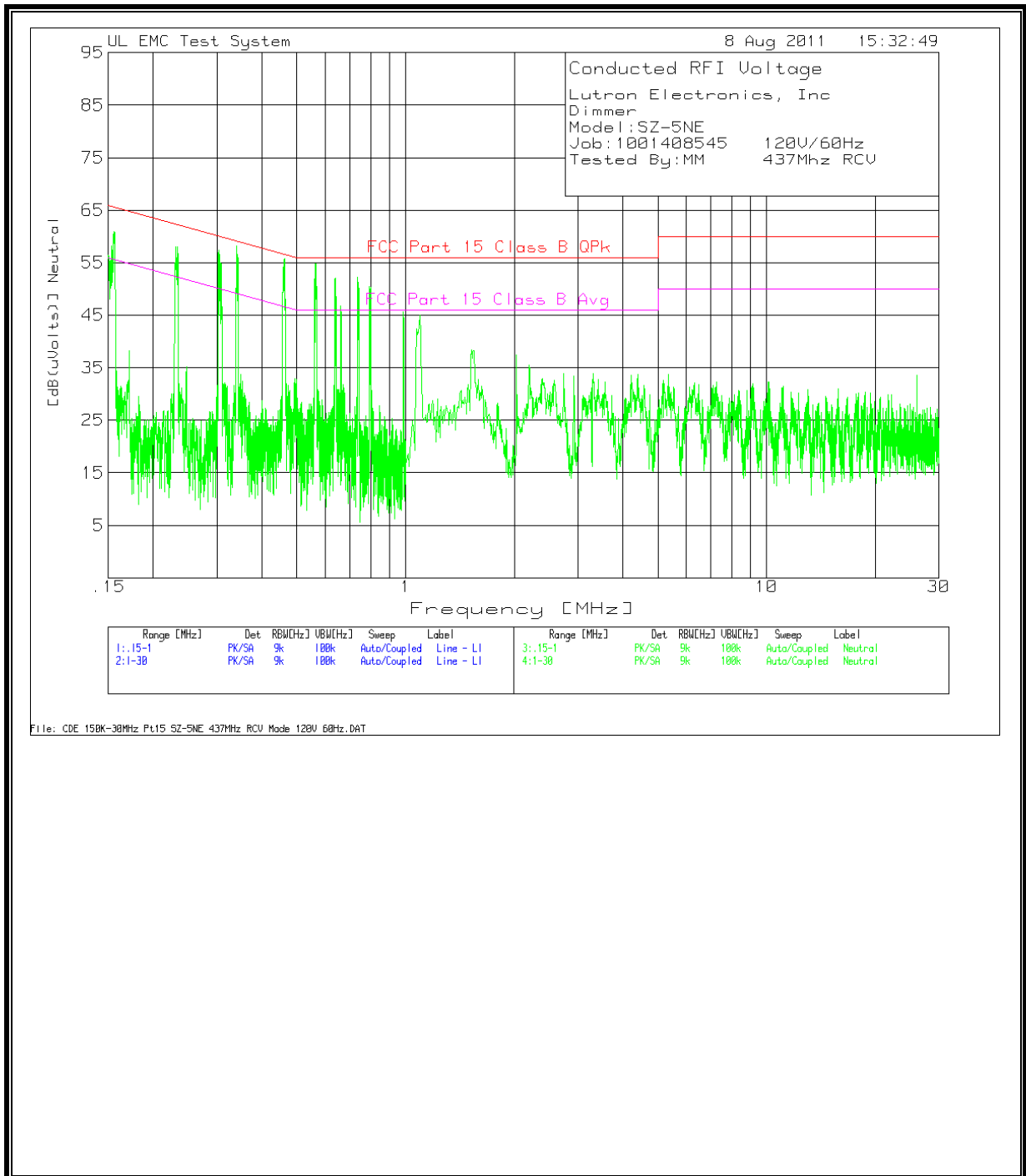
Lutron Electronics, Inc									
Dimmer									
Model:SZ-5NE									
Job:1001408545 120V/60Hz									
Tested By:MM 437Mhz RCV									
Line - L1 .15 - 1MHz									
Test	Meter	Detector	5A636 with TI and Sw Line 1	[dB(uVolts)]	FCC Part 15 Class B QPk	Margin	FCC Part 15 Class B Avg	Margin	
Frequency	Reading		[dB]						
0.194063	44.87	QP	11.2	56.07	63.86	-7.79	53.86	2.21	
0.264585	47.83	QP	10.8	58.63	61.29	-2.66	51.29	7.34	
0.38611	46.57	QP	10.6	57.17	58.15	-0.98	48.15	9.02	
0.426345	43.86	QP	10.6	54.46	57.32	-2.86	47.32	7.14	
0.559103	42.13	QP	10.5	52.63	56	-3.37	46	6.63	
0.58104	41.06	QP	10.5	51.56	56	-4.44	46	5.56	
0.658588	40.54	QP	10.4	50.94	56	-5.06	46	4.94	
0.723948	39.75	QP	10.4	50.15	56	-5.85	46	4.15	
0.797688	38.22	QP	10.4	48.62	56	-7.38	46	2.62	
0.832735	37.28	QP	10.4	47.68	56	-8.32	46	1.68	
0.875223	36.73	QP	10.4	47.13	56	-8.87	46	1.13	
0.968875	32.96	QP	10.4	43.36	56	-12.64	46	-2.64	
Line - L1 1 - 30MHz									
1.121355	31.56	QP	10.4	41.96	56	-14.04	46	-4.04	
1.156583	30.37	QP	10.4	40.77	56	-15.23	46	-5.23	
1.585818	28.06	QP	10.4	38.46	56	-17.54	46	-7.54	
1.805798	27.72	QP	10.4	38.12	56	-17.88	46	-7.88	
2.229888	26.21	QP	10.4	36.61	56	-19.39	46	-9.39	
2.409648	27.56	QP	10.4	37.96	56	-18.04	46	-8.04	
Neutral .15 - 1MHz									
0.155515	46.27	QP	11.6	57.87	65.7	-7.83	55.7	2.17	
0.231588	45.61	QP	10.9	56.51	62.39	-5.88	52.39	4.12	
0.303055	43.24	QP	10.7	53.94	60.16	-6.22	50.16	3.78	
0.340455	43.24	QP	10.7	53.94	59.19	-5.25	49.19	4.75	
0.459988	42.52	QP	10.5	53.02	56.69	-3.67	46.69	6.33	
0.560235	40.76	QP	10.5	51.26	56	-4.74	46	5.26	
0.638235	40.25	QP	10.5	50.75	56	-5.25	46	4.75	
0.73465	37.71	QP	10.4	48.11	56	-7.89	46	2.11	
0.794763	36.69	QP	10.4	47.09	56	-8.91	46	1.09	
0.985328	33.98	QP	10.4	44.38	56	-11.62	46	-1.62	
Neutral 1 - 30MHz									
1.093148	32.36	QP	10.4	42.76	56	-13.24	46	-3.24	
PK - Peak detector									
QP - Quasi-Peak detector									
LnAv - Linear Average detector									
LgAv - Log Average detector									
Av - Average detector									
CAV - CISPR Average detector									
RMS - RMS detection									
CRMS - CISPR RMS detection									

Lutron Electronics, Inc										
Dimmer										
Model:SZ-5NE										
Job:1001408545 120V/60Hz										
Tested By:MM 437Mhz RCV										
Line - L1 .15 - 1MHz										
Test	Meter	Detector	5A636 with TI and Sw Line 1	[dB	[dB(uVol	FCC Part	Margin	FCC Part	Margin	
Frequency	Reading		[dB]	ts)]	QPk			Avg		
0.194063	25.51	Av	11.2	36.71	63.86	-27.15	53.86	-17.15		
0.264585	28.93	Av	10.8	39.73	61.29	-21.56	51.29	-11.56		
0.38611	27.61	Av	10.6	38.21	58.15	-19.94	48.15	-9.94		
0.426345	27.51	Av	10.6	38.11	57.32	-19.21	47.32	-9.21		
0.559103	26.57	Av	10.5	37.07	56	-18.93	46	-8.93		
0.58104	25.53	Av	10.5	36.03	56	-19.97	46	-9.97		
0.658588	24.08	Av	10.4	34.48	56	-21.52	46	-11.52		
0.723948	23.99	Av	10.4	34.39	56	-21.61	46	-11.61		
0.797688	22.03	Av	10.4	32.43	56	-23.57	46	-13.57		
0.832735	20.72	Av	10.4	31.12	56	-24.88	46	-14.88		
0.875223	21.58	Av	10.4	31.98	56	-24.02	46	-14.02		
0.968875	17.01	Av	10.4	27.41	56	-28.59	46	-18.59		
Line - L1 1 - 30MHz										
1.121355	18.05	Av	10.4	28.45	56	-27.55	46	-17.55		
1.156583	19.01	Av	10.4	29.41	56	-26.59	46	-16.59		
1.585818	21.54	Av	10.4	31.94	56	-24.06	46	-14.06		
1.805798	15.47	Av	10.4	25.87	56	-30.13	46	-20.13		
2.229888	17.81	Av	10.4	28.21	56	-27.79	46	-17.79		
2.409648	21.83	Av	10.4	32.23	56	-23.77	46	-13.77		
Neutral .15 - 1MHz										
0.155515	26.21	Av	11.6	37.81	65.7	-27.89	55.7	-17.89		
0.231588	25.38	Av	10.9	36.28	62.39	-26.11	52.39	-16.11		
0.303055	23.69	Av	10.7	34.39	60.16	-25.77	50.16	-15.77		
0.340455	23.31	Av	10.7	34.01	59.19	-25.18	49.19	-15.18		
0.459988	22.6	Av	10.5	33.1	56.69	-23.59	46.69	-13.59		
0.560235	21.06	Av	10.5	31.56	56	-24.44	46	-14.44		
0.638235	20.01	Av	10.5	30.51	56	-25.49	46	-15.49		
0.73465	18.83	Av	10.4	29.23	56	-26.77	46	-16.77		
0.794763	17.5	Av	10.4	27.9	56	-28.1	46	-18.1		
0.985328	14.3	Av	10.4	24.7	56	-31.3	46	-21.3		
Neutral 1 - 30MHz										
1.093148	13.86	Av	10.4	24.26	56	-31.74	46	-21.74		
PK - Peak detector										
QP - Quasi-Peak detector										
LnAv - Linear Average detector										
LgAv - Log Average detector										
Av - Average detector										
CAV - CISPR Average detector										
RMS - RMS detection										
CRMS - CISPR RMS detection										

LINE 1 RESULTS

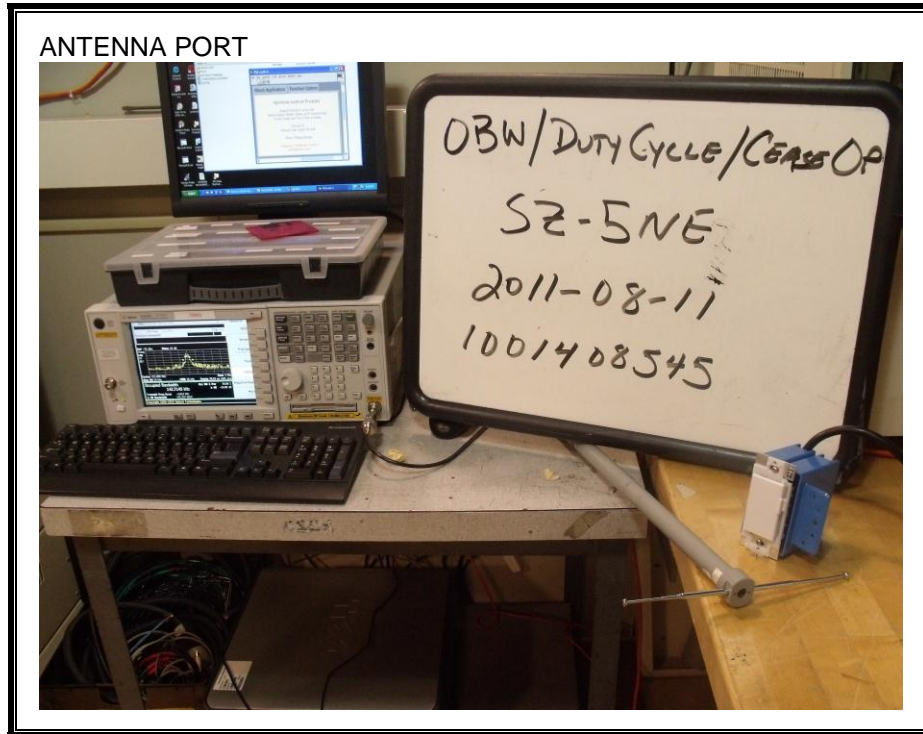


LINE 2 RESULTS

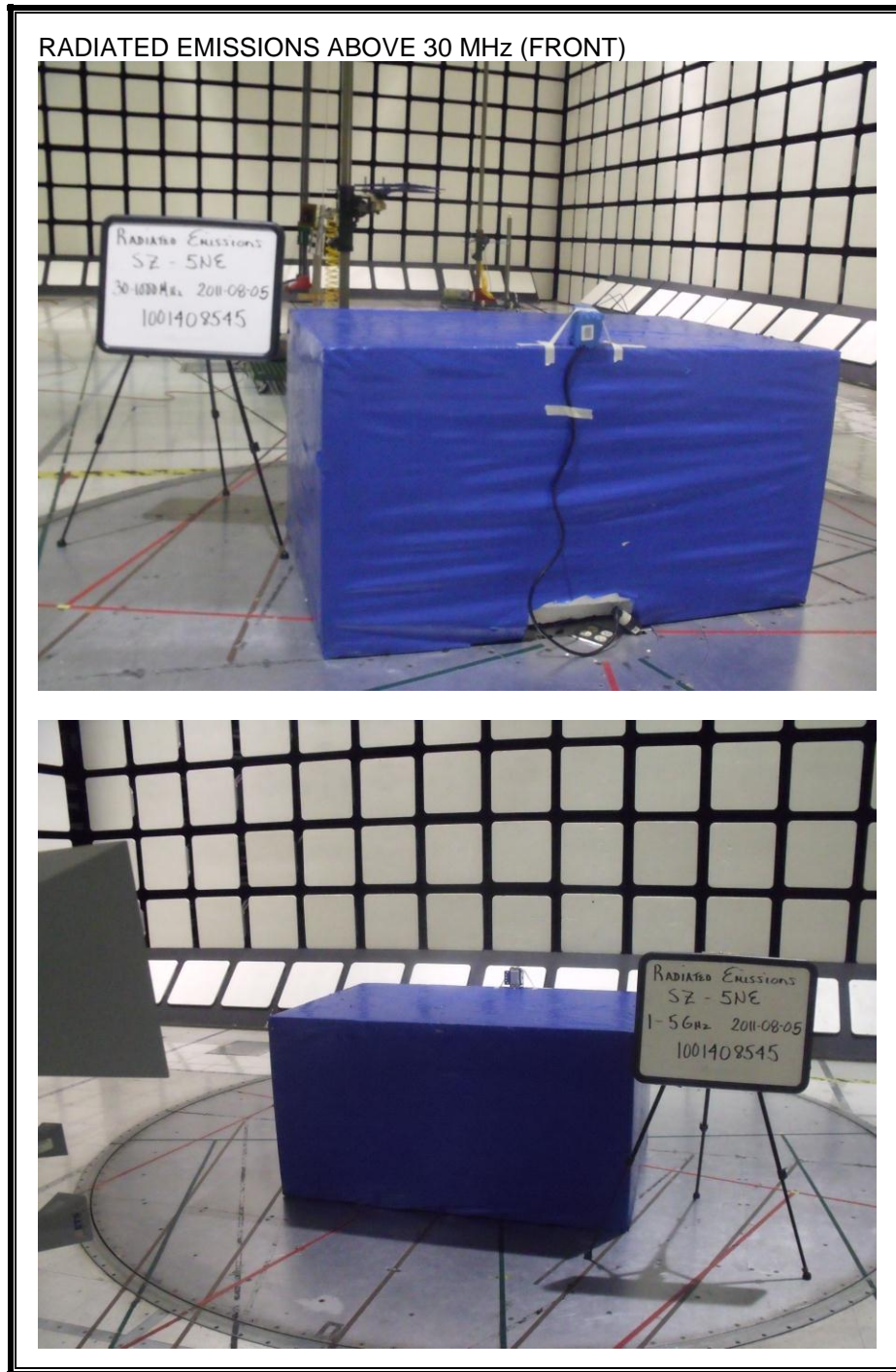


10. SETUP PHOTOS

ANTENNA PORT



RADIATED EMISSION ABOVE 30 MHz



RADIATED EMISSIONS ABOVE 30 MHz (BACK)



AC MAINS LINE CONDUCTED EMISSION





END OF REPORT