



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

CERTIFICATION TEST REPORT

FOR

Wireless Remote Control

MODEL NUMBER: Pico VA (PJ-3BRL)

**FCC ID: JPZ0075
IC: 2851A-JPZ0075**

REPORT NUMBER: 1001299939

ISSUE DATE: 2011-06-11

Prepared for
**Lutron Electronics Inc.
7200 Suter Rd.
Cooperburg
PA, 18036, USA**

Prepared by
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NVLAP LAB CODE 100255-0

Revision History

Rev.	Issue Date	Revisions	Revised By
--	2011-06-11	Initial Issue	B. DeLisi

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Lutron Electronics Inc.
7200 Suter Rd.
Coopersburg, PA, 18036, USA

EUT DESCRIPTION: Wireless remote control

MODEL: Pico Va (PJ-3BRL)

SERIAL NUMBER: Non-serialized production unit

DATE TESTED: 2011-06-08

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. tested 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 C63.10-2009, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

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 wireless remote control intended for lighting system controls. The PicoVA is a transmit only device.

Throughout this report, the model PicoVA is the brand name and the model tested was the PJ-3BRL.

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

The worst-case configuration was determined for frequencies below 1GHz and for frequencies above 1GHz. For below 1GHz, the worst case orientation was the Z orientation and above 1GHz the worst case orientation was the X orientation.

5.5. MODIFICATIONS

No modifications were made during testing.

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	43441	2011-04-05	2012-04-05
Log-P Antenna	Schaffner	UPA6109	44068	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 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	87V	64386	2011-02-01	2012-02-29
Above 1GHz (Band Optimized System)					
EMI Receiver	Rohde & Schwarz	ESIB40	34968	2011-03-01	2012-03-01
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 9.3	44740	N/A	N/A
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	4268	2010-12-07	2012-12-07
Multimeter	Fluke	87V	64386	2011-02-01	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.					

Occupied Bandwidth / Pulse Train/ Cease Operation

Test Equipment Used					
Description	Manufacturer	Model	Identifier	Cal Date	Cal Due Date
Spectrum Analyzer	Agilent	E4446A	70728	2011-02-04	2013-02-04
Dipole Antenna	EMCO	3121C	3359	2010-12-08	2011-12-08
Temp/Humidity/Pressure Meter	Cole Parmer	99760-00	43735	2010-12-07	2012-12-07

7. MAXIMUM PERMISSIBLE EXPOSURE

FCC RULES

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

8. ANTENNA PORT TEST RESULTS

8.1. 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 10 KHz. The VBW is set to 100 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:

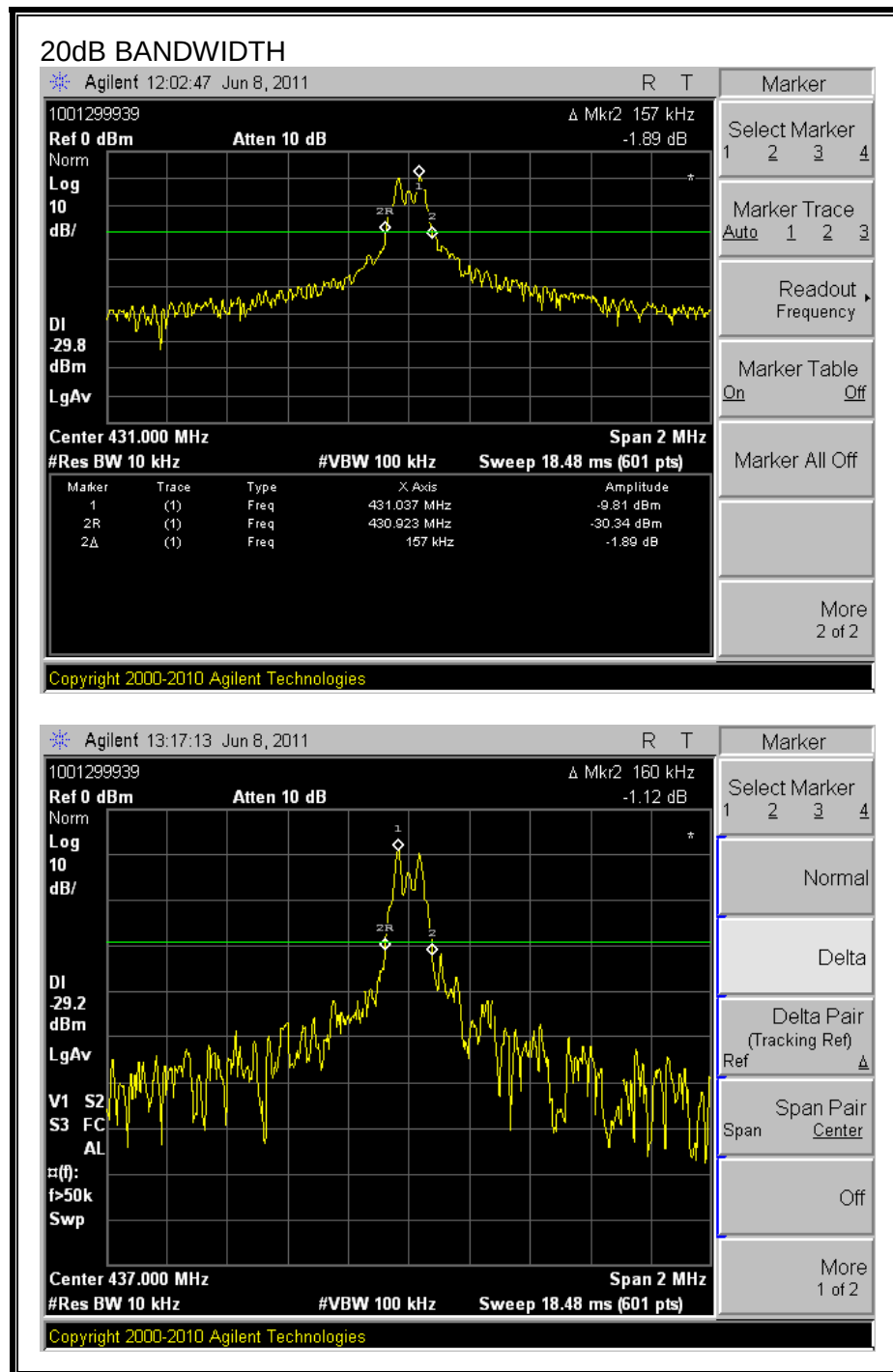
20dB Bandwidth

Frequency (MHz)	20dB Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
431	157	1077.5	-920.5
437	160	1092.5	-932.5

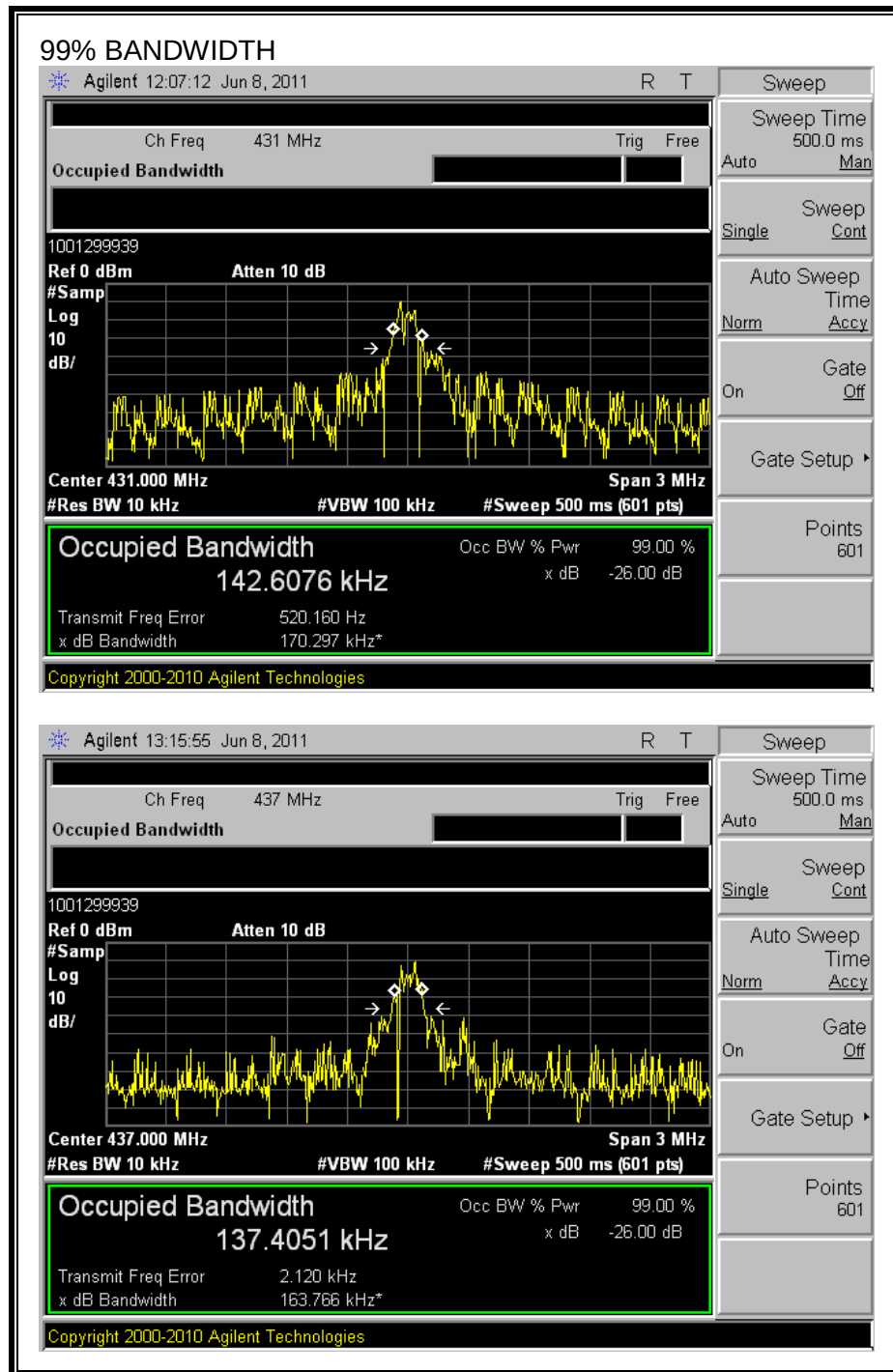
99% Bandwidth

Frequency (MHz)	99% Bandwidth (kHz)	Limit (kHz)	Margin (kHz)
431	142.6	1077.5	-934.9
437	137.4	1092.5	-955.1

20dB BANDWIDTH



99% BANDWIDTH



8.2. 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

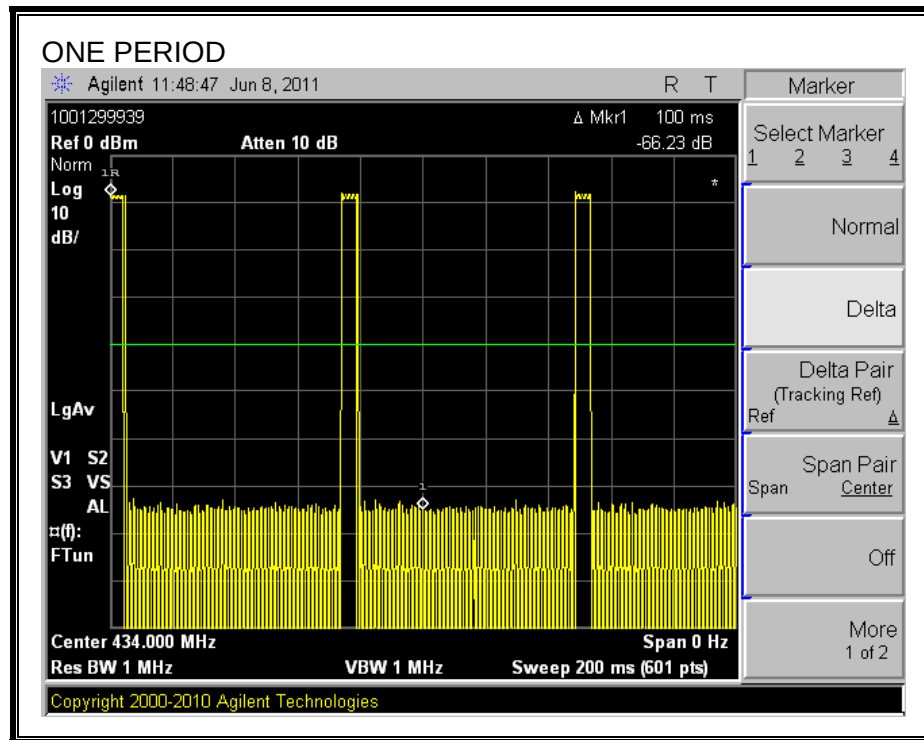
Average Reading = Peak Reading (dBuV/m) + 20log (Duty Cycle), Where Duty Cycle is (# of long pulses * long pulse width) + (# of short pulses * short pulse width) / 100 or T

RESULTS

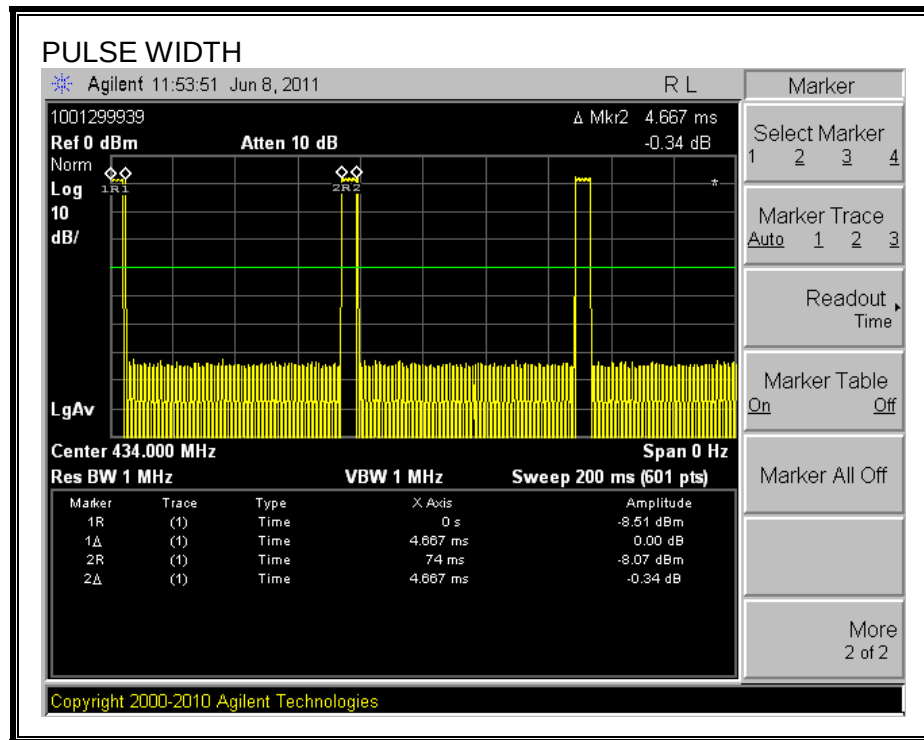
No non-compliance noted:

One Period (ms)	Long Pulse Width (ms)	# of Long Pulses	Short Width (ms)	# of Short Pulses	Duty Cycle	20*Log Duty Cycle (dB)
100	4.667	2	0.00	0	0.093	-20.60

ONE PERIOD



PULSE WIDTH



8.3. TRANSMISSION TIME

LIMITS

FCC §15.231 (a) (2)

IC A1.1.1 (b)

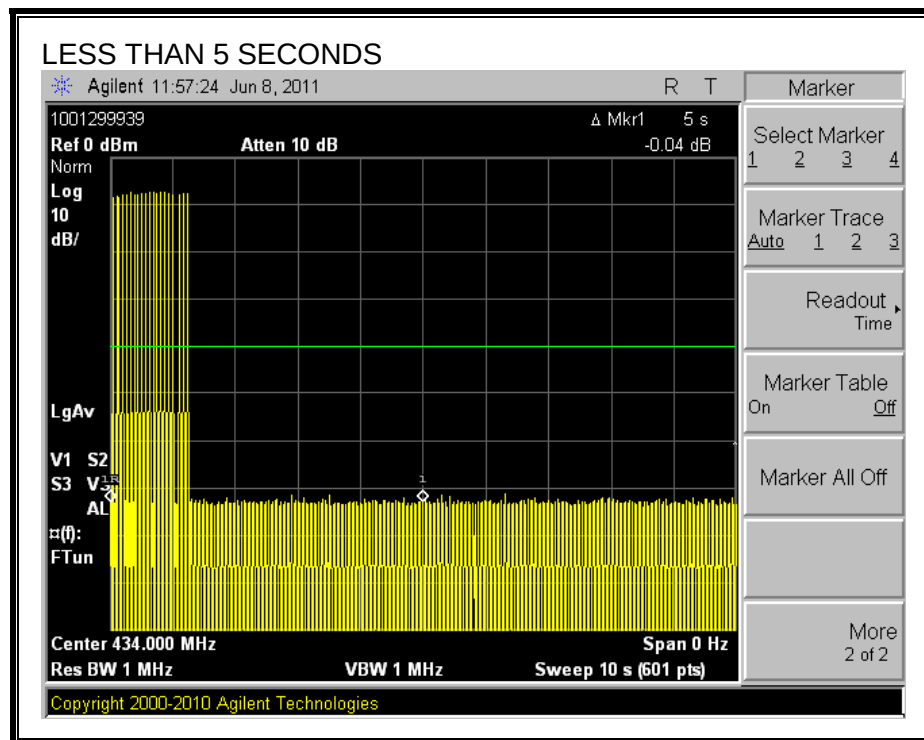
A transmitter activated automatically shall cease transmission within 5 seconds after activation.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer or radiated field strength. The RBW is set to 1000 kHz and the VBW is set to 1000 kHz. The sweep time is set to 10 seconds and the span is set to 0 Hz.

RESULTS

No non-compliance noted:



9. RADIATED EMISSION TEST RESULTS

9.1. TX RADIATED EMISSIONS

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 C63.4:2003. The EUT is set to transmit in a continuous mode.

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

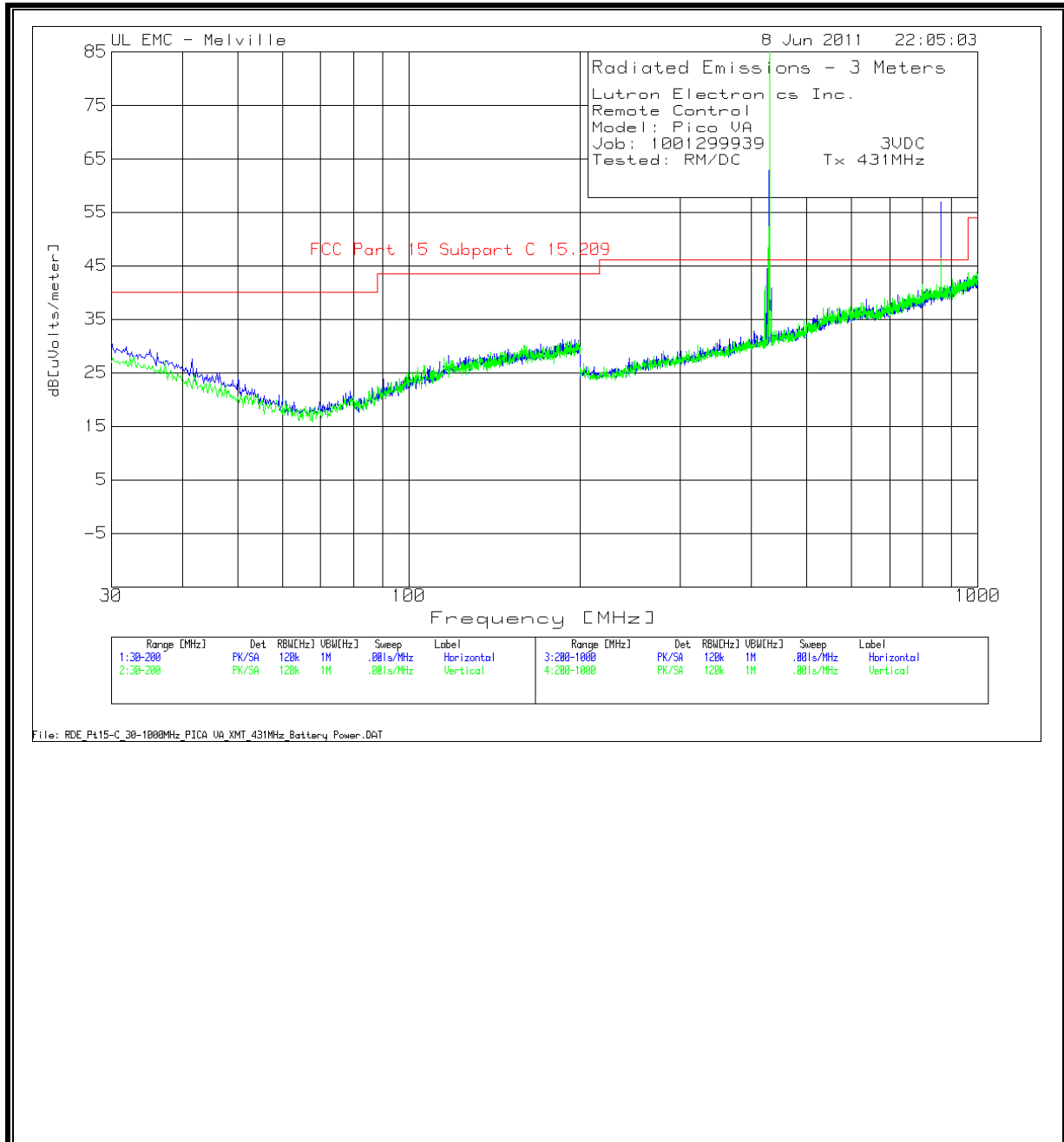
For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 1 MHz for peak measurements.

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)



Lutron Electronics Inc.
Remote Control
Model: Pico VA
Job: 1001299939 3VDC
Tested: RM/DC Tx 431MHz

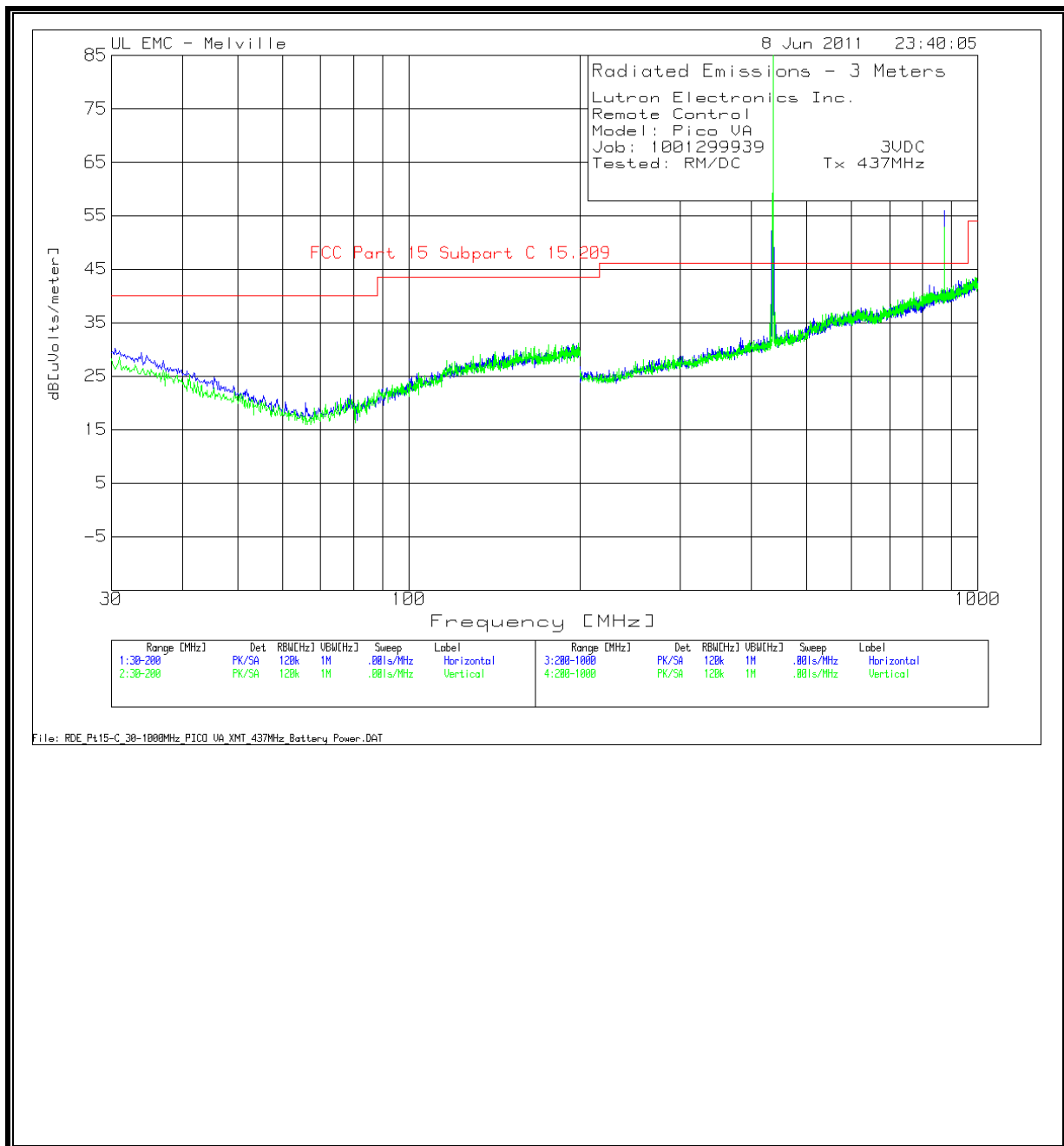
Test	Meter	Detector	Gain/Loss	Transducer	Level	DCF	Corrected	Limit 1	Margin	Margin	Azimuth	Height		
					dB[uVolts/ meter]		Level		1[dB]	Limit 2	2[dB]	[deg]	[cm]	Polarity
Frequency	Reading	Type	Factor	Factor			dB[uVolts/ meter]							
[MHz]	[dB(uV)]		[dB]	[dB]		[dB]								
Horizontal 200 - 1000MHz														
426.9068	6.98	QP		2.3	16.5	25.78	-		46	-20.22	-		6	227 Horz
427.7937	7.23	QP		2.3	16.6	26.13	-		46	-19.87	-		328	273 Horz
430.959	67.75	PK		2.3	16.7	86.75	-20.6	66.15	-		80.7	-14.55	8	382 Horz
861.9173	28.24	PK		3.4	23	54.64	-20.6	34.04	-		60.7	-26.66	0	336 Horz
Vertical 200 - 1000MHz														
422.1597	6.91	QP		2.2	16.3	25.41	-		46	-20.59	-		328	298 Vert
423.7773	6.91	QP		2.3	16.3	25.51	-		46	-20.49	-		10	390 Vert
428.1	11.71	QP		2.3	16.3	30.31	-		46	-15.69	-		141	162 Vert
429.3147	10.41	QP		2.3	16.3	29.01	-		46	-16.99	-		64	361 Vert
431.0301	75.95	PK		2.3	16.3	94.55	-20.6	73.95	-		80.7	-6.75	86	141 Vert
433.5948	7.11	QP		2.3	16.4	25.81	-		46	-20.19	-		4	349 Vert
861.9214	23.7	PK		3.4	23.2	50.3	-20.6	29.7	-		60.7	-31	234	187 Vert

LIMIT 1: FCC Part 15 Subpart C 15.209

LIMIT 2: FCC Part 15 Subpart C 15.231

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)



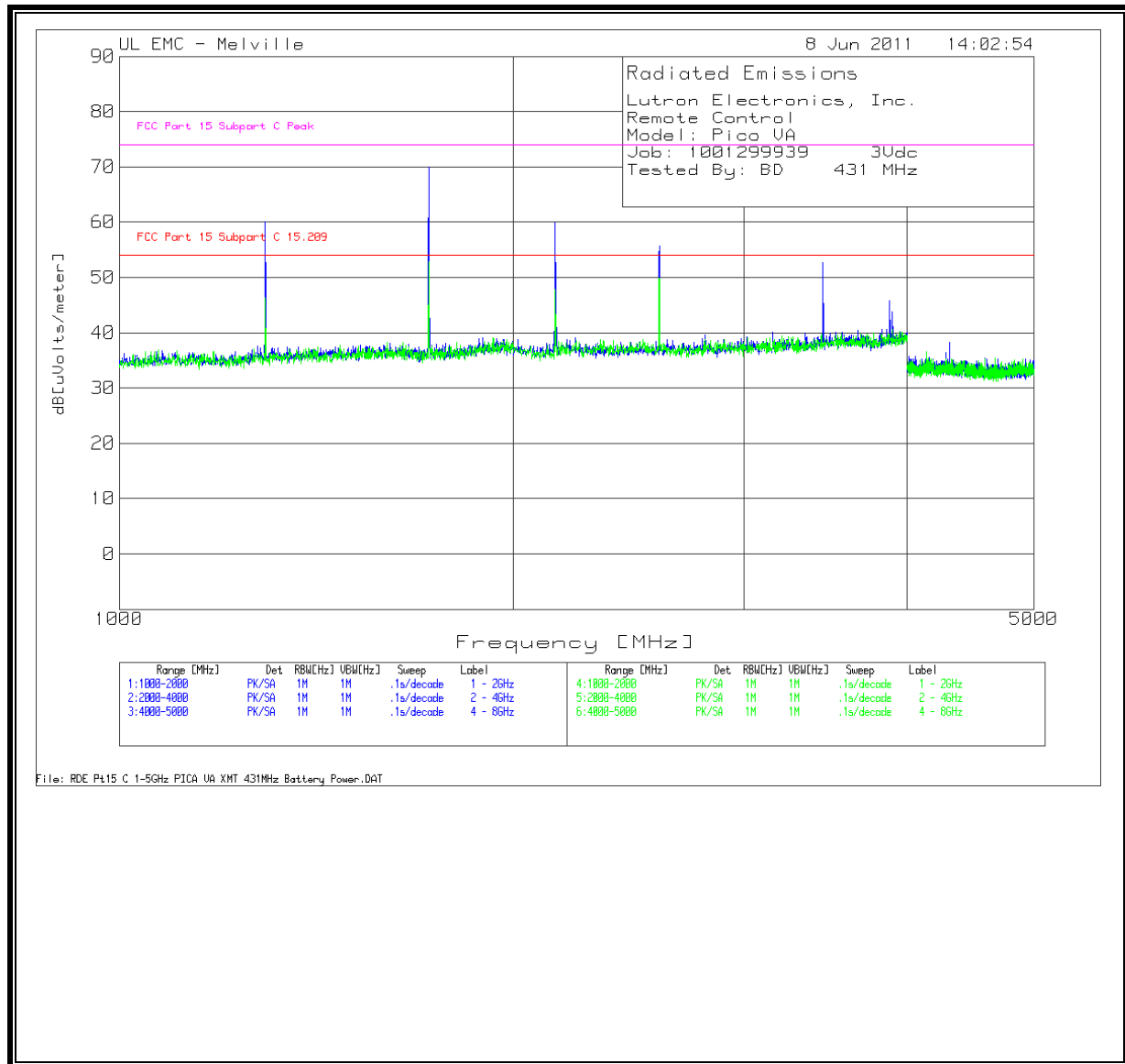
Lutron Electronics Inc.
Remote Control
Model: Pico VA
Job: 1001299939 3VDC
Tested: RM/DC Tx 437MHz

Test	Meter	Detector	Gain/Loss	Transducer	Level	DCF	Corrected	Limit 1	Margin	Limit 2	Margin	Azimuth	Height	Polarity
Frequency	Reading	Type	Factor	Factor	dB[uVolts/	meter]	Level					[deg]	[cm]	
[MHz]	[dB(uV)]		[dB]	[dB]		[dB]	dB[uVolts/							
							meter]							
Horizontal 200 - 1000MHz														
437.0326	70.74	PK		2.3	17	90.04	-20.6	69.44	-		80.9	-11.46	342	380 Horz
873.9237	37.7	PK		3.4	23	64.1	-20.6	43.5	-		60.9	-17.4	205	169 Horz
434.6362	10.67	QP		2.3	16.9	29.87	-		46	-16.13	-		207	351 Horz
435.5304	16.03	QP		2.3	16.9	35.23	-		46	-10.77	-		178	352 Horz
438.92	15.17	QP		2.3	17.1	34.57	-		46	-11.43	-		185	361 Horz
821.5108	7.96	QP		3.3	22.8	34.06	-		46	-11.94	-		353	290 Horz
837.5188	8.13	QP		3.3	23	34.43	-		46	-11.57	-		323	235 Horz
926.3632	8.46	QP		3.5	23.9	35.86	-		46	-10.14	-		11	346 Horz
Vertical 200 - 1000MHz														
437.0321	77.5	PK		2.3	16.6	96.4	-20.6	75.8	-		80.9	-5.1	86	144 Vert
873.9265	29.73	PK		3.4	23	56.13	-20.6	35.53	-		60.9	-25.37	78	163 Vert
432.9817	11.74	QP		2.3	16.4	30.44	-		46	-15.56	-		89	168 Vert
440.0519	13.53	QP		2.3	16.8	32.63	-		46	-13.37	-		77	159 Vert
770.6853	8.19	QP		3.2	22.2	33.59	-		46	-12.41	-		107	342 Vert
956.3782	8.41	QP		3.6	24.6	36.61	-		46	-9.39	-		299	271 Vert

LIMIT 1: FCC Part 15 Subpart C 15.209
LIMIT 2: FCC Part 15 Subpart C 15.231

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



Lutron Electronics, Inc.
Remote Control
Model: Pico VA
Job: 1001299939 3Vdc
Tested By: BD 431 MHz

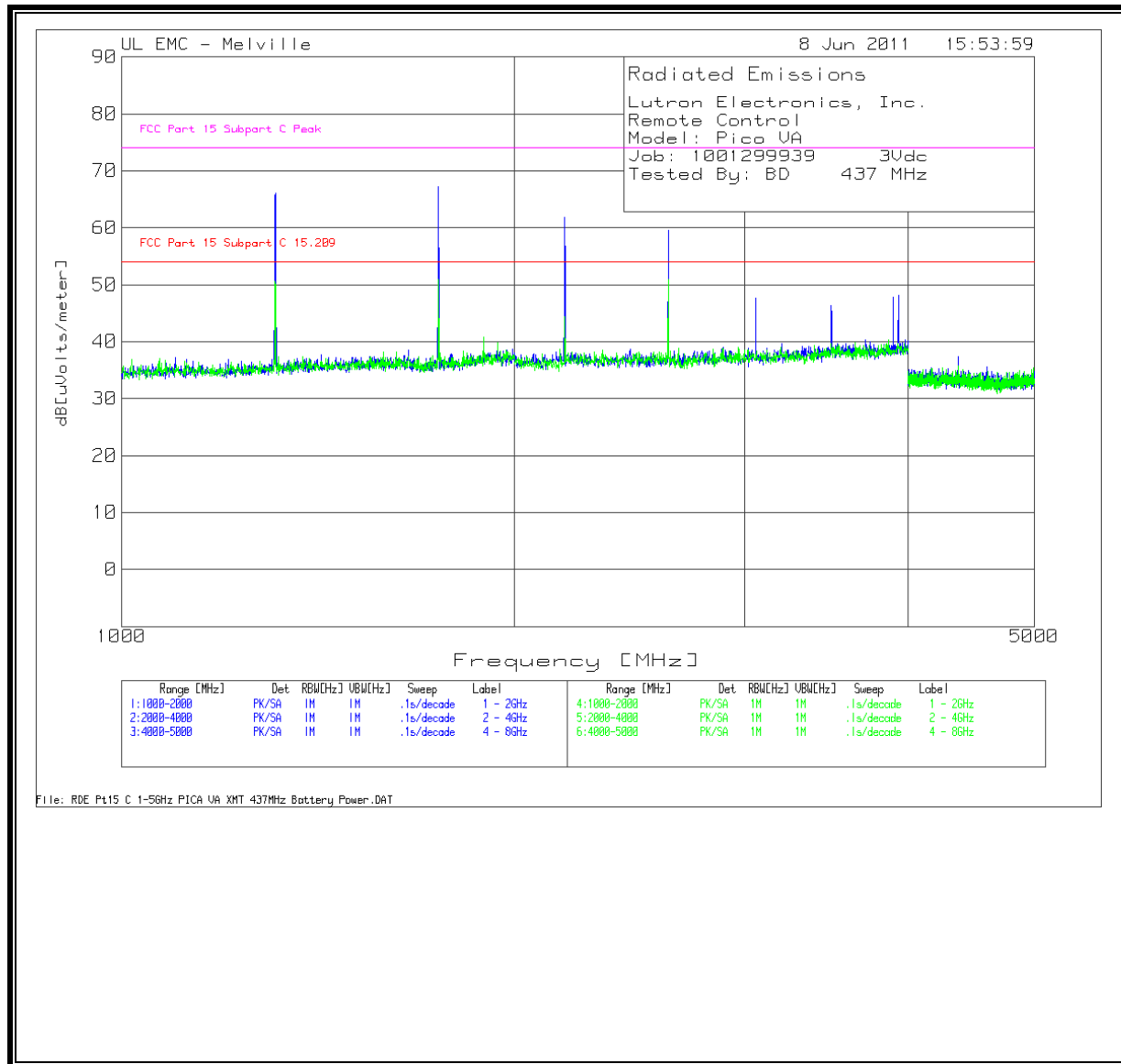
Test	Meter	Detector	Gain/Loss	Transducer	Level dB[uVolts/ meter]	DCF	Corrected Level dB[uVolts/ meter]	Limit 1	Margin 1[dB]	Limit 2	Margin 2[dB]	Azimuth [deg]	Height [cm]	Polarity
Frequency [MHz]	Reading [dB(uV)]	Type	Factor [dB]	Factor [dB]		[dB]								
1 - 2GHz 1000 - 2000MHz														
1293.1553	91.31	PK	-44.4	20.5	67.41	-20.6	46.81	54	-7.19	74	-6.59	186	302	Horz
1724.7	90.25	PK	-44.1	20.8	66.95	-20.6	46.35	54	-7.65	74	-7.05	217	292	Horz
2 - 4GHz 2000 - 4000MHz														
2155.1924	84.11	PK	-43.38	21.4	62.13	-20.6	41.53	54	-12.47	74	-11.87	208	195	Horz
2586.3046	83.1	PK	-42.48	21.3	61.92	-20.6	41.32	54	-12.68	74	-12.08	159	343	Horz
3447.7214	74.69	PK	-41.73	22.1	55.06	-20.6	34.46	54	-19.54	74	-18.94	195	369	Horz
3879.3842	70.43	PK	-41.92	22.6	51.11	-20.6	30.51	54	-23.49	74	-22.89	39	358	Horz
4 - 8GHz 4000 - 5000MHz														
4310.3868	77	PK	-51.73	27.7	52.97	-20.6	32.37	54	-21.63	74	-21.03	149	344	Horz
1 - 2GHz 1000 - 2000MHz														
1293.1277	82.38	PK	-44.4	20.5	58.48	-20.6	37.88	54	-16.12	74	-15.52	67	314	Vert
1724.1754	88.61	PK	-44.13	20.8	65.28	-20.6	44.68	54	-9.32	74	-8.72	268	396	Vert
2 - 4GHz 2000 - 4000MHz														
2155.2074	80.69	PK	-43.38	21	58.31	-20.6	37.71	54	-16.29	74	-15.69	118	392	Vert
2586.2054	77.38	PK	-42.48	21.5	56.4	-20.6	35.8	54	-18.2	74	-17.6	32	316	Vert
3459	61.78	PK	-41.81	22.2	42.17	-20.6	21.57	54	-32.43	74	-31.83	162	370	Vert
3879.1393	65.76	PK	-41.92	22.6	46.44	-20.6	25.84	54	-28.16	74	-27.56	97	315	Vert
4 - 8GHz 4000 - 5000MHz														
4312.7625	60.34	PK	-51.68	27.8	36.46	-20.6	15.86	54	-38.14	74	-37.54	31	382	Vert

LIMIT 1: FCC Part 15 Subpart C 15.209

LIMIT 2: FCC Part 15 Subpart C Peak

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



Lutron Electronics, Inc.
Remote Control
Model: Pico VA
Job: 1001299939 3Vdc
Tested By: BD 437 MHz

Test	Meter	Detector	Gain/Loss	Transducer	Level	DCF	Corrected	Limit 1	Margin	Limit 2	Margin	Azimuth	Height	Polarity
Frequency	Reading	Type	Factor	Factor	dB[uVolts/	meter]	Level					[deg]	[cm]	
[MHz]	[dB(uV)]		[dB]	[dB]		[dB]	dB[uVolts/							
							meter]							
1 - 2GHz 1000 - 2000MHz														
1311.0902	93.82	PK	-44.35	20.5	69.97	-20.6	49.37	54	-4.63	74	-4.03	6	263	Horz
1748.1257	96.67	PK	-44.14	20.8	73.33	-20.6	52.73	54	-1.27	74	-0.67	355	367	Horz
2 - 4GHz 2000 - 4000MHz														
2185.207	88.76	PK	-43.19	21.5	67.07	-20.6	46.47	54	-7.53	74	-6.93	184	387	Horz
2622.2142	84.7	PK	-42.49	21.4	63.61	-20.6	43.01	54	-10.99	74	-10.39	343	298	Horz
3059	70.9	PK	-41.9	21.6	50.6	-20.6	30	54	-24	74	-23.4	280	124	Horz
3495.8758	76.41	PK	-41.73	22.2	56.88	-20.6	36.28	54	-17.72	74	-17.12	184	349	Horz
3896.6475	69.07	PK	-41.63	22.6	50.04	-20.6	29.44	54	-24.56	74	-23.96	198	398	Horz
3932.6423	70.54	PK	-41.71	22.7	51.53	-20.6	30.93	54	-23.07	74	-22.47	192	274	Horz
4 - 8GHz 4000 - 5000MHz														
4370.3952	76.81	PK	-51.66	27.6	52.75	-20.6	32.15	54	-21.85	74	-21.25	184	333	Horz
1 - 2GHz 1000 - 2000MHz														
1311.1517	86.35	PK	-44.34	20.5	62.51	-20.6	41.91	54	-12.09	74	-11.49	268	320	Vert
1748.1639	87.64	PK	-44.14	20.8	64.3	-20.6	43.7	54	-10.3	74	-9.7	247	313	Vert
1748.1639	88.13	PK	-44.14	20.8	64.79	-20.6	44.19	54	-9.81	74	-9.21	247	313	Vert
2 - 4GHz 2000 - 4000MHz														
2185.1814	79.31	PK	-43.19	21.2	57.32	-20.6	36.72	54	-17.28	74	-16.68	129	282	Vert
2622.2443	80.21	PK	-42.49	21.4	59.12	-20.6	38.52	54	-15.48	74	-14.88	31	397	Vert
3495.7786	69.6	PK	-41.72	22.4	50.28	-20.6	29.68	54	-24.32	74	-23.72	223	347	Vert
3047.2255	61.46	PK	-41.82	21.7	41.34	-20.6	20.74	54	-33.26	74	-32.66	98	387	Vert
3932.7838	70.01	PK	-41.7	22.7	51.01	-20.6	30.41	54	-23.59	74	-22.99	129	338	Vert
3887.888	62.22	PK	-41.75	22.6	43.07	-20.6	22.47	54	-31.53	74	-30.93	78	384	Vert
3047.047	62.05	PK	-41.82	21.7	41.93	-20.6	21.33	54	-32.67	74	-32.07	255	282	Vert
4 - 8GHz 4000 - 5000MHz														
4370.4385	70.54	PK	-51.66	27.7	46.58	-20.6	25.98	54	-28.02	74	-27.42	132	381	Vert

LIMIT 1: FCC Part 15 Subpart C 15.209

LIMIT 2: FCC Part 15 Subpart C Peak

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LnAv - Linear Average detector
LgAv - Log Average detector
Av - Average detector
CAV - CISPR Average detector
RMS - RMS detection
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10. 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

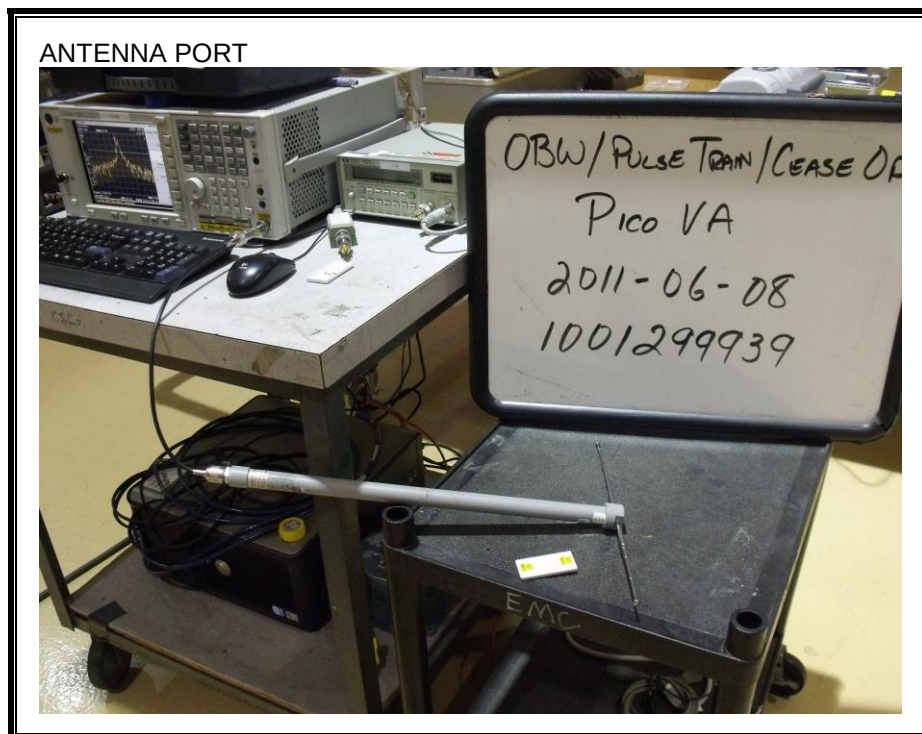
ANSI C63.4

RESULTS

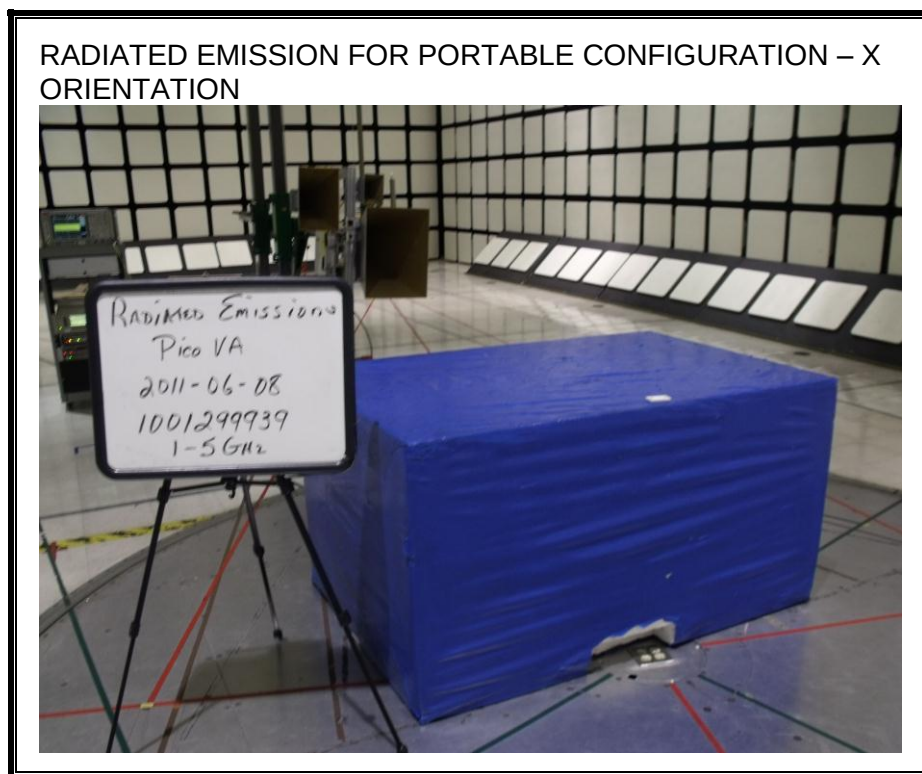
Test not applicable. Device is only powered by batteries.

11. SETUP PHOTOS

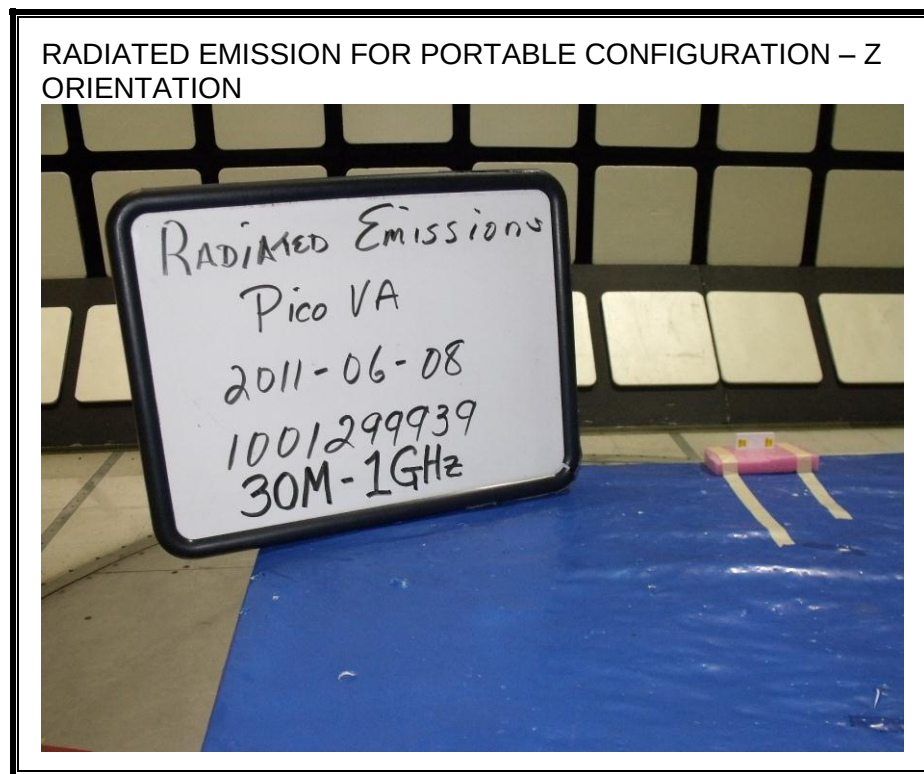
ANTENNA PORT



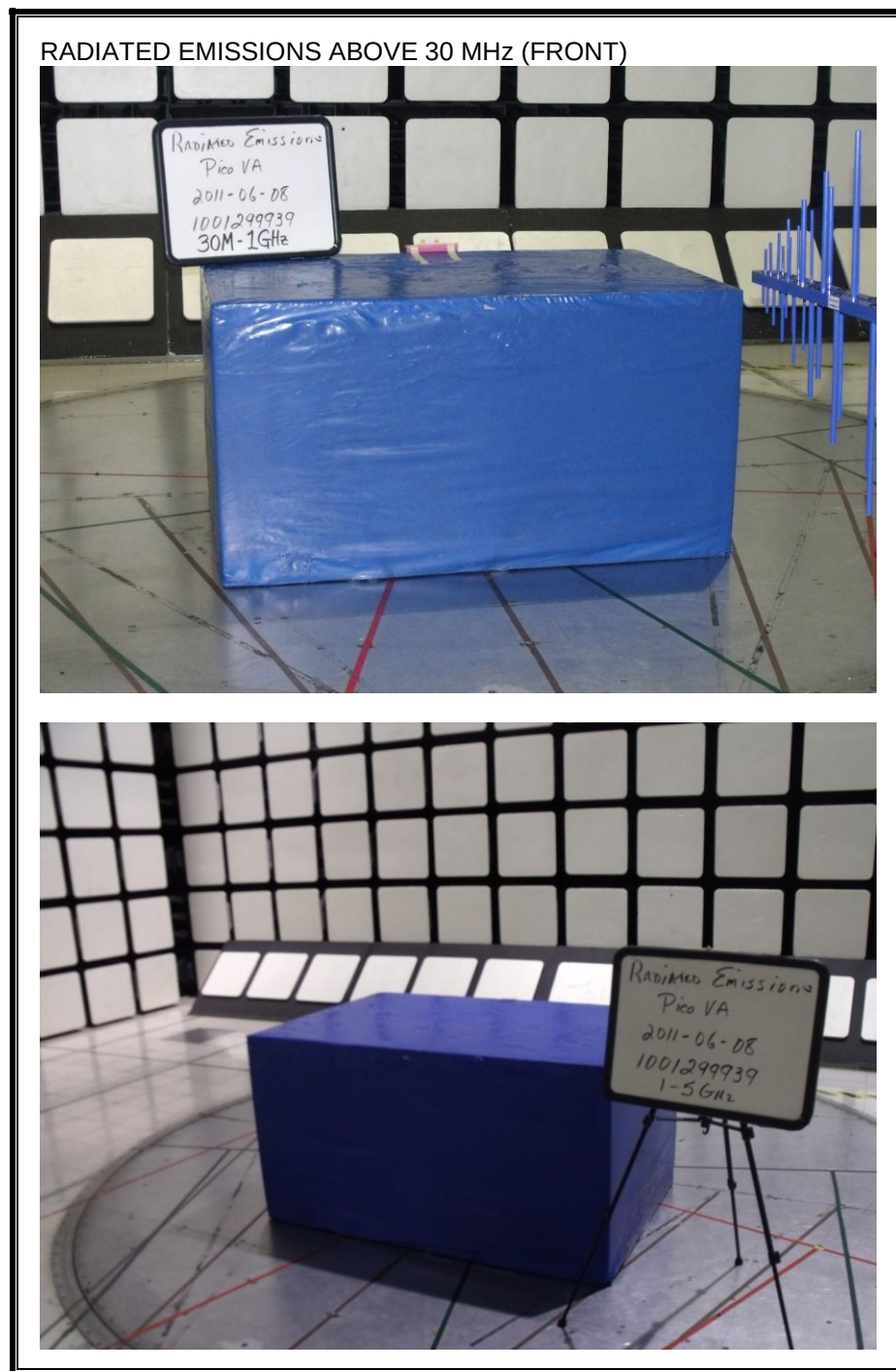
RADIATED EMISSION FOR PORTABLE CONFIGURATION – X ORIENTATION



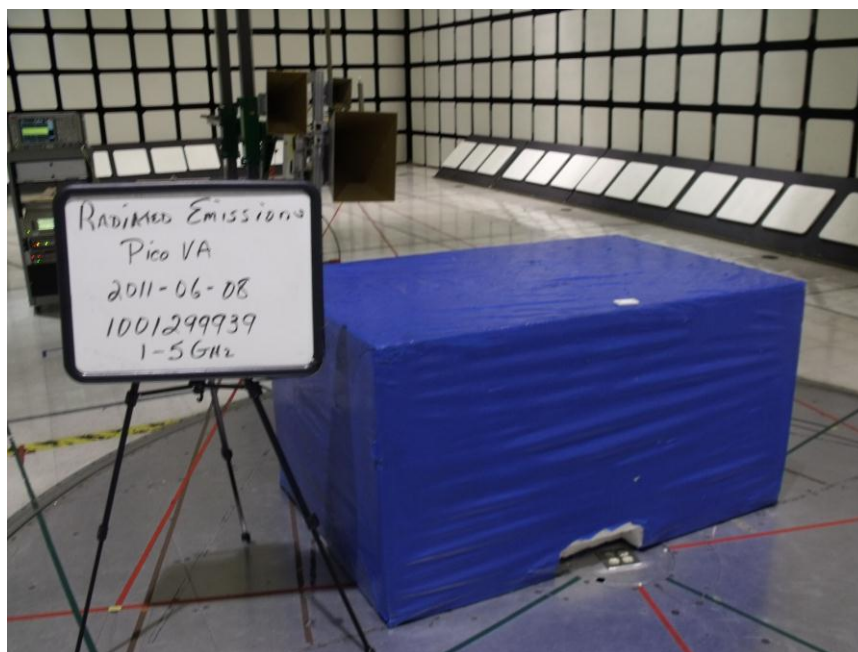
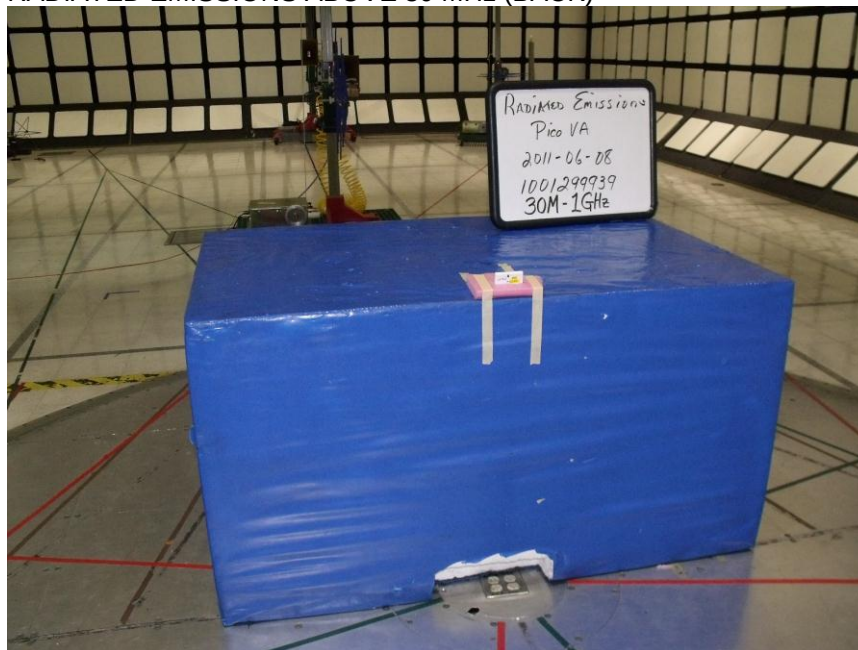
RADIATED EMISSION FOR PORTABLE CONFIGURATION – Z ORIENTATION



RADIATED EMISSION ABOVE 30 MHz



RADIATED EMISSIONS ABOVE 30 MHz (BACK)



END OF REPORT