



CERTIFICATION TEST REPORT

Report Number. : 12137351A

Applicant : Philips Lighting North America Corporation
10275 W. Higgins Rd.
Rosemont, IL 60018

Model : SNH200

FCC ID : 2AF2N-SNH200

ISED ID : 20659-SNH200

EUT Description : ceiling luminaire mounted light sensor with 2.4GHz radio

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
ISED RSS-247 ISSUE 2

Date Of Issue:
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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
1.0	March 8, 2018	Initial Issue	BM
1.1	March 27, 2018	Editorial Corrections	BM

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Philips Lighting North America

EUT DESCRIPTION: ceiling luminaire mounted light sensor with 2.4GHz radio

MODEL: SNH200

SERIAL NUMBER: see section 5.6

DATE TESTED: JANUARY 30 2018 – MARCH 01 2018

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Compliant
ISED RSS-247 Issue 2	Compliant
ISED RSS-GEN Issue 4	Compliant

UL Verification Services Inc. 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 Verification Services Inc. 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 Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services 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 the U.S. government.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, RSS-GEN Issue 4, and RSS-247 Issue 2.

3. FACILITIES AND ACCREDITATION

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

333 Pfingsten Road	
<input checked="" type="checkbox"/>	Chamber 10m (ISED:2180A-1)

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 1004141-0. The full scope of accreditation can be viewed at <http://ts.nist.gov>.

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:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + *Path Factor (dB)

Example: 28.9dBuV/m = 36.5 dBuV + 18.7 dB/m + (– 27.5) dB

*Path factor may include cable, preamp and attenuators. Positive path factor indicates losses only and negative path factor indicates gain (preamp).

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.84 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.65 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	3.15 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	5.36 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.32 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.45 dB

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

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a ceiling luminaire mounted light sensor with 2.4GHz ZigBee type radio.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range	Mode	Output Power (dBm)	Output Power (mW)
2405 - 2475	TX	0.922	1.24

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an Inverted F PCB antenna, with a maximum gain of 3.3dB.

5.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was: FCC Mode V0.30

The test utility software used during testing was: none

5.5. WORST-CASE CONFIGURATION AND MODE

Radiated Spurious Emissions between 30MHz to 25GHz were performed with the EUT set to transmit at the intended power setting on low, middle and high channels.

Radiated Emissions between 9kHz-30MHz were conducted with random channel selected.

Line Conducted Emissions between 150kHz to 30MHz were performed with the EUT set to transmit at the intended power setting on low, middle and high channels.

The EUT is Luminaire mounted only therefore all radiated spurious emissions were conducted in single orientation.

5.6. DESCRIPTION OF TEST SETUP

EUT and SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
EUT - Antenna Port	Philips	SNH200	318008	-
EUT - Radiated Sample	Philips	SNH200	Eng. Sample No019	-
*LED Driver	Philips	XI040C110V054VPT1	443579000431	-
Variable Power Supply				

Support Equipment List

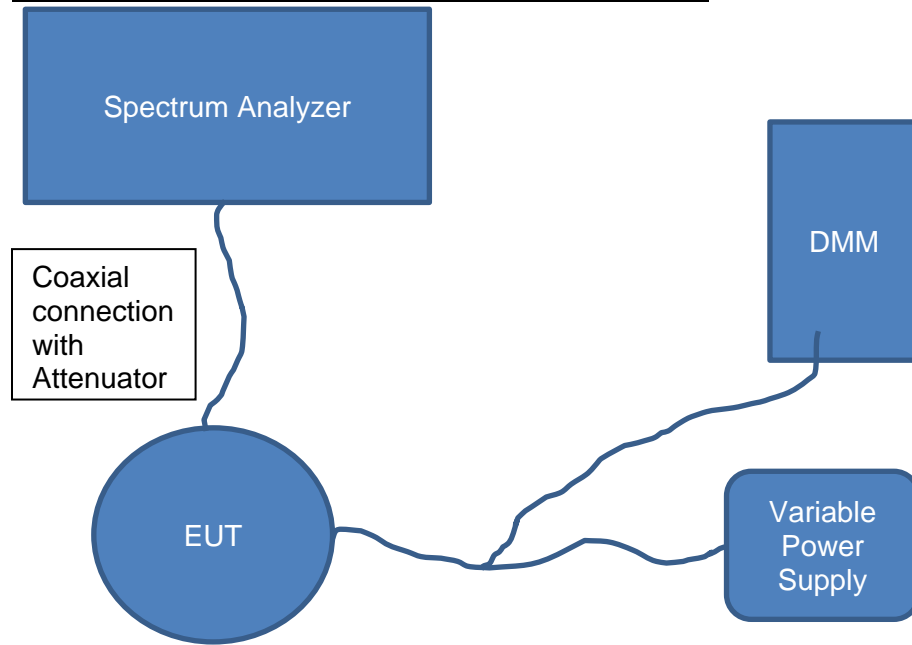
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Input	1	Wire	solid	30cm	-

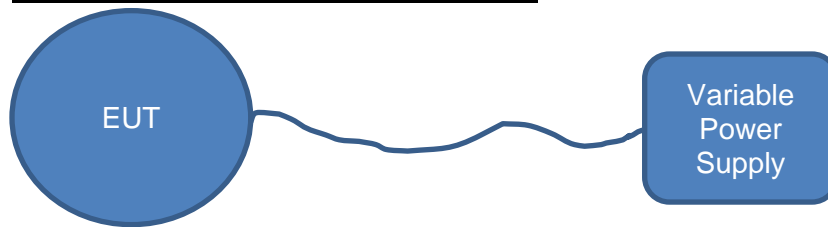
TEST SETUP

Frequencies and modes of operation are varied by setting the initial input voltage to pre-defined level. Once mode is set the voltage is raised to 20VDC.

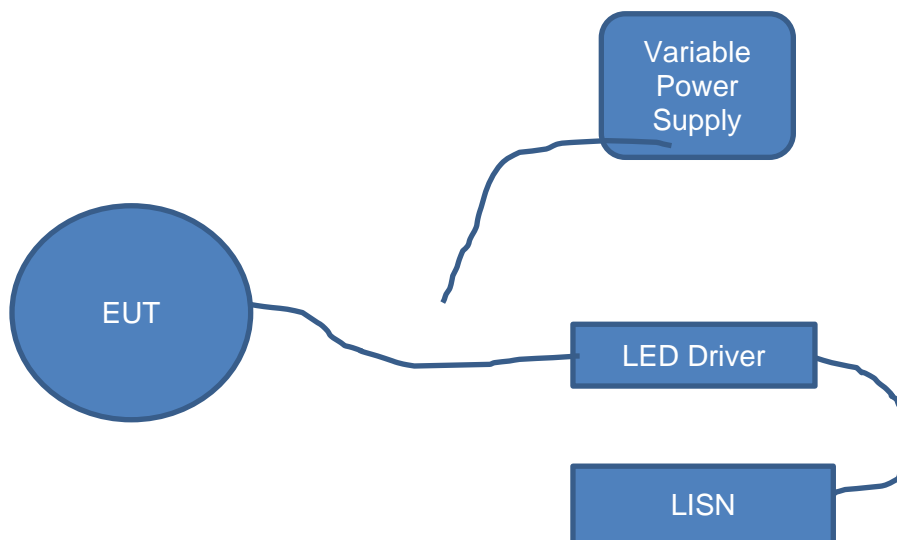
SETUP DIAGRAM FOR ANTENNA CONDUCTED TESTS



SETUP DIAGRAM FOR RADIATED TESTS



SETUP DIAGRAM FOR AC LINE CONDUCTED TEST



* note: variable power supply is only used to program the mode and frequency and its removed during conducted emissions testing.

6. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10, section 11.6, b

6 dB BW: ANSI C63.10, section 11.8.1 (option 1)

99% Occupied Bandwidth: RSS-Gen, Issue 4, Section 6.6

Output Power: ANSI C63.10, section 11.9.1.1

Power Spectral Density: ANSI C63.10, section 11.10.2 (peak PSD)

Out-of-band emissions in non-restricted bands: ANSI C63.10, section 11.11

Out-of-band emissions in restricted bands: ANSI C63.10, section 11.12.1

Band-edge: ANSI C63.10, section 11.12.1

AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

7. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due Date
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	12/21/2017	12/31/2018
Bicon Antenna	Chase	VBA6106A	EMC4078	02/15/2017	02/28/2018
Log-P Antenna	Chase	UPA6109	EMC4313	02/15/2017	02/28/2018
Loop Antenna	EMCO	6502/1	EMC4026	01/10/2018	01/31/2019
Antenna Array	UL	BOMS	EMC4276	03/16/2017	03/31/2018
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	12/20/2017	12/31/2018
Spectrum Analyzer	Agilent	N9030A (PXA)	EMC4360	12/28/2017	12/31/2018
EMI Test Receiver	Rohde & Schwarz	ESR	EMC4377	12/23/2017	12/31/2018
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
High Pass Filter	Solar Electronics	2803-150	EMC4327	N/A	N/A
Attenuator	HP	8494B	2831A00838	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4066	12/29/2017	12/31/2018
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	12/29/2017	12/31/2018

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
TX Mode	100.000	100.000	1.000	100.00%	0.00	0.010

Low Channel

Agilent Spectrum Analyzer - Swept SA

LT RF 50 Ω DC SENSE:INT ALIGN: AUTO 02:53:30 PM Feb 13, 2018

Center Freq 2.405000000 GHz #Avg Type: Log-Pwr

PNO: Fast IF Gain: Low Trig: Free Run #Atten: 30 dB

Ref Offset 10 dB
Ref 12.00 dBm

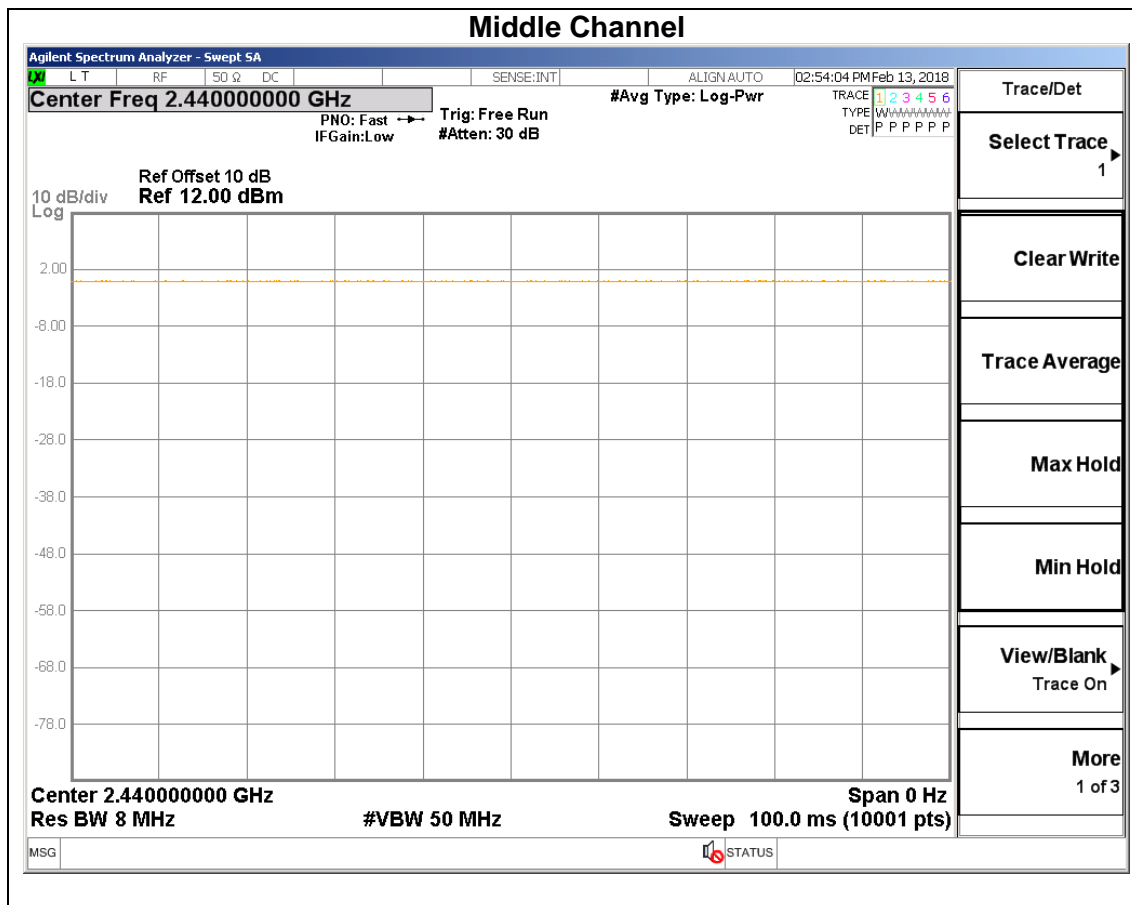
10 dB/div
Log

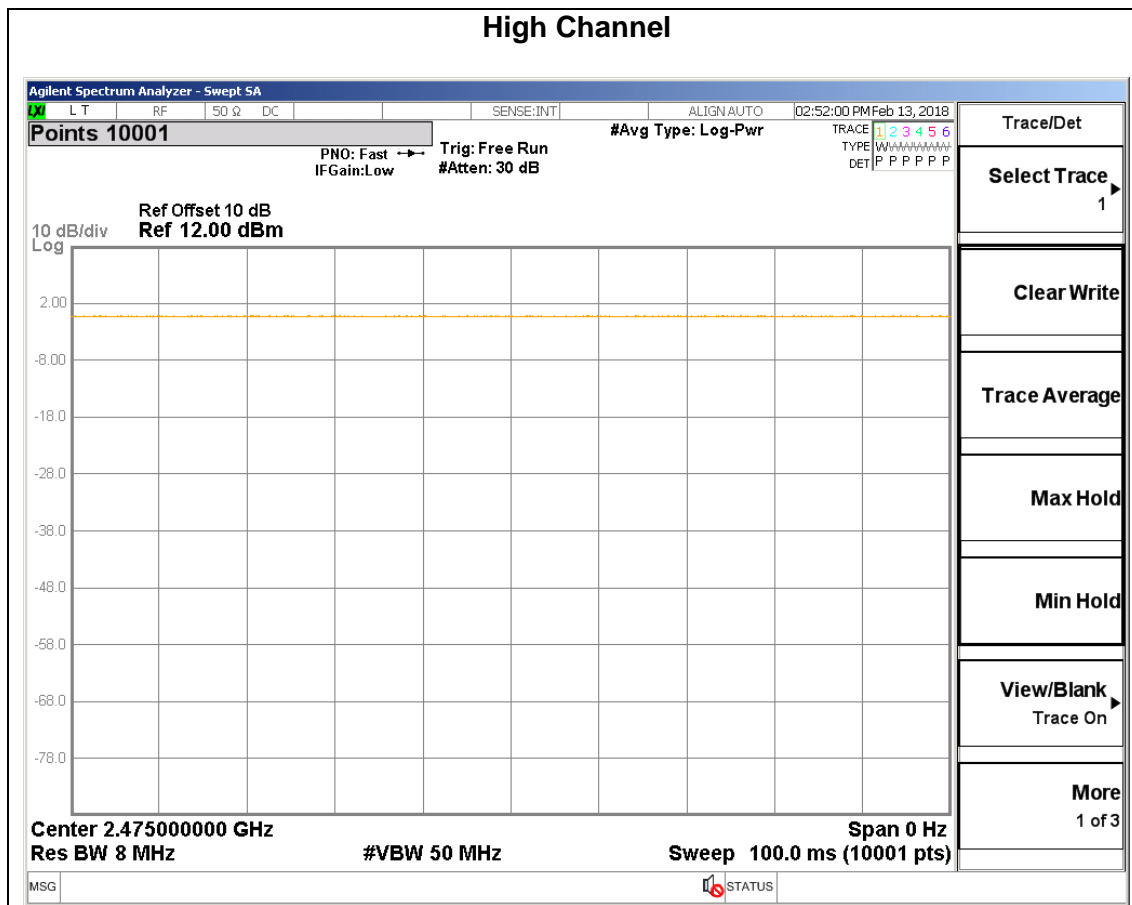
2.00
-8.00
-18.0
-28.0
-38.0
-48.0
-58.0
-68.0
-78.0

Center 2.405000000 GHz **Span 0 Hz**
Res BW 8 MHz **#VBW 50 MHz** **Sweep 100.0 ms (10001 pts)**

MSG STATUS

Trace/Det
Select Trace 1
Clear Write
Trace Average
Max Hold
Min Hold
View/Blank Trace On
More 1 of 3





8.2. 99% BANDWIDTH

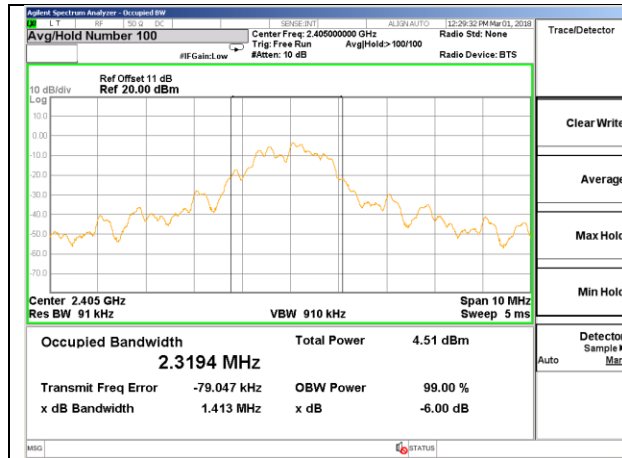
LIMITS

None; for reporting purposes only.

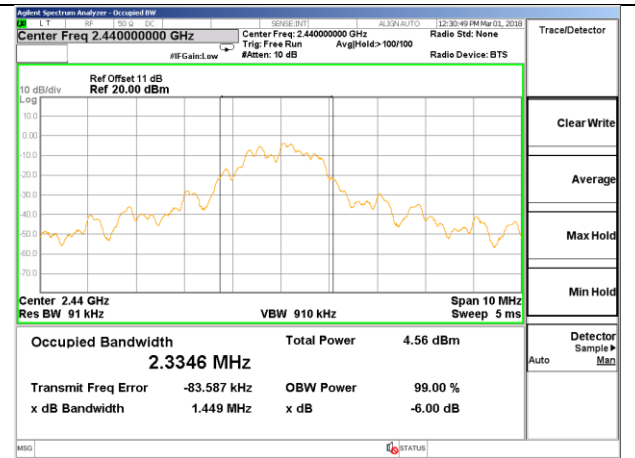
RESULTS

8.2.1. TX Mode

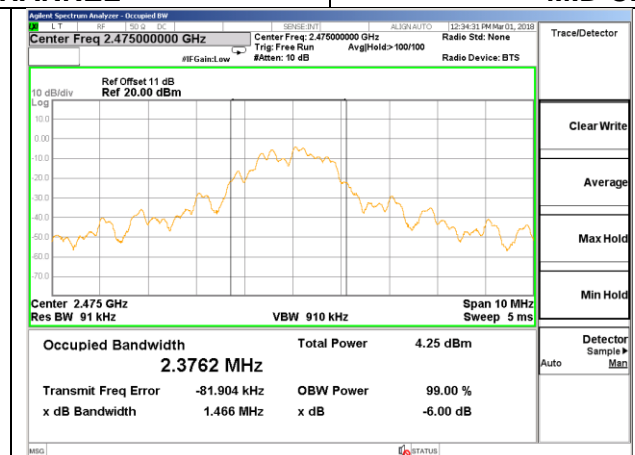
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.3194
Middle	2440	2.3346
High	2475	2.3762



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

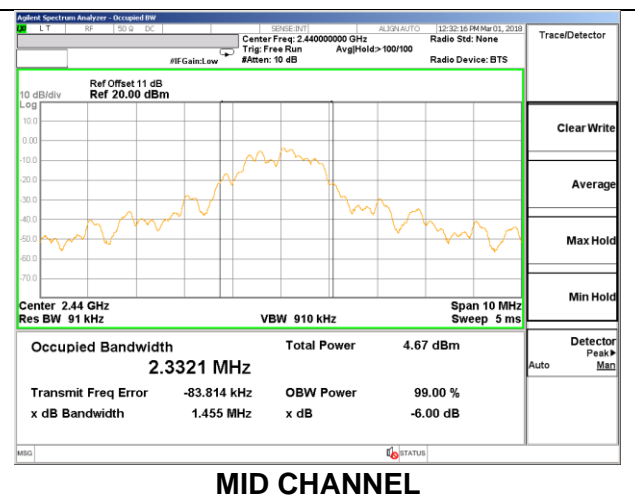
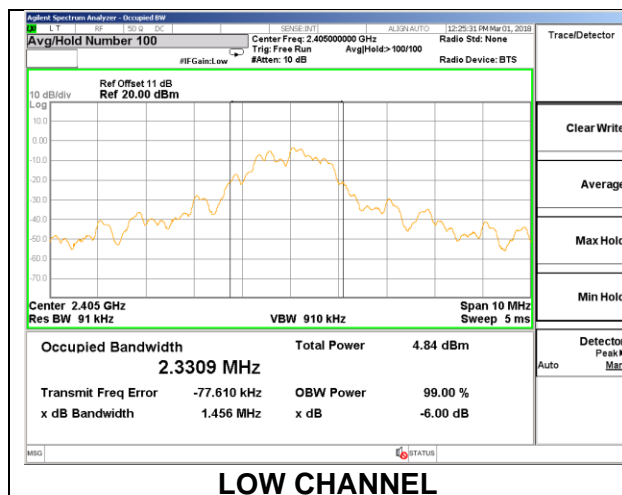
RSS-247 5.2 (a)

The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

8.3.1. TX Mode

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.4560	0.5
Middle	2440	1.4550	0.5
High	2475	1.4710	0.5



8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

The maximum antenna gain is less than 6dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

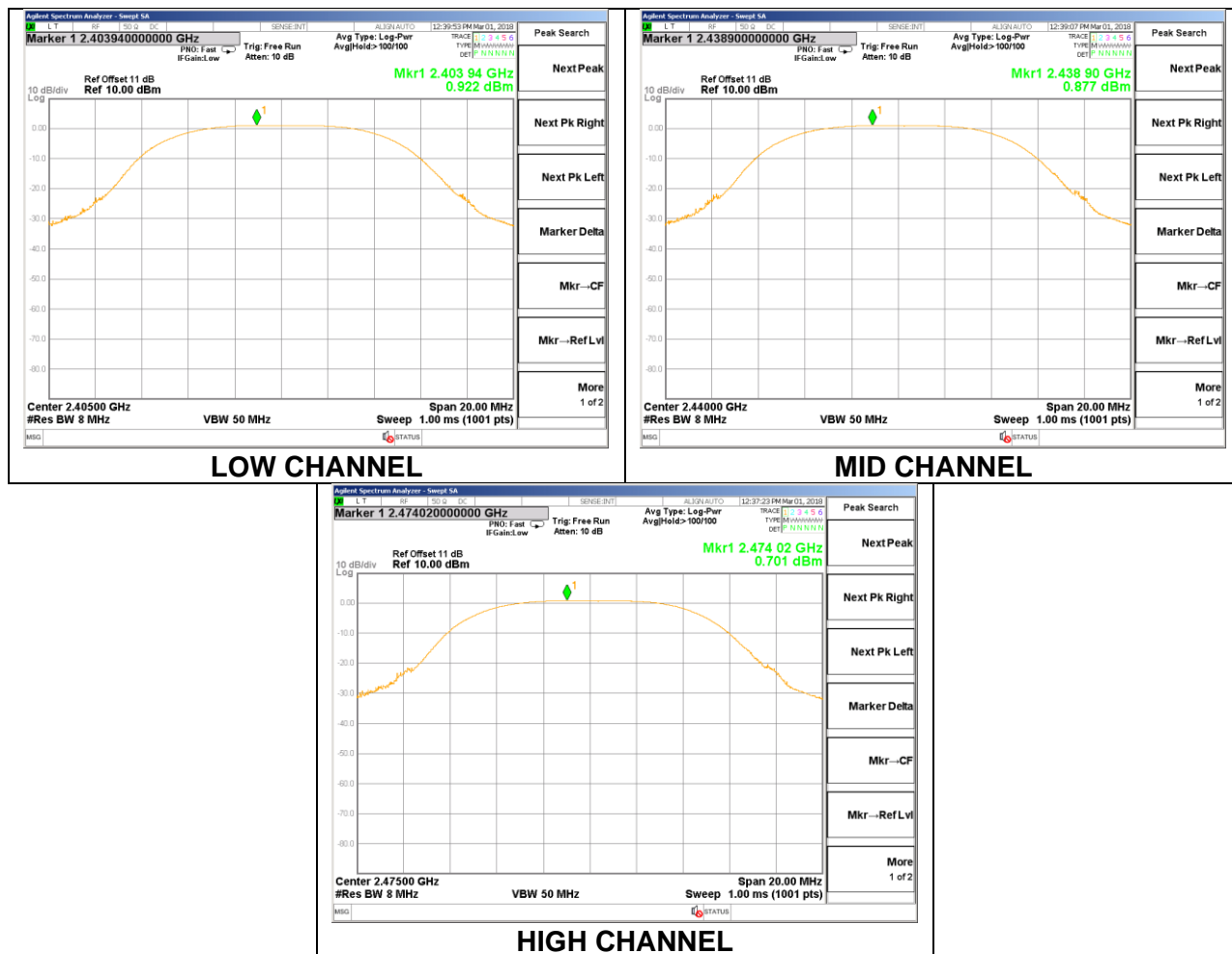
ANSI C63.10, section 11.9.1.1

The cable assembly insertion loss of 11 dB (including cable and attenuator) was entered as reference offset in the spectrum analyzer.

RESULTS

8.4.1. TX Mode

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	0.922	30	-29.078
Middle	2440	0.877	30	-29.123
High	2475	0.701	30	-29.299



8.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

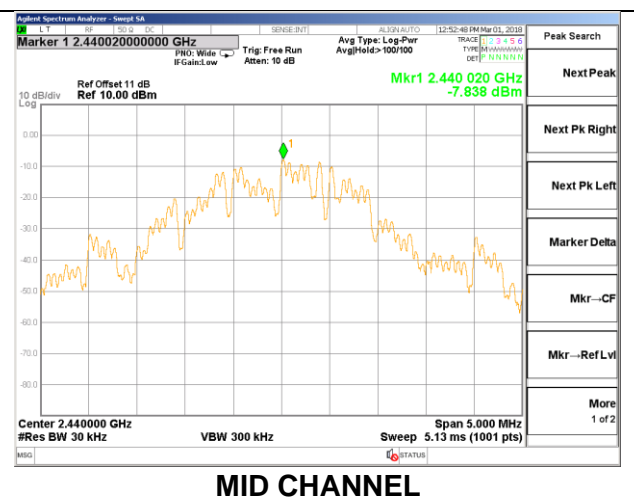
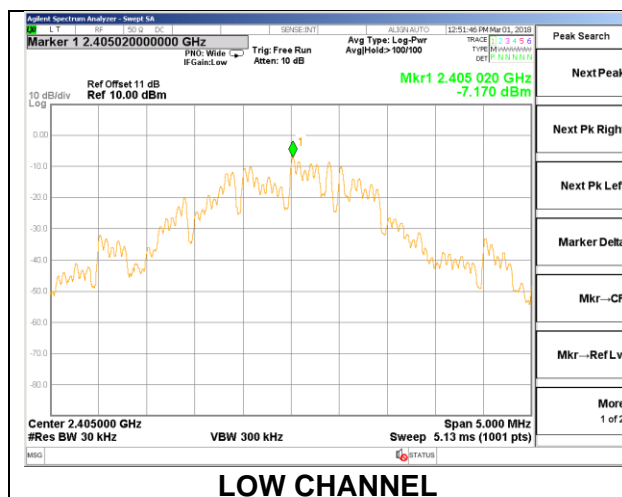
RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

8.5.1. TX Mode

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	-7.17	8	-15.17
Middle	2440	-7.84	8	-15.84
High	2475	-8.15	8	-16.15



8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

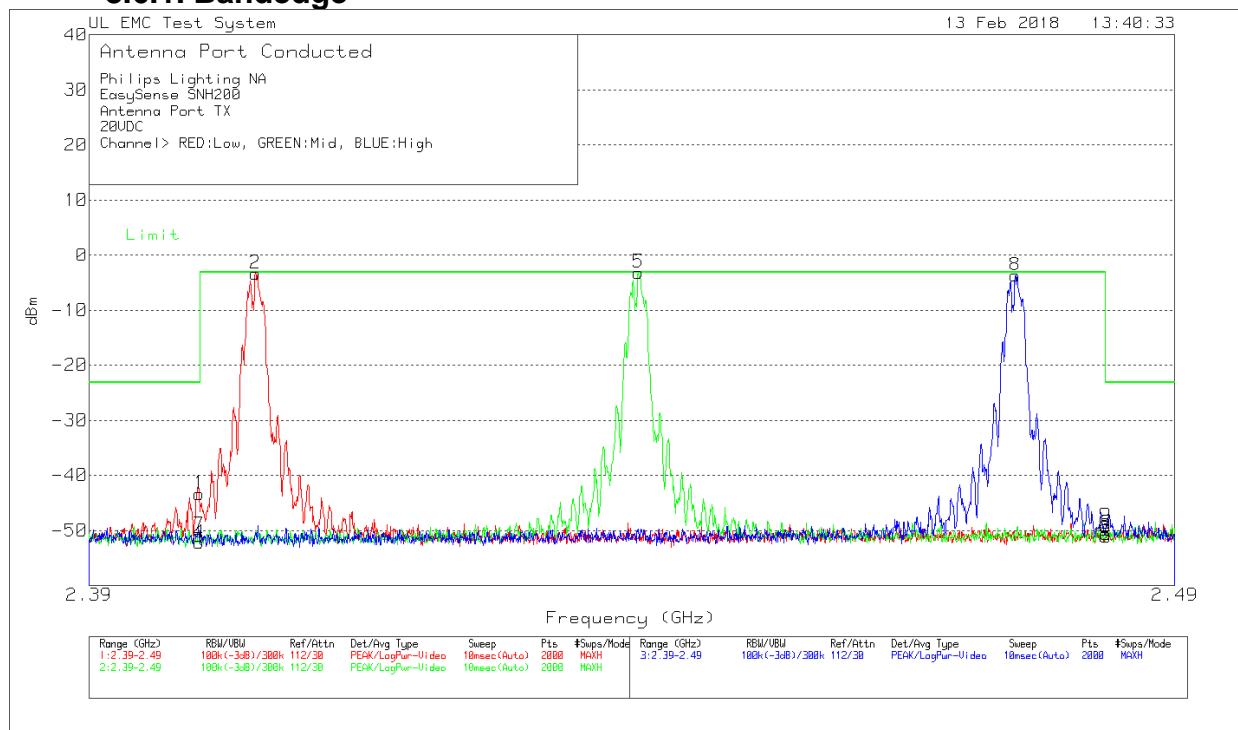
FCC §15.247 (d)

RSS-247 5.5

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

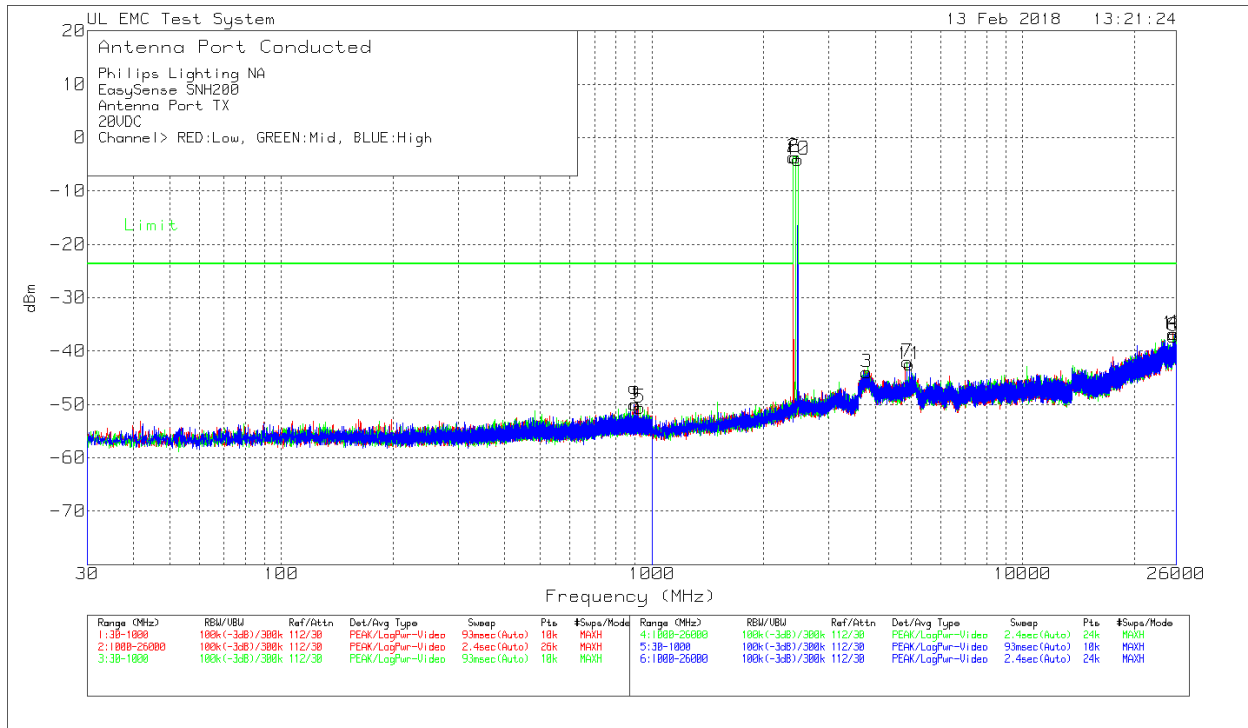
RESULTS

8.6.1. Bandedge



Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	dBuV to dBm	Cable Factor dB	Path Factor dB	Level dBm	Limit dBm	Margin (dB)
Low Channel									
1	2.4	52.66	Pk	-107	1.1	9.9	-43.3	-23.2	-20.18
2	2.4051	92.7	Pk	-107	1.1	9.9	-3.3	-3.16	-0.14
3	2.4835	44.87	Pk	-107	1.1	9.9	-51.1	-23.2	-27.97
Middle Channel									
4	2.4	43.79	Pk	-107	1.1	9.9	-52.2	-23.2	-29.05
5	2.4401	92.84	Pk	-107	1.1	9.9	-3.16	-3.16	0.000
6	2.4835	45.38	Pk	-107	1.1	9.9	-50.6	-23.2	-27.46
High Channel									
7	2.4	45.1	Pk	-107	1.1	9.9	-50.9	-23.2	-27.74
8	2.475	92.32	Pk	-107	1.1	9.9	-3.68	-3.16	-0.52
9	2.4835	46.77	Pk	-107	1.1	9.9	-49.2	-23.2	-26.07
Pk - Peak detector									

8.6.1. 30MHz-26GHz



Marker No.	Test Frequency (MHz)	Meter Reading (dBuV)	Detector	dBuV to dBm factor dB	Path Factor dB	Corrected Reading dBm	Limit dBm	Margin (dB)
Low Channel								
1	905.1272	46.46	Pk	-107	10.5	-50.04	-23.66	-26.38
2	2404.861	92.34	Pk	-107	11	-3.66	-3.66	0.00
3	3797.222	51.62	Pk	-107	11.4	-43.98	-23.66	-20.32
4	25430.736	55.64	Pk	-107	14.6	-36.76	-23.66	-13.1
Middle Channel								
5	927.3425	45.89	Pk	-107	10.5	-50.61	-23.66	-26.95
6	2439.643	92.3	Pk	-107	11	-3.7	-3.66	-0.04
7	4880.37	53.36	Pk	-107	11.6	-42.04	-23.66	-18.38
8	25517.687	55.22	Pk	-107	14.6	-37.18	-23.66	-13.52
High Channel								
9	896.1053	46.5	Pk	-107	10.5	-50	-23.66	-26.34
10	2475.061	91.86	Pk	-107	11	-4.14	-3.66	-0.48
11	4951.206	52.82	Pk	-107	11.7	-42.48	-23.66	-18.82
12	25644.775	55.41	Pk	-107	14.8	-36.79	-23.66	-13.13
Pk - Peak detector								

9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters for frequencies 9kHz-30MHz and 1GHz-25GHz. For frequencies 30MHz-1GHz the antenna distance is 10m. The EUT is configured in accordance with ANSI C63.10. 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 final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

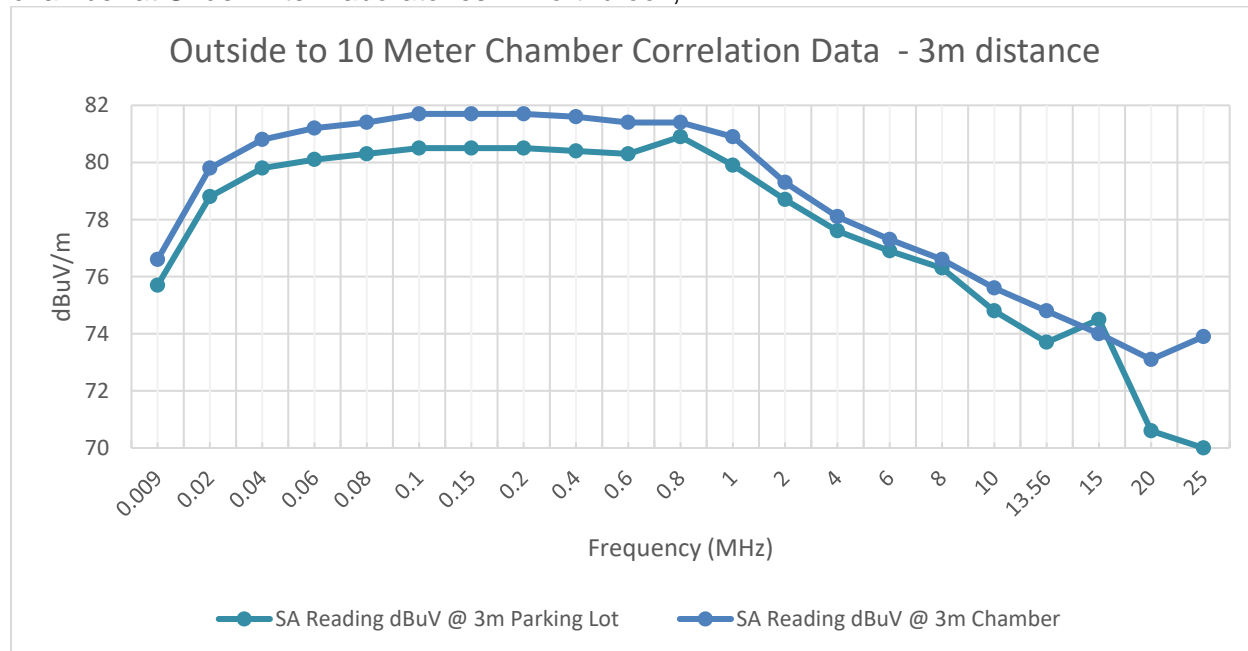
The spectrum from 30MHz to 25 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. For frequencies 9kHz-30MHz random channels was used.

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. For frequencies 9kHz-30MHz no height scan was conducted.

9.2. TRANSMITTER 9kHz – 30MHz

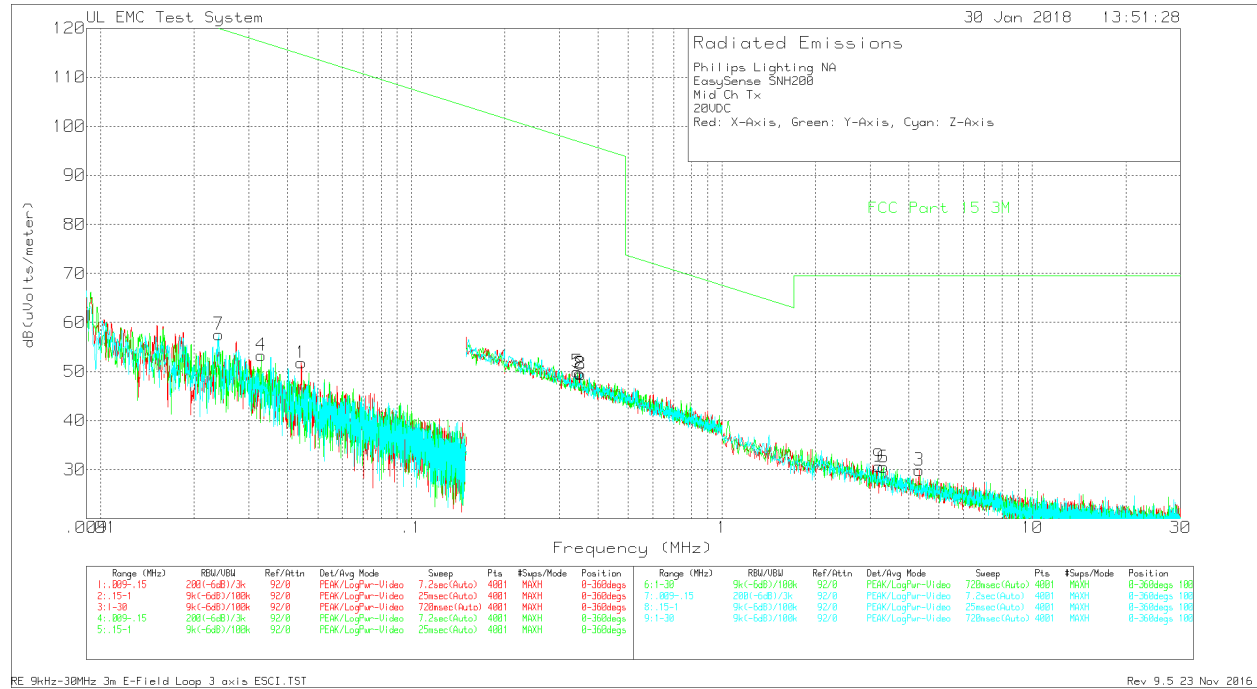
9.2.1. Outdoor to 10m SAC Correlation Data

Correlation Data for measurements 9kHz-30MHz between Outside and 10m semi-anechoic chamber at Underwriter Laboratories in Northbrook, IL.



Correlation measurements were conducted using a signal source with an antenna outside in open area (parking lot). Immediately following the measurements the same setup was moved inside the 10 meter semi-anechoic chamber and the measurements were repeated. The above plot shows the difference in levels measured between outside and the 10 meter semi anechoic chamber.

9.2.2. Radiated Emissions 9kHz-30MHz



Philips Lighting NA
EasySense SNH200
Mid Ch Tx
20VDC
Red: X-Axis, Green: Y-Axis, Cyan: Z-Axis

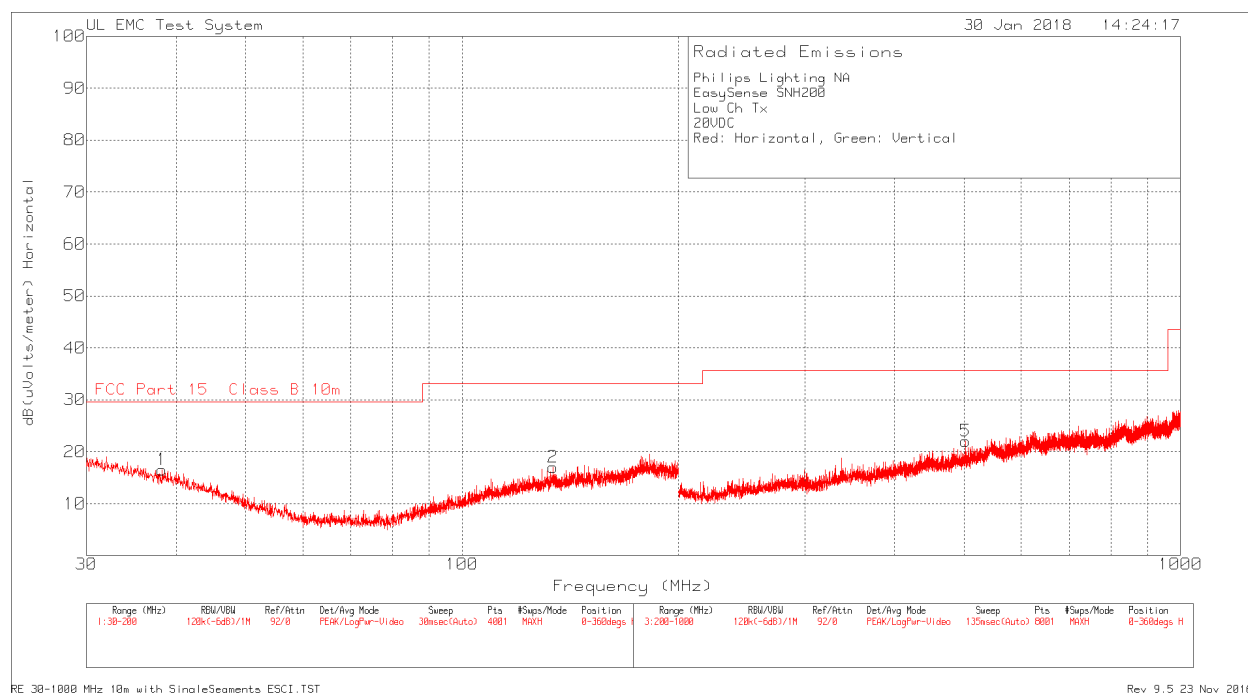
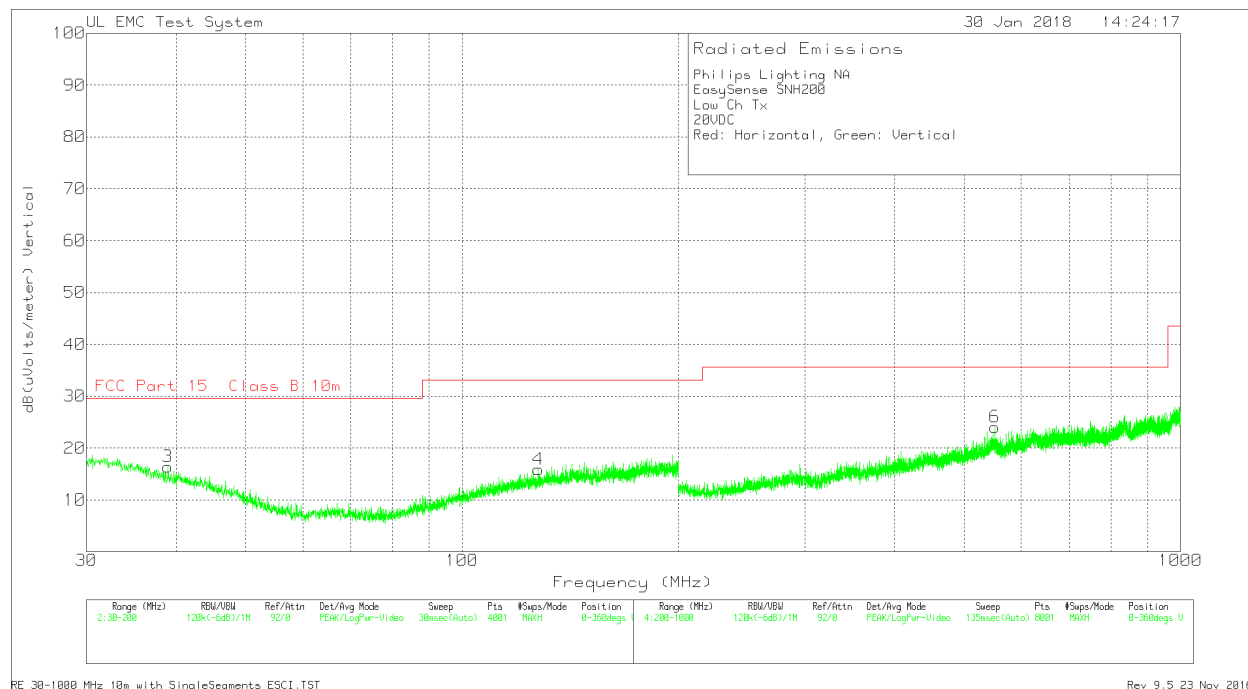
Trace Markers

Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1
Parallel to EUT						
1	.04428	37.62dBuV Pk	14.2	0	51.82	114.67
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-62.85
2	.3483	37.85dBuV Pk	11.7	.1	49.65	96.76
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-47.11
3	4.31325	17.38dBuV Pk	12.3	.2	29.88	69.54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-39.66
Perpendicular to EUT						
4	.03287	37.32dBuV Pk	16	0	53.32	117.26
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-63.94
5	.34234	38.19dBuV Pk	11.7	.1	49.99	96.91
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-46.92
6	3.32	18.12dBuV Pk	12.2	.2	30.52	69.54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-39.02
Parallel to Ground						
7	.02402	40.26dBuV Pk	17.3	0	57.56	119.98
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-62.42
8	.3515	37.65dBuV Pk	11.7	.1	49.45	96.68
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-47.23
9	3.19675	18.29dBuV Pk	12.2	.2	30.69	69.54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-38.85

LIMIT 1: FCC Part 15.3M
Pk - Peak detector

9.3. TRANSMITTER 30MHz – 1GHz

9.3.1. Low Channel



* Limits shown in plots are for FCC part 15, subpart B, class B. Same limits are used for FCC 15.209.

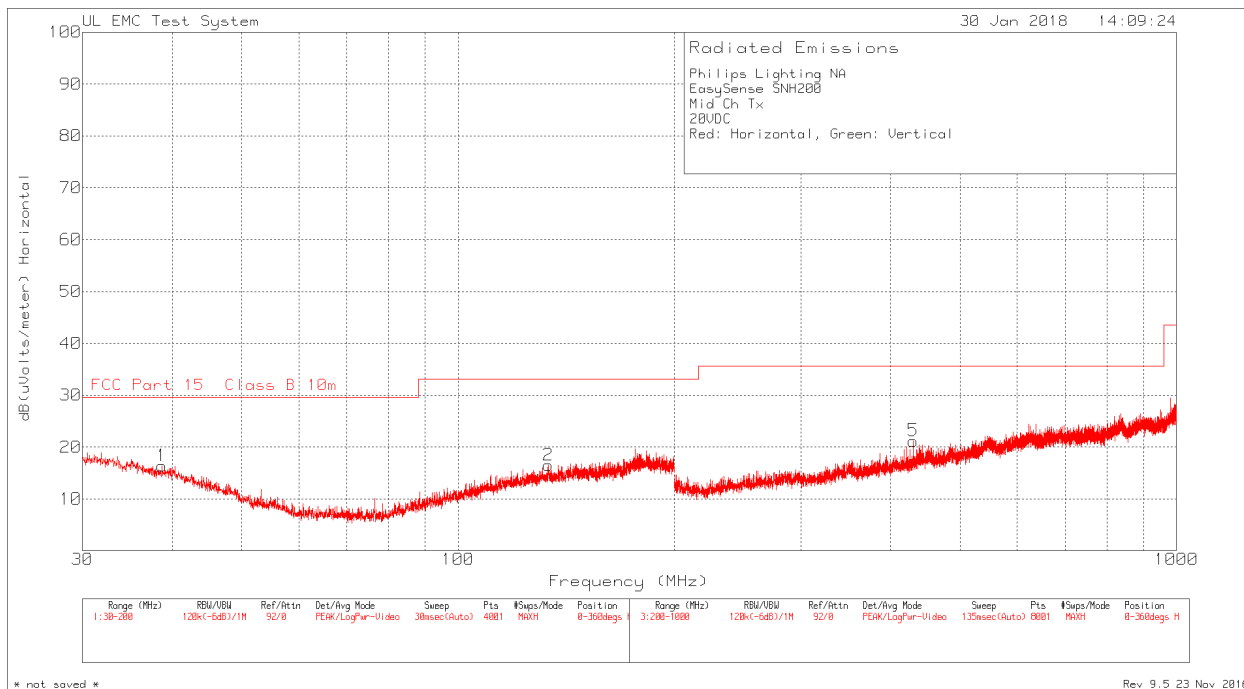
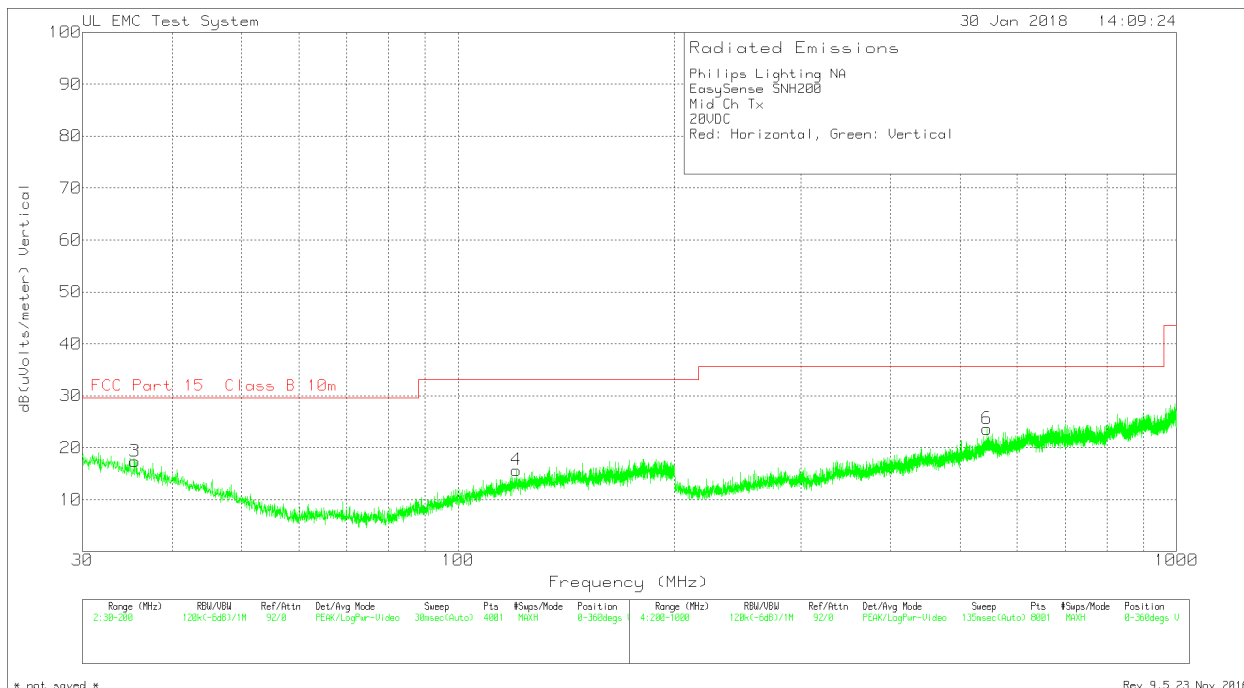
Philips Lighting NA
EasySense SNH200
Low Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 dB(uVolts/meter)	2	3
1	38.245	31.78dBuV Pk	15	-30.3	16.48	29.55	-	-
		Azimuth:0-360	Height:251	Horz	Margin (dB)	-13.07	-	-
2	133.9125	32.42dBuV Pk	14.2	-29.6	17.02	33.07	-	-
		Azimuth:0-360	Height:398	Horz	Margin (dB)	-16.05	-	-
3	38.9675	32.11dBuV Pk	14.7	-30.4	16.41	29.55	-	-
		Azimuth:0-360	Height:398	Vert	Margin (dB)	-13.14	-	-
4	127.665	31.84dBuV Pk	13.9	-29.9	15.84	33.07	-	-
		Azimuth:0-360	Height:251	Vert	Margin (dB)	-17.23	-	-
5	502.4	32.24dBuV Pk	17.7	-27.9	22.04	35.57	-	-
		Azimuth:0-360	Height:299	Horz	Margin (dB)	-13.53	-	-
6	551.4	32.11dBuV Pk	19.5	-27.6	24.01	35.57	-	-
		Azimuth:0-360	Height:299	Vert	Margin (dB)	-11.56	-	-

LIMIT 1: FCC Part 15 Class B 10m
Pk - Peak detector

9.3.2. Middle Channel



* Limits shown in plots are for FCC part 15, subpart B, class B. Same limits are used for FCC 15.209.

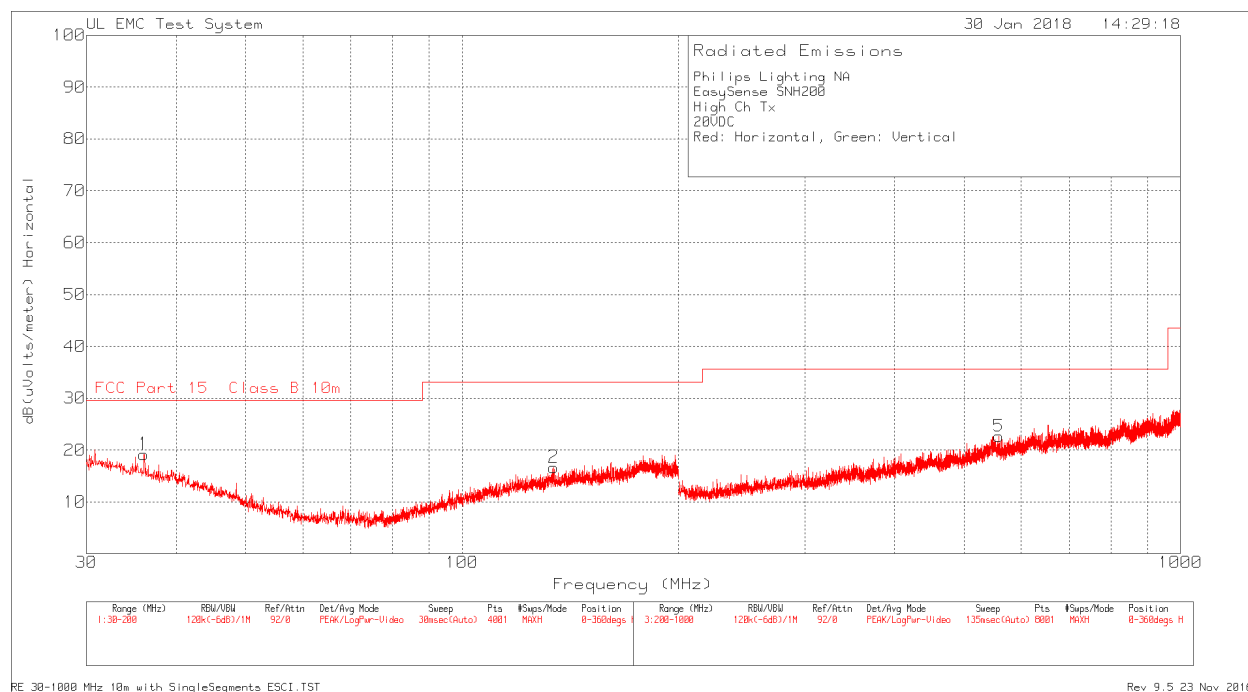
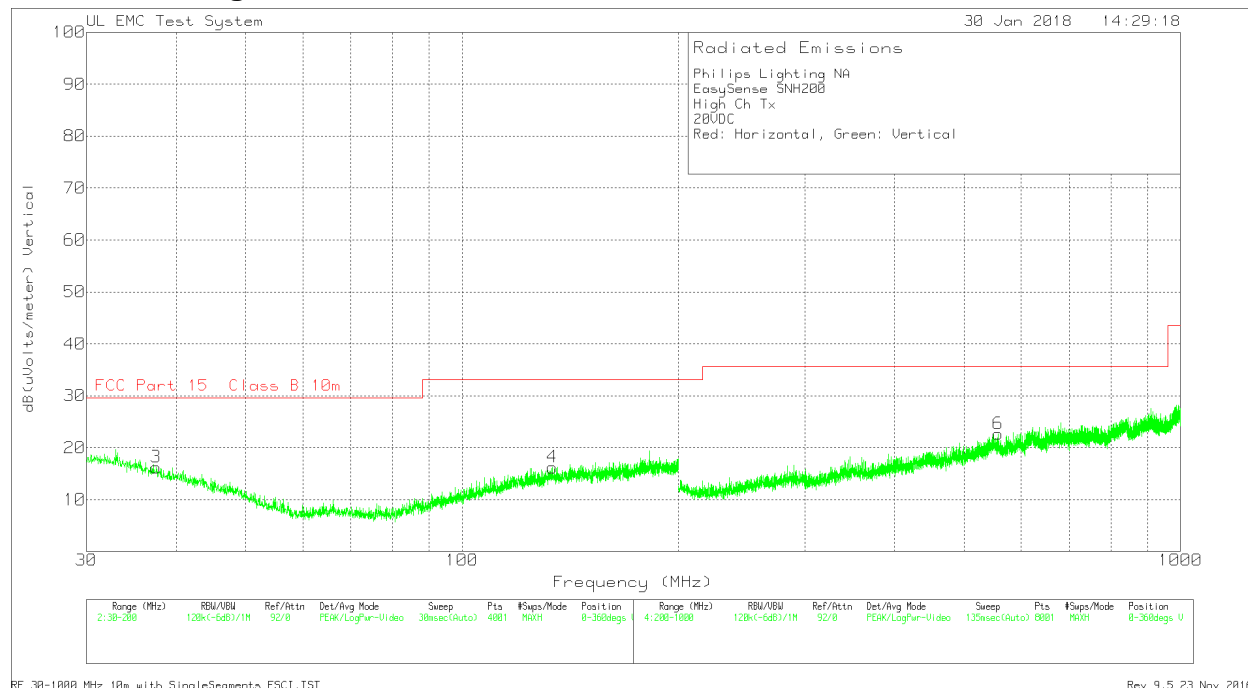
Philips Lighting NA
EasySense SNH200
Mid Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1	2	3
1	38.7125	31.97dBuV Pk	14.8	-30.4	16.37	29.55	-	-
		Azimuth:0-360	Height:398	Horz	Margin (dB)	-13.18	-	-
2	133.445	31.8dBuV Pk	14.2	-29.5	16.5	33.07	-	-
		Azimuth:0-360	Height:248	Horz	Margin (dB)	-16.57	-	-
3	35.4825	31.29dBuV Pk	16.1	-30	17.39	29.55	-	-
		Azimuth:0-360	Height:398	Vert	Margin (dB)	-12.16	-	-
4	120.44	32.29dBuV Pk	13.2	-29.8	15.69	33.07	-	-
		Azimuth:0-360	Height:398	Vert	Margin (dB)	-17.38	-	-
5	429.9	33.11dBuV Pk	16.3	-28.2	21.21	35.57	-	-
		Azimuth:0-360	Height:399	Horz	Margin (dB)	-14.36	-	-
6	544.9	31.63dBuV Pk	19.7	-27.7	23.63	35.57	-	-
		Azimuth:0-360	Height:299	Vert	Margin (dB)	-11.94	-	-

LIMIT 1: FCC Part 15 Class B 10m
Pk - Peak detector

9.3.3. High Channel



* Limits shows in plots are for FCC part 15, subpart B, class B. Same limits are used for FCC 15.209.

Philips Lighting NA
EasySense SNH200
High Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

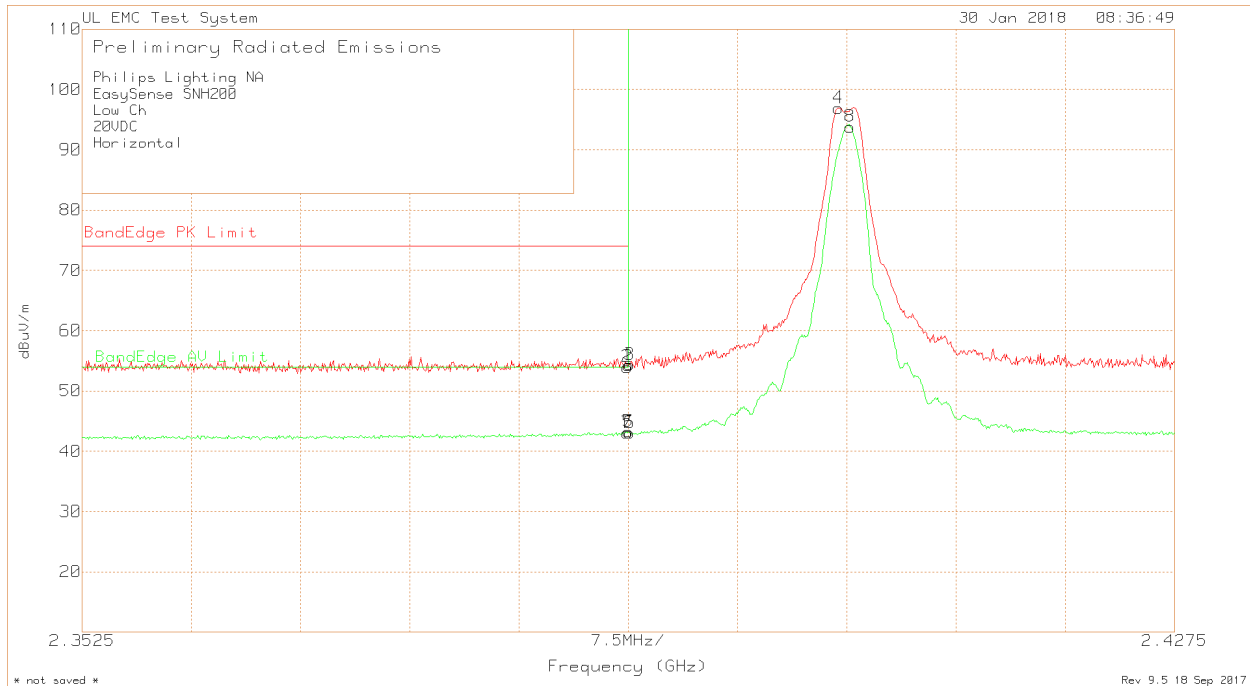
Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1	2	3
dB(uVolts/meter)								
1	36.0775	33.4dBuV Pk	15.9	-30.1	19.2	29.55	-	-
		Azimuth:0-360	Height:251	Horz	Margin (dB)	-10.35	-	-
2	134.21	32.08dBuV Pk	14.2	-29.6	16.68	33.07	-	-
		Azimuth:0-360	Height:398	Horz	Margin (dB)	-16.39	-	-
3	37.5225	31.11dBuV Pk	15.3	-30.2	16.21	29.55	-	-
		Azimuth:0-360	Height:101	Vert	Margin (dB)	-13.34	-	-
4	133.5725	31.51dBuV Pk	14.2	-29.5	16.21	33.07	-	-
		Azimuth:0-360	Height:101	Vert	Margin (dB)	-16.86	-	-
5	558.2	31.27dBuV Pk	19	-27.6	22.67	35.57	-	-
		Azimuth:0-360	Height:99	Horz	Margin (dB)	-12.9	-	-
6	557.5	31.16dBuV Pk	19.1	-27.6	22.66	35.57	-	-
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-12.91	-	-

LIMIT 1: FCC Part 15 Class B 10m
Pk - Peak detector

9.4. TRANSMITTER 1GHz – 25GHz

9.4.1. Low Channel

Band Edge Data – Horizontal



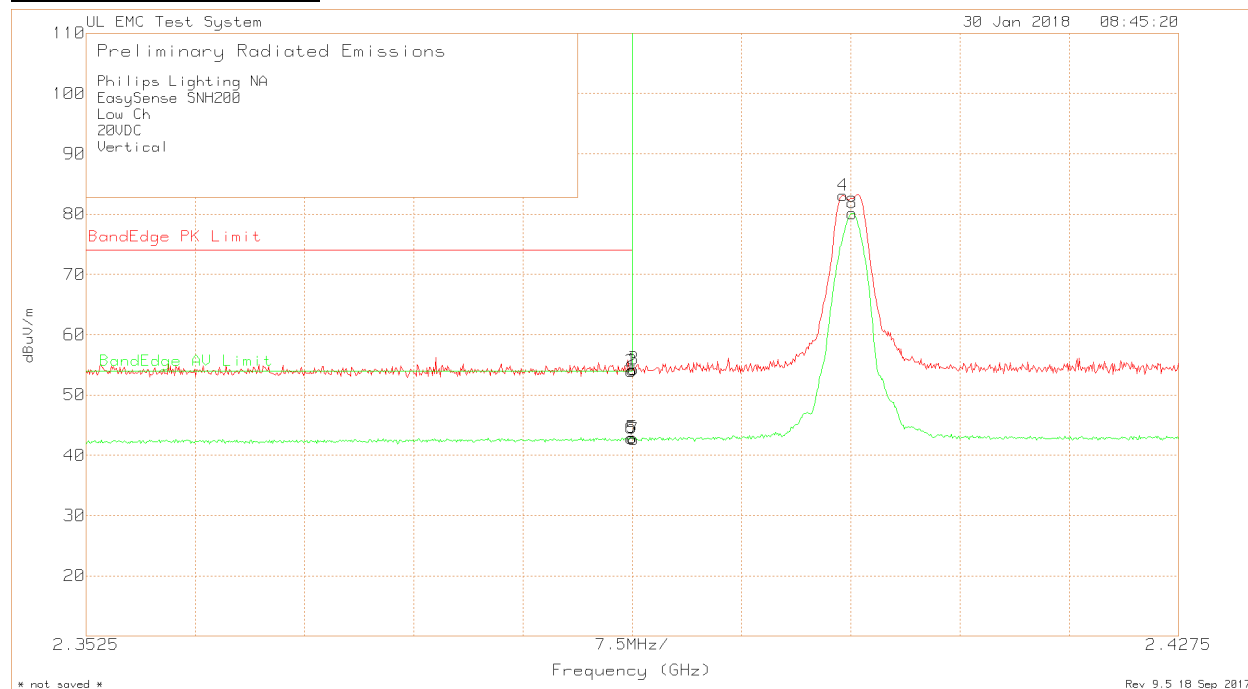
Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1	2
=====							
Peak Data							
1	2.39	27.69dBuV Pk	21.8	4.79	54.28	74	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-19.72	-
2	2.389925	27.41dBuV Pk	21.8	4.79	54	74	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-20	-
3	2.390075	27.75dBuV Pk	21.8	4.79	54.34	-	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-	-
4	2.4044	70.45dBuV Pk	21.8	4.68	96.93	-	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-	-
Average Data							
5	2.39	16.66dBuV Av	21.8	4.79	43.25	74	54
		Azimuth:323	Height:130	Horz	Margin (dB)	-30.75	-10.75
6	2.390075	16.5dBuV Av	21.8	4.79	43.09	-	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-	-
7	2.389925	16.42dBuV Av	21.8	4.79	43.01	74	54
		Azimuth:323	Height:130	Horz	Margin (dB)	-30.99	-10.99
8	2.405225	67.34dBuV Av	21.8	4.68	93.82	-	-
		Azimuth:323	Height:130	Horz	Margin (dB)	-	-

LIMIT 1: BandEdge PK Limit
LIMIT 2: BandEdge AV Limit

Pk - Peak detector
Av - RMS Average Detector

Band Edge Data Vertical



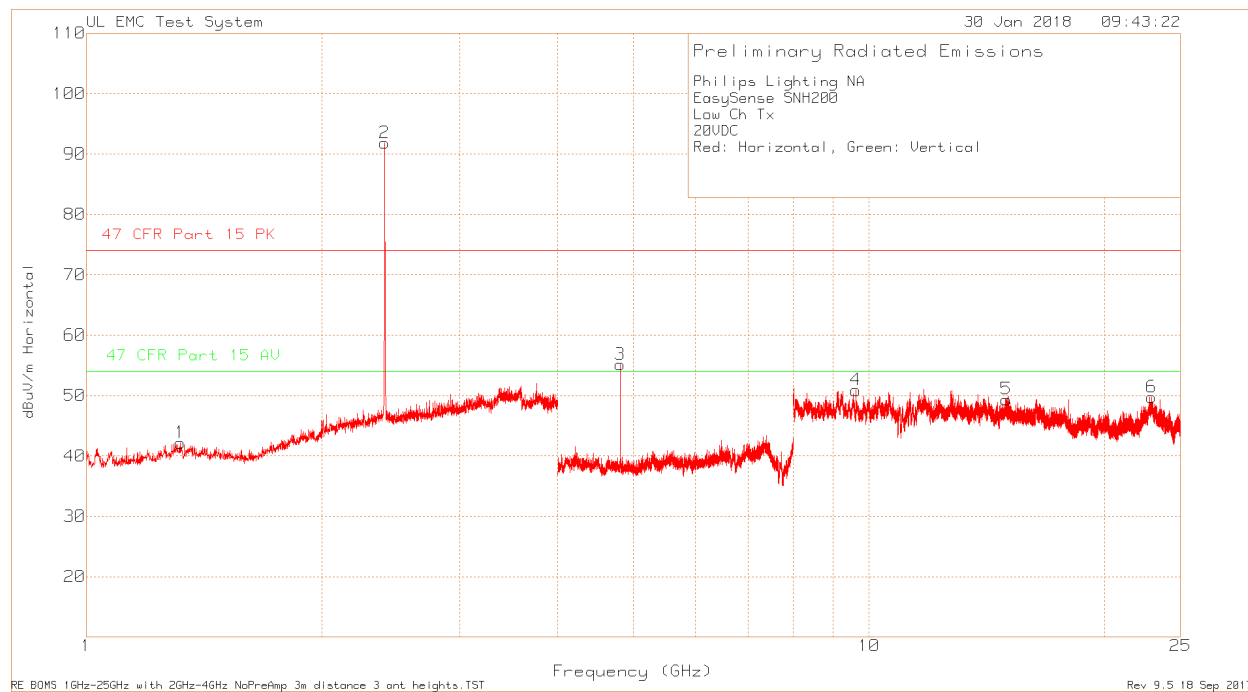
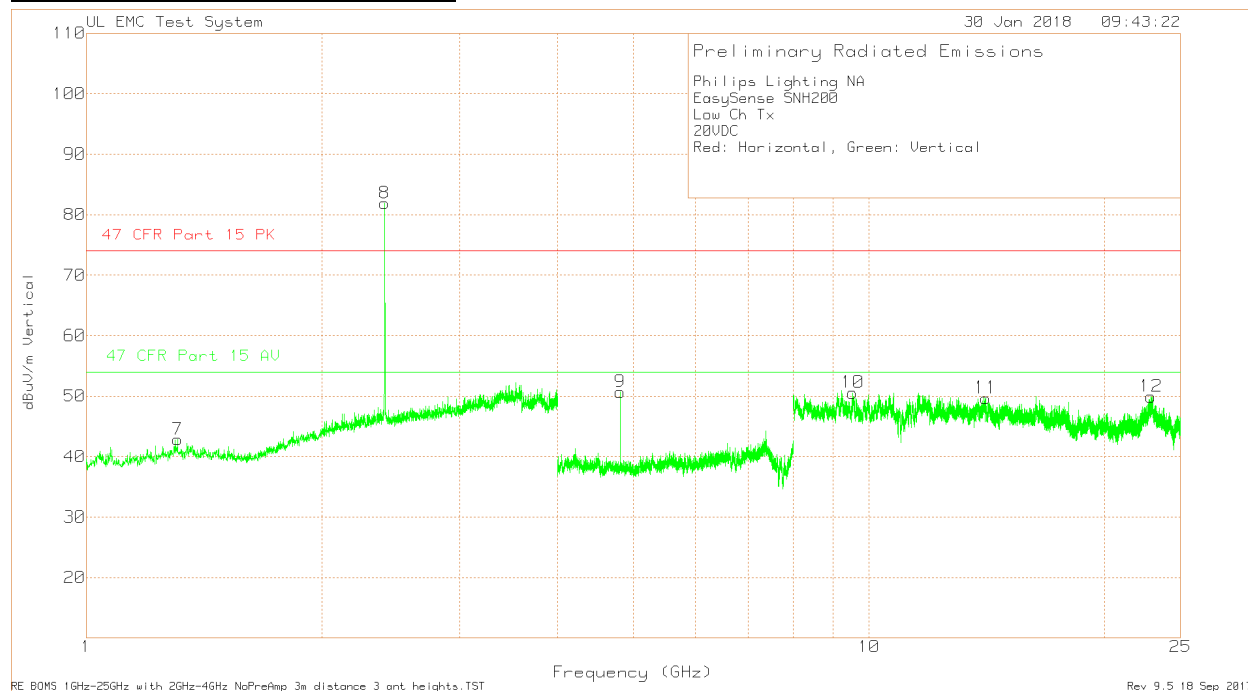
Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1	2
=====							
Peak Data							
1	2.39	27.56dBuV Pk	21.8	4.79	54.15	74	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-19.85	-
2	2.389925	27.32dBuV Pk	21.8	4.79	53.91	74	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-20.09	-
3	2.390075	27.71dBuV Pk	21.8	4.79	54.3	-	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-	-
4	2.404475	56.61dBuV Pk	21.8	4.68	83.09	-	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-	-
Average Data							
5	2.39	16.33dBuV Av	21.8	4.79	42.92	74	54
		Azimuth:197	Height:106	Vert	Margin (dB)	-31.08	-11.08
6	2.389925	16.26dBuV Av	21.8	4.79	42.85	74	54
		Azimuth:197	Height:106	Vert	Margin (dB)	-31.15	-11.15
7	2.390075	16.04dBuV Av	21.8	4.79	42.63	-	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-	-
8	2.405075	53.64dBuV Av	21.8	4.68	80.12	-	-
		Azimuth:197	Height:106	Vert	Margin (dB)	-	-

LIMIT 1: BandEdge PK Limit
LIMIT 2: BandEdge AV Limit

Pk - Peak detector
Av - RMS Average Detector

Spurious Emissions 1GHz – 25GHz



Philips Lighting NA
EasySense SNH200
Low Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	1.319	68.25dBuV Pk	29.3	-55.41	42.14	74	54
		Azimuth:0-360	Height:149	Horz	Margin (dB)	-31.86	-11.86
2	2.405	63.36dBuV Pk	21.8	4.68	91.84	-	-
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-	-
3	4.809	78.91dBuV Pk	27.7	-51.46	55.15	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-18.85	1.15
4	9.618	63.95dBuV Pk	36.4	-49.47	50.88	74	54
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-23.12	-3.12
5	14.976	50.89dBuV Pk	39.8	-41.33	49.36	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-24.64	-4.64
6	22.969	51.85dBuV Pk	40.3	-42.4	49.75	74	54
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-24.25	-4.25
7	1.308	69.02dBuV Pk	29.4	-55.6	42.82	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-31.18	-11.18
8	2.405	55.44dBuV Pk	21.8	4.68	81.92	-	-
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-	-
9	4.809	74.42dBuV Pk	27.7	-51.46	50.66	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-23.34	-3.34
10	9.533	61.72dBuV Pk	36.4	-47.57	50.55	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-23.45	-3.45
11	14.095	52.74dBuV Pk	39.9	-42.97	49.67	74	54
		Azimuth:0-360	Height:149	Vert	Margin (dB)	-24.33	-4.33
12	22.93	52.51dBuV Pk	40.3	-42.9	49.91	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-24.09	-4.09

Radiated Emission Data

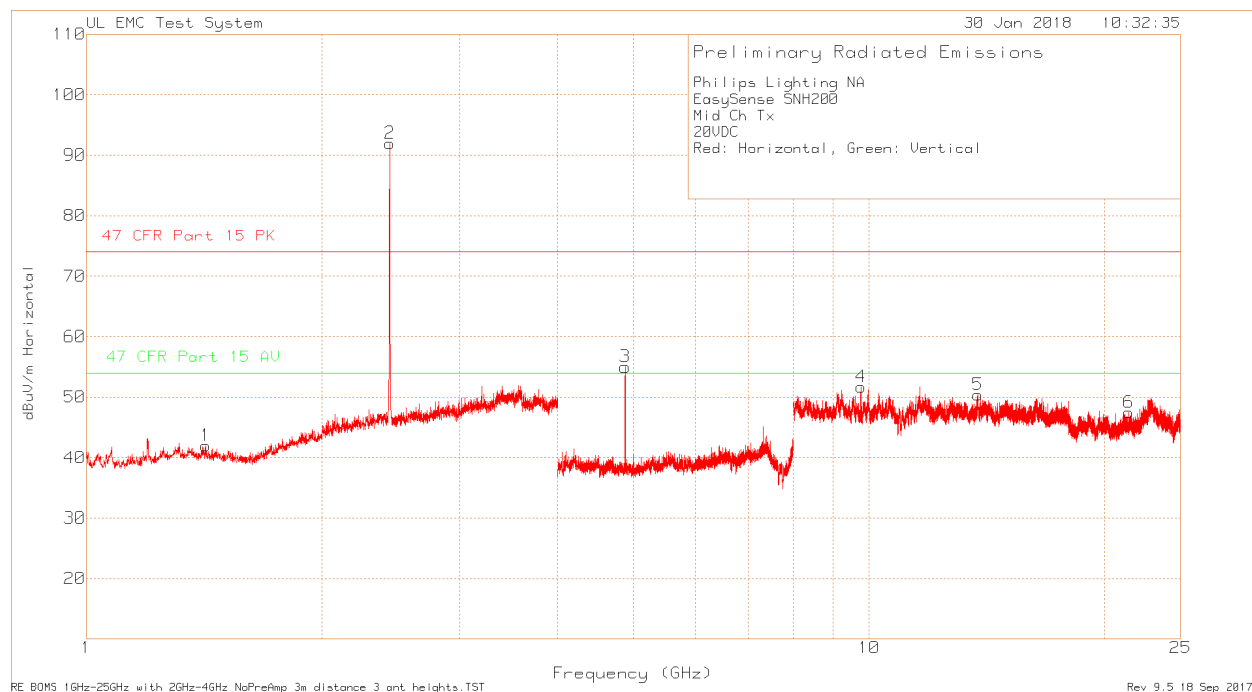
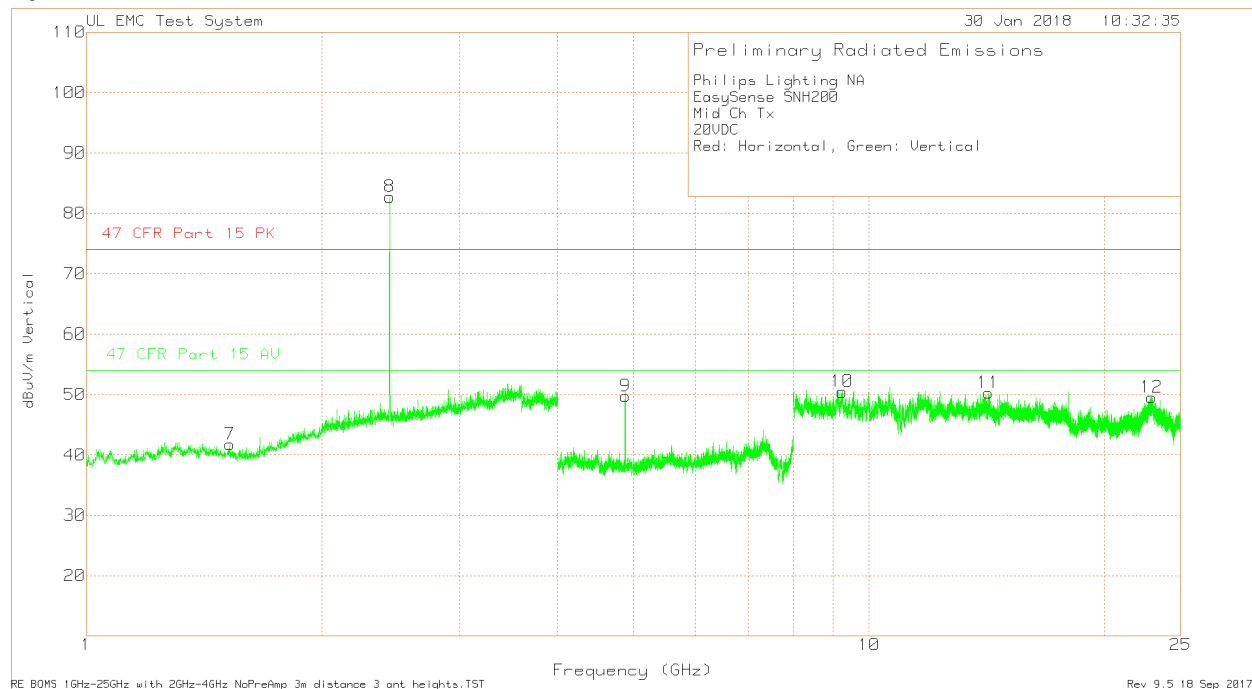
Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
4.809	79.29dBuV Pk	27.7	-51.46	55.53	74	-
	Azimuth: 251	Height:100	Horz	Margin (dB):	-18.47	-
4.809	73.3dBuV Pwr RMS	27.7	-51.46	49.54	74	54
	Azimuth: 251	Height:100	Horz	Margin (dB):	-24.46	-4.46
4.8089	75.69dBuV Pk	27.7	-51.46	51.93	74	-
	Azimuth: 250	Height:100	Vert	Margin (dB):	-22.07	-
4.809	69.39dBuV Pwr RMS	27.7	-51.46	45.63	74	54
	Azimuth: 250	Height:100	Vert	Margin (dB):	-28.37	-8.37

LIMIT 1: 47 CFR Part 15 PK
LIMIT 2: 47 CFR Part 15 AV

Pk - Peak detector
Pwr RMS - RMS Average Detector

9.4.2. Middle Channel

Spurious Emissions 1GHz – 25GHz



Philips Lighting NA
EasySense SNH200
Mid Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	1.42	68.19dBuV Pk	29	-55.21	41.98	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-32.02	-12.02
2	2.44	65.45dBuV Pk	21.9	4.61	91.96	-	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-	-
3	4.879	78.09dBuV Pk	27.7	-50.81	54.98	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-19.02	.98
4	9.762	64.58dBuV Pk	36.4	-49.31	51.67	74	54
		Azimuth:0-360	Height:149	Horz	Margin (dB)	-22.33	-2.33
5	13.786	53.66dBuV Pk	39.9	-43.19	50.37	74	54
		Azimuth:0-360	Height:200	Horz	Margin (dB)	-23.63	-3.63
6	21.45	53.9dBuV Pk	40.3	-46.73	47.47	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-26.53	-6.53
7	1.524	67.73dBuV Pk	28.2	-54.16	41.77	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-32.23	-12.23
8	2.44	56.21dBuV Pk	21.9	4.61	82.72	-	-
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-	-
9	4.881	72.78dBuV Pk	27.7	-50.78	49.7	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-24.3	-4.3
10	9.234	61.13dBuV Pk	36.4	-47.08	50.45	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-23.55	-3.55
11	14.209	52.75dBuV Pk	39.9	-42.38	50.27	74	54
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-23.73	-3.73
12	22.961	51.59dBuV Pk	40.3	-42.4	49.49	74	54
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-24.51	-4.51

Radiated Emission Data

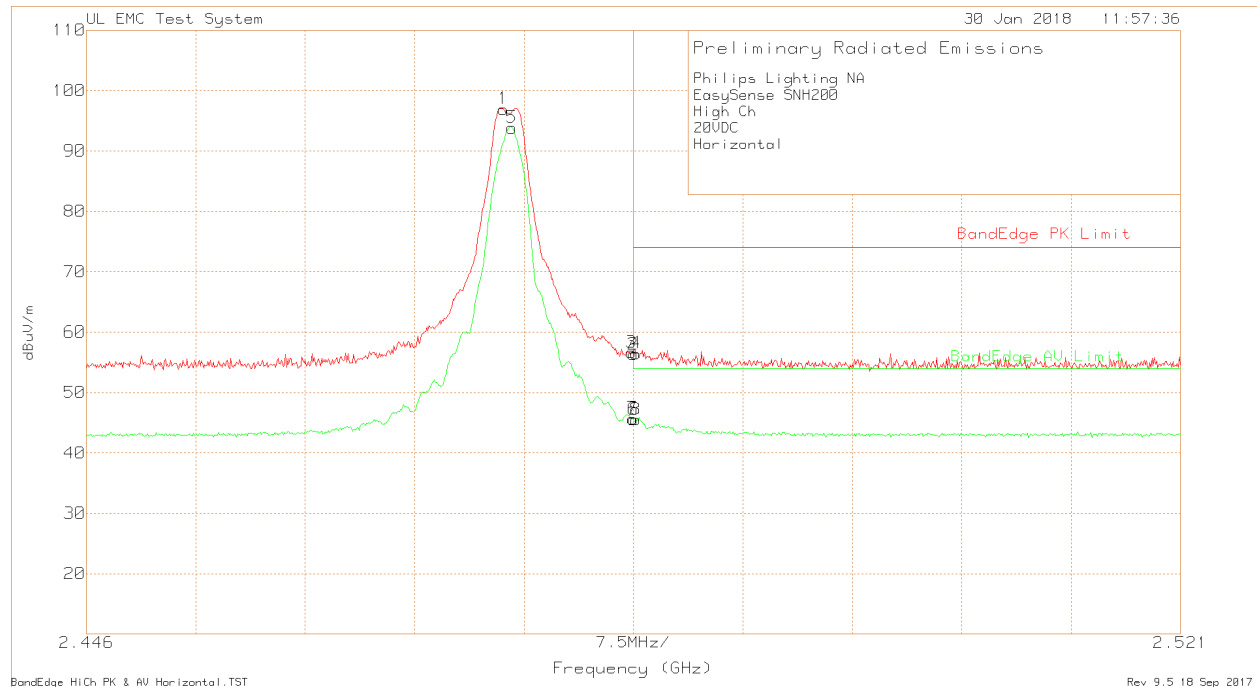
Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
4.8789	78.01dBuV Pk	27.7	-50.81	54.9	74	-
	Azimuth: 254	Height:100	Horz	Margin (dB):	-19.1	-
4.879	72.11dBuV Pwr RMS	27.7	-50.81	49	74	54
	Azimuth: 254	Height:100	Horz	Margin (dB):	-25	-5
4.881	74.18dBuV Pk	27.7	-50.78	51.1	74	-
	Azimuth: 251	Height:106	Vert	Margin (dB):	-22.9	-
4.8809	69.31dBuV Pwr RMS	27.7	-50.79	46.22	74	54
	Azimuth: 251	Height:106	Vert	Margin (dB):	-27.78	-7.78

LIMIT 1: 47 CFR Part 15 PK
LIMIT 2: 47 CFR Part 15 AV

Pk - Peak detector
PWR RMS - RMS Average Detector

9.4.3. High Channel

Band Edge Data – Horizontal



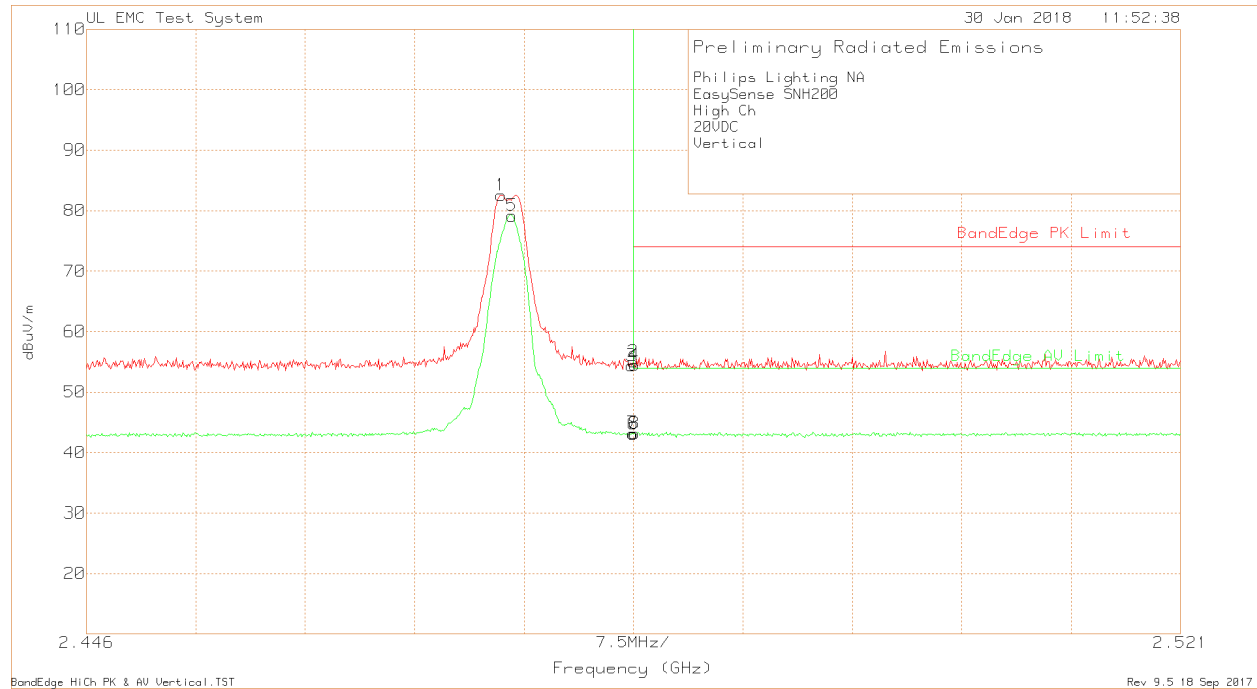
Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1	2
=====							
Peak Detector							
1	2.474575	70.46dBuV Pk	22	4.49	96.95	-	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-	-
2	2.4835	29.79dBuV Pk	22.1	4.44	56.33	74	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-17.67	-
3	2.48335	30.11dBuV Pk	22.1	4.44	56.65	-	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-	-
4	2.48365	29.94dBuV Pk	22.1	4.44	56.48	74	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-17.52	-
Average Detector							
5	2.475175	67.35dBuV Av	22	4.48	93.83	-	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-	-
6	2.4835	19.03dBuV Av	22.1	4.44	45.57	74	54
		Azimuth:327	Height:100	Horz	Margin (dB)	-28.43	-8.43
7	2.483425	19.14dBuV Av	22.1	4.44	45.68	-	-
		Azimuth:327	Height:100	Horz	Margin (dB)	-	-
8	2.48365	18.97dBuV Av	22.1	4.44	45.51	74	54
		Azimuth:327	Height:100	Horz	Margin (dB)	-28.49	-8.49

LIMIT 1: BandEdge PK Limit
LIMIT 2: BandEdge AV Limit

Pk - Peak detector
Av - RMS AVerage Detector

Band Edge Data Vertical



Philips Lighting NA
EasySense SNH200
High Ch
20VDC
Vertical

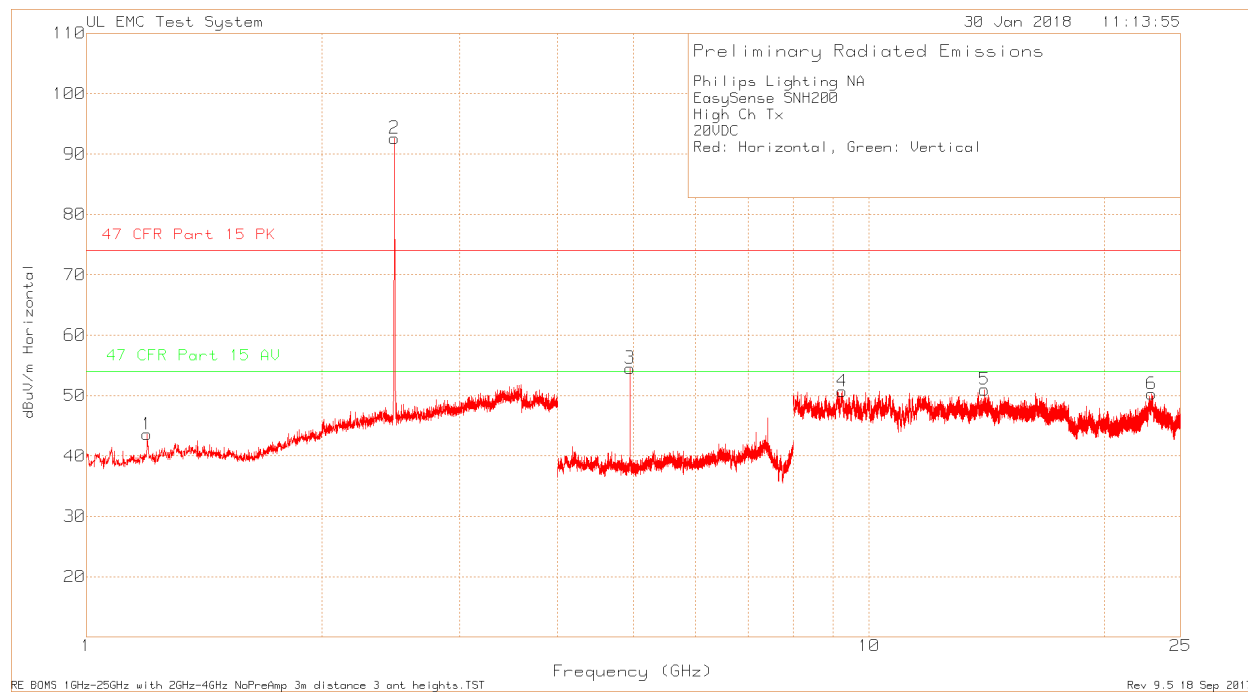
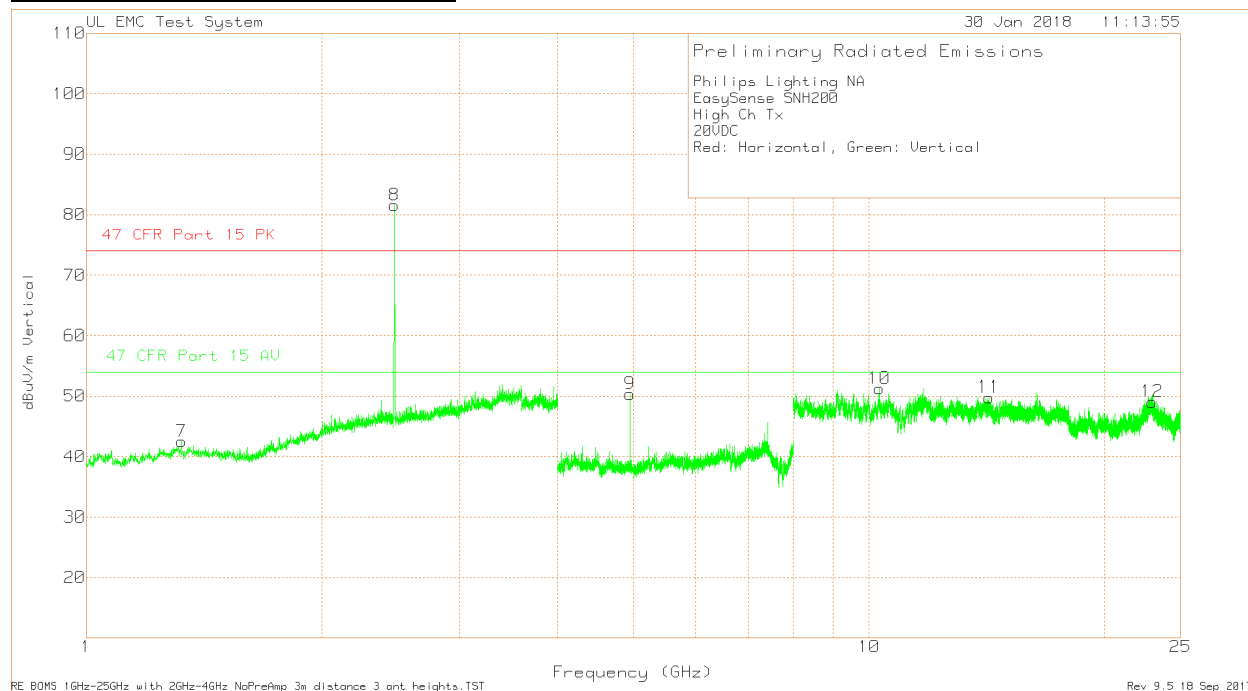
Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1	2
=====							
Peak Detector							
1	2.474425	56.03dBuV Pk	22	4.49	82.52	-	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-	-
2	2.4835	28.5dBuV Pk	22.1	4.44	55.04	74	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-18.96	-
3	2.48335	27.8dBuV Pk	22.1	4.44	54.34	-	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-	-
4	2.483575	27.92dBuV Pk	22.1	4.44	54.46	74	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-19.54	-
Average Detector							
5	2.475175	52.68dBuV Av	22	4.48	79.16	-	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-	-
6	2.4835	16.54dBuV Av	22.1	4.44	43.08	74	54
		Azimuth:243	Height:100	Vert	Margin (dB)	-30.92	-10.92
7	2.483425	16.66dBuV Av	22.1	4.44	43.2	-	-
		Azimuth:243	Height:100	Vert	Margin (dB)	-	-
8	2.483575	16.59dBuV Av	22.1	4.44	43.13	74	54
		Azimuth:243	Height:100	Vert	Margin (dB)	-30.87	-10.87

LIMIT 1: BandEdge PK Limit
LIMIT 2: BandEdge AV Limit

Pk - Peak detector
Av - RMS Average Detector

Spurious Emissions 1GHz – 25GHz



Philips Lighting NA
EasySense SNH200
High Ch Tx
20VDC
Red: Horizontal, Green: Vertical

Trace Markers

Test No.	Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	1.195	71.01dBuV Pk	28.3	-55.76	43.55	74	54
		Azimuth:0-360	Height:200	Horz	Margin (dB)	-30.45	-10.45
2	2.475	66.13dBuV Pk	22	4.48	92.61	-	-
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-	-
3	4.949	76.73dBuV Pk	27.8	-50	54.53	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-19.47	.53
4	9.238	61.63dBuV Pk	36.4	-47.3	50.73	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-23.27	-3.27
5	14.051	54.07dBuV Pk	39.9	-42.99	50.98	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-23.02	-3.02
6	22.955	52.6dBuV Pk	40.3	-42.65	50.25	74	54
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-23.75	-3.75
7	1.323	68.53dBuV Pk	29.3	-55.34	42.49	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-31.51	-11.51
8	2.475	55.07dBuV Pk	22	4.48	81.55	-	-
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-	-
9	4.949	72.54dBuV Pk	27.8	-50	50.34	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-23.66	-3.66
10	10.304	61.75dBuV Pk	36.2	-46.74	51.21	74	54
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-22.79	-2.79
11	14.224	52.17dBuV Pk	39.9	-42.3	49.77	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-24.23	-4.23
12	23.014	51.33dBuV Pk	40.3	-42.58	49.05	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-24.95	-4.95

Radiated Emission Data

Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
4.9489	76.86dBuV Pk	27.8	-50	54.66	74	-
	Azimuth: 251	Height:100	Horz	Margin (dB):	-19.34	-
4.949	70.84dBuV Pwr RMS	27.8	-50	48.64	74	54
	Azimuth: 251	Height:100	Horz	Margin (dB):	-25.36	-5.36
4.949	73.31dBuV Pk	27.8	-50	51.11	74	-
	Azimuth: 243	Height:100	Vert	Margin (dB):	-22.89	-
4.949	66.98dBuV Pwr RMS	27.8	-50	44.78	74	54
	Azimuth: 243	Height:100	Vert	Margin (dB):	-29.22	-9.22

LIMIT 1: 47 CFR Part 15 PK
LIMIT 2: 47 CFR Part 15 AV

Pk - Peak detector
Pwr RMS - RMS Average Detector

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

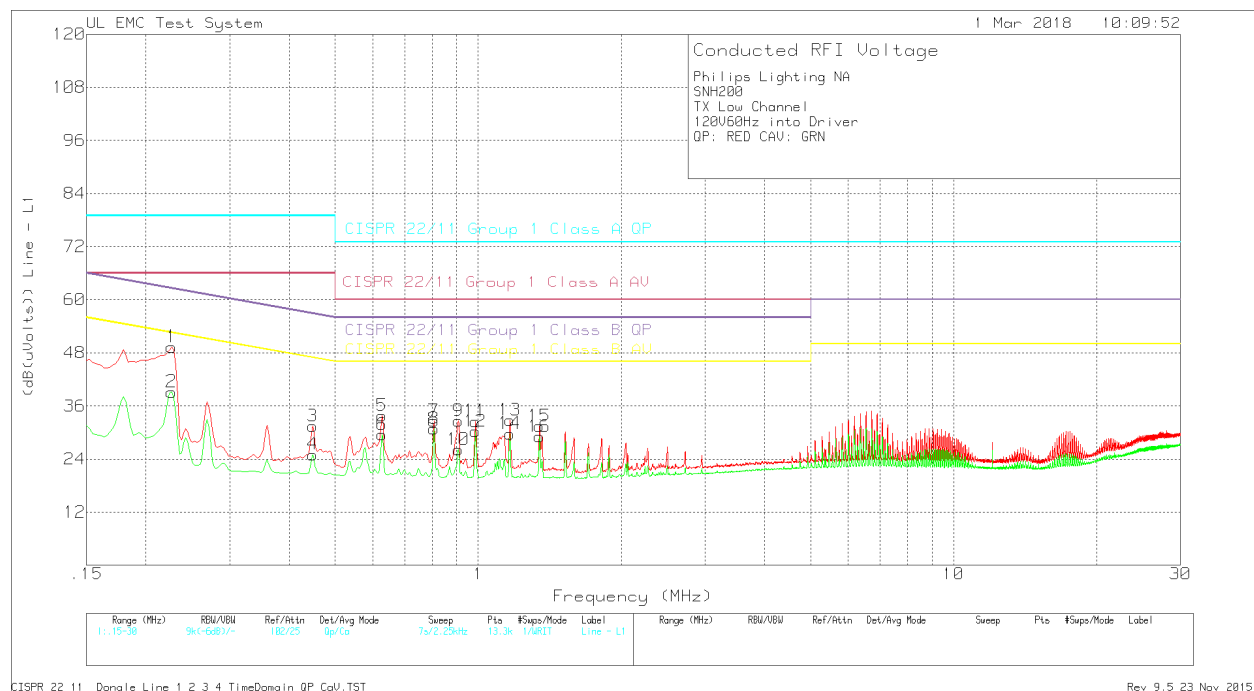
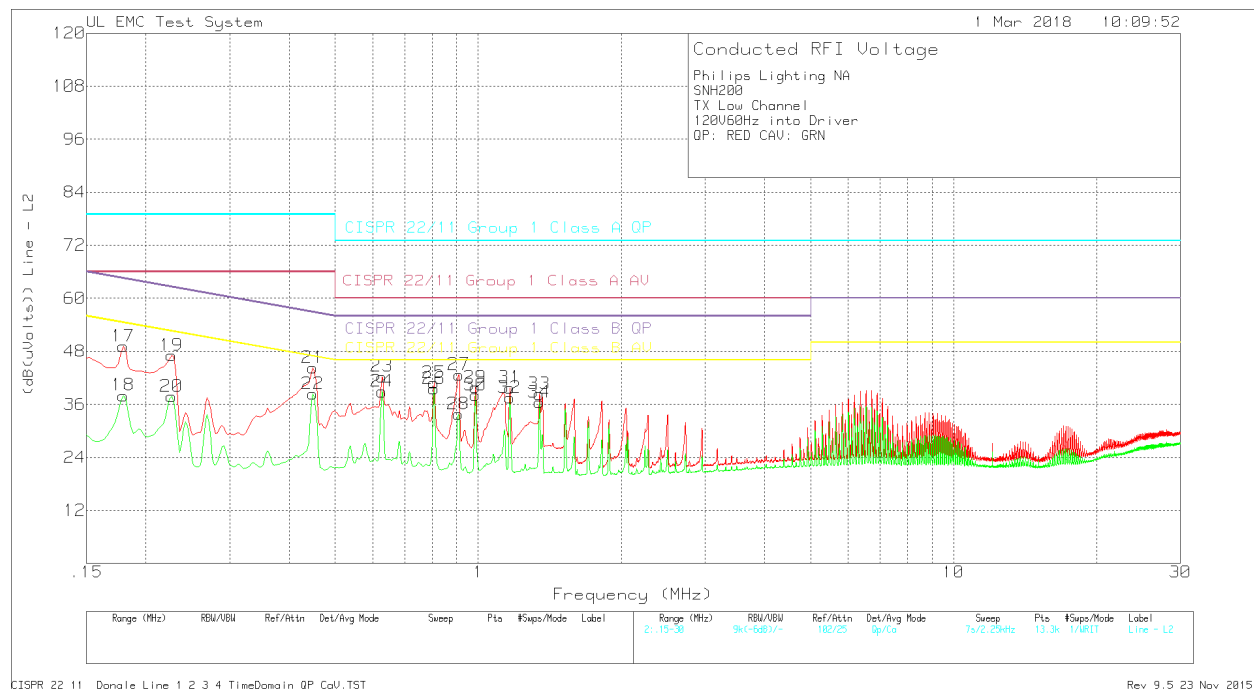
RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 [*]	56 to 46 [*]
0.5-5	56	46
5-30	60	50

^{*} Decreases with the logarithm of the frequency.

RESULTS

10.1.1. AC Power Line Results – TX Mode / Low Channel



Philips Lighting NA
SNH200
TX Low Channel
120V60Hz into Driver
QP: RED CAV: GRN

Trace Markers

Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4
=====									
Line									
1	.2265	37.93dBuV	Qp	0	11.4	49.33	79	-	62.58
						Margin (dB)	-29.67	-	-13.25
2	.2265	27.77dBuV	Ca	0	11.4	39.17	-	66	52.58
						Margin (dB)	-	-26.83	-13.41
3	.44925	20.7dBuV	Qp	0	10.7	31.4	79	-	56.89
						Margin (dB)	-47.6	-	-25.49
4	.44925	14.33dBuV	Ca	0	10.7	25.03	-	66	46.89
						Margin (dB)	-	-40.97	-21.86
5	.627	23.23dBuV	Qp	0	10.6	33.83	73	-	56
						Margin (dB)	-39.17	-	-22.17
6	.627	18.89dBuV	Ca	0	10.6	29.49	-	60	46
						Margin (dB)	-	-30.51	-16.51
7	.807	22.03dBuV	Qp	0	10.6	32.63	73	-	56
						Margin (dB)	-40.37	-	-23.37
8	.807	20.27dBuV	Ca	0	10.6	30.87	-	60	46
						Margin (dB)	-	-29.13	-15.13
9	.90825	22.03dBuV	Qp	0	10.6	32.63	73	-	56
						Margin (dB)	-40.37	-	-23.37
10	.90825	15.57dBuV	Ca	0	10.6	26.17	-	60	46
						Margin (dB)	-	-33.83	-19.83
11	.987	21.93dBuV	Qp	0	10.6	32.53	73	-	56
						Margin (dB)	-40.47	-	-23.47
12	.987	19.62dBuV	Ca	0	10.6	30.22	-	60	46
						Margin (dB)	-	-29.78	-15.78
13	1.167	22.18dBuV	Qp	0	10.6	32.78	73	-	56
						Margin (dB)	-40.22	-	-23.22
14	1.16475	19.12dBuV	Ca	0	10.6	29.72	-	60	46
						Margin (dB)	-	-30.28	-16.28
15	1.34475	20.85dBuV	Qp	0	10.6	31.45	73	-	56
						Margin (dB)	-41.55	-	-24.55
16	1.34475	18.5dBuV	Ca	0	10.6	29.1	-	60	46
						Margin (dB)	-	-30.9	-16.9
Neutral									
17	.17925	37.21dBuV	Qp	.1	11.8	49.11	79	-	64.52
						Margin (dB)	-29.89	-	-15.41
18	.17925	26.11dBuV	Ca	.1	11.8	38.01	-	66	54.52
						Margin (dB)	-	-27.99	-16.51
19	.2265	35.71dBuV	Qp	0	11.4	47.11	79	-	62.58
						Margin (dB)	-31.89	-	-15.47
20	.2265	26.38dBuV	Ca	0	11.4	37.78	-	66	52.58
						Margin (dB)	-	-28.22	-14.8
21	.44925	33.54dBuV	Qp	0	10.7	44.24	79	-	56.89
						Margin (dB)	-34.76	-	-12.65
22	.44925	27.63dBuV	Ca	0	10.7	38.33	-	66	46.89
						Margin (dB)	-	-27.67	-8.56
23	.627	31.68dBuV	Qp	0	10.6	42.28	73	-	56
						Margin (dB)	-30.72	-	-13.72
24	.627	28.31dBuV	Ca	0	10.6	38.91	-	60	46
						Margin (dB)	-	-21.09	-7.09
25	.807	30.26dBuV	Qp	0	10.6	40.86	73	-	56
						Margin (dB)	-32.14	-	-15.14
26	.807	28.91dBuV	Ca	0	10.6	39.51	-	60	46
						Margin (dB)	-	-20.49	-6.49
27	.9105	32.12dBuV	Qp	0	10.6	42.72	73	-	56
						Margin (dB)	-30.28	-	-13.28
28	.90825	23.24dBuV	Ca	0	10.6	33.84	-	60	46
						Margin (dB)	-	-26.16	-12.16
29	.987	29.28dBuV	Qp	0	10.6	39.88	73	-	56
						Margin (dB)	-33.12	-	-16.12
30	.987	27.49dBuV	Ca	0	10.6	38.09	-	60	46
						Margin (dB)	-	-21.91	-7.91

31	1.167	29.17dBuV	Qp	0	10.6	39.77	73	-	56	-
						Margin (dB)	-33.23	-	-16.23	-
32	1.16475	26.87dBuV	Ca	0	10.6	37.47	-	60	-	46
						Margin (dB)	-	-22.53	-	-8.53
33	1.34475	27.72dBuV	Qp	0	10.6	38.32	73	-	56	-
						Margin (dB)	-34.68	-	-17.68	-
34	1.34475	25.85dBuV	Ca	0	10.6	36.45	-	60	-	46
						Margin (dB)	-	-23.55	-	-9.55

LIMIT 1: CISPR 22/11 Group 1 Class A QP

LIMIT 2: CISPR 22/11 Group 1 Class A AV

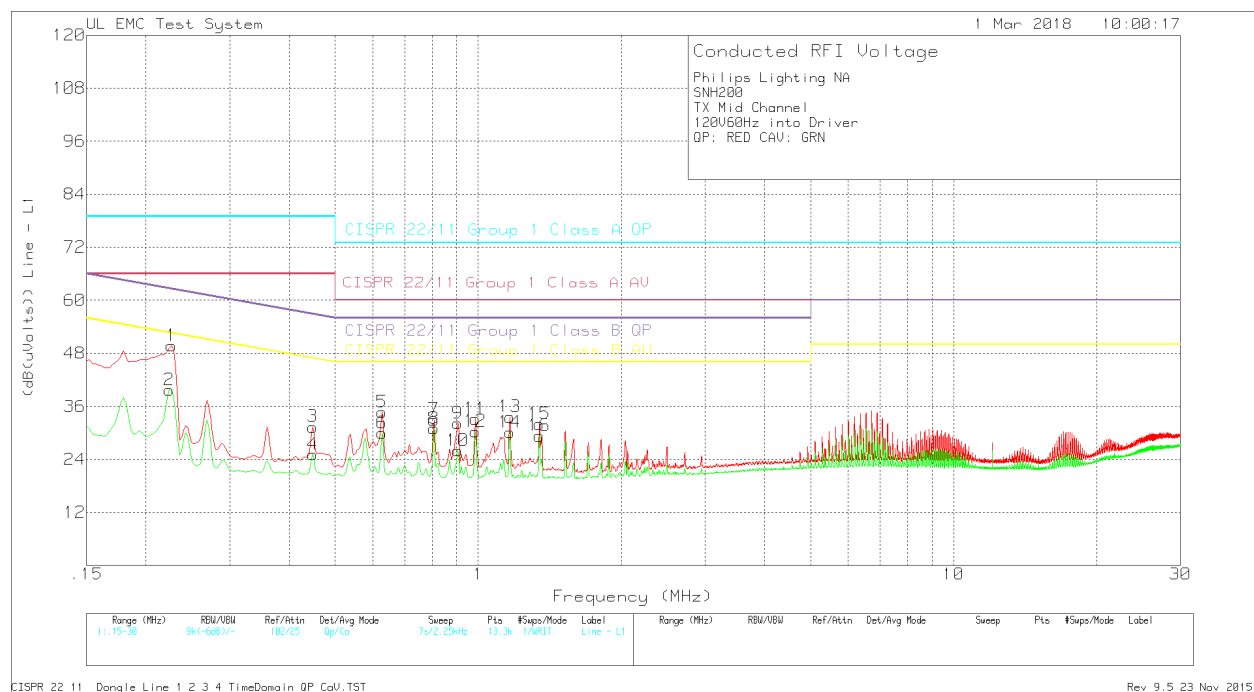
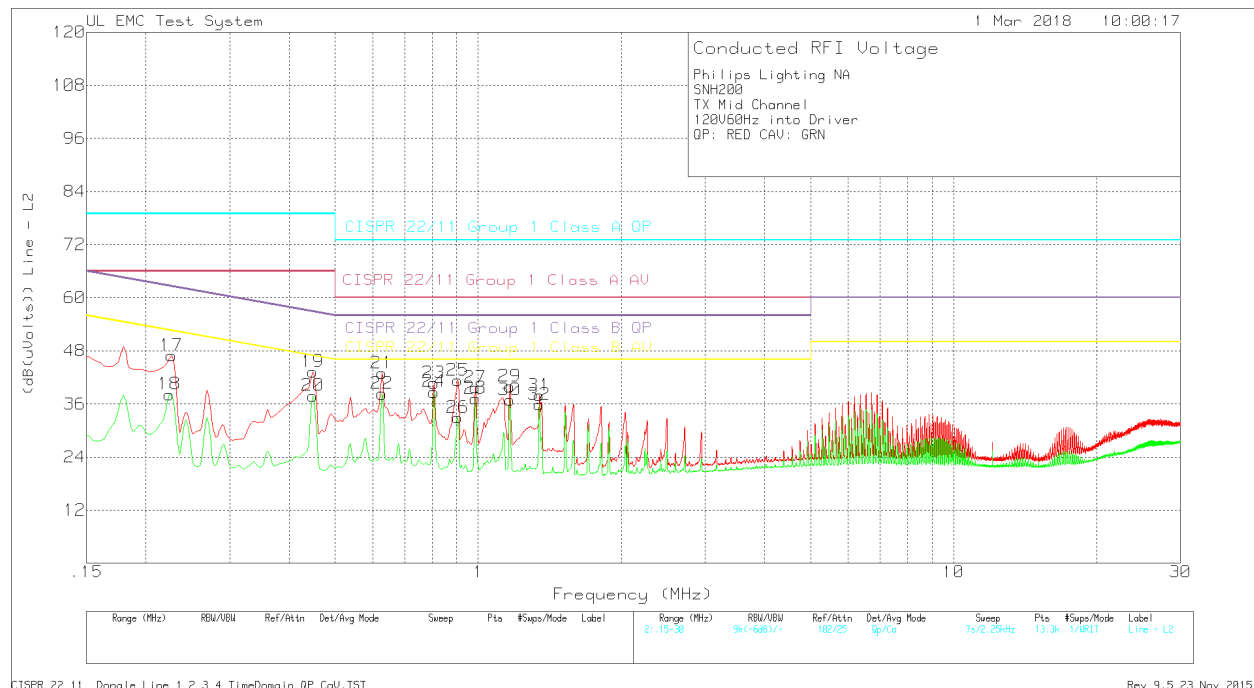
LIMIT 3: CISPR 22/11 Group 1 Class B QP

LIMIT 4: CISPR 22/11 Group 1 Class B AV

Qp - Quasi-Peak detector

Ca - CISPR Average detection

10.1.2. AC Power Line Results – TX Mode / Middle Channel



Philips Lighting NA
SNH200
TX Mid Channel
120V60Hz into Driver
QP: RED CAV: GRN

Trace Markers

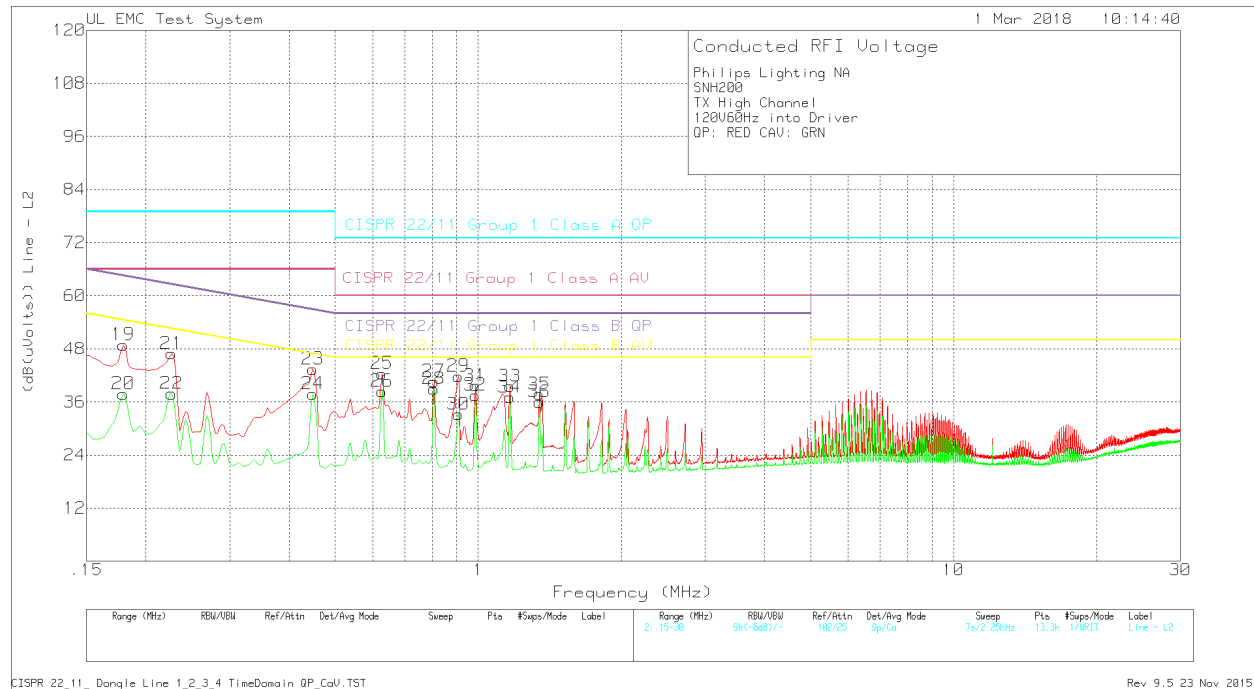
Test	Meter	Transducer	Gain/Loss	Corrected	Limit:1	2	3	4
No. Frequency (MHz)	Reading	Factor (dB)	Factor (dB)	Reading (dB(uVolts))				
=====								
Line								
1 .2265	38.3dBuV Qp	0	11.4	49.7	79	-	62.58	-
				Margin (dB)	-29.3	-	-12.88	-
2 .22425	28.31dBuV Ca	0	11.4	39.71	-	66	-	52.66
				Margin (dB)	-	-26.29	-	-12.95
3 .44925	20.67dBuV Qp	0	10.7	31.37	79	-	56.89	-
				Margin (dB)	-47.63	-	-25.52	-
4 .44925	14.41dBuV Ca	0	10.7	25.11	-	66	-	46.89
				Margin (dB)	-	-40.89	-	-21.78
5 .627	24.05dBuV Qp	0	10.6	34.65	73	-	56	-
				Margin (dB)	-38.35	-	-21.35	-
6 .627	19.36dBuV Ca	0	10.6	29.96	-	60	-	46
				Margin (dB)	-	-30.04	-	-16.04
7 .807	22.36dBuV Qp	0	10.6	32.96	73	-	56	-
				Margin (dB)	-40.04	-	-23.04	-
8 .807	20.38dBuV Ca	0	10.6	30.98	-	60	-	46
				Margin (dB)	-	-29.02	-	-15.02
9 .906	21.58dBuV Qp	0	10.6	32.18	73	-	56	-
				Margin (dB)	-40.82	-	-23.82	-
10 .906	15.35dBuV Ca	0	10.6	25.95	-	60	-	46
				Margin (dB)	-	-34.05	-	-20.05
11 .987	22.56dBuV Qp	0	10.6	33.16	73	-	56	-
				Margin (dB)	-39.84	-	-22.84	-
12 .987	19.72dBuV Ca	0	10.6	30.32	-	60	-	46
				Margin (dB)	-	-29.68	-	-15.68
13 1.16475	22.99dBuV Qp	0	10.6	33.59	73	-	56	-
				Margin (dB)	-39.41	-	-22.41	-
14 1.16475	19.49dBuV Ca	0	10.6	30.09	-	60	-	46
				Margin (dB)	-	-29.91	-	-15.91
15 1.34475	21.37dBuV Qp	0	10.6	31.97	73	-	56	-
				Margin (dB)	-41.03	-	-24.03	-
16 1.34475	18.72dBuV Ca	0	10.6	29.32	-	60	-	46
				Margin (dB)	-	-30.68	-	-16.68
Neutral								
17 .2265	35.54dBuV Qp	0	11.4	46.94	79	-	62.58	-
				Margin (dB)	-32.06	-	-15.64	-
18 .22425	26.76dBuV Ca	0	11.4	38.16	-	66	-	52.66
				Margin (dB)	-	-27.84	-	-14.5
19 .44925	32.58dBuV Qp	0	10.7	43.28	79	-	56.89	-
				Margin (dB)	-35.72	-	-13.61	-
20 .44925	27.16dBuV Ca	0	10.7	37.86	-	66	-	46.89
				Margin (dB)	-	-28.14	-	-9.03
21 .627	32.34dBuV Qp	0	10.6	42.94	73	-	56	-
				Margin (dB)	-30.06	-	-13.06	-
22 .627	27.72dBuV Ca	0	10.6	38.32	-	60	-	46
				Margin (dB)	-	-21.68	-	-7.68
23 .807	30.14dBuV Qp	0	10.6	40.74	73	-	56	-
				Margin (dB)	-32.26	-	-15.26	-
24 .807	28.14dBuV Ca	0	10.6	38.74	-	60	-	46
				Margin (dB)	-	-21.26	-	-7.26
25 .906	30.73dBuV Qp	0	10.6	41.33	73	-	56	-
				Margin (dB)	-31.67	-	-14.67	-
26 .906	22.27dBuV Ca	0	10.6	32.87	-	60	-	46
				Margin (dB)	-	-27.13	-	-13.13
27 .987	29.1dBuV Qp	0	10.6	39.7	73	-	56	-
				Margin (dB)	-33.3	-	-16.3	-
28 .987	26.66dBuV Ca	0	10.6	37.26	-	60	-	46
				Margin (dB)	-	-22.74	-	-8.74
29 1.16475	29.34dBuV Qp	0	10.6	39.94	73	-	56	-
				Margin (dB)	-33.06	-	-16.06	-
30 1.16475	26.32dBuV Ca	0	10.6	36.92	-	60	-	46

31	1.34475	27.33dBuV Qp	0	10.6	Margin (dB)	-	-23.08	-	-9.08
					37.93	73	-	56	-
32	1.34475	25.25dBuV Ca	0	10.6	Margin (dB)	-35.07	-	-18.07	-
					35.85	-	60	-	46
					Margin (dB)	-	-24.15	-	-10.15

LIMIT 1: CISPR 22/11 Group 1 Class A QP
LIMIT 2: CISPR 22/11 Group 1 Class A AV
LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV

Qp - Quasi-Peak detector
Ca - CISPR Average detection

10.1.3. AC Power Line Results – TX Mode / High Channel



Philips Lighting NA
SNH200
TX High Channel
120V60Hz into Driver
QP: RED CAV: GRN

Trace Markers

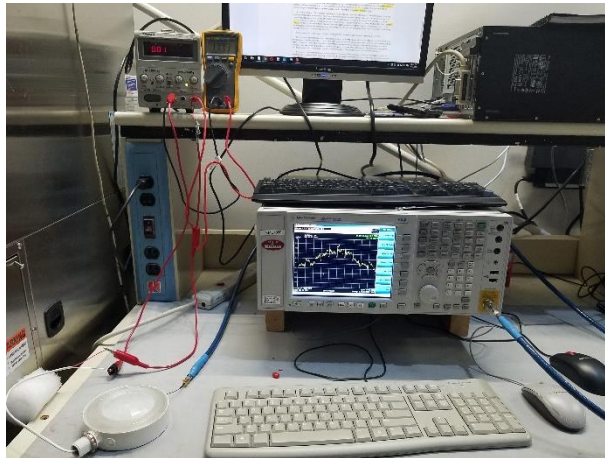
Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4
=====									
Line									
1	.17925	36.68dBuV	Qp	.1	11.8	48.58	79	-	64.52
						Margin (dB)	-30.42	-	-15.94
2	.17925	25.96dBuV	Ca	.1	11.8	37.86	-	66	54.52
						Margin (dB)	-	-28.14	-16.66
3	.2265	37.85dBuV	Qp	0	11.4	49.25	79	-	62.58
						Margin (dB)	-29.75	-	-13.33
4	.2265	27.68dBuV	Ca	0	11.4	39.08	-	66	52.58
						Margin (dB)	-	-26.92	-13.5
5	.44925	20.38dBuV	Qp	0	10.7	31.08	79	-	56.89
						Margin (dB)	-47.92	-	-25.81
6	.44925	14.39dBuV	Ca	0	10.7	25.09	-	66	46.89
						Margin (dB)	-	-40.91	-21.8
7	.627	23.41dBuV	Qp	0	10.6	34.01	73	-	56
						Margin (dB)	-38.99	-	-21.99
8	.627	18.99dBuV	Ca	0	10.6	29.59	-	60	46
						Margin (dB)	-	-30.41	-16.41
9	.807	21.9dBuV	Qp	0	10.6	32.5	73	-	56
						Margin (dB)	-40.5	-	-23.5
10	.807	20.28dBuV	Ca	0	10.6	30.88	-	60	46
						Margin (dB)	-	-29.12	-15.12
11	.90825	22.22dBuV	Qp	0	10.6	32.82	73	-	56
						Margin (dB)	-40.18	-	-23.18
12	.90825	15.61dBuV	Ca	0	10.6	26.21	-	60	46
						Margin (dB)	-	-33.79	-19.79
13	.987	21.81dBuV	Qp	0	10.6	32.41	73	-	56
						Margin (dB)	-40.59	-	-23.59
14	.987	19.54dBuV	Ca	0	10.6	30.14	-	60	46
						Margin (dB)	-	-29.86	-15.86
15	1.16475	22.14dBuV	Qp	0	10.6	32.74	73	-	56
						Margin (dB)	-40.26	-	-23.26
16	1.16475	19.19dBuV	Ca	0	10.6	29.79	-	60	46
						Margin (dB)	-	-30.21	-16.21
17	1.34475	20.87dBuV	Qp	0	10.6	31.47	73	-	56
						Margin (dB)	-41.53	-	-24.53
18	1.34475	18.55dBuV	Ca	0	10.6	29.15	-	60	46
						Margin (dB)	-	-30.85	-16.85

Test No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4
=====									
Neutral									
19	.17925	37.01dBuV	Qp	.1	11.8	48.91	79	-	64.52
						Margin (dB)	-30.09	-	-15.61
20	.17925	25.95dBuV	Ca	.1	11.8	37.85	-	66	54.52
						Margin (dB)	-	-28.15	-16.67
21	.2265	35.55dBuV	Qp	0	11.4	46.95	79	-	62.58
						Margin (dB)	-32.05	-	-15.63
22	.2265	26.47dBuV	Ca	0	11.4	37.87	-	66	52.58
						Margin (dB)	-	-28.13	-14.71
23	.44925	32.73dBuV	Qp	0	10.7	43.43	79	-	56.89
						Margin (dB)	-35.57	-	-13.46
24	.44925	27.13dBuV	Ca	0	10.7	37.83	-	66	46.89
						Margin (dB)	-	-28.17	-9.06
25	.627	31.81dBuV	Qp	0	10.6	42.41	73	-	56
						Margin (dB)	-30.59	-	-13.59
26	.627	27.82dBuV	Ca	0	10.6	38.42	-	60	46
						Margin (dB)	-	-21.58	-7.58
27	.807	30.03dBuV	Qp	0	10.6	40.63	73	-	56
						Margin (dB)	-32.37	-	-15.37
28	.807	28.35dBuV	Ca	0	10.6	38.95	-	60	46
						Margin (dB)	-	-21.05	-7.05
29	.90825	31.23dBuV	Qp	0	10.6	41.83	73	-	56
						Margin (dB)	-31.17	-	-14.17
30	.90825	22.63dBuV	Ca	0	10.6	33.23	-	60	46
						Margin (dB)	-	-26.77	-12.77
31	.987	29.08dBuV	Qp	0	10.6	39.68	73	-	56
						Margin (dB)	-33.32	-	-16.32
32	.987	26.94dBuV	Ca	0	10.6	37.54	-	60	46
						Margin (dB)	-	-22.46	-8.46
33	1.167	28.95dBuV	Qp	0	10.6	39.55	73	-	56
						Margin (dB)	-33.45	-	-16.45
34	1.16475	26.41dBuV	Ca	0	10.6	37.01	-	60	46
						Margin (dB)	-	-22.99	-8.99
35	1.34475	27.19dBuV	Qp	0	10.6	37.79	73	-	56
						Margin (dB)	-35.21	-	-18.21
36	1.34475	25.36dBuV	Ca	0	10.6	35.96	-	60	46
						Margin (dB)	-	-24.04	-10.04

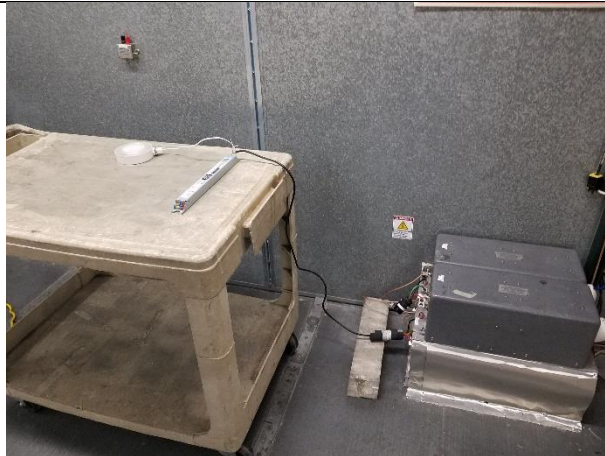
LIMIT 1: CISPR 22/11 Group 1 Class A QP
LIMIT 2: CISPR 22/11 Group 1 Class A AV
LIMIT 3: CISPR 22/11 Group 1 Class B QP
LIMIT 4: CISPR 22/11 Group 1 Class B AV
Qp - Quasi-Peak detector
Ca - CISPR Average detection

11. SETUP PHOTOS

ANTENNA PORT AND AC LINE CONDUCTED SETUP

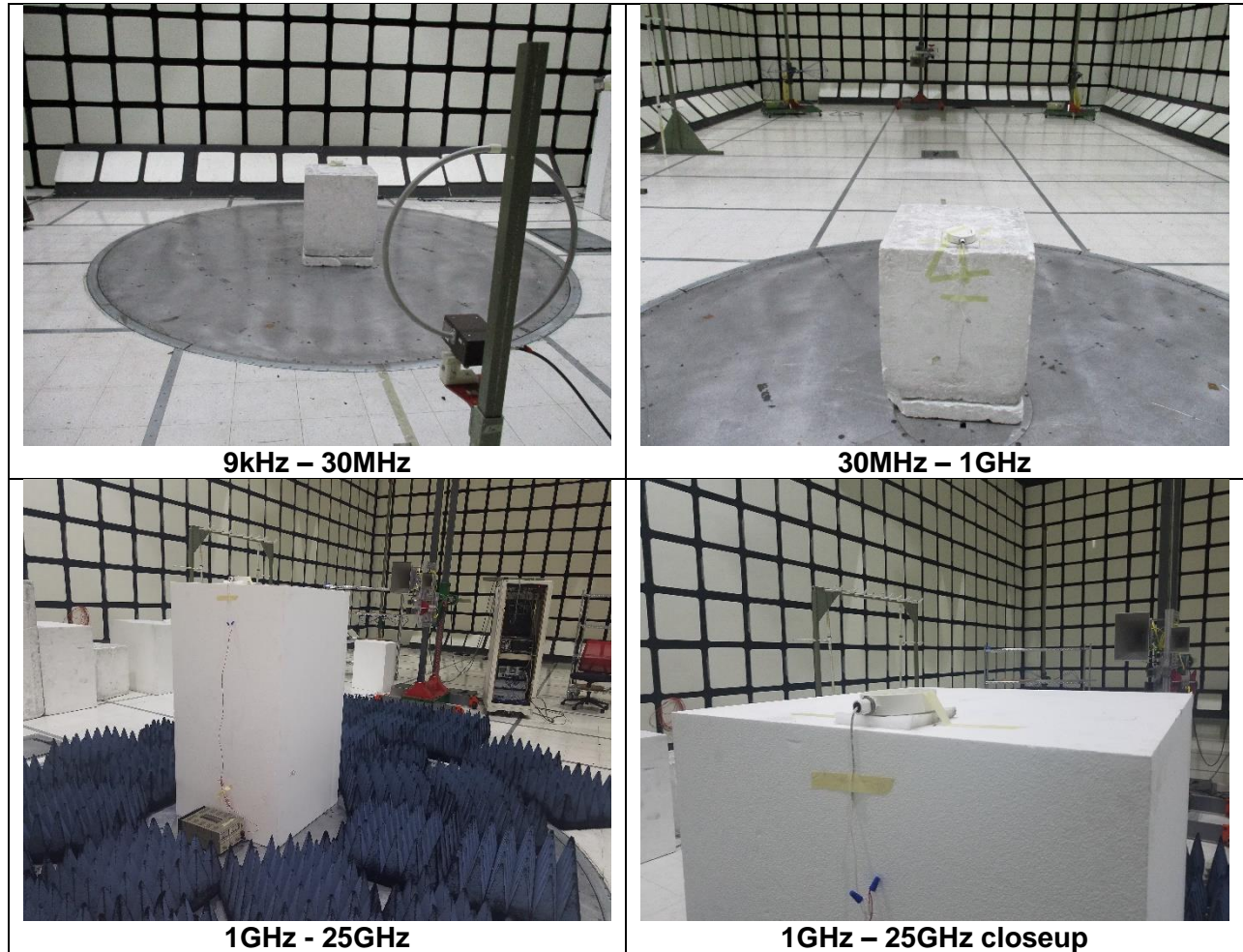


RF ANTENNA PORT CONDUCTED



AC LINE CONDUCTED (FRONT)

RADIATED RF MEASUREMENT SETUP



END OF REPORT