



# **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:**  
March 08, 2018

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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

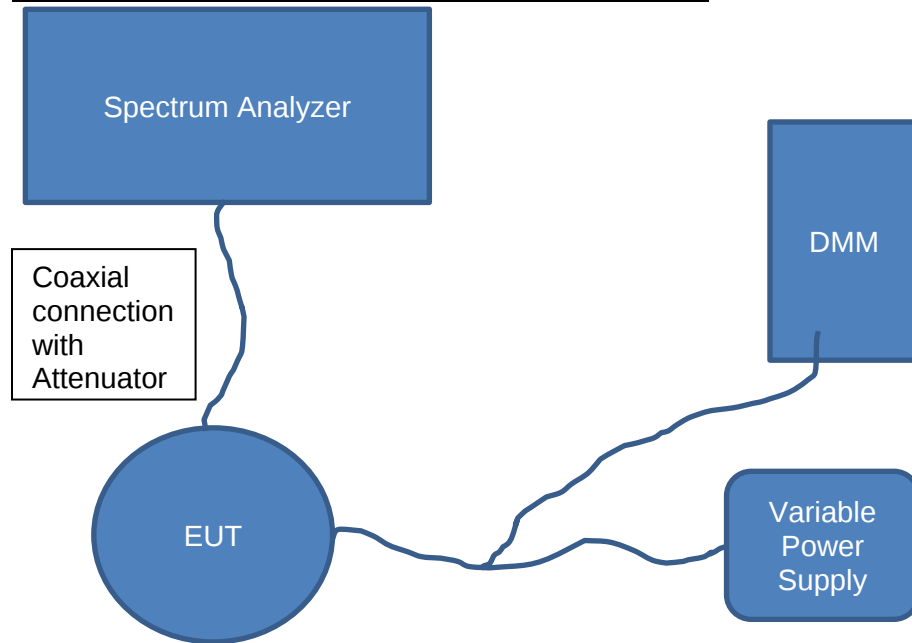
### I/O CABLES

| 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             | -       |

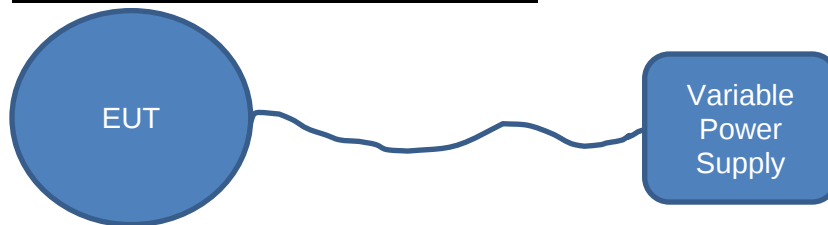
### TEST SETUP

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.

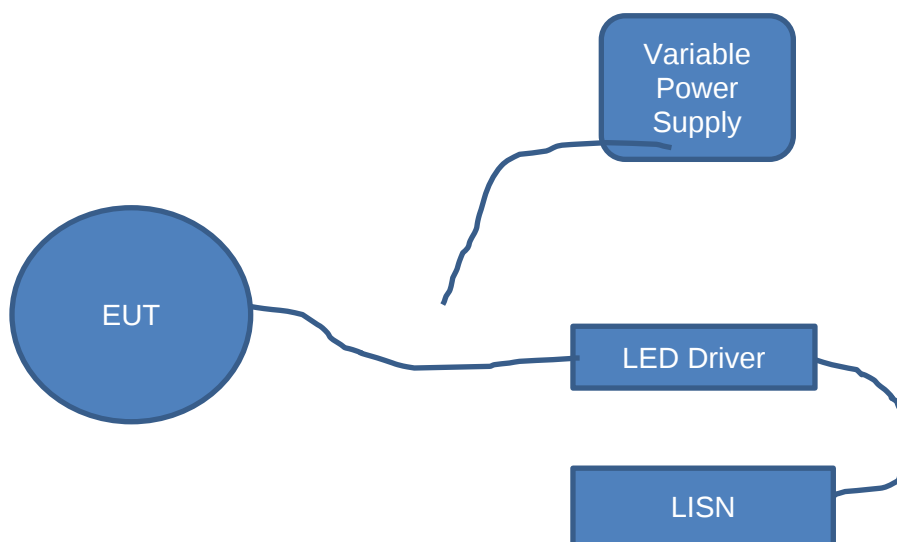
**SETUP DIAGRAM FOR ANTENNA CONDUCTED TESTS**



**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

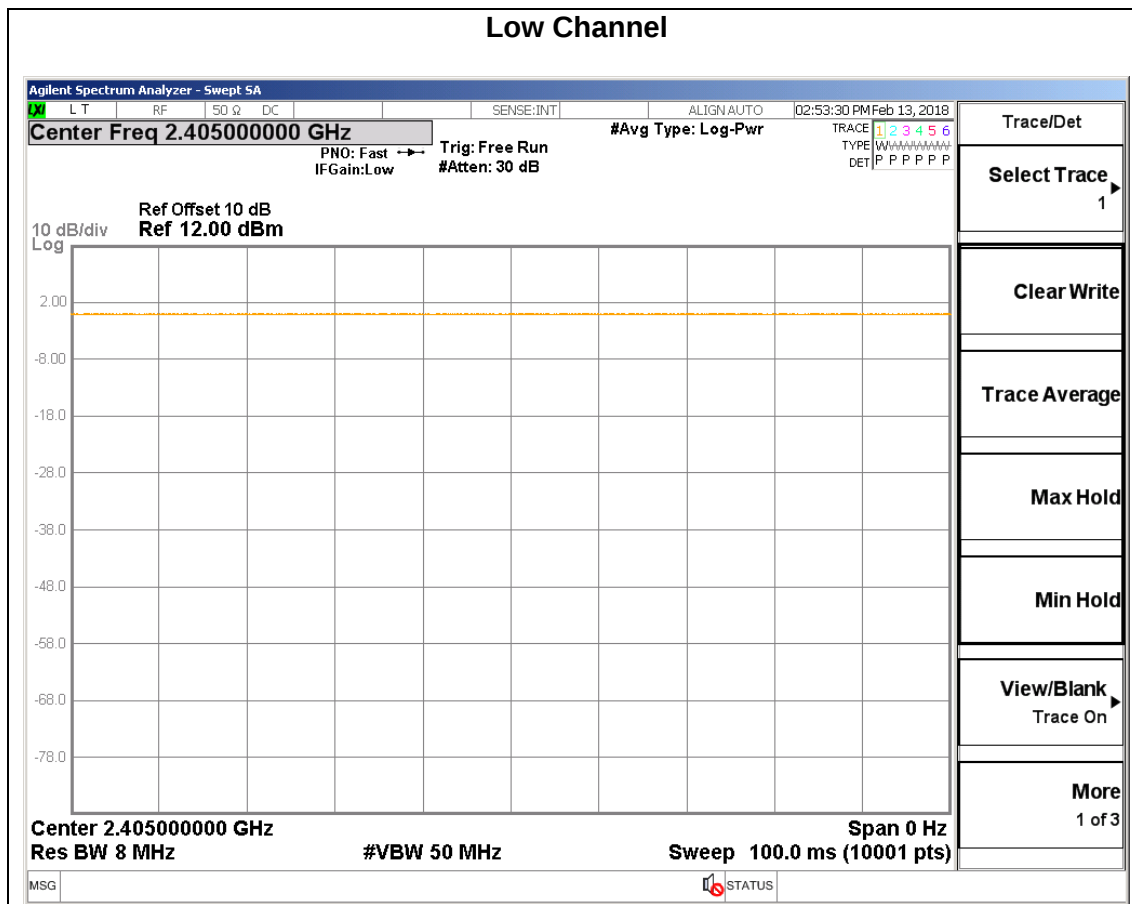
None; for reporting purposes only.

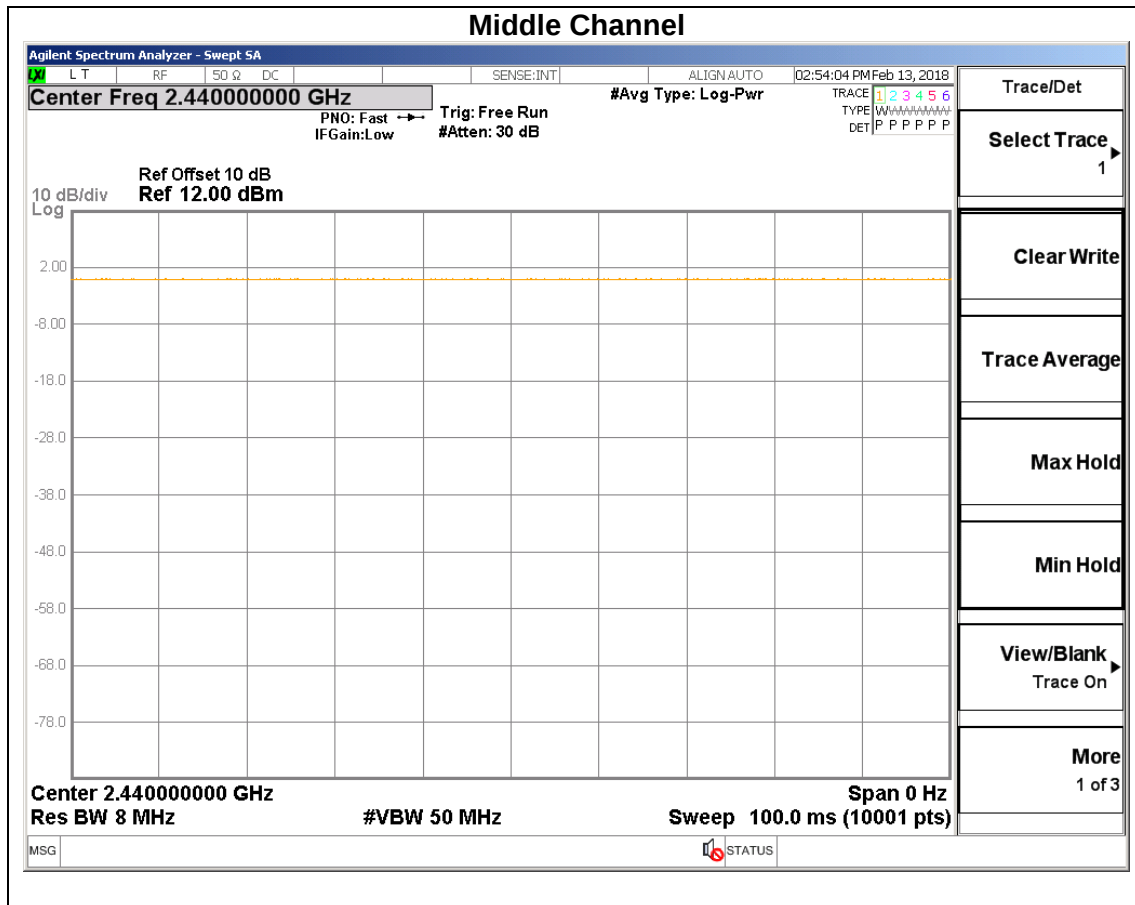
#### PROCEDURE

#### ON TIME AND DUTY CYCLE RESULTS

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

## DUTY CYCLE PLOTS







## 8.2. 99% BANDWIDTH

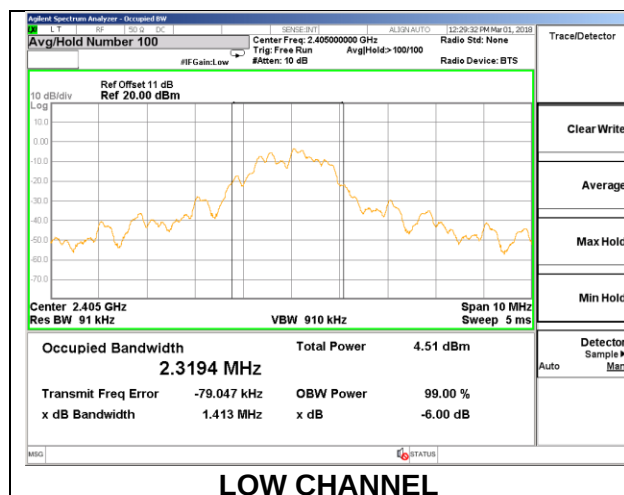
### LIMITS

None; for reporting purposes only.

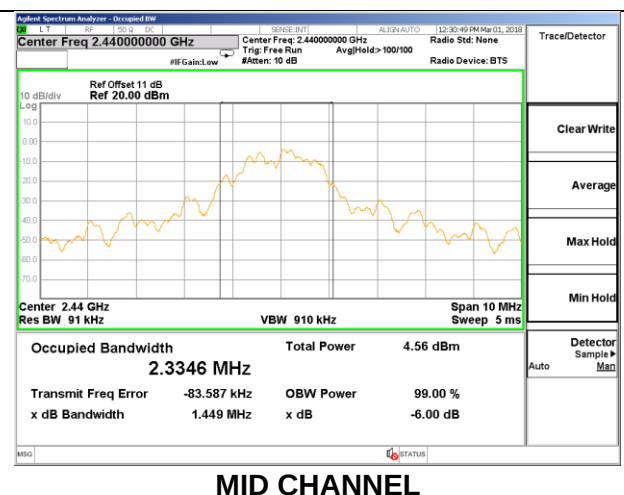
### RESULTS

#### 8.2.1. TX Mode

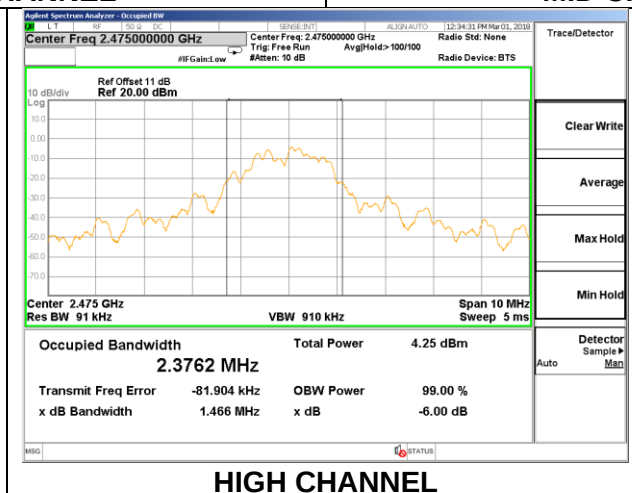
| Channel | Frequency (MHz) | 99% Bandwidth (MHz) |
|---------|-----------------|---------------------|
| Low     | 2405            | 2.3194              |
| Middle  | 2440            | 2.3346              |
| High    | 2475            | 2.3762              |



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

### 8.3. 6 dB BANDWIDTH

#### LIMITS

FCC §15.247 (a) (2)

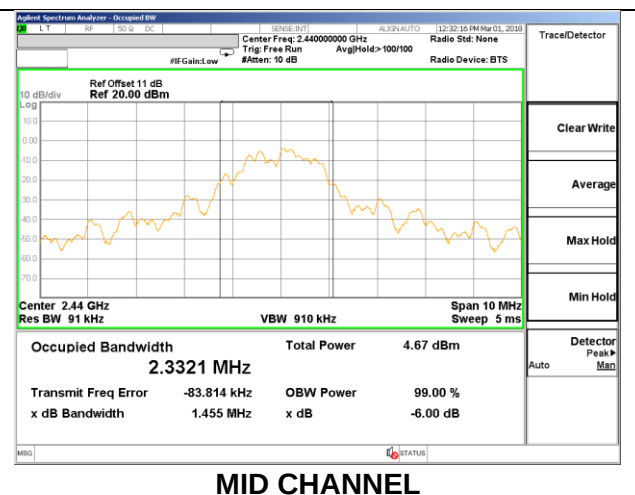
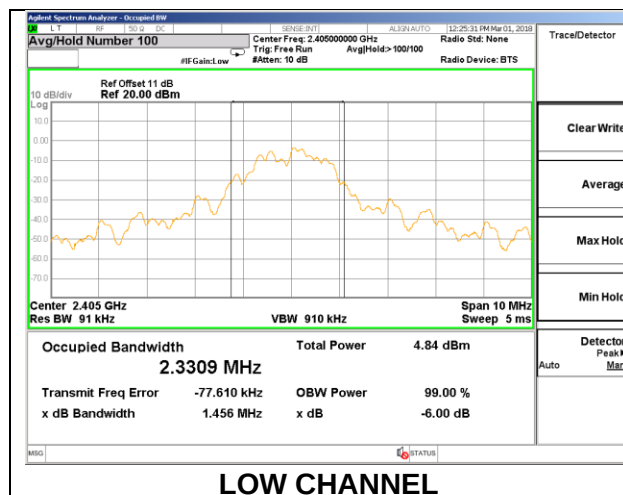
RSS-247 5.2 (a)

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

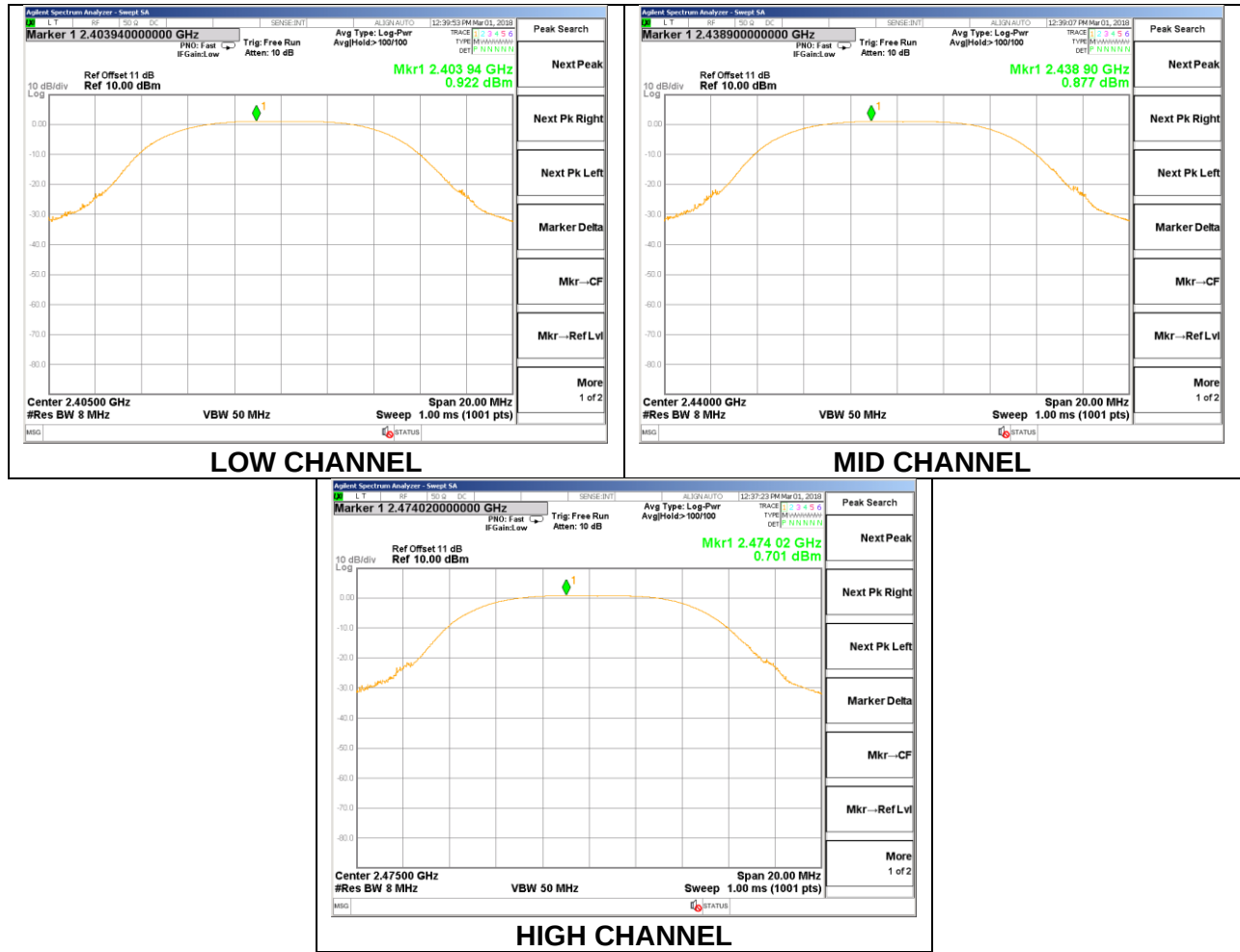
ANSI C63.10, section 11.9.1.1

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<br>(MHz) | Peak Power<br>Reading<br>(dBm) | Limit<br>(dBm) | Margin<br>(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)

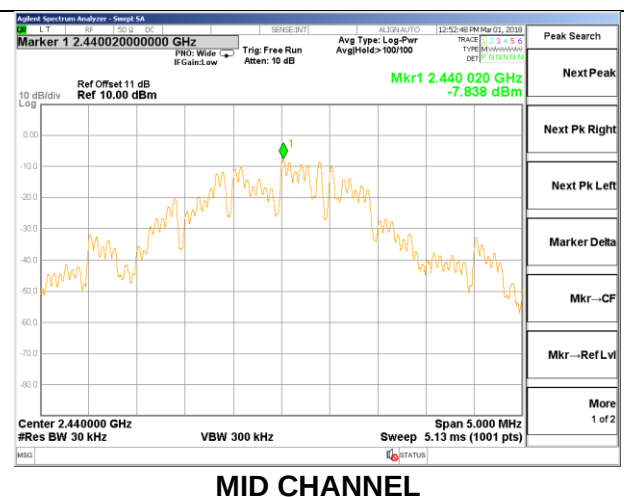
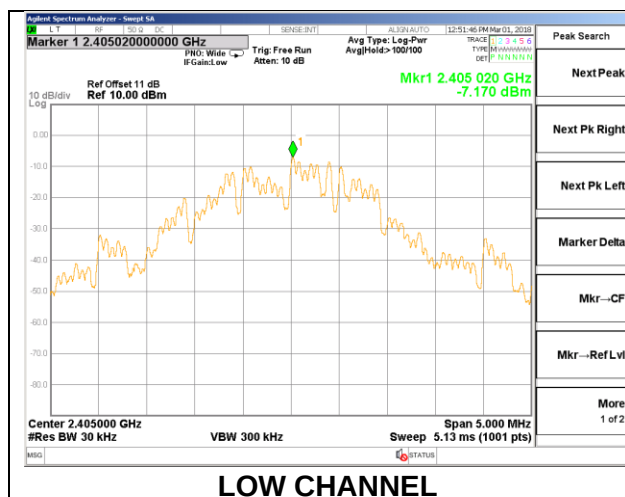
RSS-247 (5.2) (b)

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**

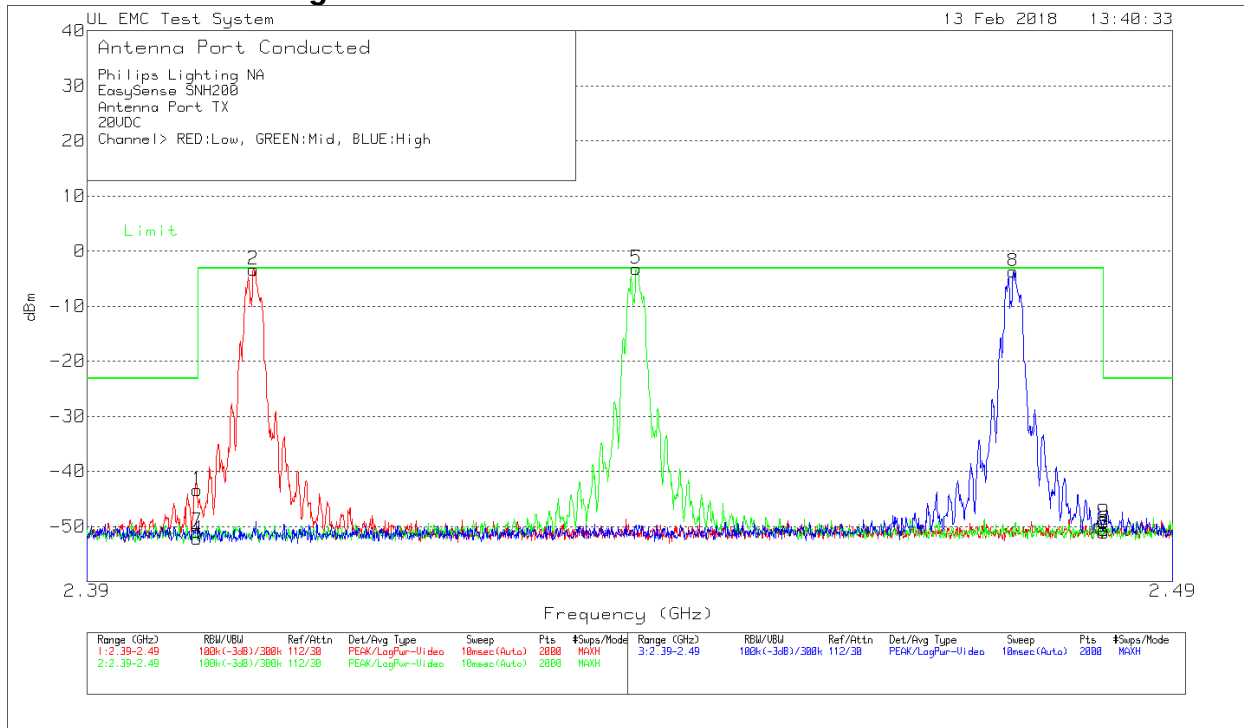
FCC §15.247 (d)

RSS-247 5.5

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

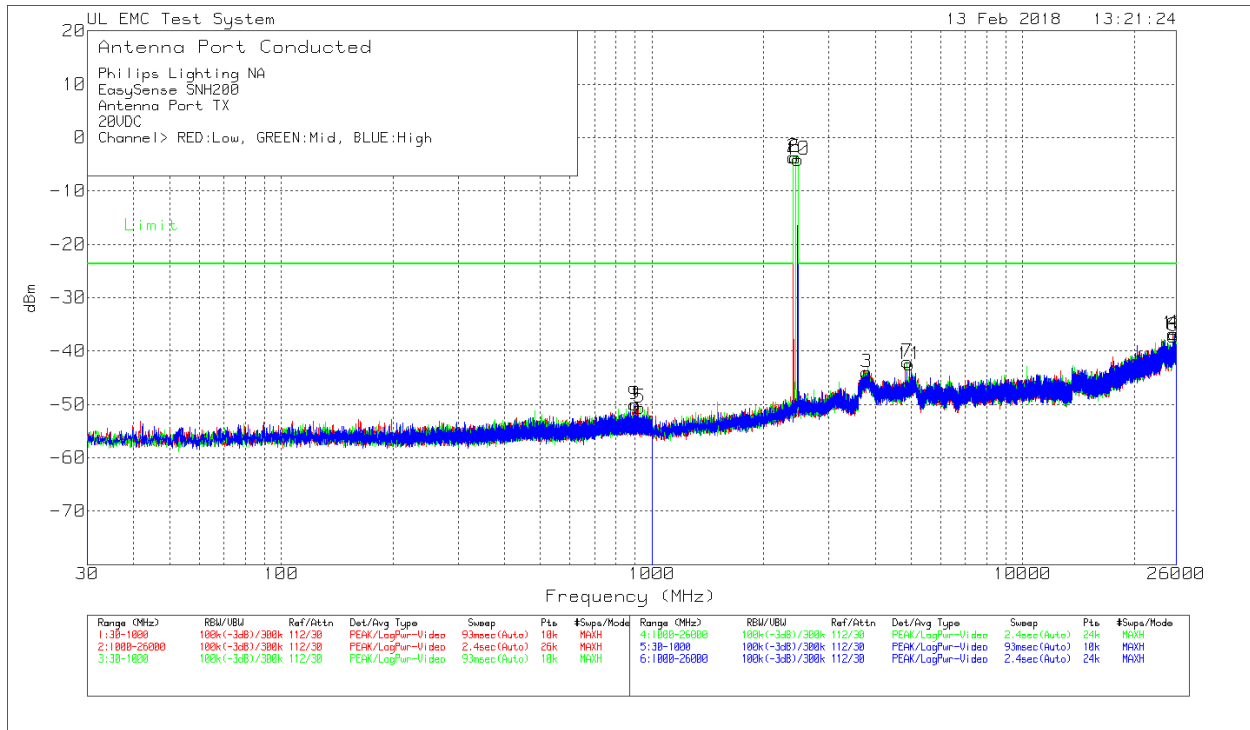
### **RESULTS**

### 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.

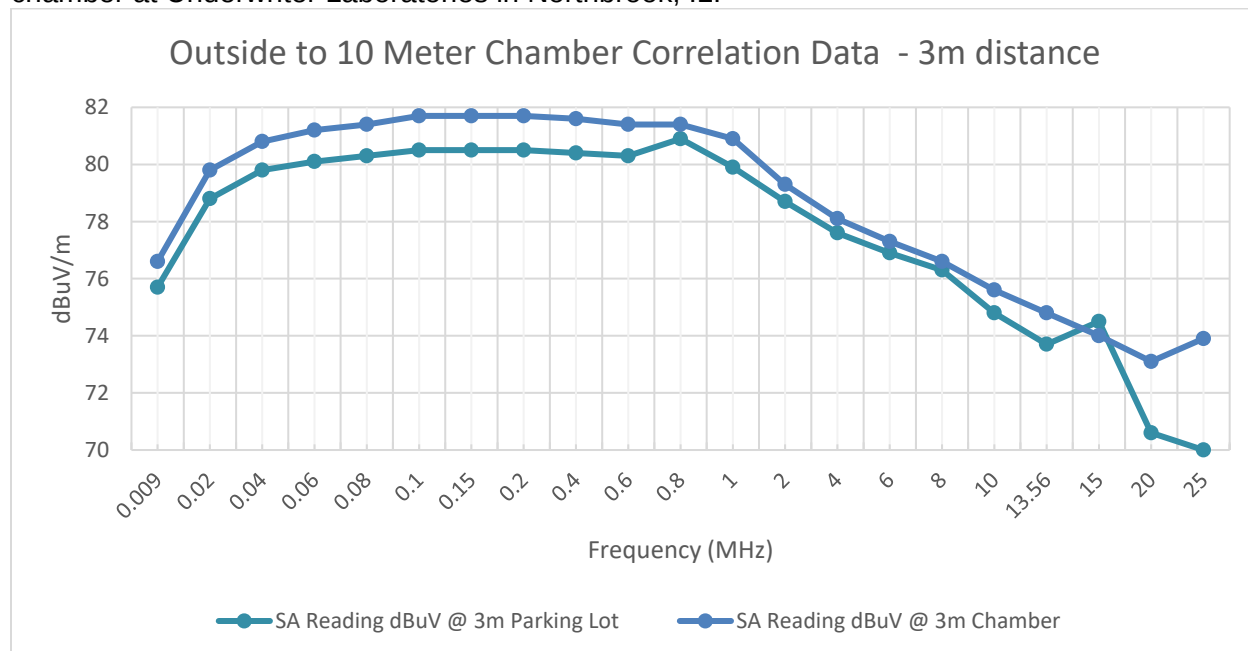
The spectrum from 30MHz to 25 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. For frequencies 9kHz-30MHz random channels was used.

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

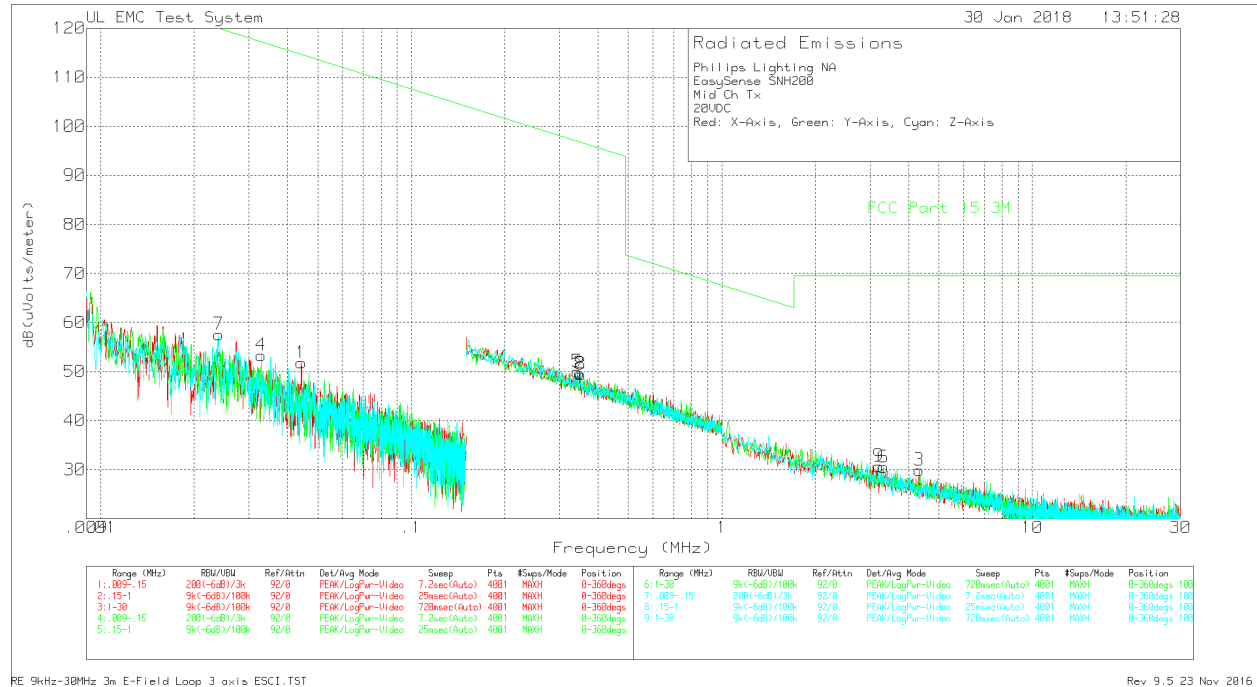
### 9.2.1. Outdoor to 10m SAC Correlation Data

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

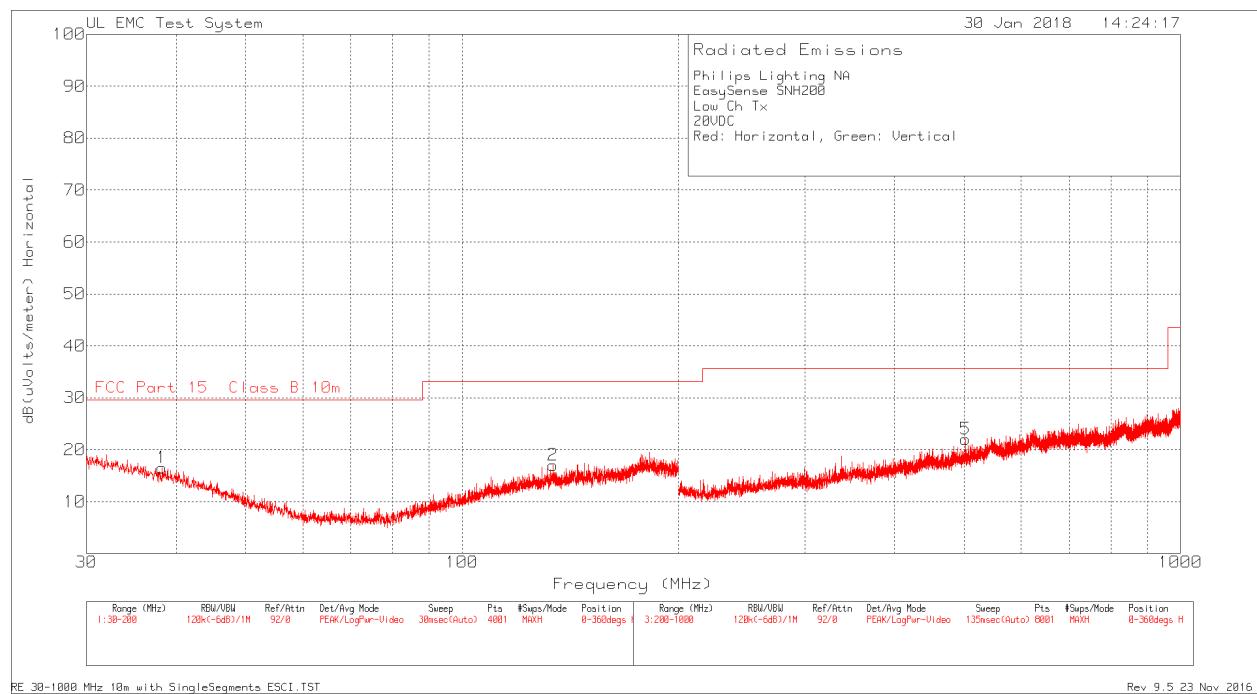
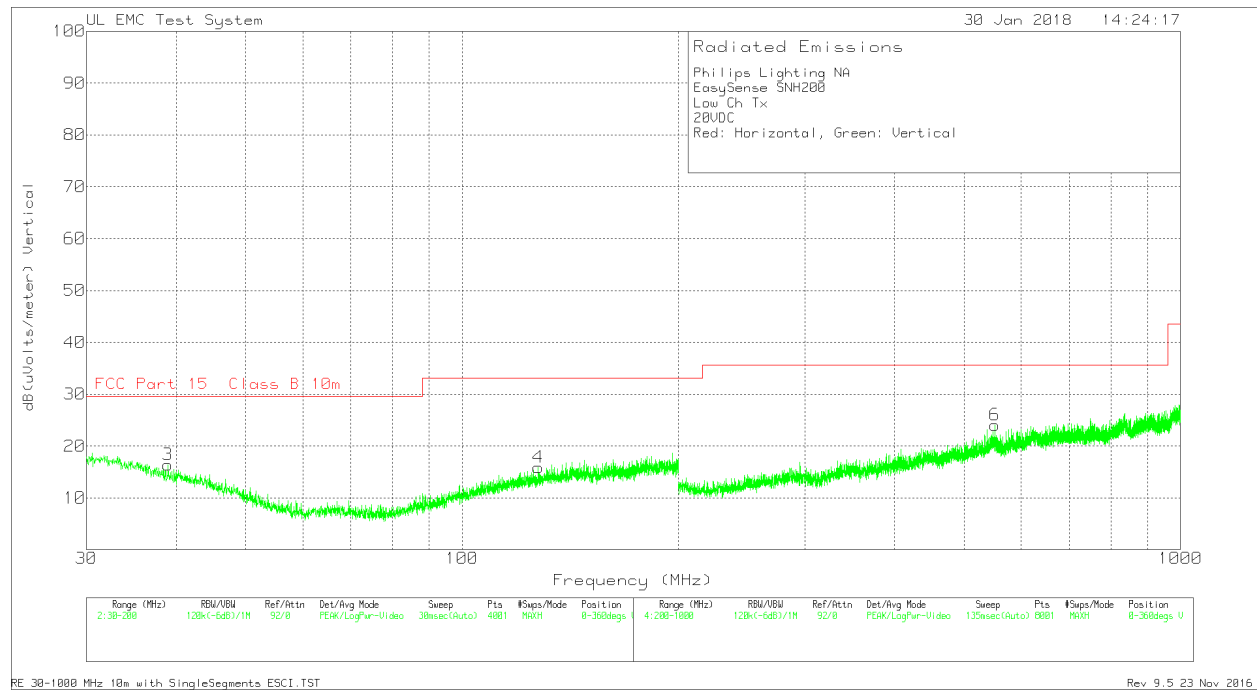
### Trace Markers

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

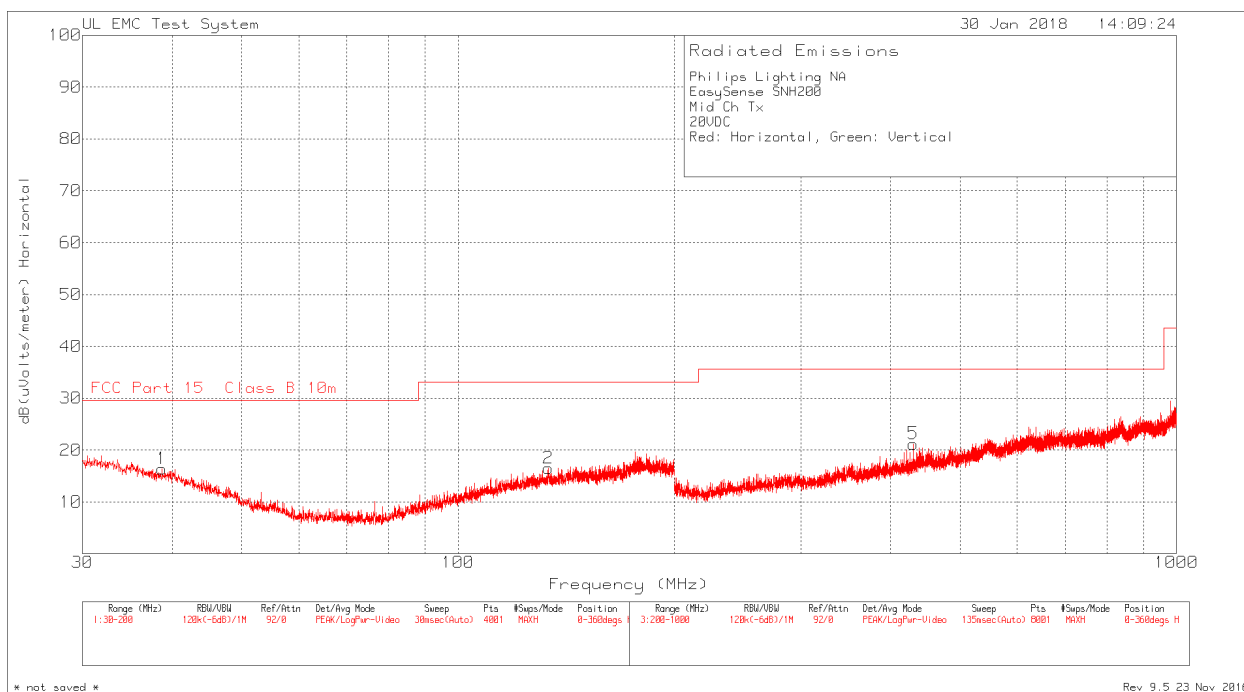
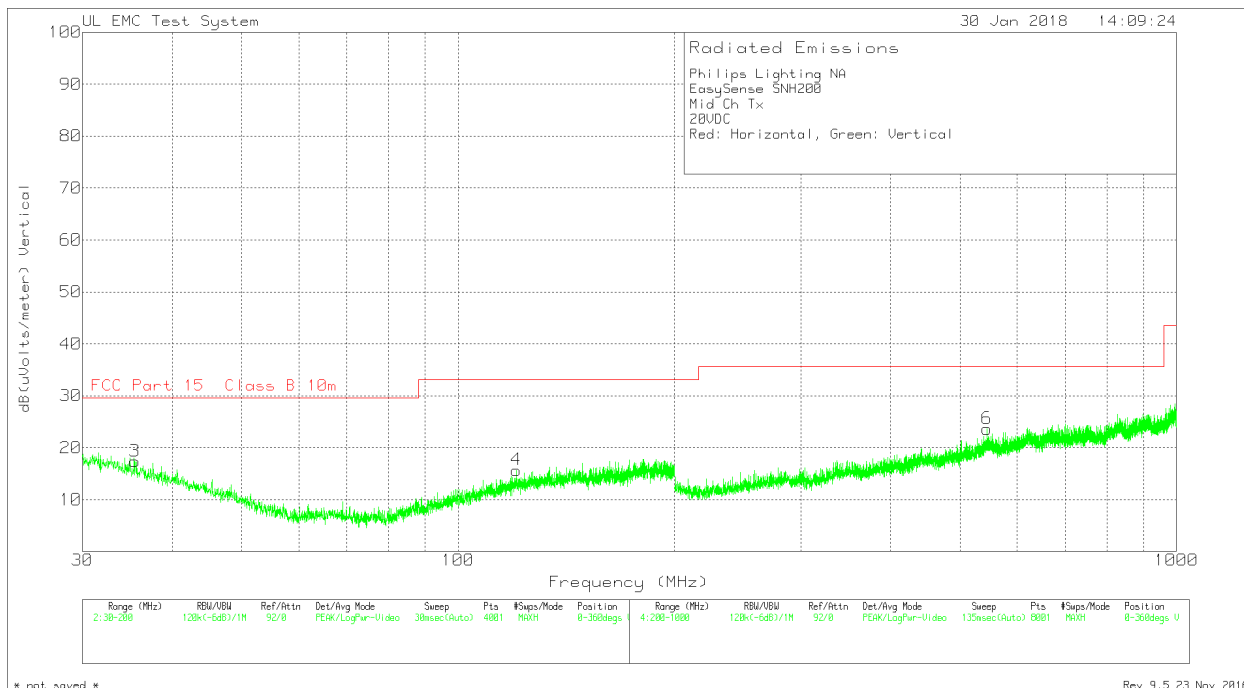
Philips Lighting NA  
EasySense SNH200  
Low Ch Tx  
20VDC  
Red: Horizontal, Green: Vertical

Trace Markers

| Test No. | Frequency (MHz) | Meter Reading | Transducer Factor (dB) | Gain/Loss Factor (dB) | Corrected Reading (dB) | Limit:1 (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 shows in plots are for FCC part 15, subpart B, class B. Same limits are used for FCC 15.209.

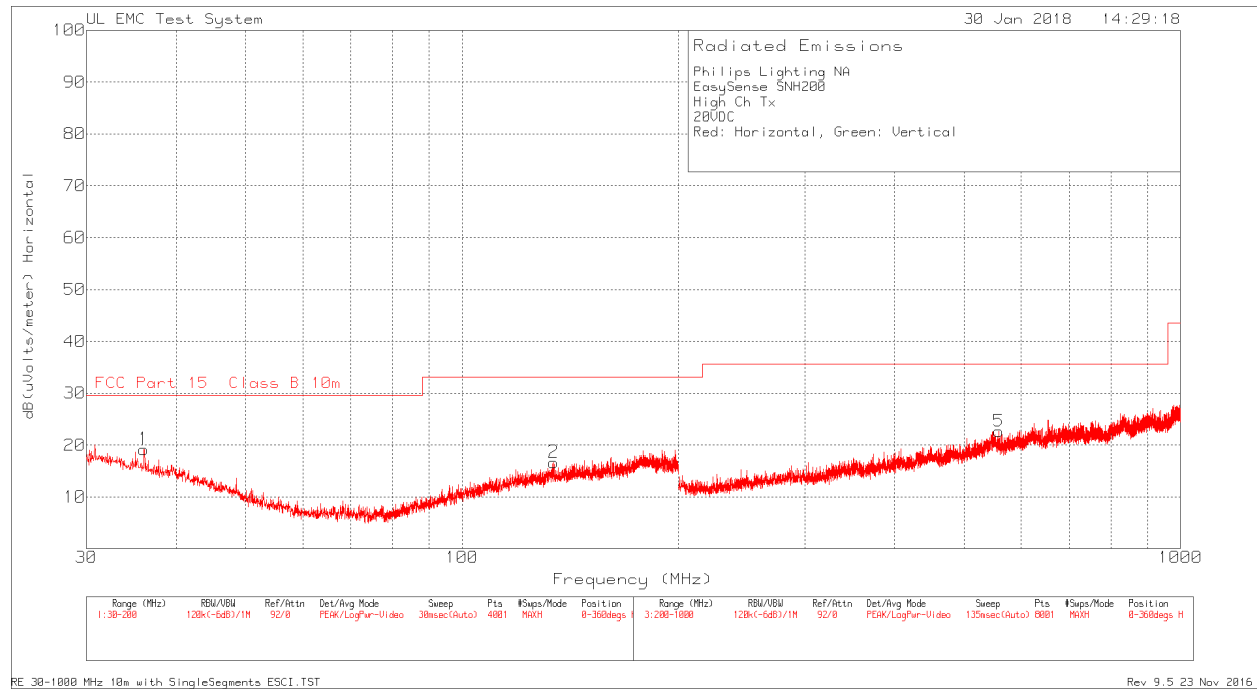
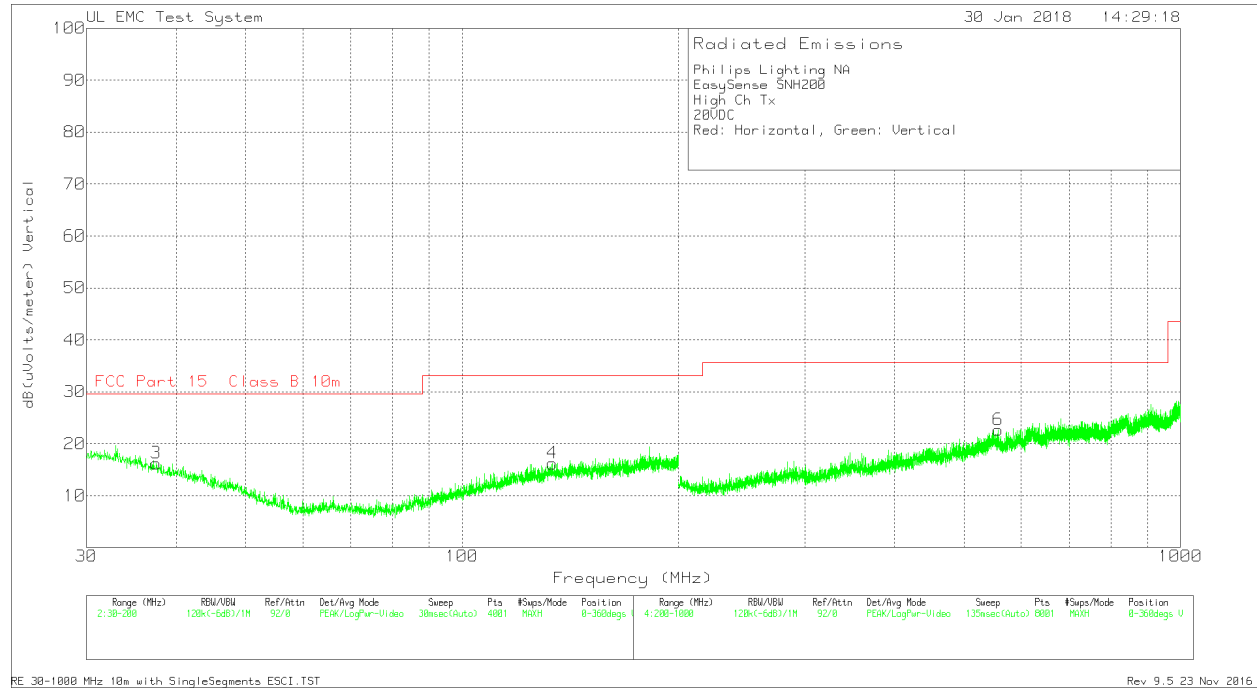
Philips Lighting NA  
EasySense SNH200  
Mid Ch Tx  
20VDC  
Red: Horizontal, Green: Vertical

Trace Markers

| Test<br>No. | Frequency<br>(MHz) | Meter<br>Reading | Transducer<br>Factor<br>(dB) | Gain/Loss<br>Factor<br>(dB) | Corrected<br>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

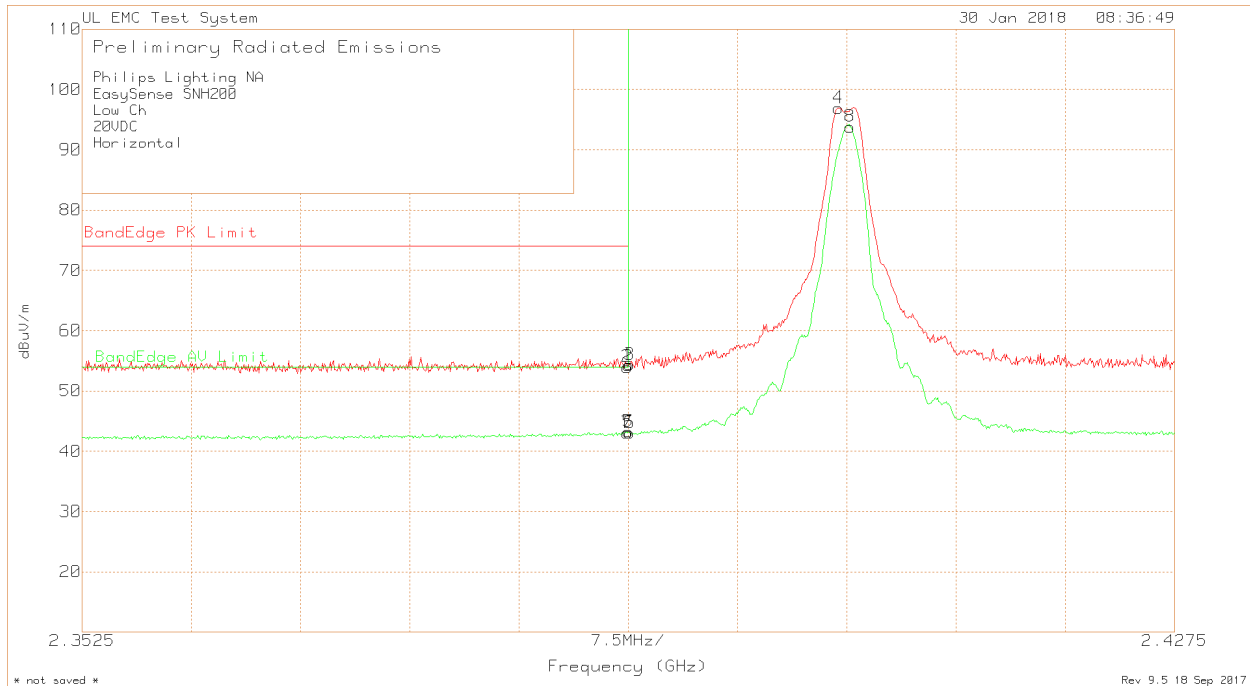
| Test<br>No. | Frequency<br>(MHz) | Meter<br>Reading | Transducer<br>Factor<br>(dB) | Gain/Loss<br>Factor<br>(dB) | Corrected<br>Reading dB(uVolts/meter) | Limit:1 | 2 | 3 |
|-------------|--------------------|------------------|------------------------------|-----------------------------|---------------------------------------|---------|---|---|
| 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



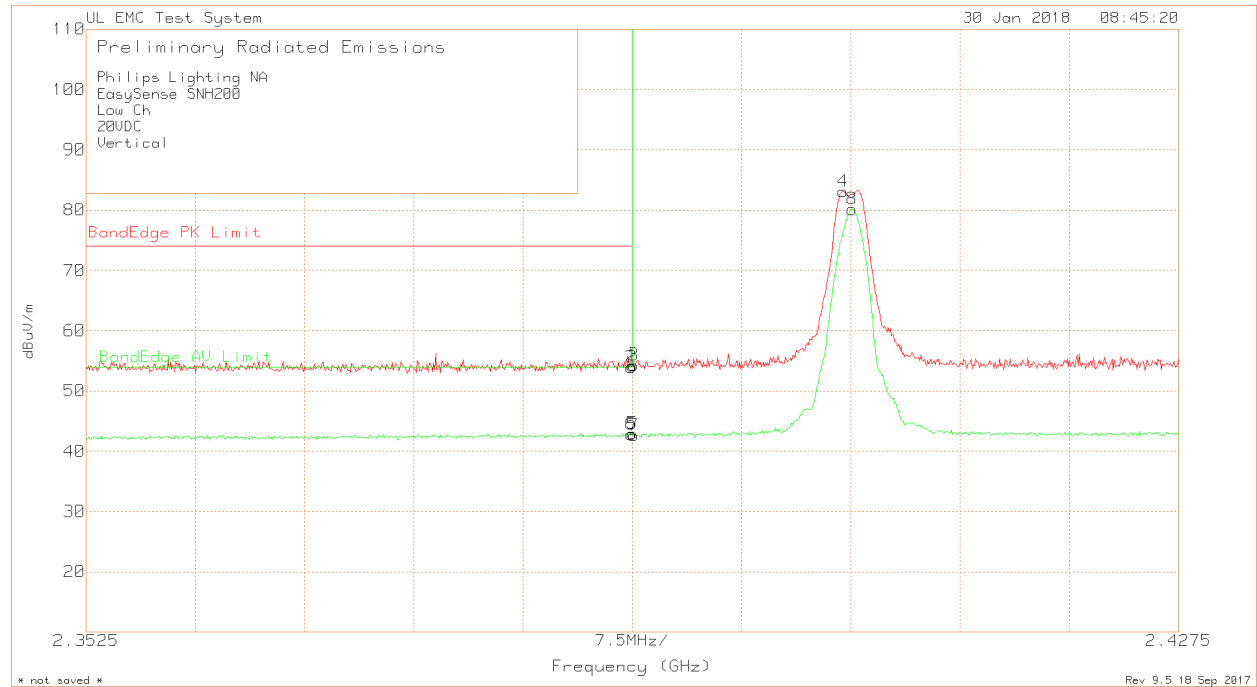
#### Trace Markers

| 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**



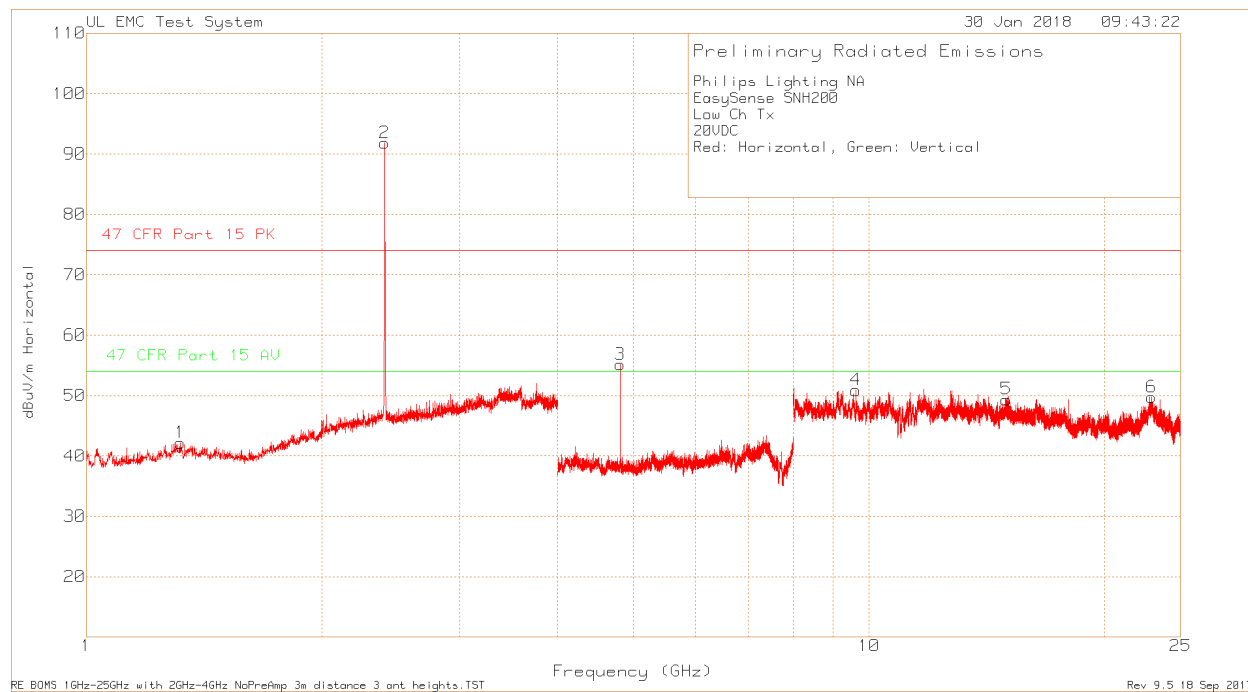
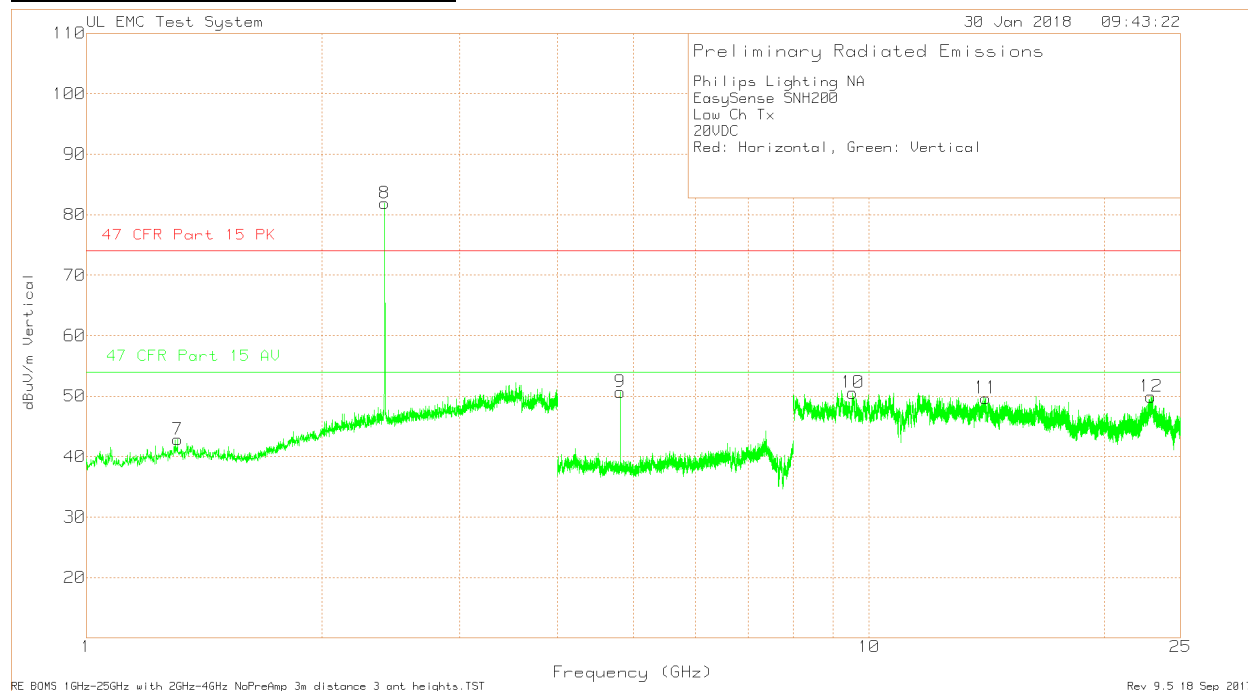
## Trace Markers

| 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           | 65.36dBuV 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

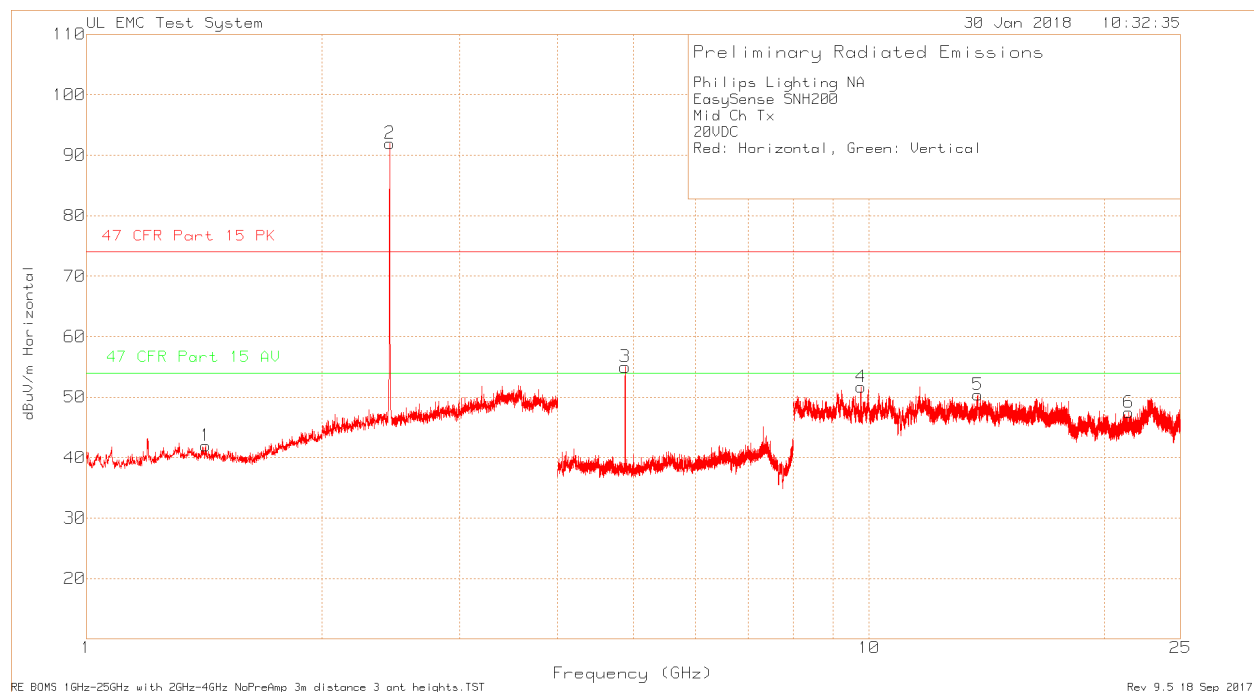
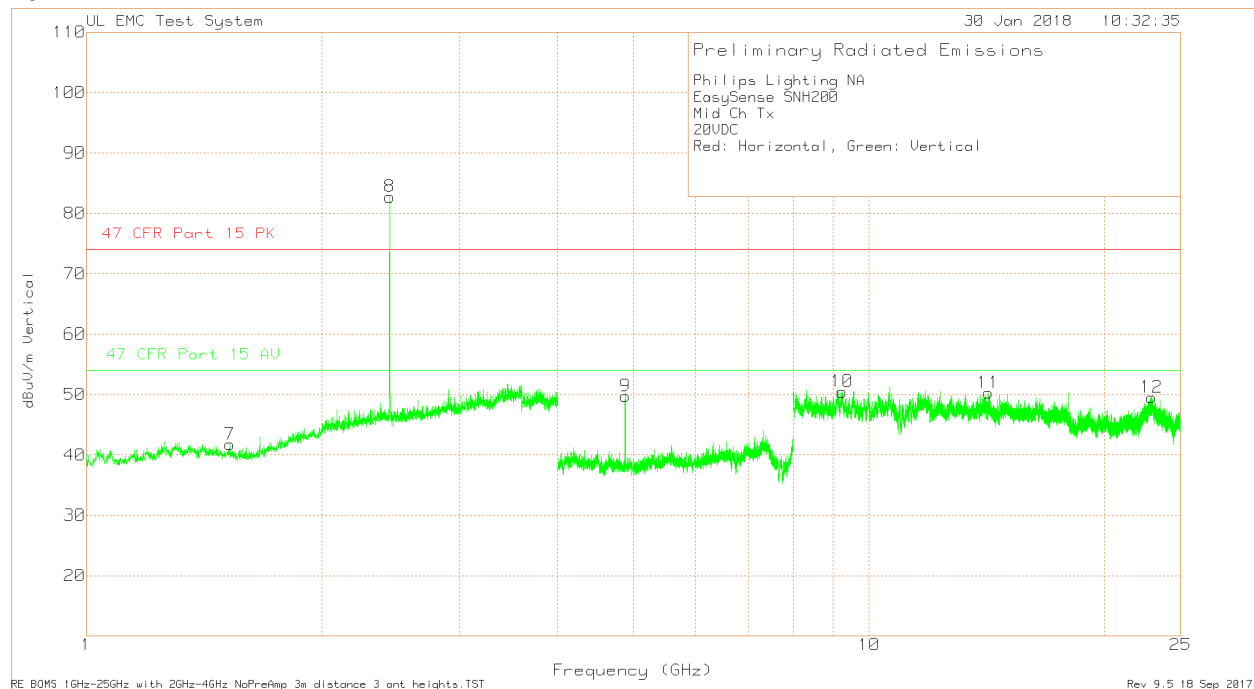
| Test Frequency (GHz) | Meter Reading     | Transducer Factor (dB) | Gain/Loss Factor (dB) | Corrected Reading dBuV/m | Limit:1 | 2     |
|----------------------|-------------------|------------------------|-----------------------|--------------------------|---------|-------|
| 4.809                | 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

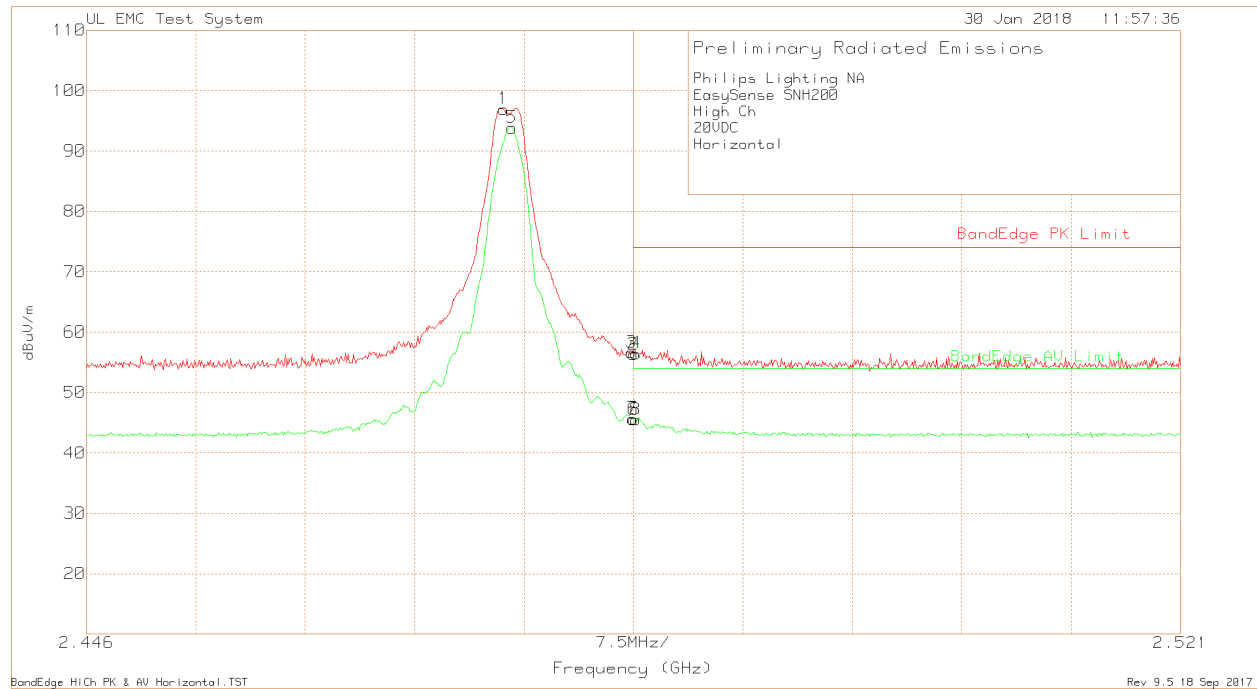
| Test Frequency (GHz) | Meter Reading     | Transducer Factor (dB) | Gain/Loss Factor (dB) | Corrected Reading dBuV/m | Limit:1 | 2     |
|----------------------|-------------------|------------------------|-----------------------|--------------------------|---------|-------|
| 4.8789               | 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



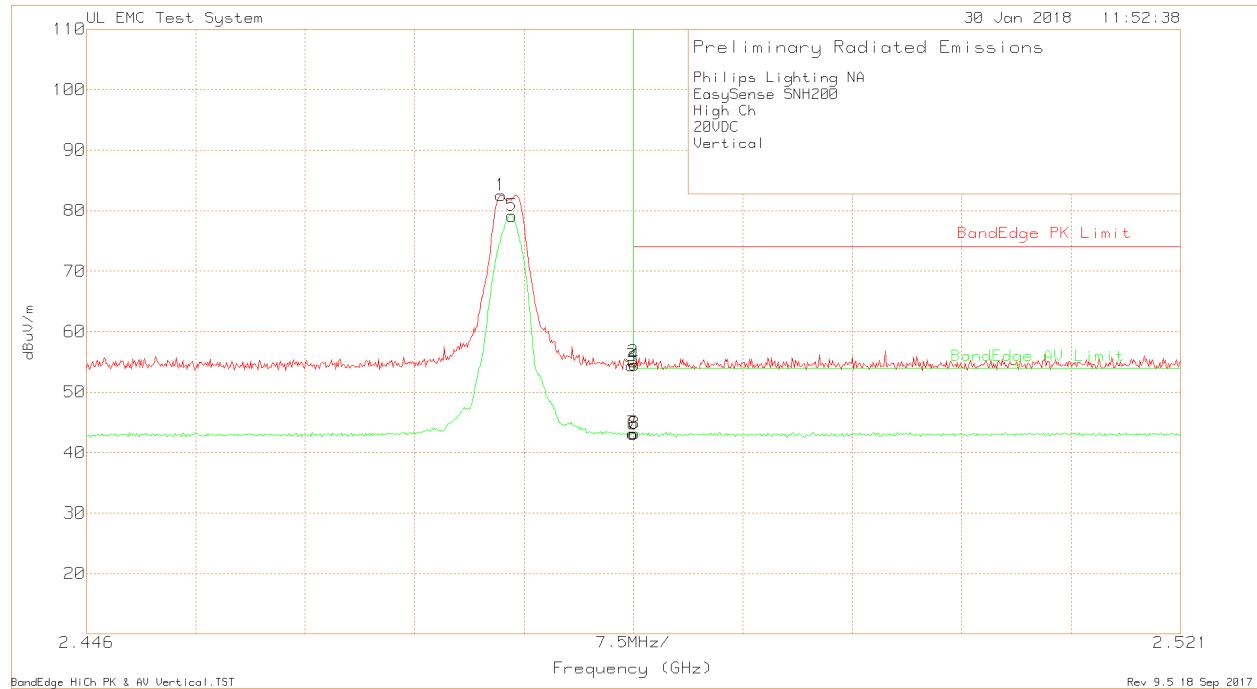
#### Trace Markers

| 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

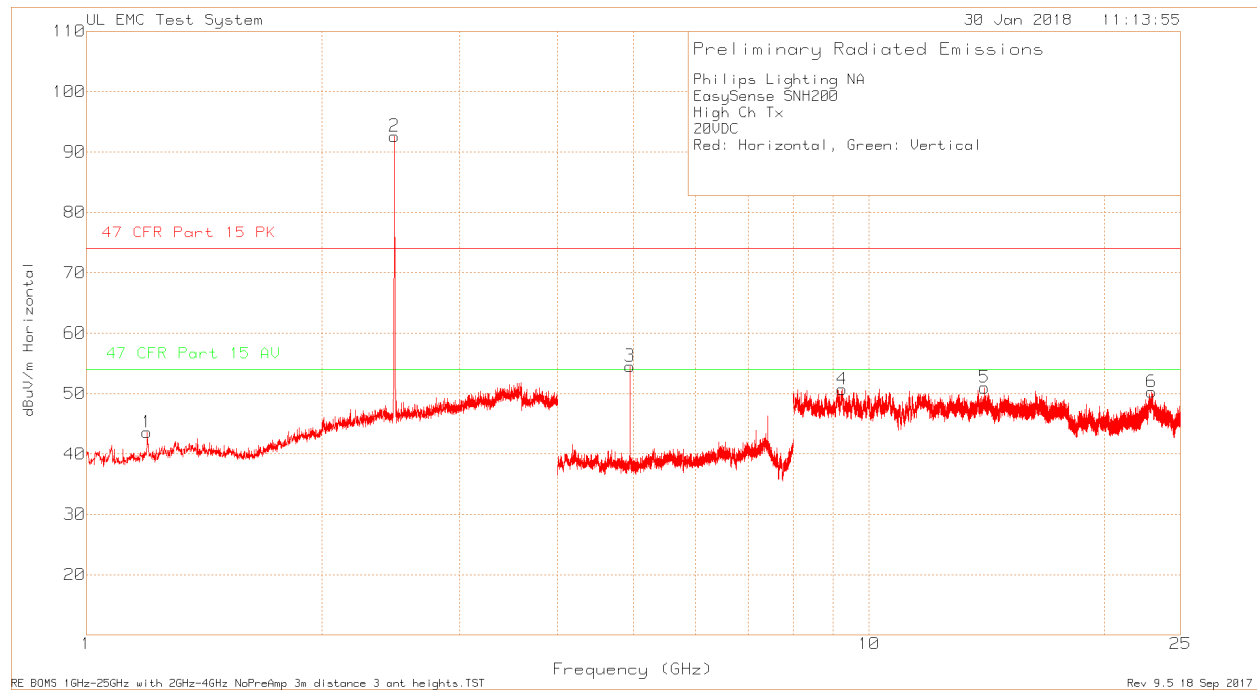
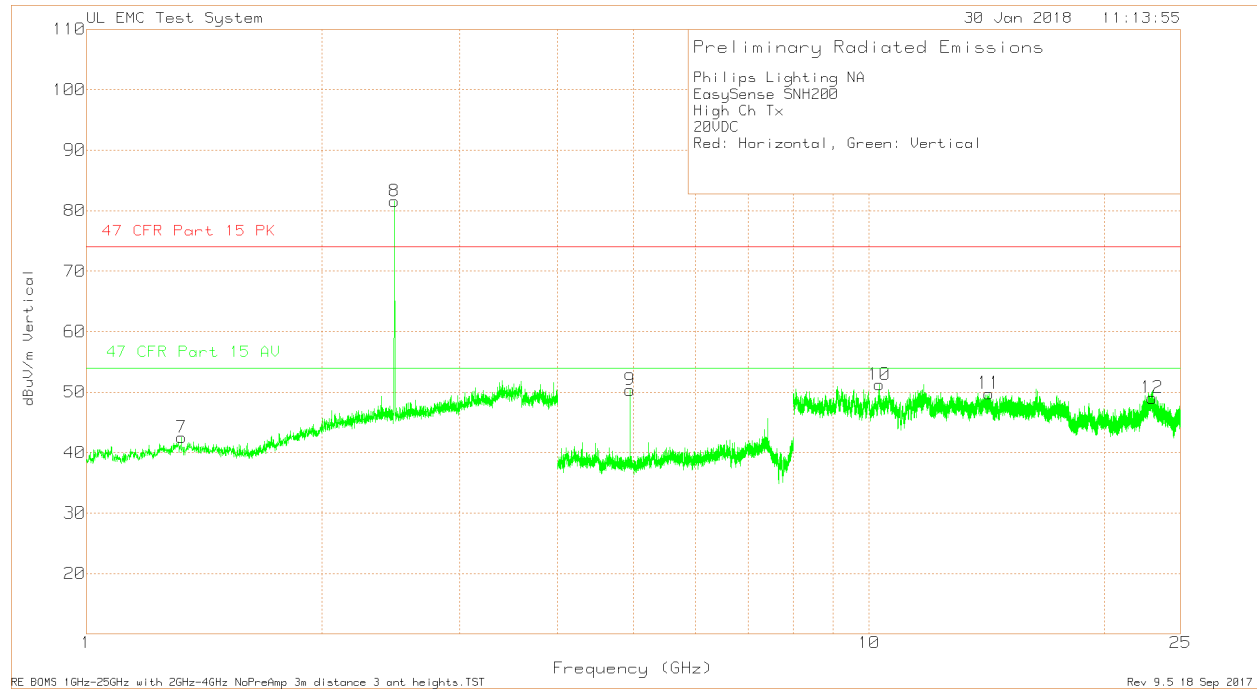
## Trace Markers

| 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)

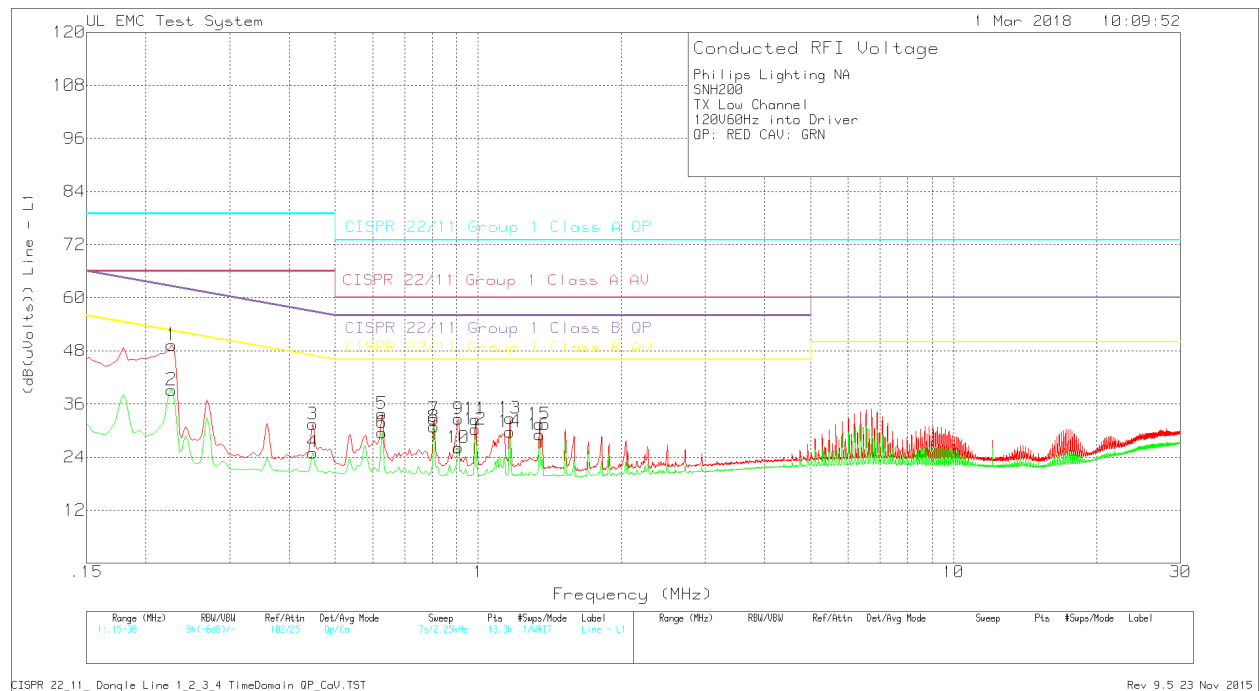
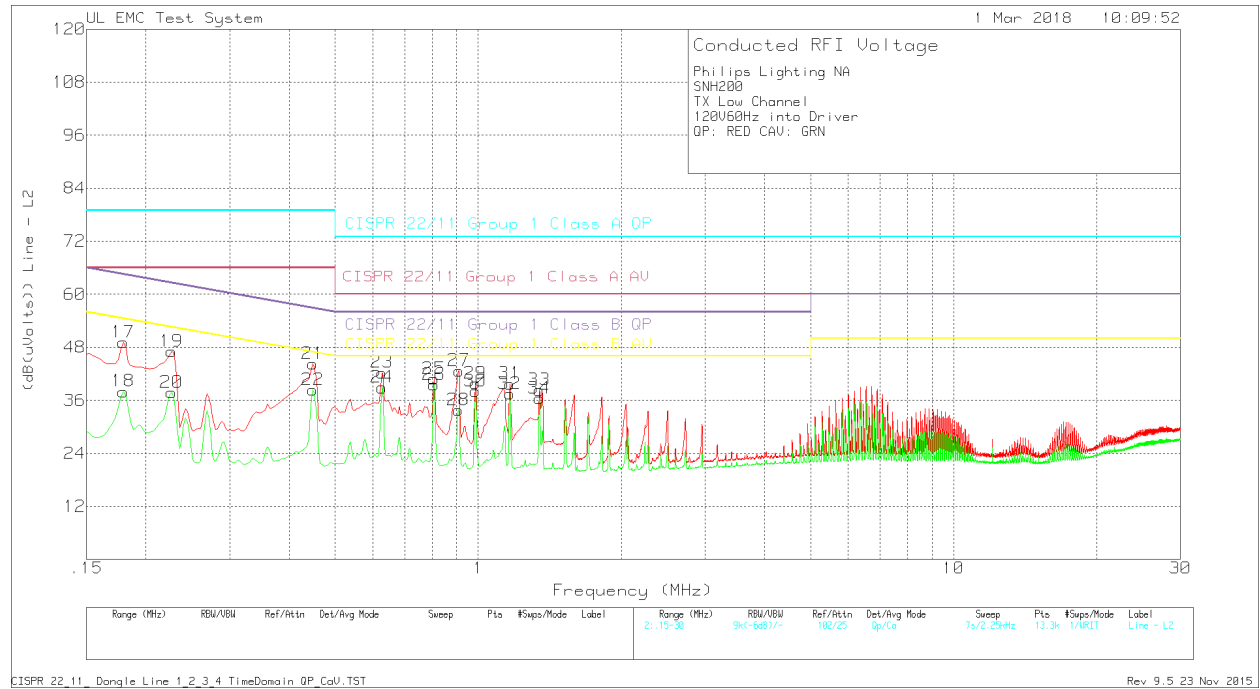
RSS-Gen 8.8

| Frequency of Emission (MHz) | Conducted Limit (dBuV) |                       |
|-----------------------------|------------------------|-----------------------|
|                             | Quasi-peak             | Average               |
| 0.15-0.5                    | 66 to 56 <sup>*</sup>  | 56 to 46 <sup>*</sup> |
| 0.5-5                       | 56                     | 46                    |
| 5-30                        | 60                     | 50                    |

<sup>\*</sup> 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<br>No. | Frequency<br>(MHz) | Meter<br>Reading | Transducer<br>Factor<br>(dB) | Gain/Loss<br>Factor<br>(dB) | Corrected<br>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

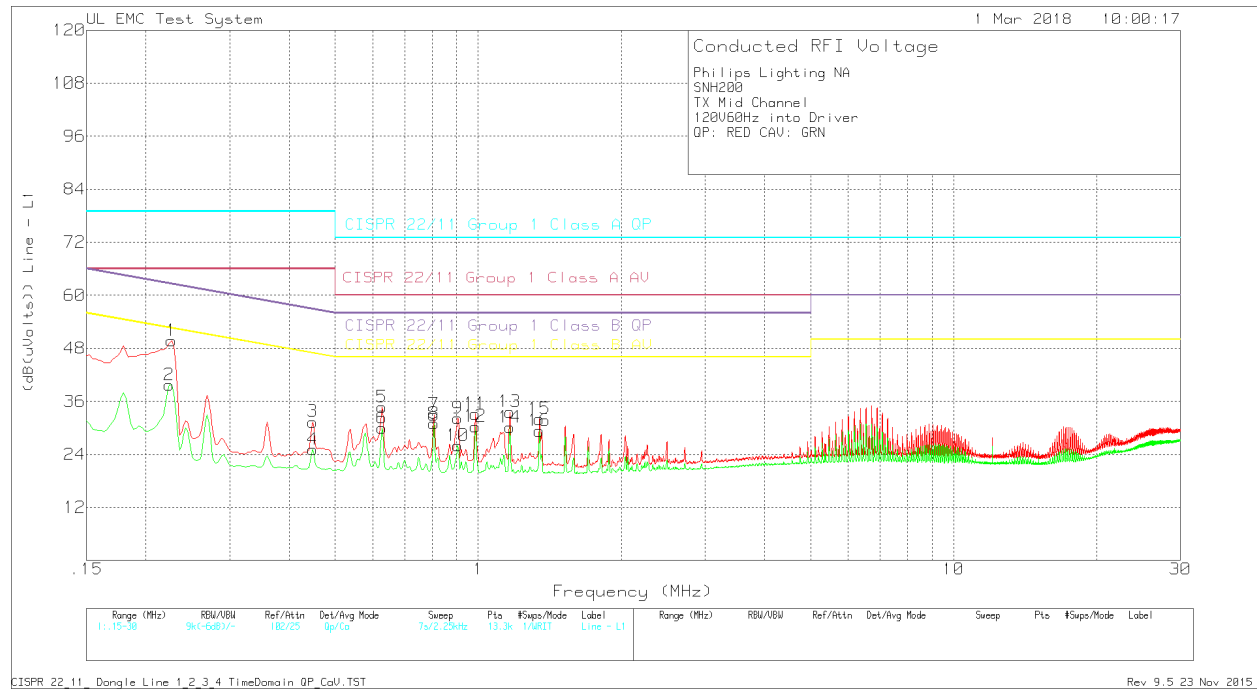
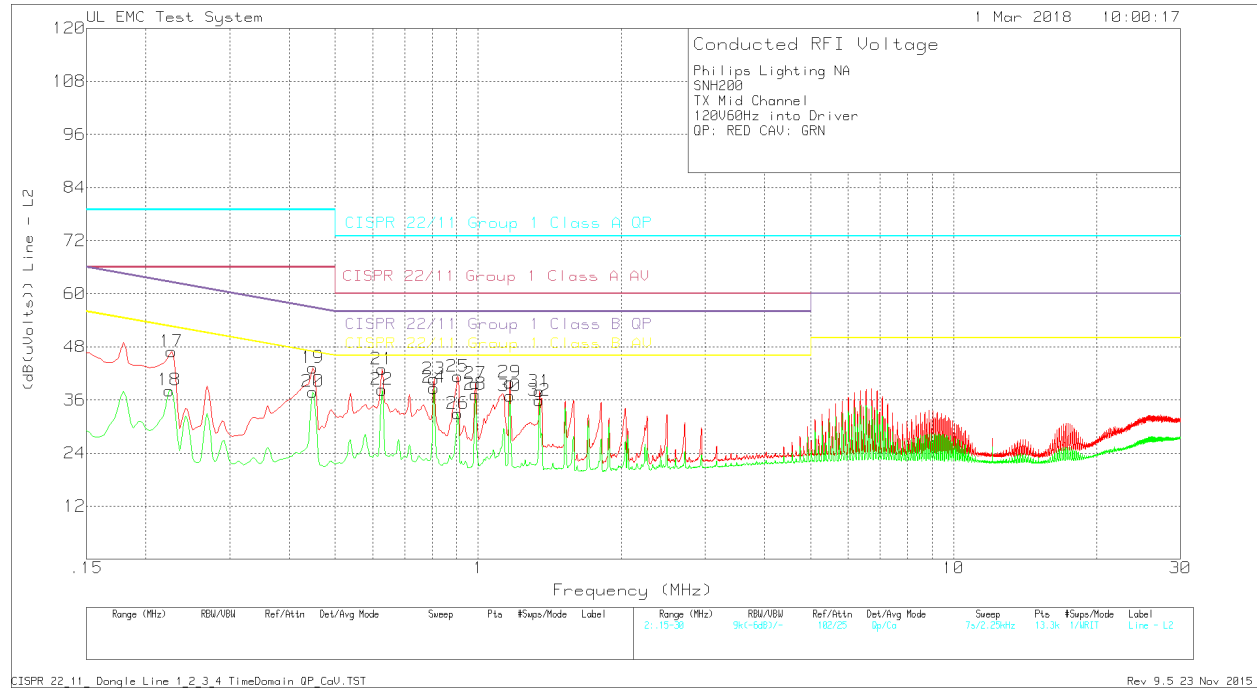
LIMIT 3: CISPR 22/11 Group 1 Class B QP

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

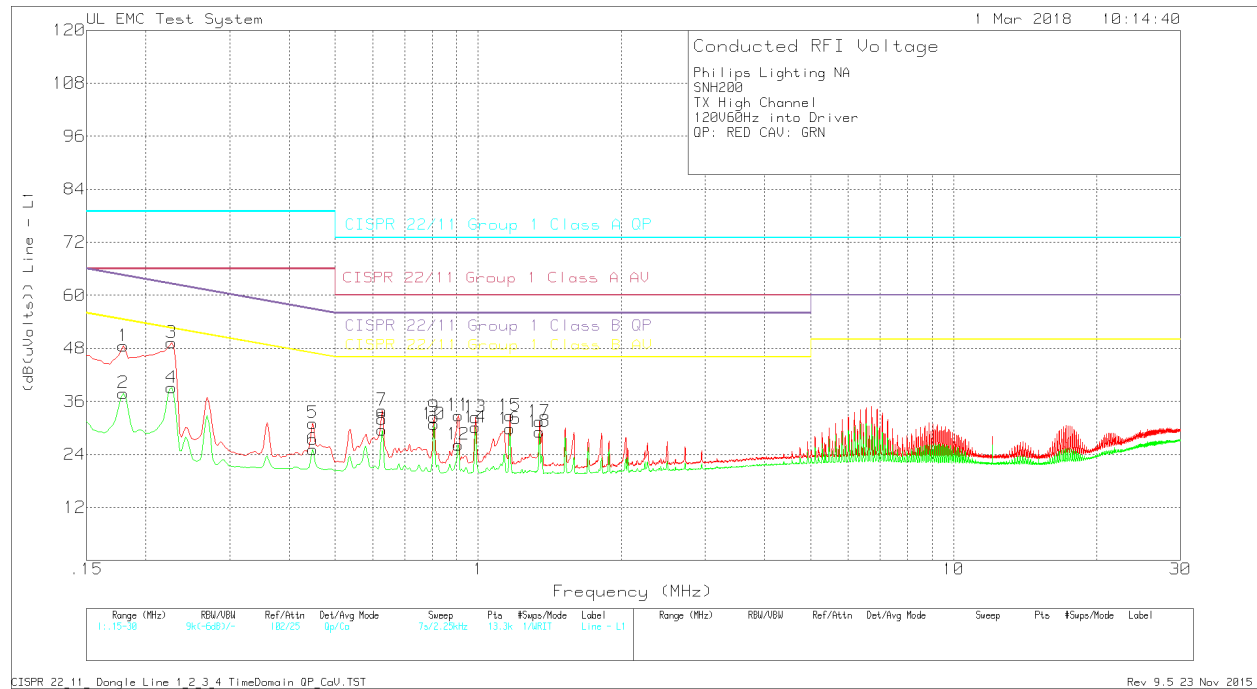
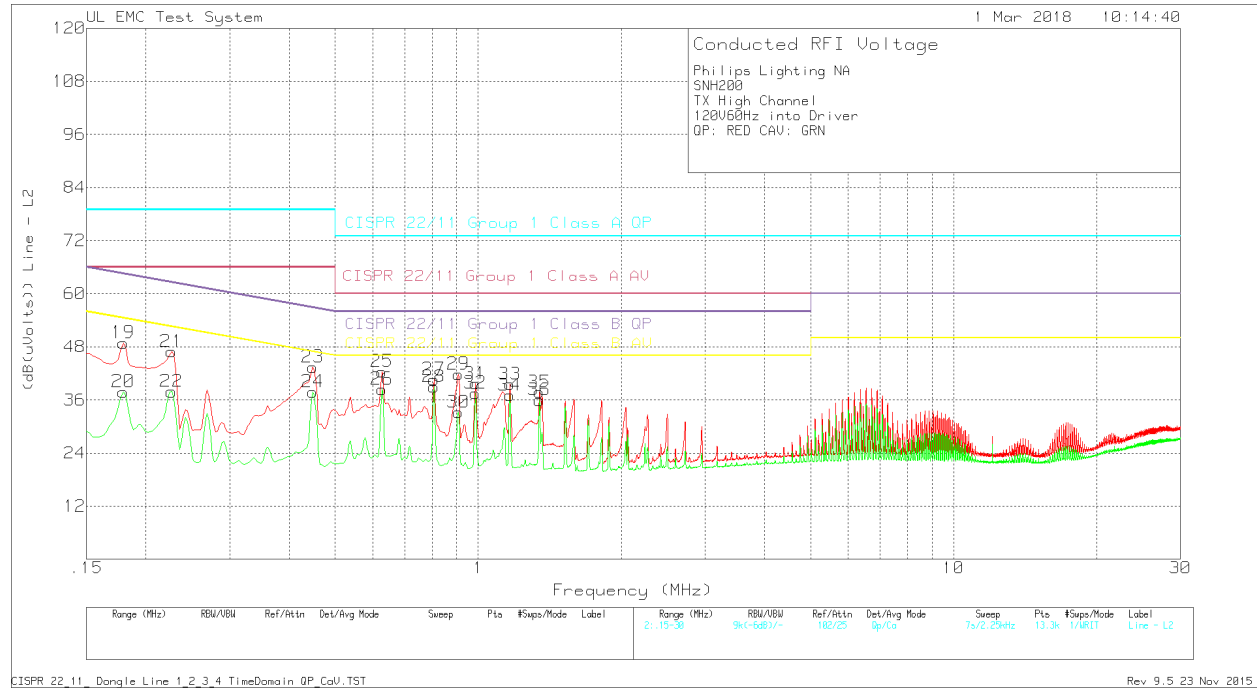
| Test                | Meter        | Transducer  | Gain/Loss   | Corrected            | Limit:1 | 2      | 3      | 4      |
|---------------------|--------------|-------------|-------------|----------------------|---------|--------|--------|--------|
| No. Frequency (MHz) | Reading      | Factor (dB) | 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

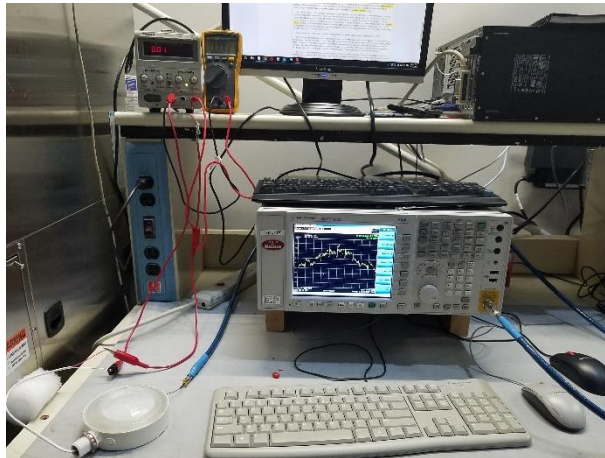
| Test<br>No. | Frequency<br>(MHz) | Meter<br>Reading | Transducer<br>Factor<br>(dB) | Gain/Loss<br>Factor<br>(dB) | Corrected<br>Reading (dB(uVolts)) | Limit:1     | 2      | 3      | 4      |
|-------------|--------------------|------------------|------------------------------|-----------------------------|-----------------------------------|-------------|--------|--------|--------|
| =====       |                    |                  |                              |                             |                                   |             |        |        |        |
| 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 |

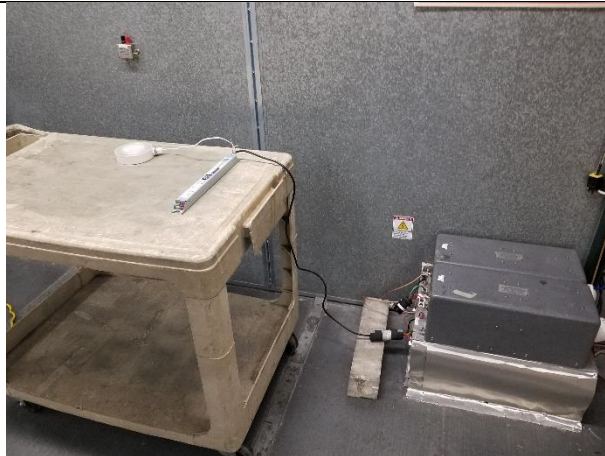
LIMIT 1: CISPR 22/11 Group 1 Class A QP  
LIMIT 2: CISPR 22/11 Group 1 Class A AV  
LIMIT 3: CISPR 22/11 Group 1 Class B QP  
LIMIT 4: CISPR 22/11 Group 1 Class B AV  
Qp - Quasi-Peak detector  
Ca - CISPR Average detection

## 11. SETUP PHOTOS

### ANTENNA PORT AND AC LINE CONDUCTED SETUP

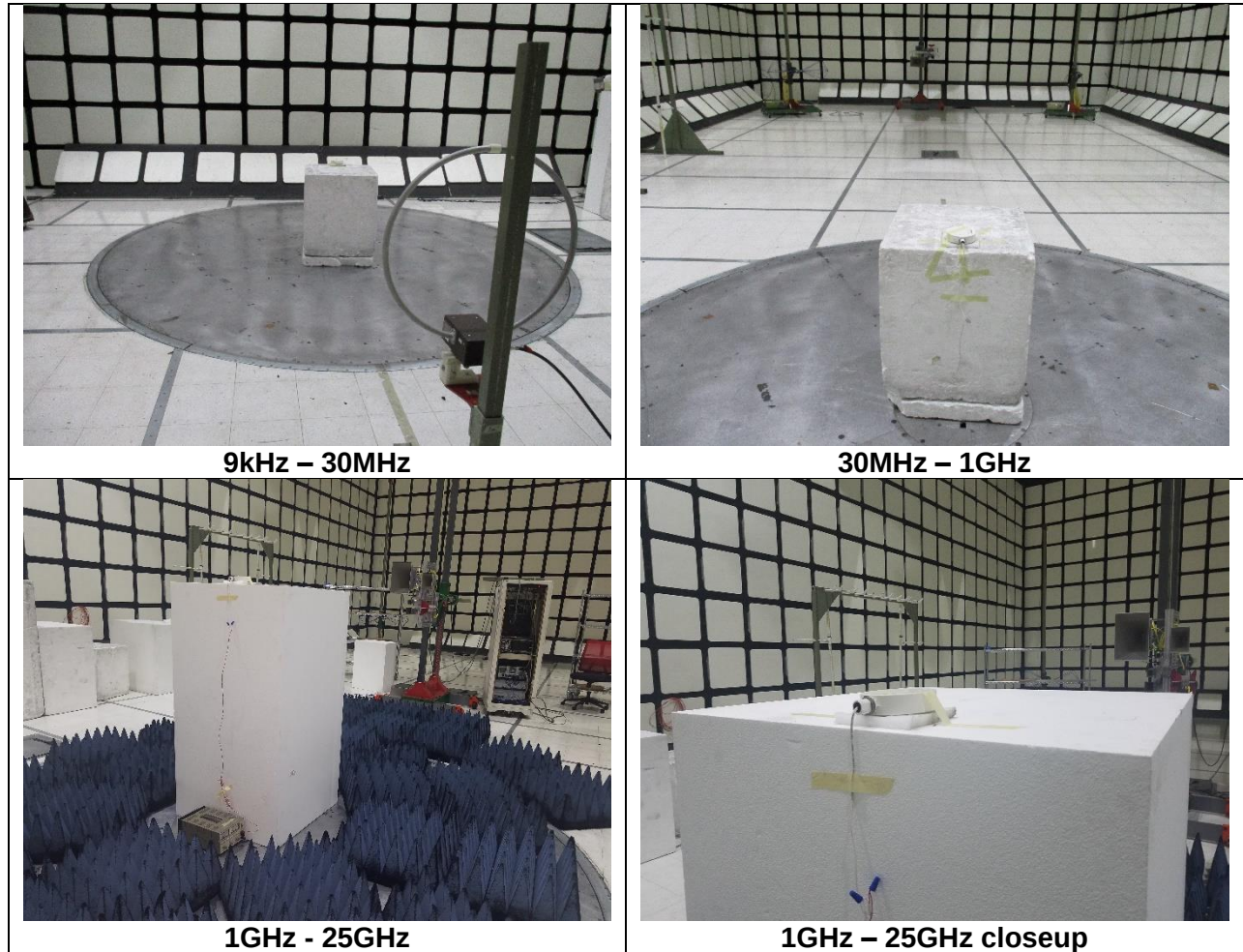


**RF ANTENNA PORT CONDUCTED**



**AC LINE CONDUCTED (FRONT)**

**RADIATED RF MEASUREMENT SETUP**



**END OF REPORT**