



CERTIFICATION TEST REPORT

Report Number. : 12229356A

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

Model : SNS201

FCC ID : 2AF2N-SNS200

ISED ID : 20659-SNS200

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:
2018-05-04

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REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
1.0	2018-05-04	Original Issue	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: SNS201

SERIAL NUMBER: see section 5.6

DATE TESTED: 2018-04-17 TO 2018-05-03

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Compliant
ISED RSS-247 Issue 2	Compliant
ISED RSS-GEN Issue 5	Compliant

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

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of 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 5, 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	
☒	Chamber 10m (ISED:2180A-1)

UL LLC is accredited by NVLAP, Laboratory Code 1004141-0. The full scope of accreditation can be viewed at <https://www.nist.gov/nvlap>.

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	1.420	1.39

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an Inverted F PCB antenna, with a maximum gain of 0.7dBi.

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	SNS201	3709700765	2AF2N-SNS200
EUT - Radiated Sample	Philips	SNS201	3709700829	2AF2N-SNS200
*LED Driver	Philips	XI040C110V054VPT1	443579000431	-
Variable Power Supply	Generic	-	-	-

Support Equipment List

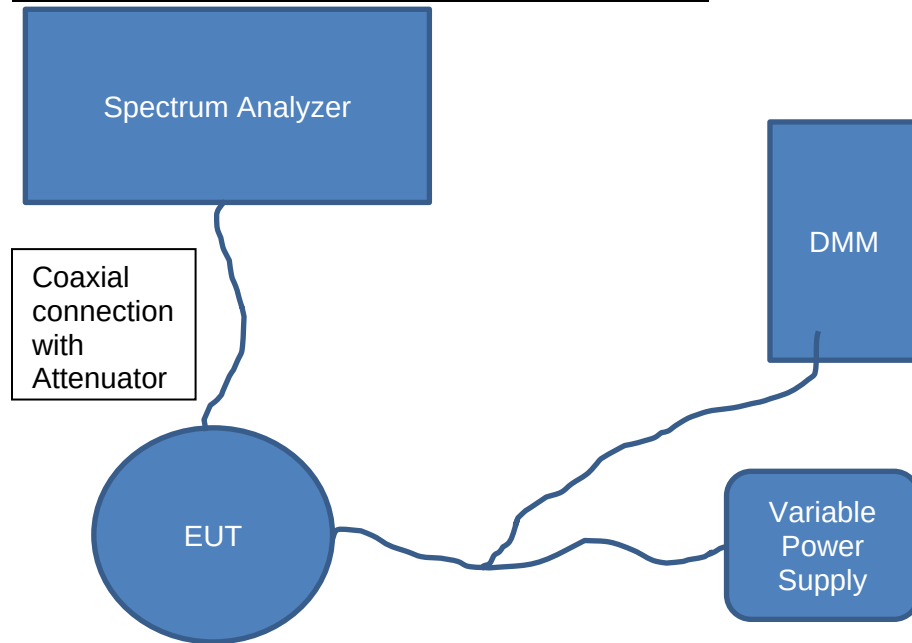
I/O CABLES

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	-

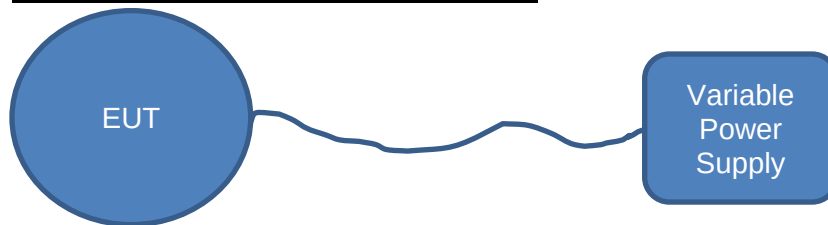
TEST SETUP

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.

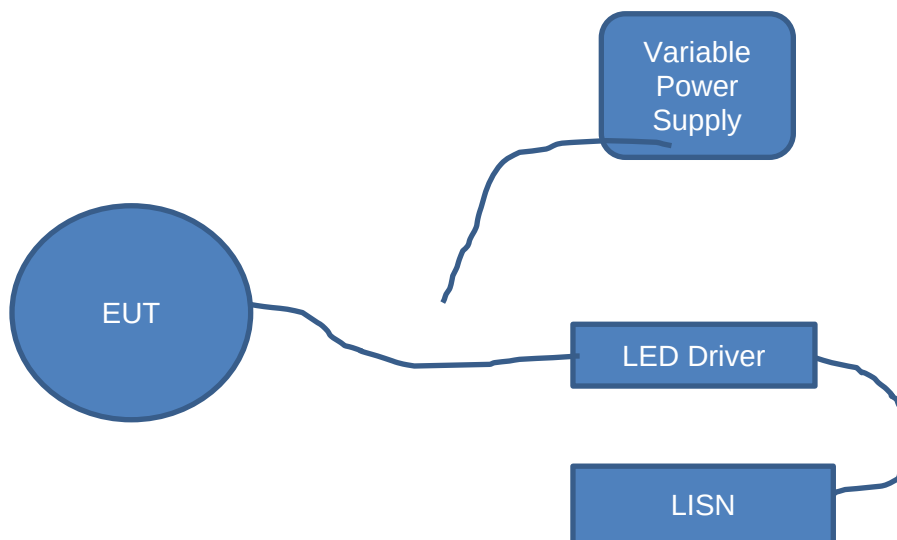
SETUP DIAGRAM FOR ANTENNA CONDUCTED TESTS



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 2)

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	2017/12/21	2018/12/31
Bicon Antenna	Electro-Metrics	EM6912A	EMC4070	2018-02-13	2019-02-28
Log-P Antenna	Chase	UPA6109	EMC4258	2018-02-14	2019-02-28
Loop Antenna	EMCO	6502/1	EMC4026	01/10/2018	01/31/2019
Antenna Array	UL	BOMS	EMC4276	01/16/2018	01/31/2019
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	12/20/2017	12/31/2018
Spectrum Analyzer	Agilent	N9030A (PXA)	EMC4360	12/28/2017	12/31/2018
EMI Test Receiver	Rohde & Schwarz	ESR	EMC4377	12/23/2017	12/31/2018
Transient Limiter	Electro-Metrics	EM7600-2	EMC4224	N/A	N/A
High Pass Filter	Solar Electronics	2803-150	EMC4327	N/A	N/A
Attenuator	HP	8494B	2831A00838	N/A	N/A
LISN - L1	Solar	8602-50-TS-50-N	EMC4066	12/29/2017	12/31/2018
LISN - L2	Solar	8602-50-TS-50-N	EMC4064	12/29/2017	12/31/2018

8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

LIMITS

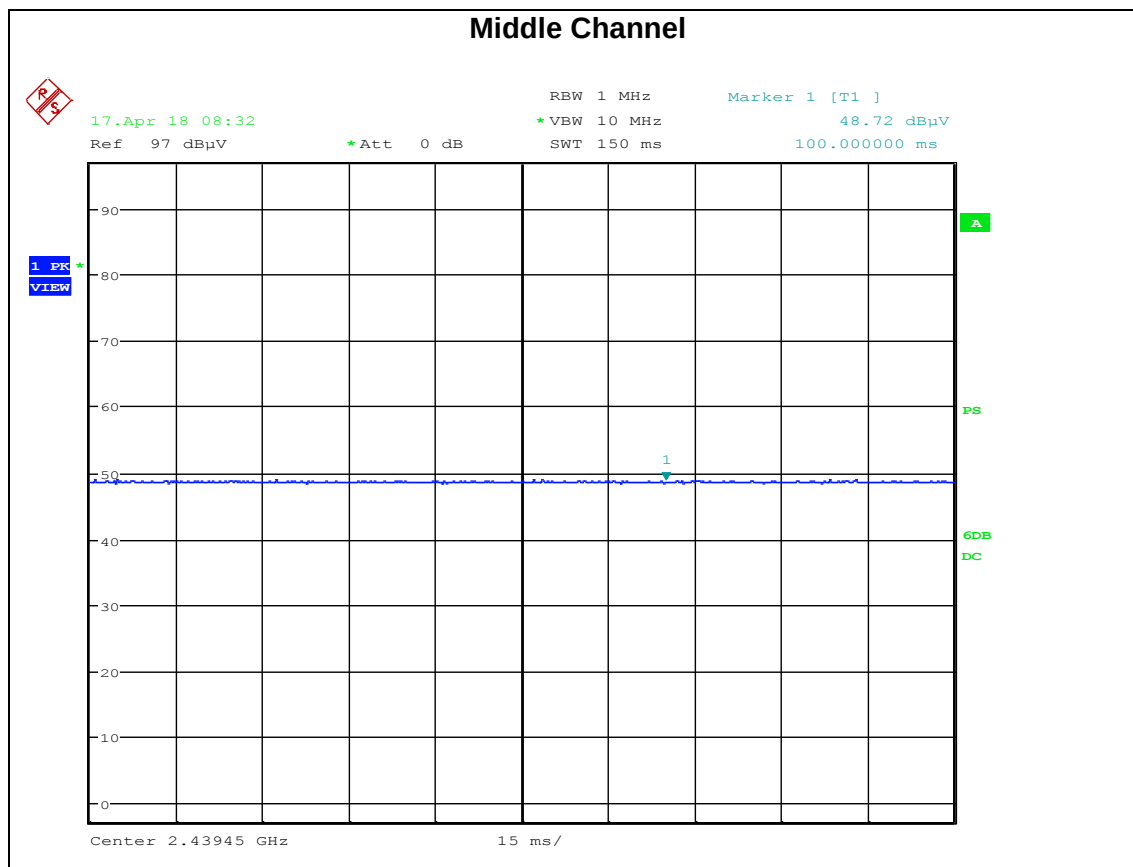
None; for reporting purposes only.

PROCEDURE

ON TIME AND DUTY CYCLE RESULTS

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

DUTY CYCLE PLOT



8.2. 99% BANDWIDTH

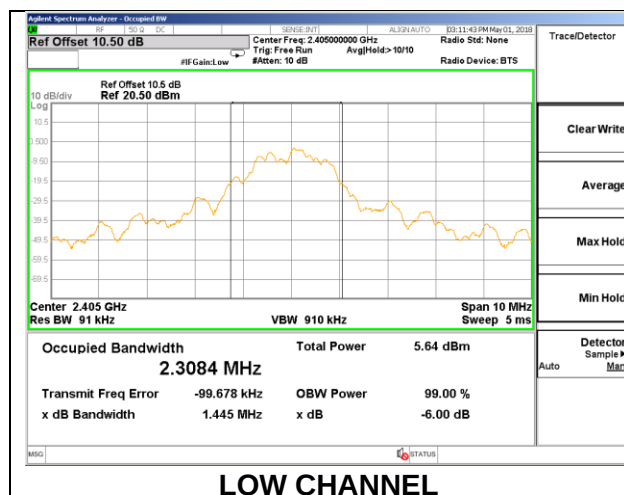
LIMITS

None; for reporting purposes only.

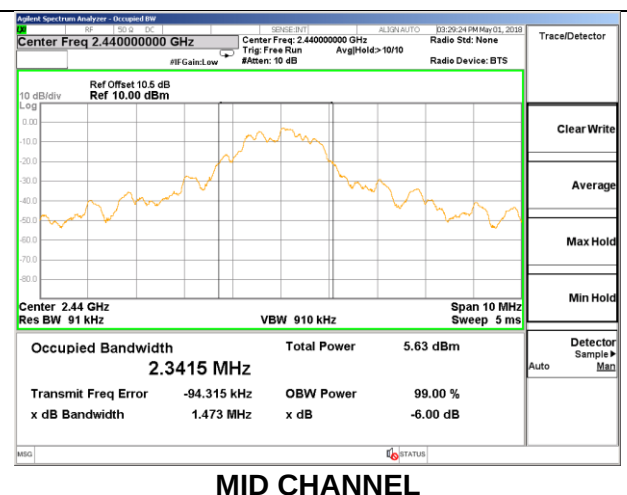
RESULTS

8.2.1. TX Mode

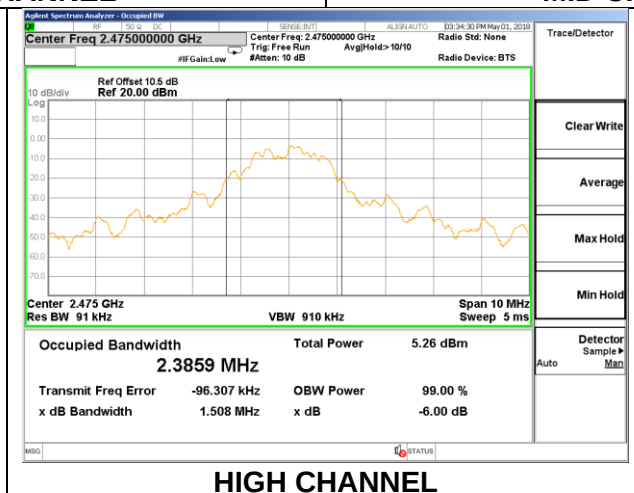
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.3084
Middle	2440	2.3415
High	2475	2.3859



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

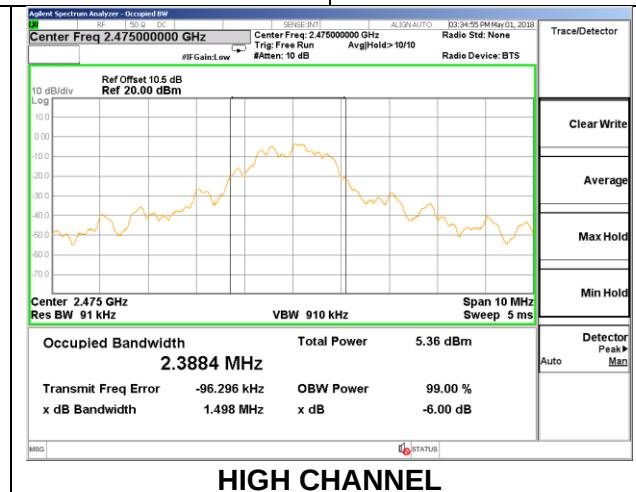
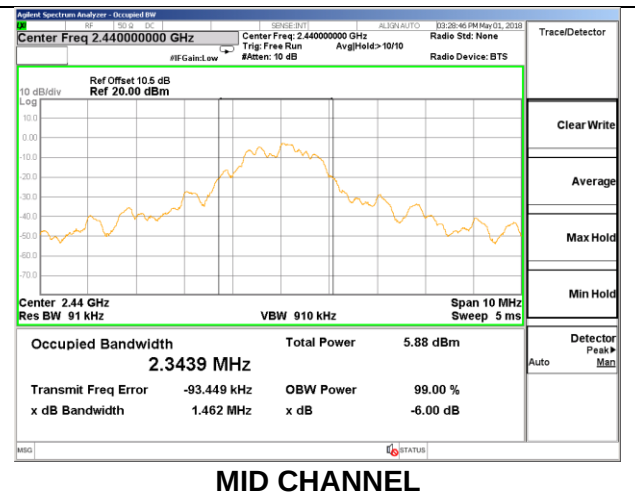
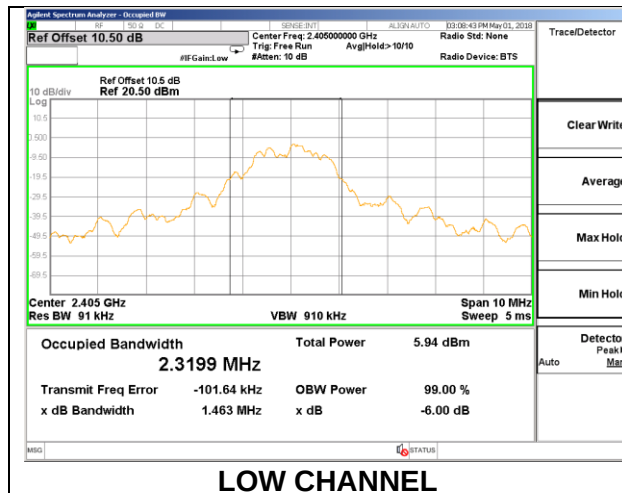
RSS-247 5.2 (a)

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	1.4630	0.5
Middle	2440	1.4620	0.5
High	2475	1.4980	0.5



8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

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

TEST PROCEDURE

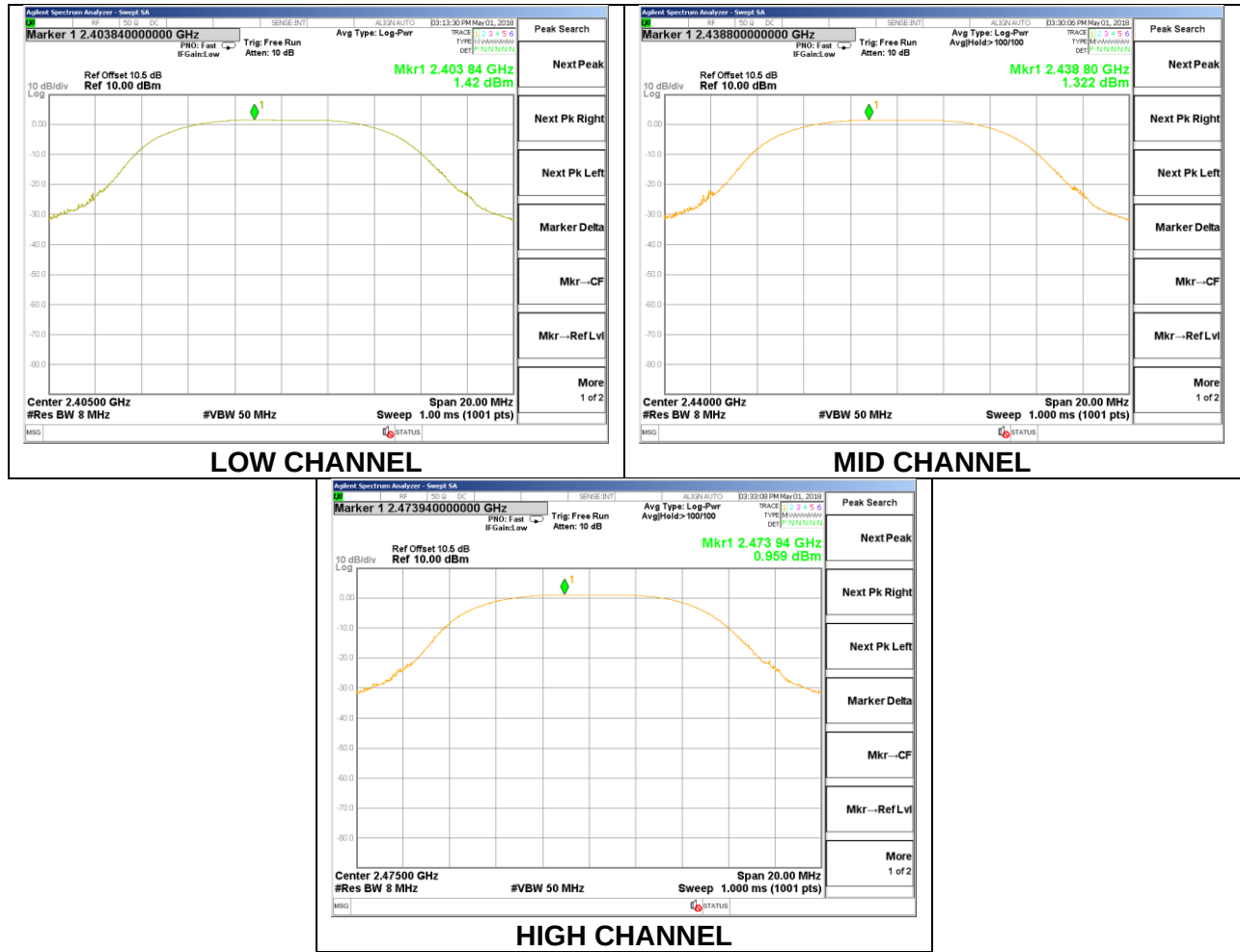
ANSI C63.10, section 11.9.1.1

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

RESULTS

8.4.1. TX Mode

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	1.420	30	-28.580
Middle	2440	1.322	30	-28.678
High	2475	0.959	30	-29.041



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	-6.46	8	-14.46
Middle	2440	-6.64	8	-14.64
High	2475	-7.15	8	-15.15



8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

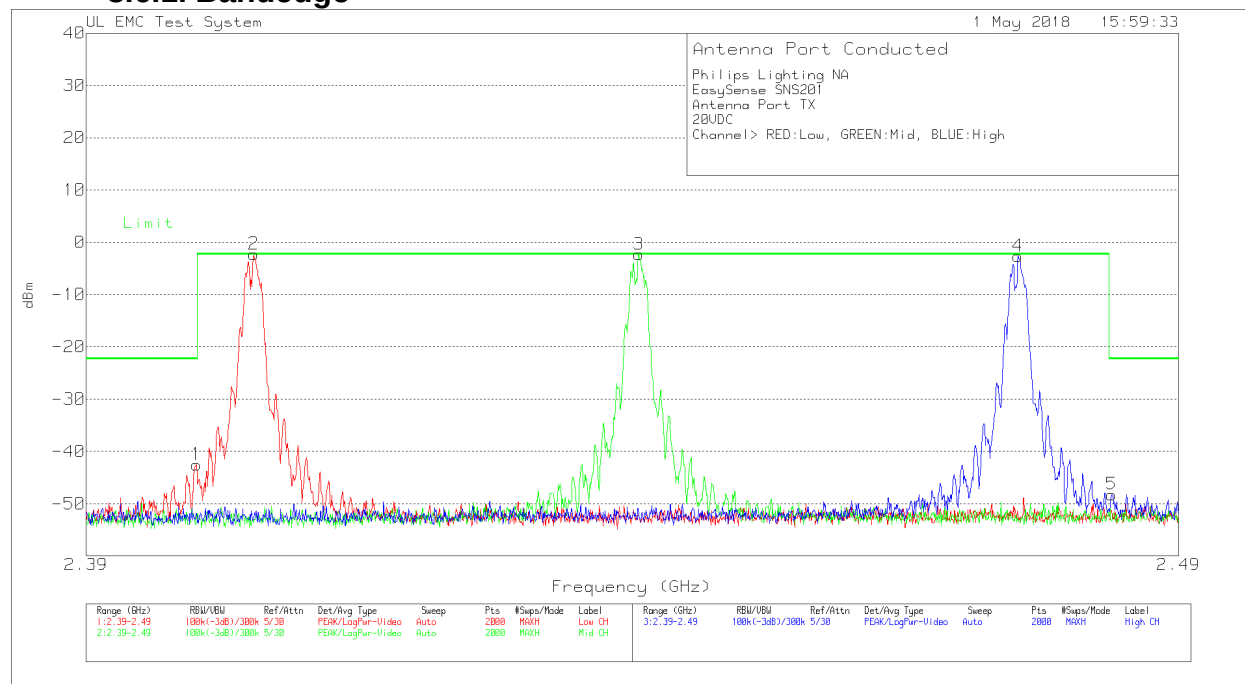
FCC §15.247 (d)

RSS-247 5.5

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

RESULTS

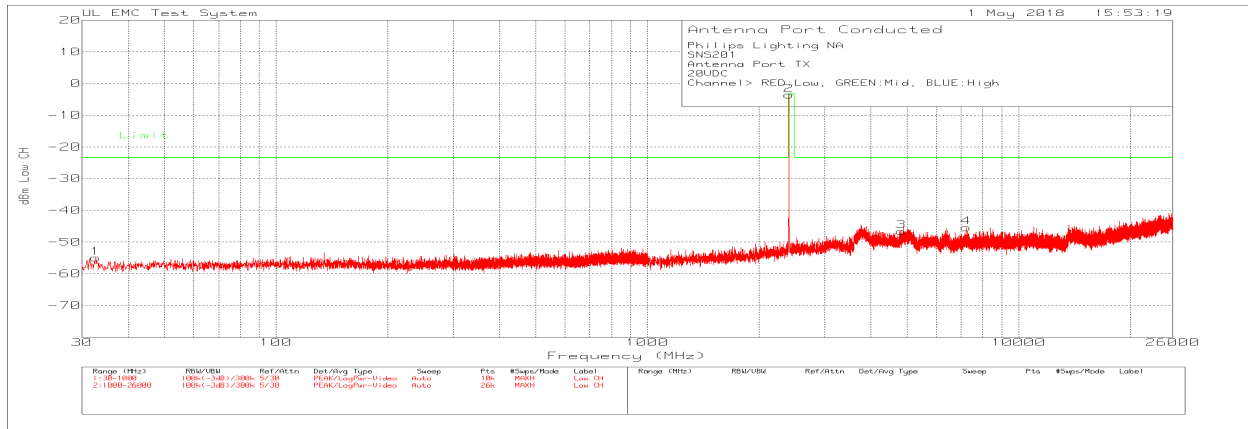
8.6.1. Bandedge



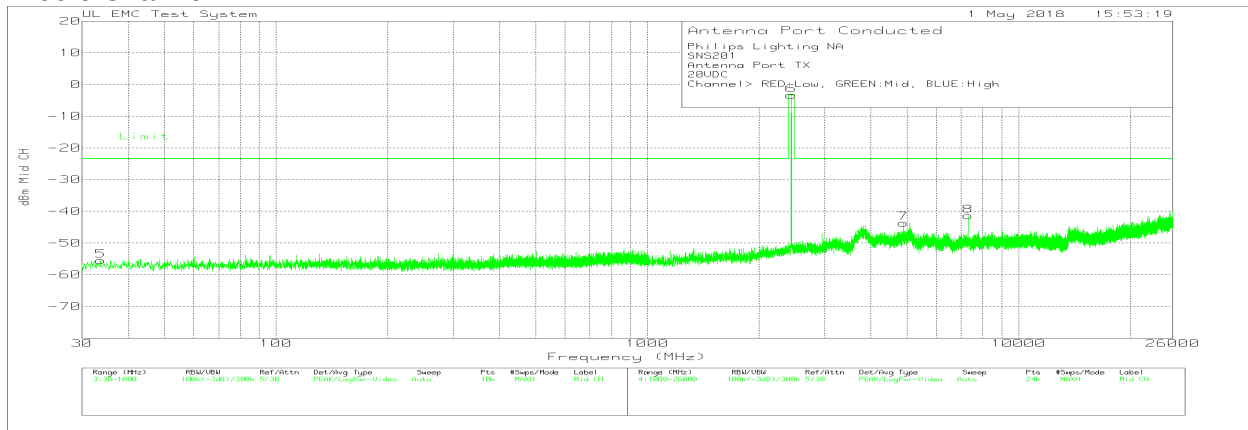
Marker No.	Test Frequency (GHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Limit dBm	Margin (dB)
Low Channel							
1	2.3999	-53.01	Pk	10.5	-42.51	-22.3	-20.25
2	2.4051	-12.76	Pk	10.5	-2.26	-2.26	0
Middle Channel							
3	2.4401	-12.81	Pk	10.5	-2.31	-2.26	-0.05
High Channel							
4	2.475	-13.14	Pk	10.5	-2.64	-2.26	-0.38
5	2.4837	-58.72	Pk	10.5	-48.22	-22.3	-25.96
Pk - Peak detector							

8.6.1. 30MHz-26GHz

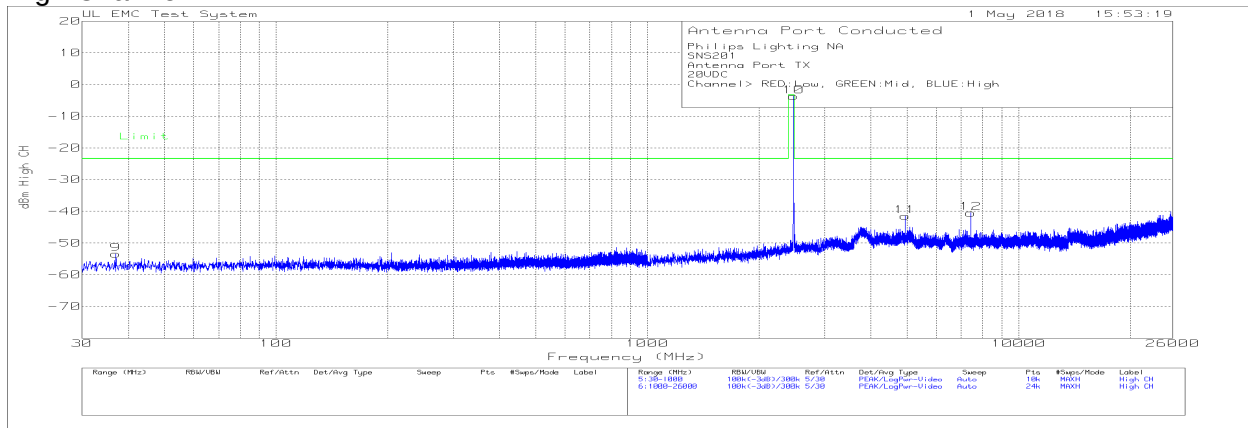
Low Channel



Middle Channel



High Channel



Philips Lighting NA							
SNS201							
Antenna Port TX							
20VDC							
Marker No.	Test Frequency (MHz)	Meter Reading (dBm)	Detector	Path Factor dB	Level dBm	Limit dBm	Margin (dB)
Low Channel							
1	32.6193	-65.05	Pk	10.1	-54.95	-23.4	-31.58
2	2404.861	-14.08	Pk	10.5	-3.58	-3.37	-0.21
3	4830.915	-57.37	Pk	10.8	-46.57	-23.4	-23.2
4	7212.736	-56.41	Pk	11	-45.41	-23.4	-22.04
Middle Channel							
5	33.6864	-65.55	Pk	10.1	-55.45	-23.4	-32.08
6	2439.643	-13.87	Pk	10.5	-3.37	-3.37	0.00
7	4880.37	-54.51	Pk	10.9	-43.61	-23.4	-20.24
8	7321.096	-52.38	Pk	11	-41.38	-23.4	-18.01
High Channel							
9	36.9847	-63.56	Pk	10.1	-53.46	-23.4	-30.09
10	2475.061	-14.24	Pk	10.5	-3.74	-3.37	-0.37
11	4951.206	-52.41	Pk	10.9	-41.51	-23.4	-18.14
12	7423.184	-51.52	Pk	11	-40.52	-23.4	-17.15
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.

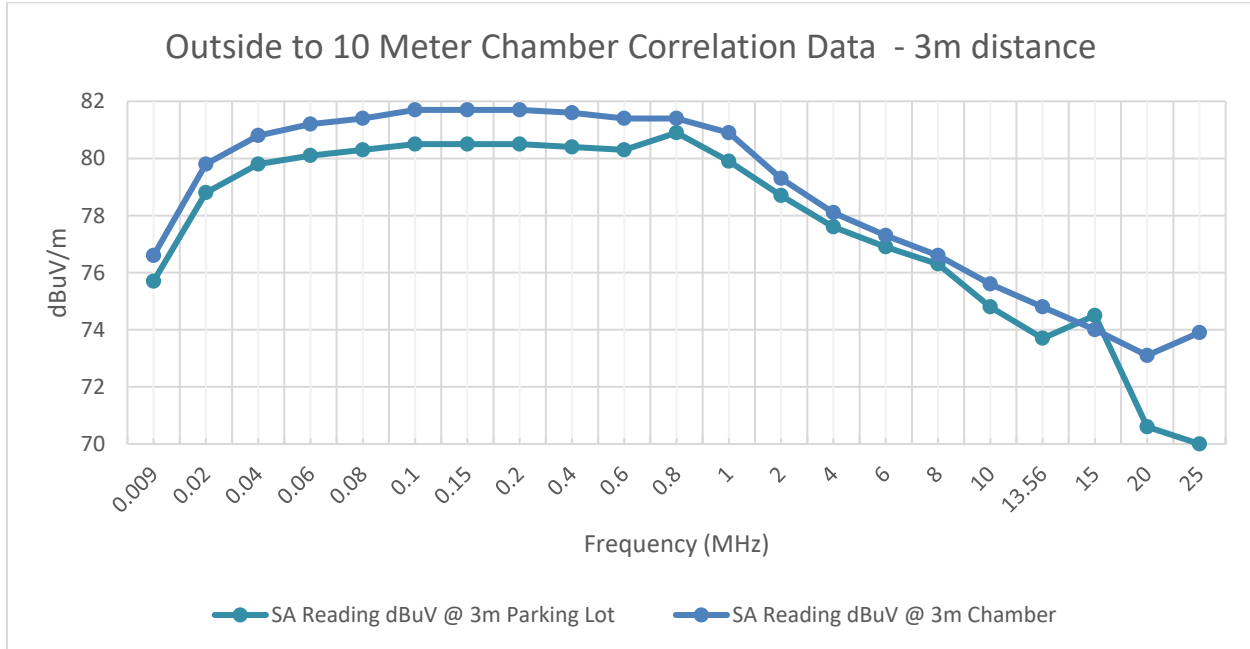
The spectrum from 30MHz to 25 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. For frequencies 9kHz-30MHz random channels was used.

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

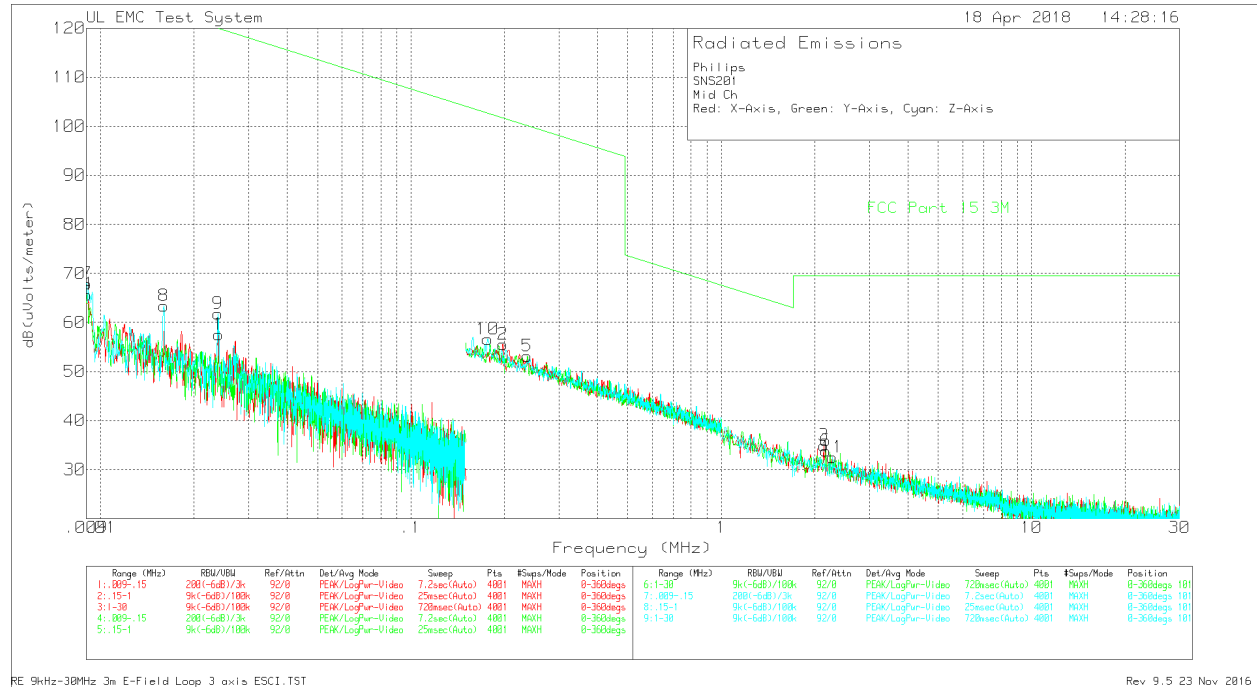
9.2.1. Outdoor to 10m SAC Correlation Data

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



SNS201
Mid Ch
Red: X-Axis, Green: Y-Axis, Cyan: Z-Axis

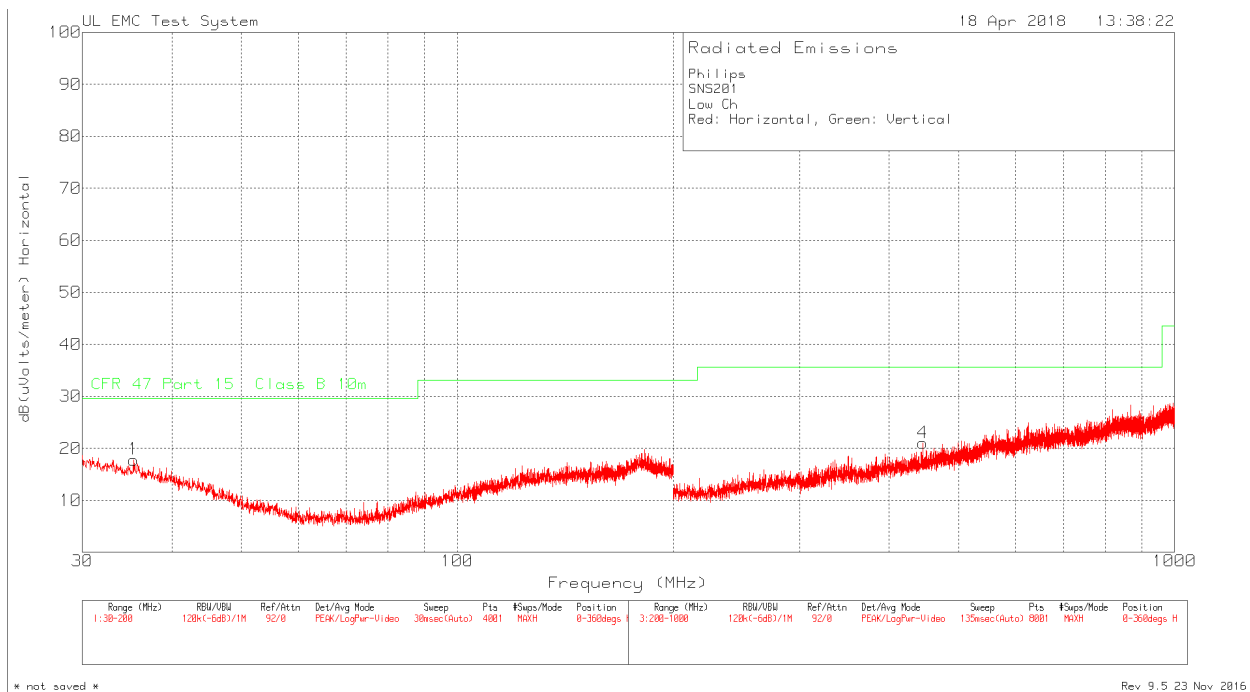
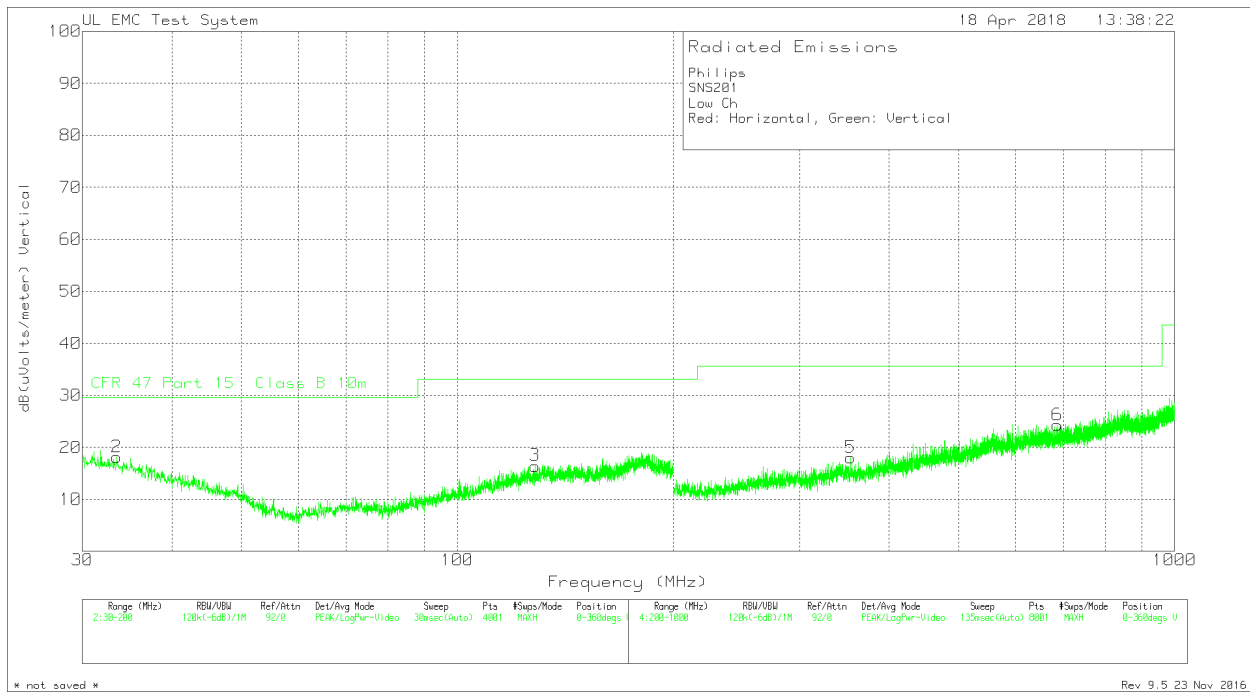
Trace Markers

No.	Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1
Parallel to EUT						
1	.02405	40.25dBuV Pk	17.3	0	57.55	119.97
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-62.42
2	.19771	43.74dBuV Pk	11.8	0	55.54	101.68
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-46.14
3	2.13825	22.45dBuV Pk	12.2	.2	34.85	69.54
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-34.69
Perpendicular to EUT						
4	.00904	42.58dBuV Pk	23.1	0	65.68	128.47
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-62.79
5	.23733	41.19dBuV Pk	11.8	.1	53.09	100.09
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-47
6	2.1745	21.4dBuV Pk	12.2	.2	33.8	69.54
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-35.74
Parallel to Ground						
7	.00904	44.77dBuV Pk	23.1	0	67.87	128.47
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-60.6
8	.01597	43.45dBuV Pk	19.9	0	63.35	123.52
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-60.17
9	.02395	44.45dBuV Pk	17.3	0	61.75	120.01
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-58.26
10	.17684	44.62dBuV Pk	11.9	.1	56.62	102.65
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-46.03
11	2.28325	20.1dBuV Pk	12.2	.2	32.5	69.54
		Azimuth:0-360	Height:101	Horz	Margin (dB)	-37.04

LIMIT 1: FCC Part 15.3M
Pk - Peak detector

9.3. TRANSMITTER 30MHz – 1GHz

9.3.1. Low Channel



* FCC class B limit is same as FCC 15.209 limit for spurious emissions

Philips
SNS201
Low Ch
Red: Horizontal, Green: Vertical

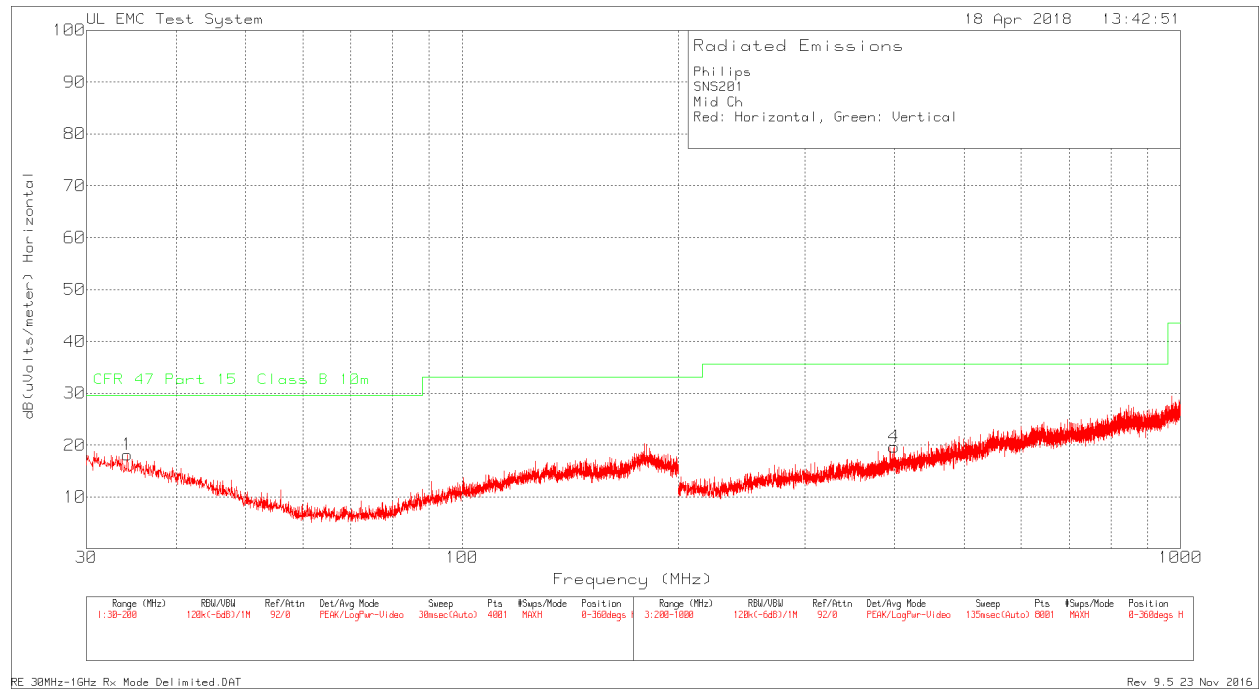
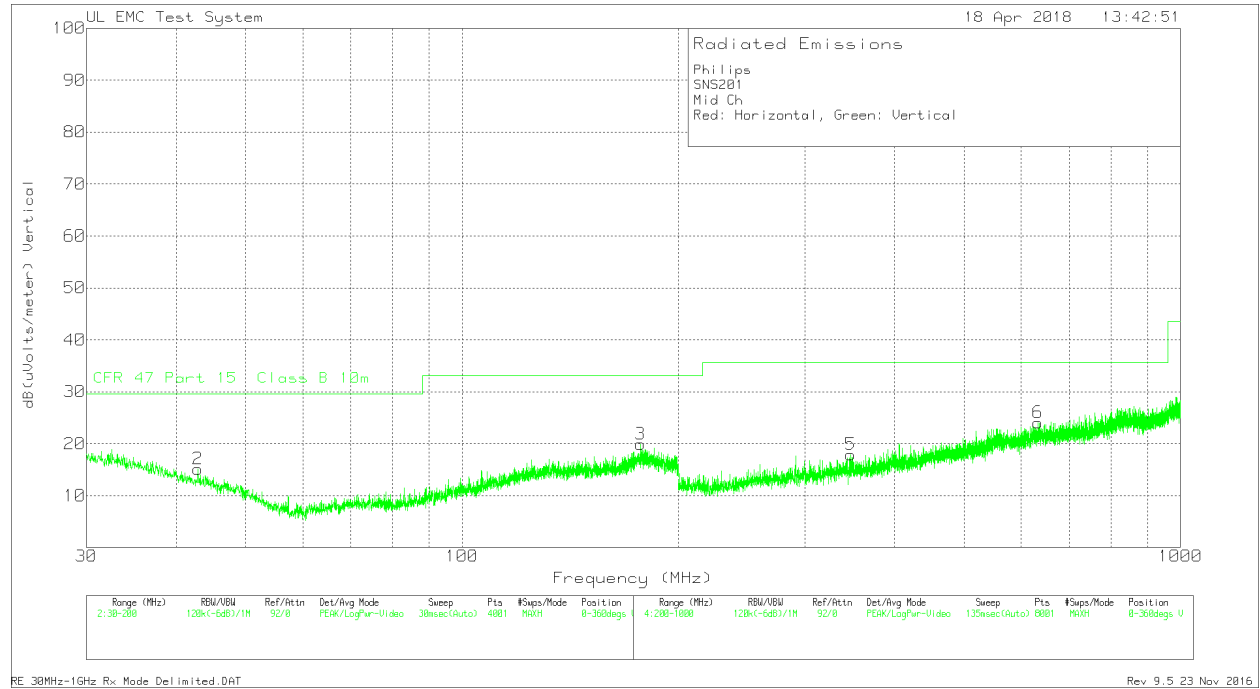
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1
1	35.355	31.93dBuV Pk	15.9	-30	17.83	29.55
		Azimuth:0-360	Height:98	Horz	Margin (dB)	-11.72
2	33.5275	31.74dBuV Pk	16.5	-30.1	18.14	29.55
		Azimuth:0-360	Height:102	Vert	Margin (dB)	-11.41
3	128.3875	32.25dBuV Pk	14.5	-30.3	16.45	33.07
		Azimuth:0-360	Height:102	Vert	Margin (dB)	-16.62
4	445.9	31.92dBuV Pk	16.8	-27.7	21.02	35.57
		Azimuth:0-360	Height:99	Horz	Margin (dB)	-14.55
5	353.2	31.8dBuV Pk	14.6	-28.4	18	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-17.57
6	686.3	30.6dBuV Pk	20.7	-27	24.3	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-11.27

LIMIT 1: CFR 47 Part 15 Class B 10m
Pk - Peak detector

* FCC class B limit is same as FCC 15.209 limit for spurious emissions

9.3.2. Middle Channel



* FCC class B limit is same as FCC 15.209 limit for spurious emissions

Philips
SNS201
Mid Ch
Red: Horizontal, Green: Vertical

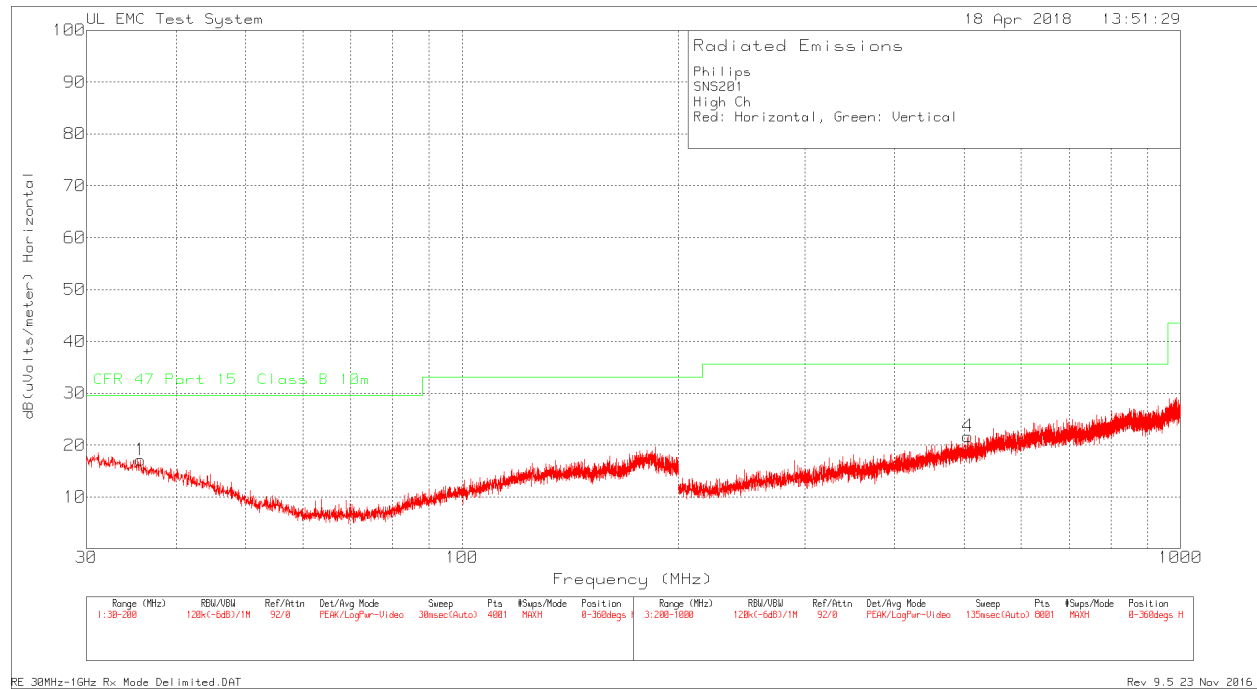
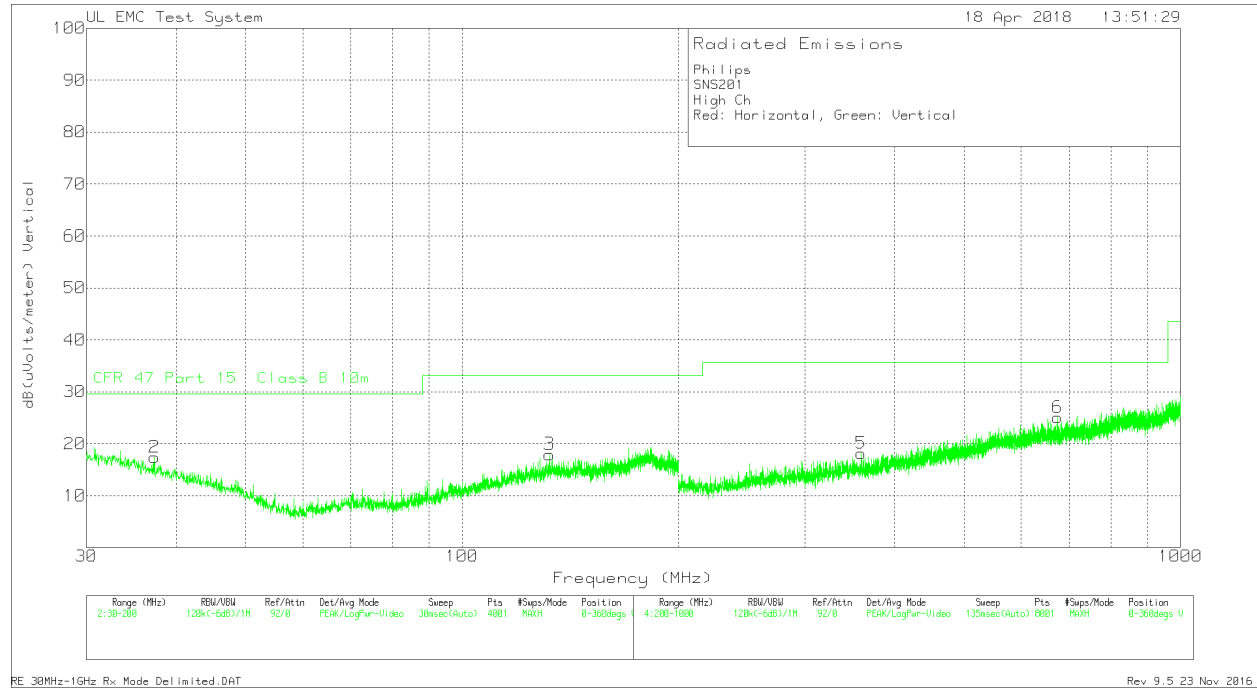
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1
1	34.2075	32.36dBuV Pk	16.2	-30.4	18.16	29.55
		Azimuth:0-360	Height:102	Horz	Margin (dB)	-11.39
2	42.92	32.55dBuV Pk	12.7	-30.1	15.15	29.55
		Azimuth:0-360	Height:102	Vert	Margin (dB)	-14.4
3	177.0925	33.53dBuV Pk	15.7	-29.3	19.93	33.07
		Azimuth:0-360	Height:102	Vert	Margin (dB)	-13.14
4	399.3	32.22dBuV Pk	15.7	-28.3	19.62	35.57
		Azimuth:0-360	Height:99	Horz	Margin (dB)	-15.95
5	347.6	31.79dBuV Pk	14.7	-28.6	17.89	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-17.68
6	633.3	30.41dBuV Pk	20.6	-27	24.01	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-11.56

LIMIT 1: CFR 47 Part 15 Class B 10m
Pk - Peak detector

* FCC class B limit is same as FCC 15.209 limit for spurious emissions

9.3.3. High Channel



* FCC class B limit is same as FCC 15.209 limit for spurious emissions

Philips
 SNS201
 High Ch
 Red: Horizontal, Green: Vertical

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1
1	35.6525	31.4dBuV Pk	15.7	-30	17.1	29.55
		Azimuth:0-360	Height:102	Horz	Margin (dB)	-12.45
2	37.31	32.49dBuV Pk	15.1	-30.2	17.39	29.55
		Azimuth:0-360	Height:101	Vert	Margin (dB)	-12.16
3	132.2975	33.04dBuV Pk	14.7	-29.8	17.94	33.07
		Azimuth:0-360	Height:101	Vert	Margin (dB)	-15.13
4	505.8	31dBuV Pk	17.8	-27.1	21.7	35.57
		Azimuth:0-360	Height:99	Horz	Margin (dB)	-13.87
5	359.1	32.12dBuV Pk	14.6	-28.6	18.12	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-17.45
6	674.6	31.02dBuV Pk	20.4	-26.4	25.02	35.57
		Azimuth:0-360	Height:99	Vert	Margin (dB)	-10.55

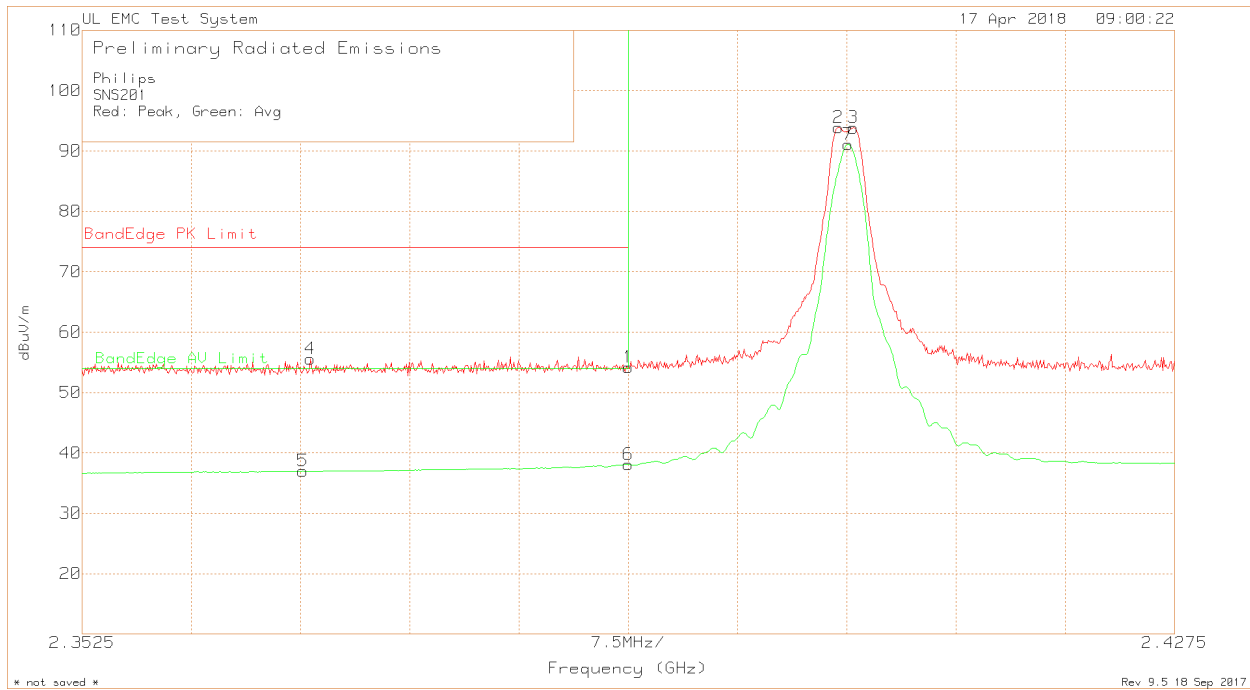
LIMIT 1: CFR 47 Part 15 Class B 10m
 Pk - Peak detector

* FCC class B limit is same as FCC 15.209 limit for spurious emissions

9.4. TRANSMITTER 1GHz – 25GHz

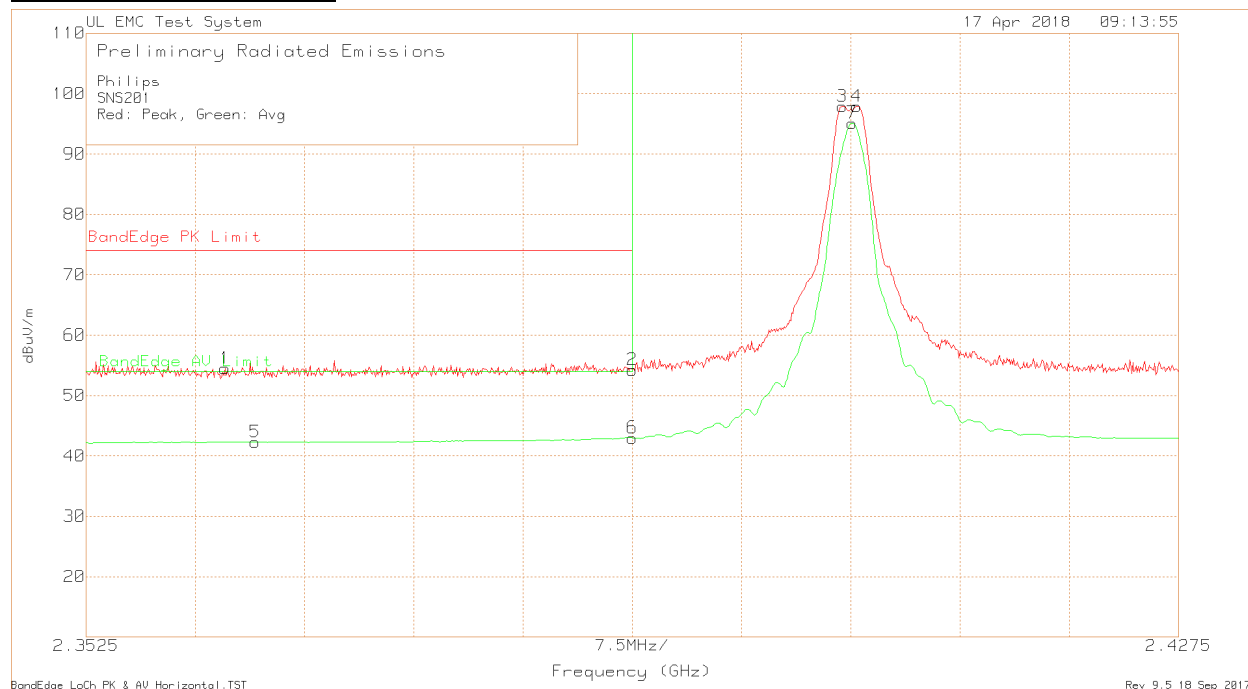
9.4.1. Low Channel

Band Edge Data – Horizontal



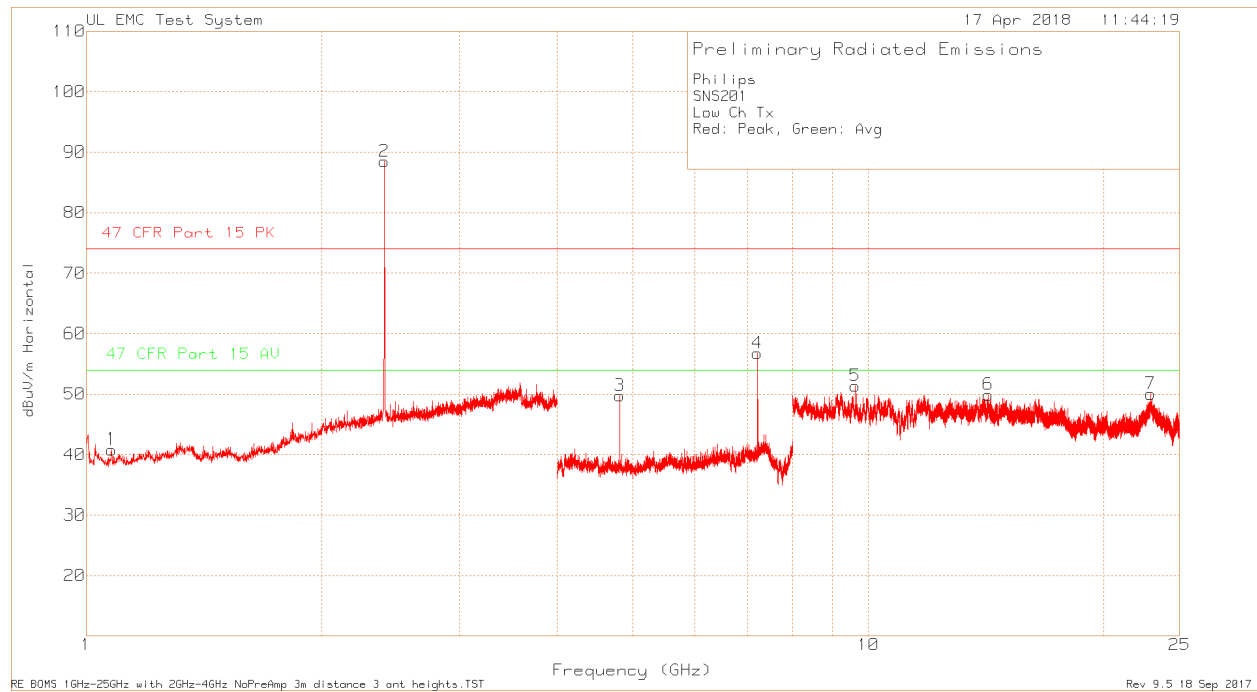
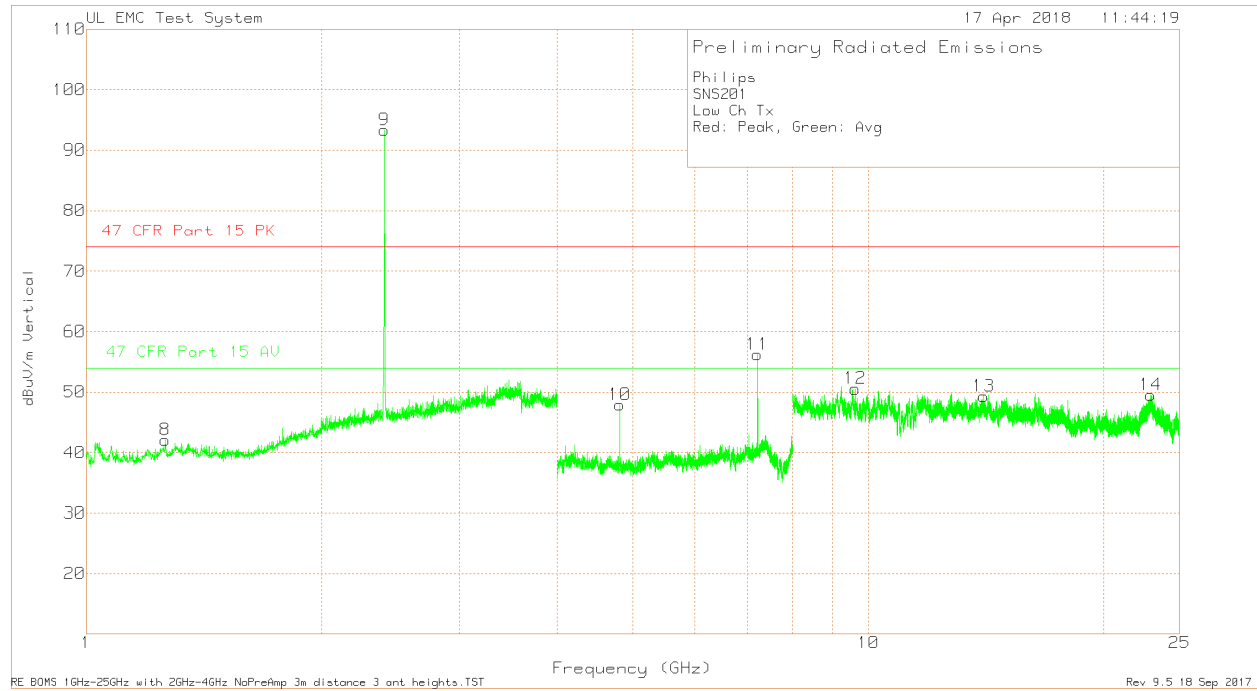
Philips														
SNS201														
Red: Peak, Green: Avg														
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Peak Limit dBuV/m	Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth [Deps]	Height [cm]	Polarity	
1	2.39	27.54	Pk	21.8	4.79	54.13	74	-19.87	-	-	225	150	H	
2	2.4044	67.37	Pk	21.8	4.68	93.85	-	-	-	-	225	150	H	
3	2.4055	67.35	Pk	21.8	4.68	93.83	-	-	-	-	225	150	H	
4	2.3682	29.11	Pk	21.8	4.63	55.54	74	-18.46	-	-	225	150	H	
5	2.3677	10.53	Av	21.8	4.64	36.97	-	-	54	-17.03	225	150	H	
6	2.39	11.49	Av	21.8	4.79	38.08	-	-	54	-15.92	225	150	H	
7	2.4051	64.58	Av	21.8	4.68	91.06	-	-	-	-	225	150	H	
Pk - Peak detector														
Av - Average Detector														

Band Edge Data - Vertical



Philips													
SNS201													
Red: Peak, Green: Avg													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Peak Limit dBuV/m	Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	2.362	28.01	Pk	21.8	4.67	54.48	74	-19.52	-	-	188	150	V
2	2.39	27.64	Pk	21.8	4.79	54.23	74	-19.77	-	-	188	150	V
3	2.4044	71.4	Pk	21.8	4.68	97.88	-	-	-	-	188	150	V
4	2.4054	71.37	Pk	21.8	4.68	97.85	-	-	-	-	188	150	V
5	2.3641	15.84	Av	21.8	4.65	42.29	-	-	54	-11.71	188	150	V
6	2.39	16.39	Av	21.8	4.79	42.98	-	-	54	-11.02	188	150	V
7	2.4051	68.62	Av	21.8	4.68	95.1	-	-	-	-	188	150	V
Pk - Peak detector													
Av - Average Detector													

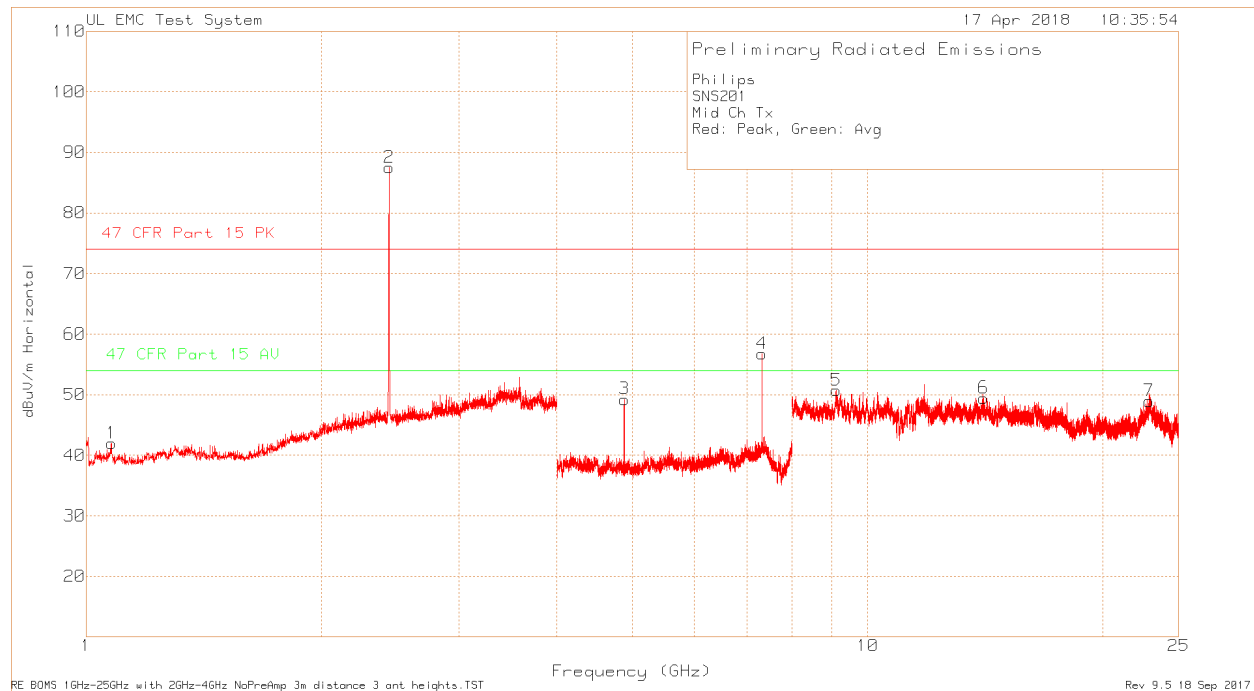
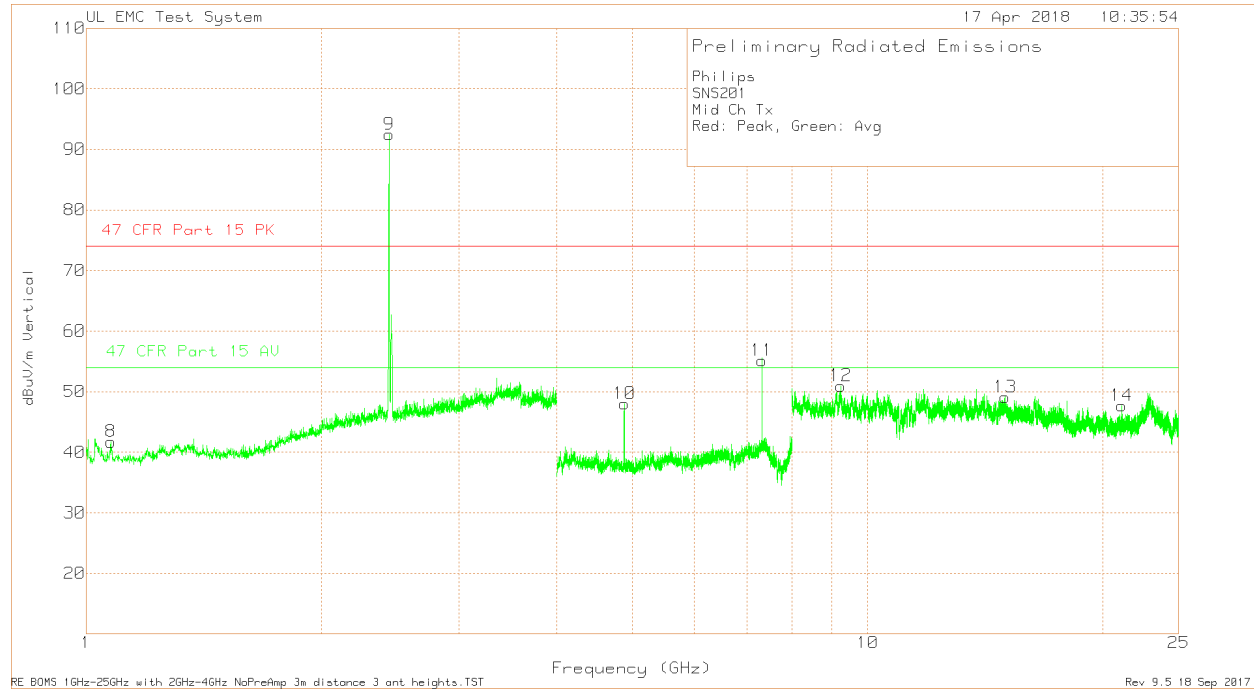
Spurious Emissions 1GHz – 25GHz



Philips													
SNS201													
Low Ch Tx													
Red: Peak, Green: Avg													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.077	69.85	Pk	27.1	-56.13	40.82	74	-33.18	54	-13.18	0-360	149	H
2	2.405	61.97	Pk	21.8	4.68	88.45	-	-	-	-	0-360	100	H
3	4.811	73.45	Pk	27.7	-51.45	49.7	74	-24.3	54	-4.3	0-360	100	H
4	7.214	73.3	Pk	29.8	-46.34	56.76	74	-17.24	54	2.76	0-360	100	H
5	9.618	64.39	Pk	36.4	-49.47	51.32	74	-22.68	54	-2.68	0-360	150	H
6	14.225	52.28	Pk	39.9	-42.28	49.9	74	-24.1	54	-4.1	0-360	200	H
7	22.966	52.1	Pk	40.3	-42.38	50.02	74	-23.98	54	-3.98	0-360	200	H
8	1.262	68.91	Pk	28.7	-55.57	42.04	74	-31.96	54	-11.96	0-360	200	V
9	2.405	66.86	Pk	21.8	4.68	93.34	-	-	-	-	0-360	150	V
10	4.811	71.62	Pk	27.7	-51.45	47.87	74	-26.13	54	-6.13	0-360	150	V
11	7.217	72.74	Pk	29.8	-46.35	56.19	74	-17.81	54	2.19	0-360	100	V
12	9.622	63.48	Pk	36.4	-49.33	50.55	74	-23.45	54	-3.45	0-360	100	V
13	14.042	52.26	Pk	39.9	-42.84	49.32	74	-24.68	54	-4.68	0-360	100	V
14	22.964	51.64	Pk	40.3	-42.43	49.51	74	-24.49	54	-4.49	0-360	150	V
Radiated Emission Data													
	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	7.2133	73.91	Pk	29.8	-46.34	57.37	74	-16.63	-	-	-	100	H
	7.2135	65.51	Av	29.8	-46.34	48.97	-	-	54	-5.03	360	100	H
	4.8108	74.13	Pk	27.7	-51.45	50.38	74	-23.62	-	-	-	100	H
	4.8108	67.71	Av	27.7	-51.45	43.96	-	-	54	-10.04	5	100	H
	3.5039	17.21	Av	23.5	5.49	46.2	-	-	54	-7.8	359	173	V
	7.2164	73.5	Pk	29.8	-46.35	56.95	74	-17.05	-	-	-	118	V
	7.2161	67.43	Av	29.8	-46.35	50.88	-	-	54	-3.12	129	118	V
	4.8108	71.75	Pk	27.7	-51.45	48	74	-26	-	-	-	173	V
	4.8108	64.67	Av	27.7	-51.45	40.92	-	-	54	-13.08	359	173	V
Pk - Peak detector													
Av - Average detection													

9.4.2. Middle Channel

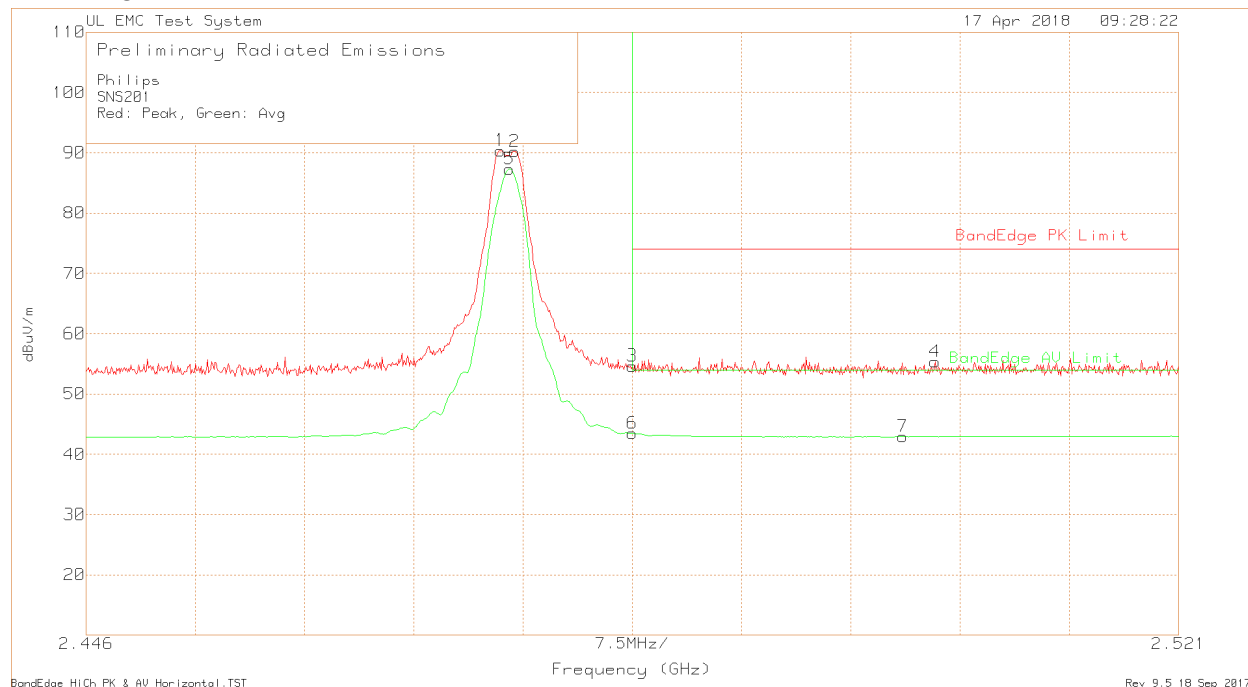
Spurious Emissions 1GHz – 25GHz



Philips													
SNS201													
Mid Ch Tx													
Red: Peak, Green: Avg													
Trace MArkers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	1.077	71	Pk	27.1	-56.13	41.97	74	-32.03	54	-12.03	0-360	100	H
2	2.44	60.98	Pk	21.9	4.61	87.49	-	-	-	-	0-360	100	H
3	4.881	72.33	Pk	27.7	-50.78	49.25	74	-24.75	54	-4.75	0-360	100	H
4	7.322	72.14	Pk	30.6	-46.01	56.73	74	-17.27	54	2.73	0-360	100	H
5	9.112	61.93	Pk	36.2	-47.4	50.73	74	-23.27	54	-3.27	0-360	150	H
6	14.061	52.43	Pk	39.9	-42.89	49.44	74	-24.56	54	-4.56	0-360	100	H
7	22.918	51.57	Pk	40.3	-42.94	48.93	74	-25.07	54	-5.07	0-360	200	H
8	1.075	70.79	Pk	27.1	-56.18	41.71	74	-32.29	54	-12.29	0-360	100	V
9	2.44	65.94	Pk	21.9	4.61	92.45	-	-	-	-	0-360	100	V
10	4.881	71.06	Pk	27.7	-50.78	47.98	74	-26.02	54	-6.02	0-360	149	V
11	7.322	70.51	Pk	30.6	-46.01	55.1	74	-18.9	54	1.1	0-360	100	V
12	9.239	61.79	Pk	36.4	-47.22	50.97	74	-23.03	54	-3.03	0-360	100	V
13	15.001	50.58	Pk	39.8	-41.32	49.06	74	-24.94	54	-4.94	0-360	149	V
14	21.147	54.12	Pk	40.2	-46.61	47.71	74	-26.29	54	-6.29	0-360	200	V
Radiated Emission Data													
	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
	7.3213	72.3	Pk	30.6	-46.01	56.89	74	-17.11	-	-	360	100	H
	7.3212	65.98	Av	30.6	-46.01	50.57	-	-	54	-3.43	360	100	H
	4.8809	73.2	Pk	27.7	-50.79	50.11	74	-23.89	-	-	3	100	H
	4.8809	66.7	Av	27.7	-50.79	43.61	-	-	54	-10.39	3	100	H
	3.497	17.22	Av	23.5	5.54	46.26	-	-	54	-7.74	360	100	V
	7.3213	71.38	Pk	30.6	-46.01	55.97	74	-18.03	-	-	126	120	V
	7.3212	64.91	Av	30.6	-46.01	49.5	-	-	54	-4.5	126	120	V
	4.8809	71.31	Pk	27.7	-50.79	48.22	74	-25.78	-	-	359	161	V
	4.8809	64.22	Av	27.7	-50.79	41.13	-	-	54	-12.87	359	161	V
Pk - Peak detector													
Av - Average detection													

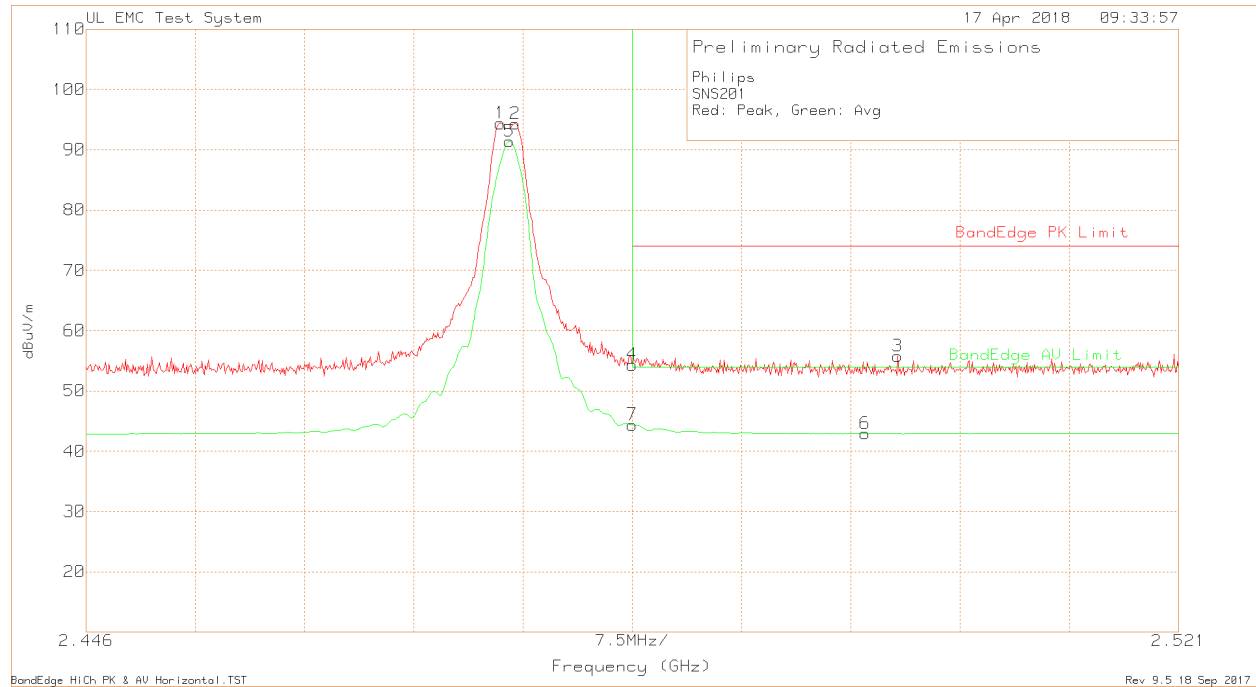
9.4.3. High Channel

Band Edge Data – Horizontal



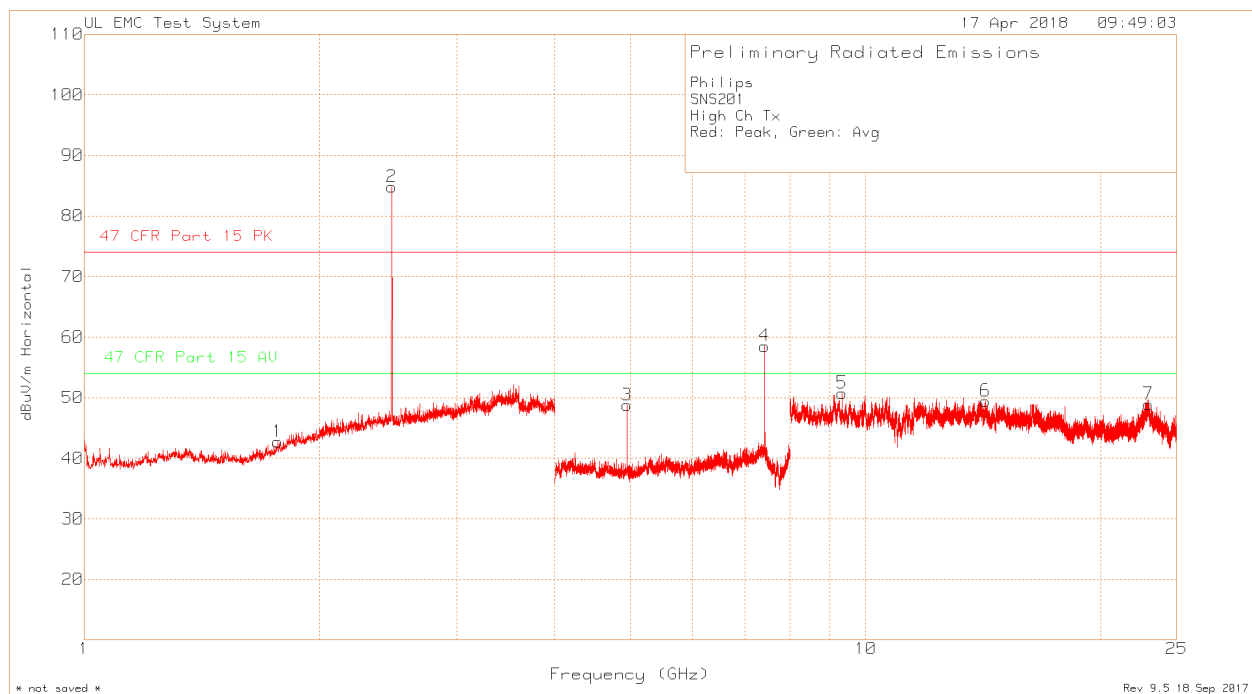
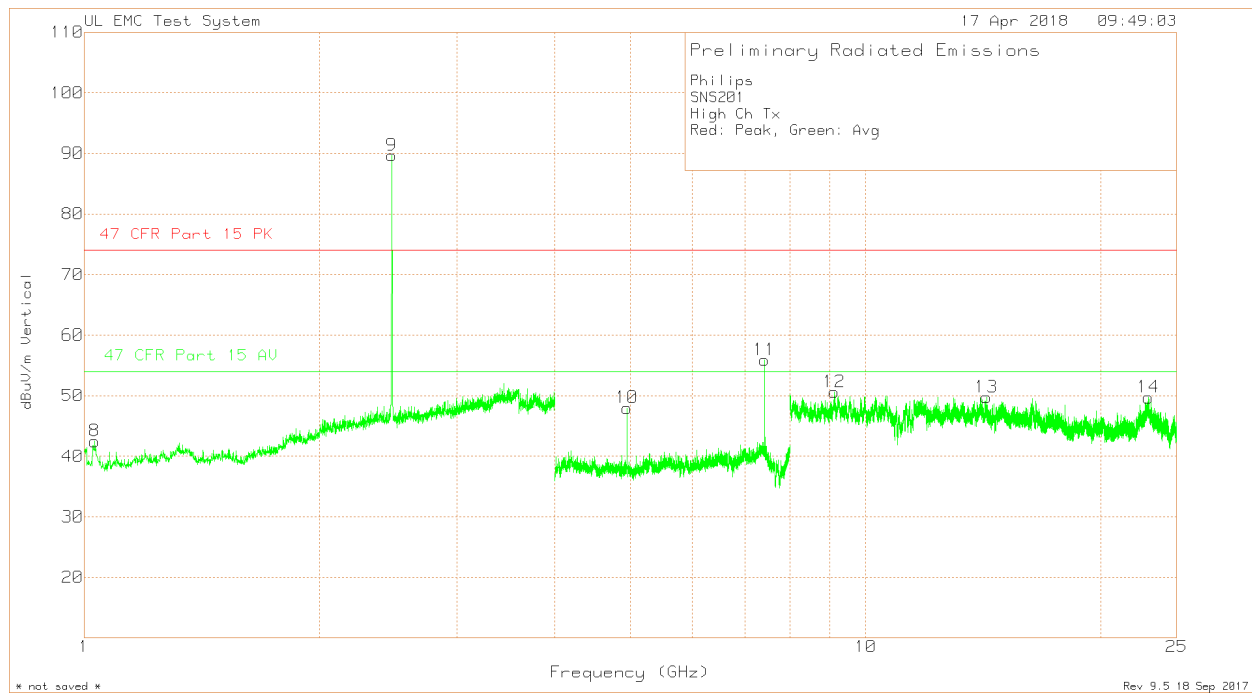
Philips														
SNS201														
Red: Peak, Green: Avg														
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Peak Limit dBuV/m	Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
1	2.4744	63.87	Pk	22	4.49	90.36	-	-	-	-	232	145	H	
2	2.4754	63.75	Pk	22	4.48	90.23	-	-	-	-	232	145	H	
3	2.4835	28.08	Pk	22.1	4.44	54.62	74	-19.38	-	-	232	145	H	
4	2.5043	28.79	Pk	22.1	4.42	55.31	74	-18.69	-	-	232	145	H	
5	2.4751	60.82	Av	22	4.48	87.3	-	-	-	-	232	145	H	
6	2.4835	16.92	Av	22.1	4.44	43.46	-	-	54	-10.54	232	145	H	
7	2.5021	16.4	Av	22.1	4.42	42.92	-	-	54	-11.08	232	145	H	
Pk - Peak detector														
Av - Average detector														

Band Edge Data Vertical



Philips														
SNS201														
Red: Peak, Green: Avg														
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Peak Limit dBuV/m	Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity	
1	2.4744	67.88	Pk	22	4.49	94.37	-	-	-	-	97	150	V	
2	2.4754	67.79	Pk	22	4.48	94.27	-	-	-	-	97	150	V	
3	2.5017	29.24	Pk	22.1	4.42	55.76	74	-18.24	-	-	97	150	V	
4	2.4835	27.79	Pk	22.1	4.44	54.33	74	-19.67	-	-	97	150	V	
5	2.4751	64.89	Av	22	4.48	91.37	-	-	-	-	97	150	V	
6	2.4995	16.43	Av	22.1	4.41	42.94	-	-	54	-11.06	97	150	V	
7	2.4835	17.84	Av	22.1	4.44	44.38	-	-	54	-9.62	97	150	V	
Pk - Peak detector														
Av - Average detector														

Spurious Emissions 1GHz – 25GHz



Philips													
SNS201													
High Ch Tx													
Red: Peak, Green: Avg													
Trace Markers													
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Deps]	Height [cm]	Polarity
1	1.768	66.52	Pk	29.9	-53.71	42.71	74	-31.29	54	-11.29	0-360	150	H
2	2.475	58.3	Pk	22	4.48	84.78	-	-	-	-	0-360	150	H
3	4.951	70.97	Pk	27.8	-49.99	48.78	74	-25.22	54	-5.22	0-360	100	H
4	7.427	74.84	Pk	30.8	-47.11	58.53	74	-15.47	54	4.53	0-360	100	H
5	9.326	62.98	Pk	36.4	-48.64	50.74	74	-23.26	54	-3.26	0-360	150	H
6	14.225	51.82	Pk	39.9	-42.28	49.44	74	-24.56	54	-4.56	0-360	100	H
7	23.005	51.18	Pk	40.3	-42.57	48.91	74	-25.09	54	-5.09	0-360	200	H
8	1.031	71.71	Pk	26.8	-56.05	42.46	74	-31.54	54	-11.54	0-360	200	V
9	2.475	63.15	Pk	22	4.48	89.63	-	-	-	-	0-360	150	V
10	4.949	70.16	Pk	27.8	-50	47.96	74	-26.04	54	-6.04	0-360	200	V
11	7.424	72.22	Pk	30.8	-47.11	55.91	74	-18.09	54	1.91	0-360	100	V
12	9.115	61.8	Pk	36.2	-47.41	50.59	74	-23.41	54	-3.41	0-360	200	V
13	14.273	51.97	Pk	39.8	-42.03	49.74	74	-24.26	54	-4.26	0-360	200	V
14	23.003	51.75	Pk	40.3	-42.36	49.69	74	-24.31	54	-4.31	0-360	100	V
Radiated Emission Data													
	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor dB/m	Path Factor dB	Level dBuV/m	Limit Peak dBuV/m	Margin (dB)	Limit Average dBuV/m	Margin (dB)	Azimuth [Deps]	Height [cm]	Polarity
	3.4975	18.64	Av	23.5	5.54	47.68	-	-	54	-6.32	0	100	V
	7.4263	75.01	Pk	30.8	-47.11	58.7	74	-15.3	-	-	360	100	H
	7.4262	68.69	Av	30.8	-47.11	52.38	-	-	54	-1.62	360	100	H
	4.9508	71.06	Pk	27.8	-50	48.86	74	-25.14	-	-	360	100	H
	4.9509	64.6	Av	27.8	-49.99	42.41	-	-	54	-11.59	360	100	H
	7.4263	72.47	Pk	30.8	-47.11	56.16	74	-17.84	-	-	116	110	V
	7.4262	65.88	Av	30.8	-47.11	49.57	-	-	54	-4.43	116	110	V
	4.9507	70.34	Pk	27.8	-50	48.14	74	-25.86	-	-	0	100	V
	4.9508	63.78	Av	27.8	-49.99	41.59	-	-	54	-12.41	0	100	V
Pk - Peak detector													
Av - Average detection													

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

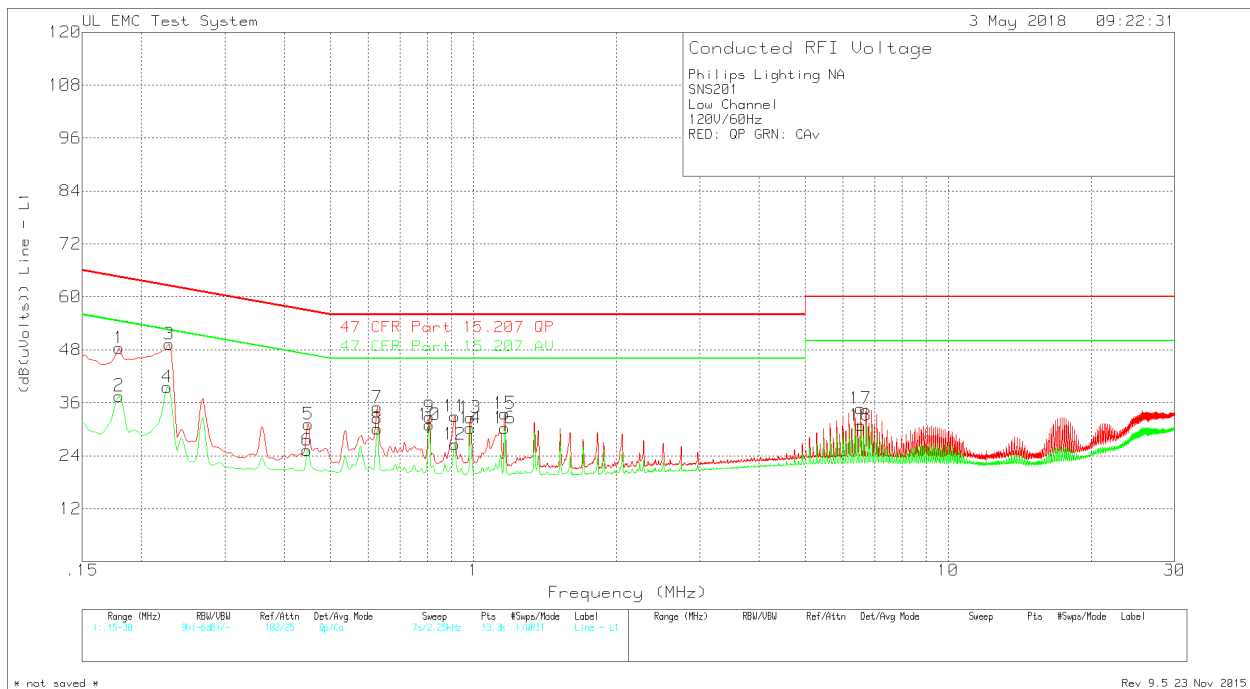
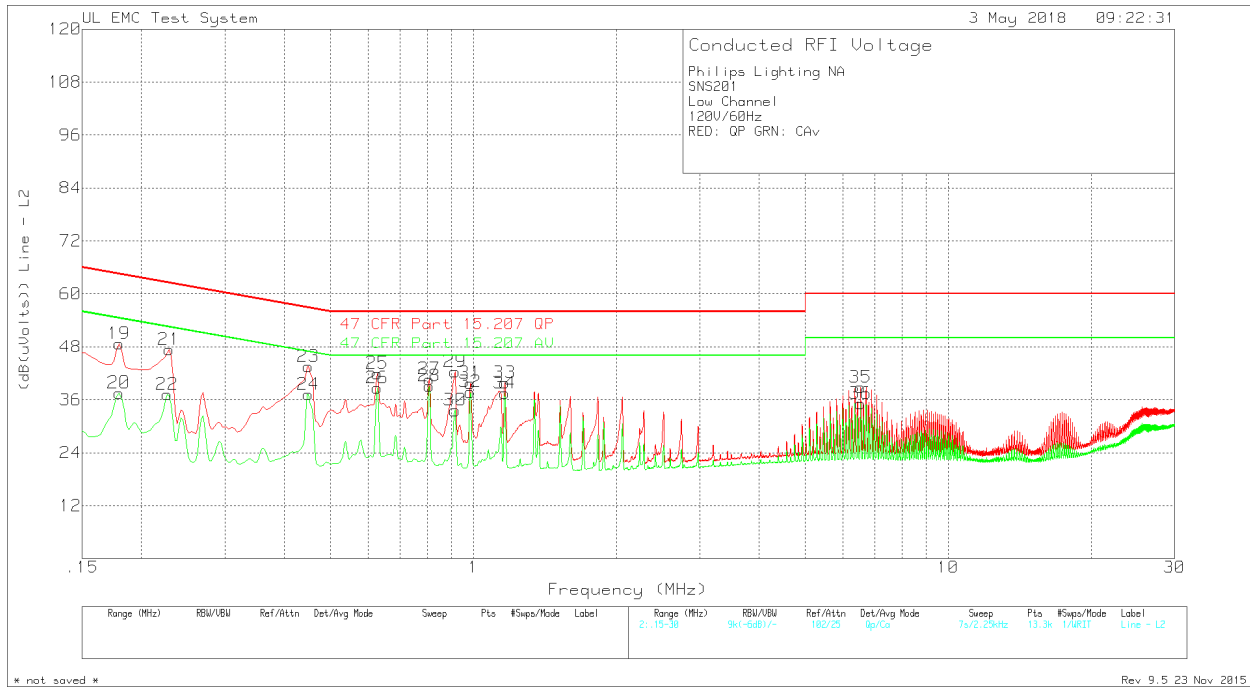
RSS-Gen 8.8

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

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

RESULTS

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

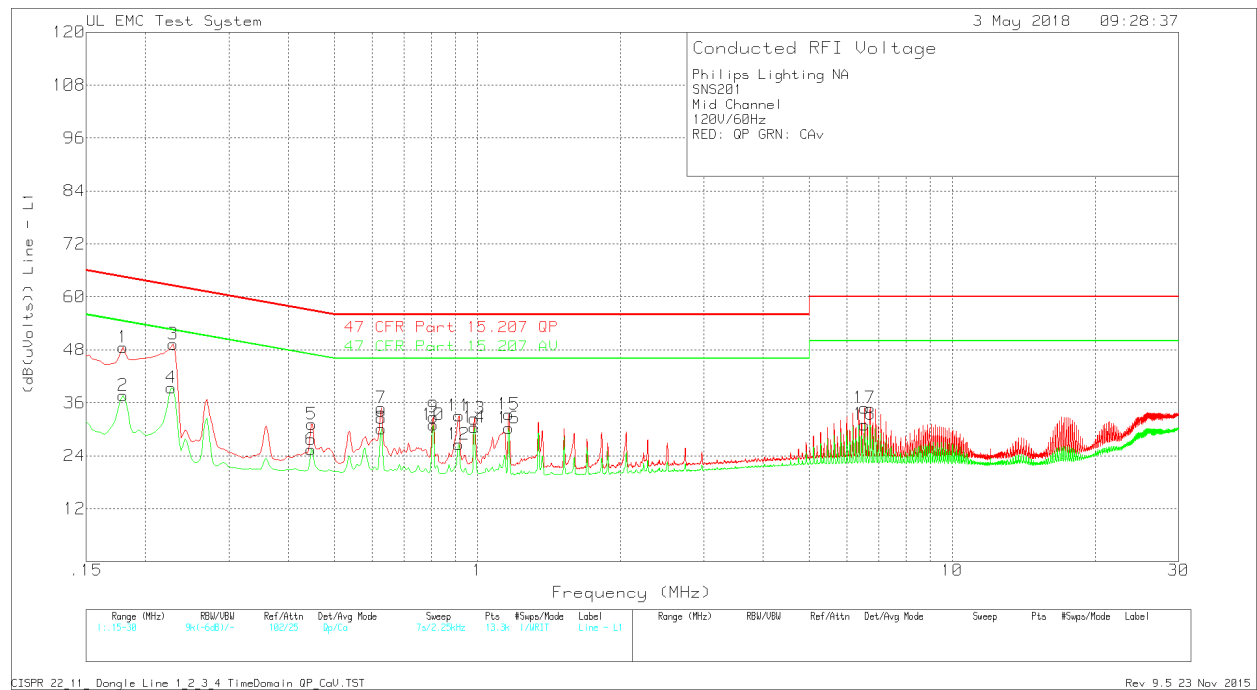
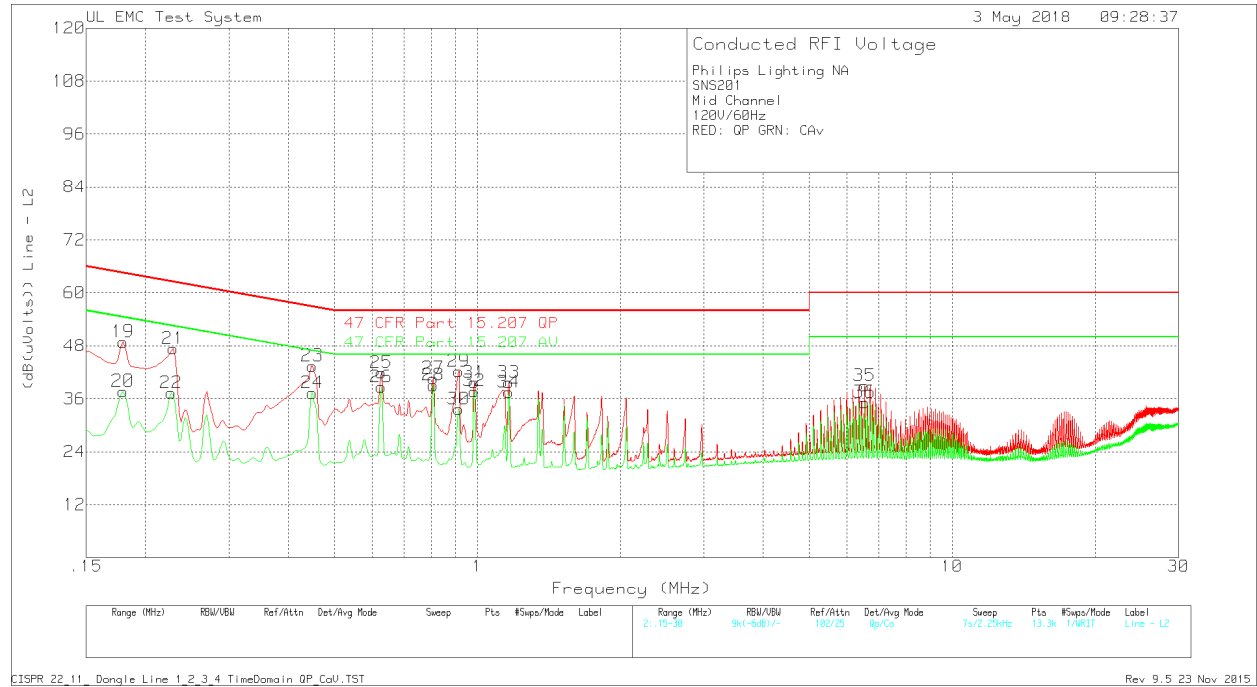


SNS201
Low Channel
120V/60Hz
RED: QP GRN: Cav
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4
Line									
1	.17925	36.48dBuV Qp	.1	11.8	48.38	64.52	-		
					Margin (dB)	-16.14	-		
2	.17925	25.65dBuV Ca	.1	11.8	37.55	-	54.52	-	-
					Margin (dB)	-	-16.97	-	-
3	.22875	37.92dBuV Qp	0	11.4	49.32	62.49	-		
					Margin (dB)	-13.17	-		
4	.2265	28.12dBuV Ca	0	11.4	39.52	-	52.58	-	-
					Margin (dB)	-	-13.06	-	-
5	.44925	20.44dBuV Qp	0	10.7	31.14	56.89	-		
					Margin (dB)	-23.75	-		
6	.447	14.56dBuV Ca	0	10.7	25.26	-	46.93	-	-
					Margin (dB)	-	-21.67	-	-
7	.627	24.39dBuV Qp	0	10.6	34.99	56	-		
					Margin (dB)	-21.01	-		
8	.627	19.53dBuV Ca	0	10.6	30.13	-	46	-	-
					Margin (dB)	-	-15.87	-	-
9	.807	22.16dBuV Qp	0	10.6	32.76	56	-		
					Margin (dB)	-23.24	-		
10	.807	20.41dBuV Ca	0	10.6	31.01	-	46	-	-
					Margin (dB)	-	-14.99	-	-
11	.91275	22.31dBuV Qp	0	10.6	32.91	56	-		
					Margin (dB)	-23.09	-		
12	.91275	15.96dBuV Ca	0	10.6	26.56	-	46	-	-
					Margin (dB)	-	-19.44	-	-
13	.98475	21.99dBuV Qp	0	10.6	32.59	56	-		
					Margin (dB)	-23.41	-		
14	.98475	19.69dBuV Ca	0	10.6	30.29	-	46	-	-
					Margin (dB)	-	-15.71	-	-
15	1.16475	22.95dBuV Qp	0	10.6	33.55	56	-		
					Margin (dB)	-22.45	-		
16	1.16475	19.68dBuV Ca	0	10.6	30.28	-	46	-	-
					Margin (dB)	-	-15.72	-	-
17	6.53775	23.81dBuV Qp	0	10.9	34.71	60	-		
					Margin (dB)	-25.29	-		
18	6.5355	19.98dBuV Ca	0	10.9	30.88	-	50	-	-
					Margin (dB)	-	-19.12	-	-
Neutral									
19	.17925	36.83dBuV Qp	.1	11.8	48.73	64.52	-		
					Margin (dB)	-15.79	-		
20	.17925	25.63dBuV Ca	.1	11.8	37.53	-	54.52	-	-
					Margin (dB)	-	-16.99	-	-
21	.22875	35.93dBuV Qp	0	11.4	47.33	62.49	-		
					Margin (dB)	-15.16	-		
22	.2265	25.76dBuV Ca	0	11.4	37.16	-	52.58	-	-
					Margin (dB)	-	-15.42	-	-
23	.44925	32.8dBuV Qp	0	10.7	43.5	56.89	-		
					Margin (dB)	-13.39	-		
24	.44925	26.53dBuV Ca	0	10.7	37.23	-	46.89	-	-
					Margin (dB)	-	-9.66	-	-
25	.627	31.36dBuV Qp	0	10.6	41.96	56	-		
					Margin (dB)	-14.04	-		
26	.627	28.06dBuV Ca	0	10.6	38.66	-	46	-	-
					Margin (dB)	-	-7.34	-	-
27	.807	30.06dBuV Qp	0	10.6	40.66	56	-		
					Margin (dB)	-15.34	-		
28	.807	28.49dBuV Ca	0	10.6	39.09	-	46	-	-
					Margin (dB)	-	-6.91	-	-
29	.915	31.74dBuV Qp	0	10.6	42.34	56	-		
					Margin (dB)	-13.66	-		
30	.915	23dBuV Ca	0	10.6	33.6	-	46	-	-
					Margin (dB)	-	-12.4	-	-
31	.98475	29.15dBuV Qp	0	10.6	39.75	56	-		
					Margin (dB)	-16.25	-		
32	.98475	27.12dBuV Ca	0	10.6	37.72	-	46	-	-
					Margin (dB)	-	-8.28	-	-
33	1.16475	29.22dBuV Qp	0	10.6	39.82	56	-		
					Margin (dB)	-16.18	-		
34	1.16475	26.92dBuV Ca	0	10.6	37.52	-	46	-	-
					Margin (dB)	-	-8.48	-	-
35	6.53775	27.88dBuV Qp	0	10.9	38.78	60	-		
					Margin (dB)	-21.22	-		
36	6.5355	24.23dBuV Ca	0	10.9	35.13	-	50	-	-
					Margin (dB)	-	-14.87	-	-

LIMIT 1: 47 CFR Part 15.207 QP
LIMIT 2: 47 CFR Part 15.207 AV
Qp - Quasi-Peak detector
Ca - CISPR Average detection

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

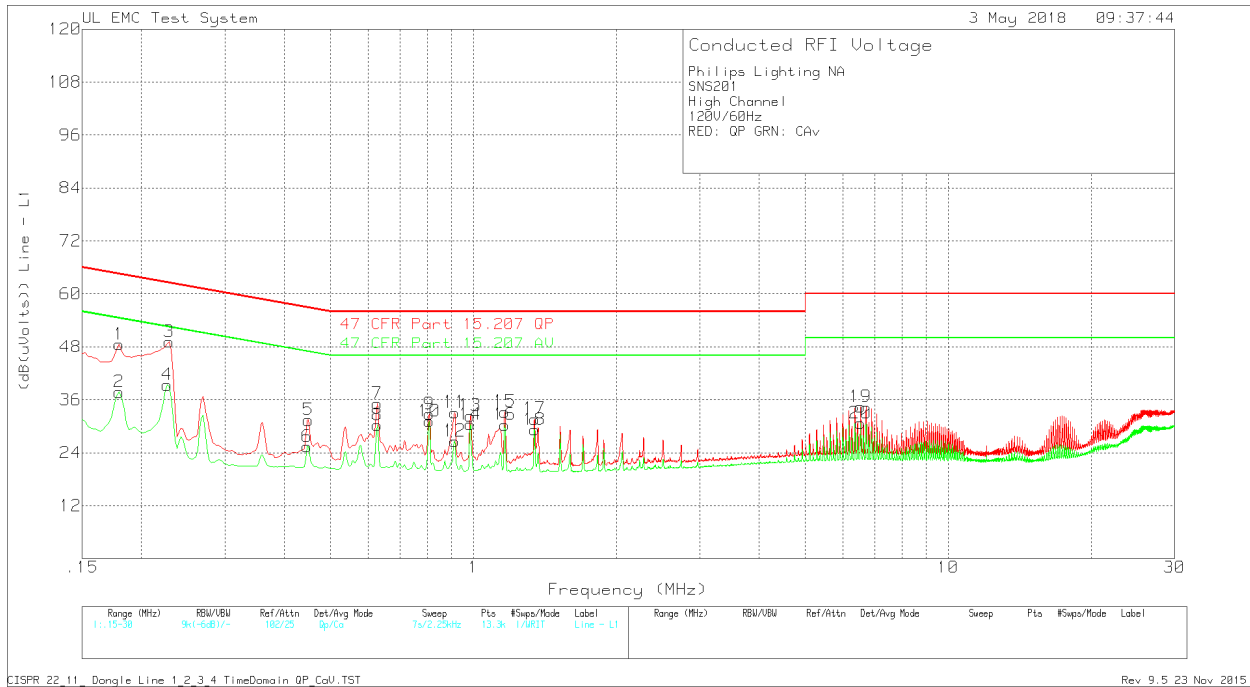
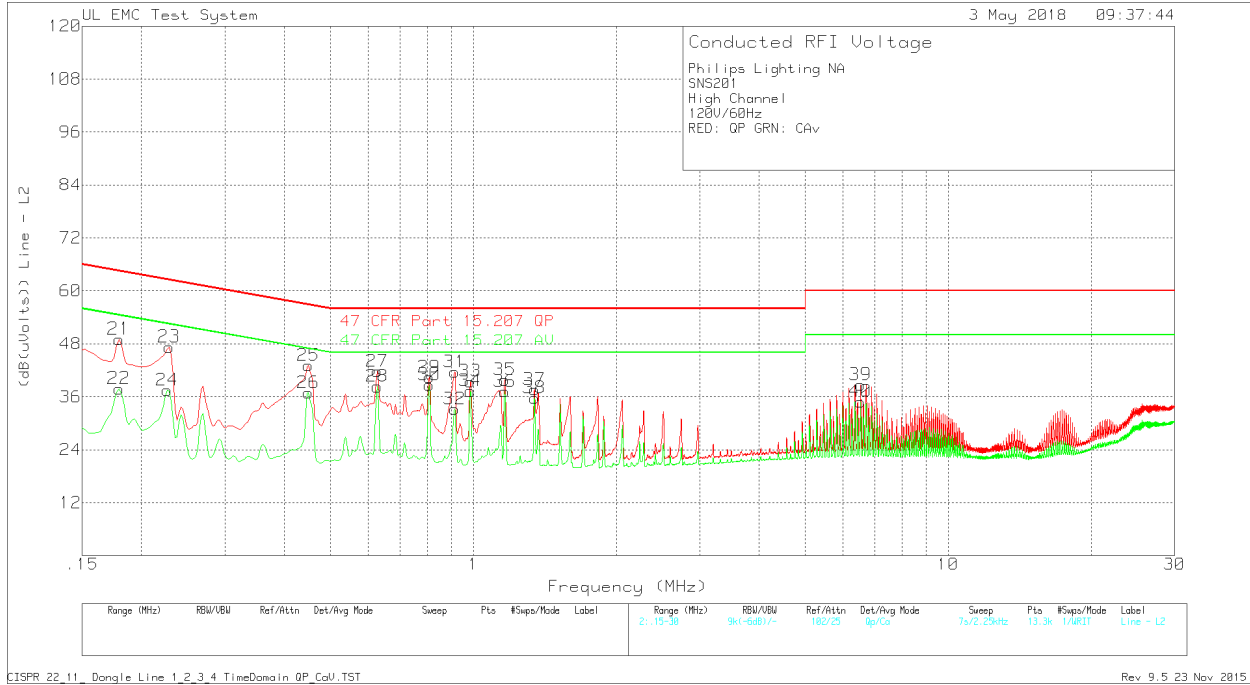


SNS201
Mid Channel
120V/60Hz
RED: QP GRN: Cav
Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading (dB(uVolts))	Limit:1	2	3	4
Line									
1	.17925	36.61dBuV Qp	.1	11.8	48.51	64.52	-		
					Margin (dB)	-16.01	-		
2	.17925	25.75dBuV Ca	.1	11.8	37.65	-	54.52	-	-
					Margin (dB)	-	-16.87	-	-
3	.22875	37.86dBuV Qp	0	11.4	49.26	62.49	-		
					Margin (dB)	-13.23	-		
4	.2265	27.97dBuV Ca	0	11.4	39.37	-	52.58	-	-
					Margin (dB)	-	-13.21	-	-
5	.44812	20.4dBuV Qp	0	10.7	31.1	56.91	-		
					Margin (dB)	-25.81	-		
6	.447	14.67dBuV Ca	0	10.7	25.37	-	46.93	-	-
					Margin (dB)	-	-21.56	-	-
7	.627	24.26dBuV Qp	0	10.6	34.86	56	-		
					Margin (dB)	-21.14	-		
8	.627	19.58dBuV Ca	0	10.6	30.18	-	46	-	-
					Margin (dB)	-	-15.82	-	-
9	.807	22.13dBuV Qp	0	10.6	32.73	56	-		
					Margin (dB)	-23.27	-		
10	.807	20.42dBuV Ca	0	10.6	31.02	-	46	-	-
					Margin (dB)	-	-14.98	-	-
11	.915	22.43dBuV Qp	0	10.6	33.03	56	-		
					Margin (dB)	-22.97	-		
12	.91275	15.95dBuV Ca	0	10.6	26.55	-	46	-	-
					Margin (dB)	-	-19.45	-	-
13	.98475	21.82dBuV Qp	0	10.6	32.42	56	-		
					Margin (dB)	-23.58	-		
14	.98475	19.78dBuV Ca	0	10.6	30.38	-	46	-	-
					Margin (dB)	-	-15.62	-	-
15	1.16475	22.75dBuV Qp	0	10.6	33.35	56	-		
					Margin (dB)	-22.65	-		
16	1.16475	19.66dBuV Ca	0	10.6	30.26	-	46	-	-
					Margin (dB)	-	-15.74	-	-
17	6.53775	23.89dBuV Qp	0	10.9	34.79	60	-		
					Margin (dB)	-25.21	-		
18	6.5355	20.17dBuV Ca	0	10.9	31.07	-	50	-	-
					Margin (dB)	-	-18.93	-	-
Neutral									
19	.17925	36.99dBuV Qp	.1	11.8	48.89	64.52	-		
					Margin (dB)	-15.63	-		
20	.17925	25.79dBuV Ca	.1	11.8	37.69	-	54.52	-	-
					Margin (dB)	-	-16.83	-	-
21	.22875	36dBuV Qp	0	11.4	47.4	62.49	-		
					Margin (dB)	-15.09	-		
22	.2265	25.91dBuV Ca	0	11.4	37.31	-	52.58	-	-
					Margin (dB)	-	-15.27	-	-
23	.44925	32.75dBuV Qp	0	10.7	43.45	56.89	-		
					Margin (dB)	-13.44	-		
24	.44925	26.58dBuV Ca	0	10.7	37.28	-	46.89	-	-
					Margin (dB)	-	-9.61	-	-
25	.627	31.29dBuV Qp	0	10.6	41.89	56	-		
					Margin (dB)	-14.11	-		
26	.627	28.04dBuV Ca	0	10.6	38.64	-	46	-	-
					Margin (dB)	-	-7.36	-	-
27	.807	30.03dBuV Qp	0	10.6	40.63	56	-		
					Margin (dB)	-15.37	-		
28	.807	28.46dBuV Ca	0	10.6	39.06	-	46	-	-
					Margin (dB)	-	-6.94	-	-
29	.91275	31.63dBuV Qp	0	10.6	42.23	56	-		
					Margin (dB)	-13.77	-		
30	.91275	23.02dBuV Ca	0	10.6	33.62	-	46	-	-
					Margin (dB)	-	-12.38	-	-
31	.98475	29.07dBuV Qp	0	10.6	39.67	56	-		
					Margin (dB)	-16.33	-		
32	.98475	27.11dBuV Ca	0	10.6	37.71	-	46	-	-
					Margin (dB)	-	-8.29	-	-
33	1.16475	29.14dBuV Qp	0	10.6	39.74	56	-		
					Margin (dB)	-16.26	-		
34	1.16475	26.88dBuV Ca	0	10.6	37.48	-	46	-	-
					Margin (dB)	-	-8.52	-	-
35	6.53775	28.04dBuV Qp	0	10.9	38.94	60	-		
					Margin (dB)	-21.06	-		
36	6.5355	24.29dBuV Ca	0	10.9	35.19	-	50	-	-
					Margin (dB)	-	-14.81	-	-

LIMIT 1: 47 CFR Part 15.207 QP
LIMIT 2: 47 CFR Part 15.207 AV
Qp - Quasi-Peak detector
Ca - CISPR Average detection

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



Philips Lighting NA
SNS201
High Channel
120V/60Hz
RED: QP GRN: CAv

Trace Markers	Test	Meter	Transducer	Gain/Loss	Corrected	Limit:1	2	3	4
No.	Frequency	Reading	Factor	Factor	Reading (dB(uVolts))				
(MHz)			(dB)	(dB)					
=====									
Line									
1	.17925	36.66dBuV Qp	.1	11.8	48.56	64.52	-		
					Margin (dB)	-15.96	-		
2	.17925	25.83dBuV Ca	.1	11.8	37.73	-	54.52	-	-
					Margin (dB)	-	-16.79	-	-
3	.22875	37.73dBuV Qp	0	11.4	49.13	62.49	-		
					Margin (dB)	-13.36	-		
4	.2265	27.95dBuV Ca	0	11.4	39.35	-	52.58	-	-
					Margin (dB)	-	-13.23	-	-
5	.44925	20.68dBuV Qp	0	10.7	31.38	56.89	-		
					Margin (dB)	-25.51	-		
6	.447	14.73dBuV Ca	0	10.7	25.43	-	46.93	-	-
					Margin (dB)	-	-21.5	-	-
7	.627	24.56dBuV Qp	0	10.6	35.16	56	-		
					Margin (dB)	-20.84	-		
8	.627	19.7dBuV Ca	0	10.6	30.3	-	46	-	-
					Margin (dB)	-	-15.7	-	-
9	.807	22.17dBuV Qp	0	10.6	32.77	56	-		
					Margin (dB)	-23.23	-		
10	.807	20.55dBuV Ca	0	10.6	31.15	-	46	-	-
					Margin (dB)	-	-14.85	-	-
11	.91275	22.53dBuV Qp	0	10.6	33.13	56	-		
					Margin (dB)	-22.87	-		
12	.91275	16.02dBuV Ca	0	10.6	26.62	-	46	-	-
					Margin (dB)	-	-19.38	-	-
13	.98475	21.78dBuV Qp	0	10.6	32.38	56	-		
					Margin (dB)	-23.62	-		
14	.98475	19.77dBuV Ca	0	10.6	30.37	-	46	-	-
					Margin (dB)	-	-15.63	-	-
15	1.16475	22.68dBuV Qp	0	10.6	33.28	56	-		
					Margin (dB)	-22.72	-		
16	1.16475	19.74dBuV Ca	0	10.6	30.34	-	46	-	-
					Margin (dB)	-	-15.66	-	-
17	1.34475	21.07dBuV Qp	0	10.6	31.67	56	-		
					Margin (dB)	-24.33	-		
18	1.34475	18.63dBuV Ca	0	10.6	29.23	-	46	-	-
					Margin (dB)	-	-16.77	-	-
19	6.53775	23.49dBuV Qp	0	10.9	34.39	60	-		
					Margin (dB)	-25.61	-		
20	6.53775	19.83dBuV Ca	0	10.9	30.73	-	50	-	-
					Margin (dB)	-	-19.27	-	-

LIMIT 1: 47 CFR Part 15.207 QP
LIMIT 2: 47 CFR Part 15.207 AV

Qp - Quasi-Peak detector
Ca - CISPR Average detection

Philips Lighting NA
SNS201
High Channel
120V/60Hz
RED: QP GRN: CAV

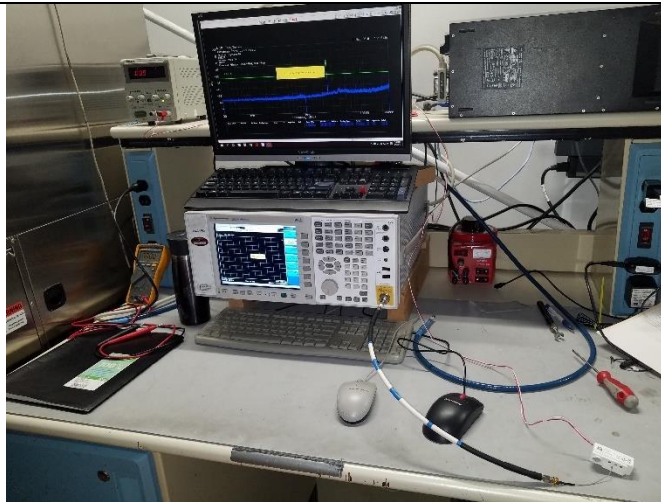
Trace Markers	Test	Meter	Transducer	Gain/Loss	Corrected	Limit:1	2	3	4
No.	Frequency	Reading	Factor	Factor	Reading (dB(uVolts))				
(MHz)			(dB)	(dB)					
=====									
Neutral									
21	.17925	37.14dBuV Qp	.1	11.8	49.04	64.52	-		
					Margin (dB)	-15.48	-		
22	.17925	25.93dBuV Ca	.1	11.8	37.83	-	54.52	-	-
					Margin (dB)	-	-16.69	-	-
23	.22875	35.89dBuV Qp	0	11.4	47.29	62.49	-		
					Margin (dB)	-15.2	-		
24	.2265	26.05dBuV Ca	0	11.4	37.45	-	52.58	-	-
					Margin (dB)	-	-15.13	-	-
25	.44925	32.36dBuV Qp	0	10.7	43.06	56.89	-		
					Margin (dB)	-13.83	-		
26	.44925	26.18dBuV Ca	0	10.7	36.88	-	46.89	-	-
					Margin (dB)	-	-10.01	-	-
27	.627	31.19dBuV Qp	0	10.6	41.79	56	-		
					Margin (dB)	-14.21	-		
28	.627	27.72dBuV Ca	0	10.6	38.32	-	46	-	-
					Margin (dB)	-	-7.68	-	-
29	.807	29.81dBuV Qp	0	10.6	40.41	56	-		
					Margin (dB)	-15.59	-		
30	.807	28.12dBuV Ca	0	10.6	38.72	-	46	-	-
					Margin (dB)	-	-7.28	-	-
31	.91275	31.04dBuV Qp	0	10.6	41.64	56	-		
					Margin (dB)	-14.36	-		
32	.91275	22.58dBuV Ca	0	10.6	33.18	-	46	-	-
					Margin (dB)	-	-12.82	-	-
33	.98475	28.88dBuV Qp	0	10.6	39.48	56	-		
					Margin (dB)	-16.52	-		
34	.98475	26.68dBuV Ca	0	10.6	37.28	-	46	-	-
					Margin (dB)	-	-8.72	-	-
35	1.16475	29.2dBuV Qp	0	10.6	39.8	56	-		
					Margin (dB)	-16.2	-		
36	1.16475	26.55dBuV Ca	0	10.6	37.15	-	46	-	-
					Margin (dB)	-	-8.85	-	-
37	1.34475	27.01dBuV Qp	0	10.6	37.61	56	-		
					Margin (dB)	-18.39	-		
38	1.34475	25.16dBuV Ca	0	10.6	35.76	-	46	-	-
					Margin (dB)	-	-10.24	-	-
39	6.54	27.81dBuV Qp	0	10.9	38.71	60	-		
					Margin (dB)	-21.29	-		
40	6.53775	24.01dBuV Ca	0	10.9	34.91	-	50	-	-
					Margin (dB)	-	-15.09	-	-

LIMIT 1: 47 CFR Part 15.207 QP
LIMIT 2: 47 CFR Part 15.207 AV

Qp - Quasi-Peak detector
Ca - CISPR Average detection

11. SETUP PHOTOS

ANTENNA PORT AND AC LINE CONDUCTED SETUP

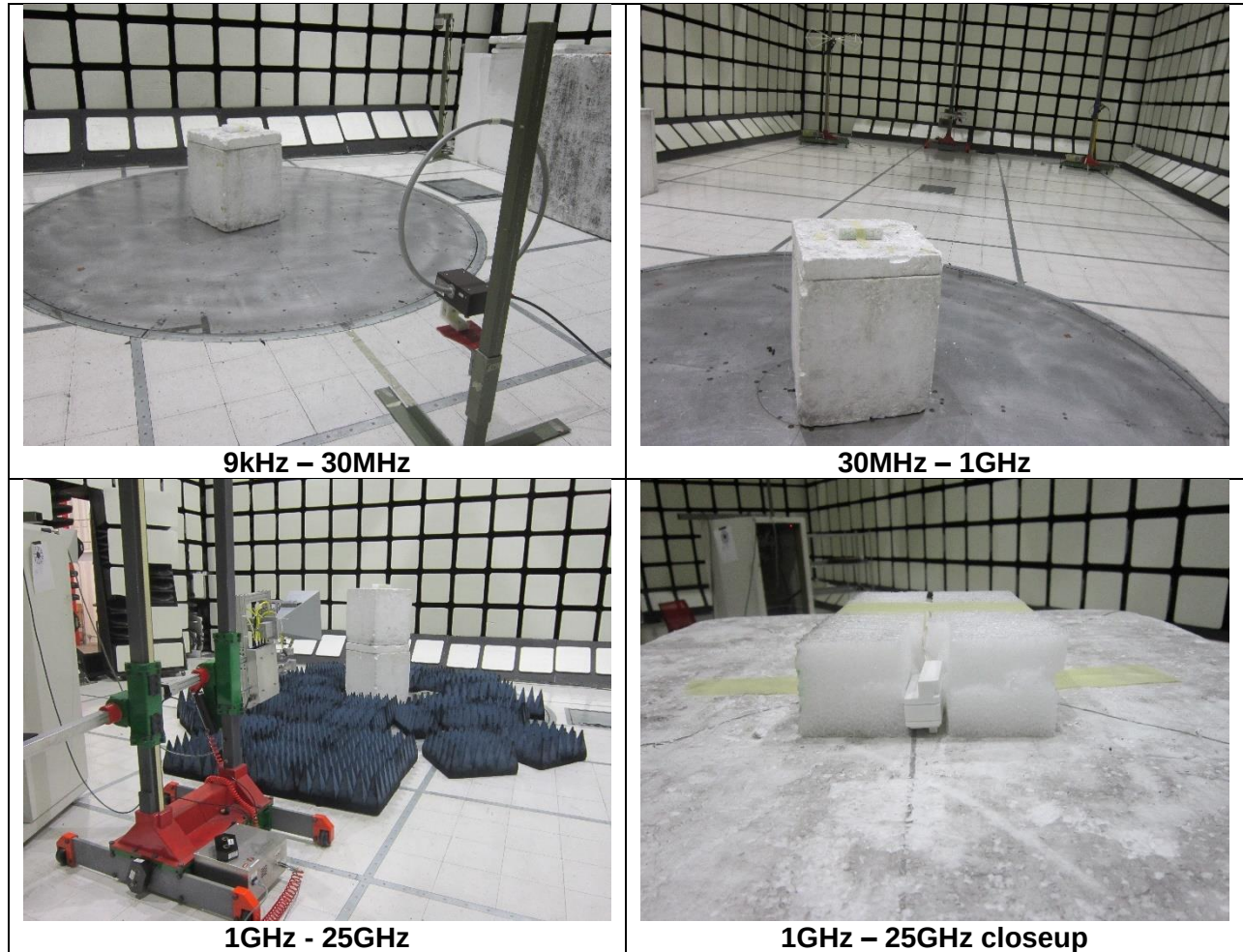


RF ANTENNA PORT CONDUCTED



AC LINE CONDUCTED (FRONT)

RADIATED RF MEASUREMENT SETUP



END OF REPORT