CERTIFICATION TEST REPORT

Report Number. : 13092227B

Applicant	:	Signify North America Corporation O'Hare International Center 10275 W. Higgins Rd. Rosemont, IL 60018
Model	:	SNS210 MC
FCC ID	:	2AF2N-SSMC
IC	:	20659-SSMC
EUT Description	:	Occupancy and Daylight Sensor Lighting Control
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5

Date Of Issue:
2019-12-06

Prepared by:
UL LLC
333 Pfingsten Road
Northbrook, IL 60062 U.S.A.
TEL: 842-272-8800

NVLAP Lab code: 100414-0

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
--	--	Initial Issue	

UL LLC.
333 Pfingsten Road, Northbrook, IL 60062; USA

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Signify North America Corporation

EUT DESCRIPTION: Occupancy and Daylight Sensor Lighting Control

MODEL: SNS210 MC

SERIAL NUMBER: 5139650165 (Radiated Emissions Sample)
5139650168 (Antenna Port Sample)

DATE TESTED: 2019-10-31 TO 2019-11-03

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

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

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, or any agency of the U.S. government.

Approved & Released For
UL LLC By:

Jeff Moser
Operations Leader
Consumer Technology Division

Prepared By:

Bart Mucha
Test Engineer
Consumer Technology Division

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05, RSS-GEN Issue 5, and RSS-247 Issue 2, KDB 414788 D01 Radiated Test Site v01r01

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

UL NBK is accredited by NVLAP, Laboratory Code 100414-0

ISED Site #: 2180A

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

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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	3.39 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.07 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.52 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	4.88 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.24 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.37 dB

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

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a Light Sensor with BTLE and ZigBee wireless transceiver. This report contains data for ZigBee only. See report #13092227A for data on BTLE transceiver. Simultaneous transmitting in BTLE mode and ZigBee mode is not possible.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2405 - 2480	ZigBee	6.660	4.63

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of -2.0dBi

5.1. SOFTWARE AND FIRMWARE

The test utility software used during testing was 0.1.8.741

5.2. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 30MHz was conducted with the EUT set to middle channel. All measurements above 30MHz were conducted with EUT set to low channel, middle channel and high channel.

The EUT is ceiling mount only and it was tested in single orientation only.

5.3. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Ballast	Philips	XI040C110V054VPT1	-	-

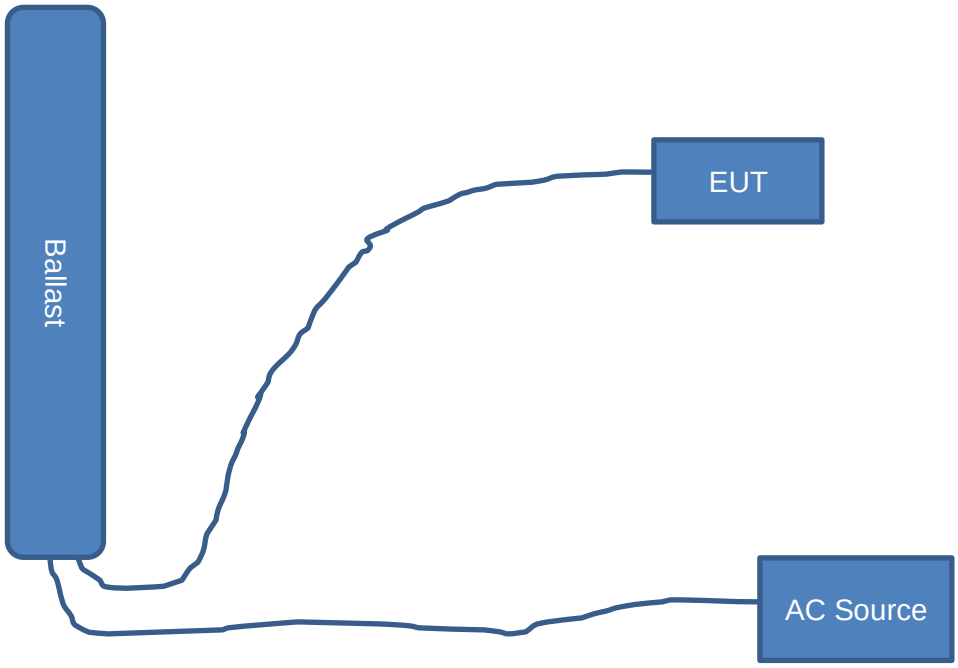
I/O CABLES

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
0	Enclosure	1	n/a	n/a	n/a	n/a
1	Data and P	1	push in	2 wire	1 m	n/a

TEST SETUP

The EUT is connected to ballast via two wires.

SETUP DIAGRAMS



6. MEASUREMENT METHOD

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

6 dB BW: ANSI C63.10 Subclause -11.8.1 (option 2)

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Output Power: ANSI C63.10 Subclause -11.9.1.1 RBW ≥ DTS bandwidth

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Radiated emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1 & 6.10.5

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

Band-edge: ANSI C63.10 Subclause – 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:

Test Software List			
Description	**Manufacturer**	**Model**	**Version**
Radiated Software	UL	UL EMC	Ver 9.5, June 15, 2019
AC Line Conducted Software	UL	UL EMC	Ver 9.5, May 26, 2015

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	2018-12-26	2019-12-31
Bicon Antenna	Chase	VBA6106A	EMC4078	2019-04-05	2020-04-30
Log-P Antenna	Chase	UPA6109	EMC4313	2019-04-05	2020-04-30
Antenna Array	UL	BOMS	EMC4276	2019-07-02	2020-07-31
EMI Test Receiver	Rohde & Schwarz	ESU	EMC4323	2018-12-13	2019-12-31
EMI Test Receiver	Rohde & Schwarz	ESR	EMC4377	2018-12-26	2019-12-31
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 Electronics	8602-50-TS-50-N	EMC4066	2018-12-19	2019-12-31
LISN - L2	Solar Electronics	8602-50-TS-50-N	EMC4064	2018-12-19	2019-12-31
Signal Analyzer	Aglient	N9030A PXA	EMC4360	2018-12-11	2019-12-31

8. ANTENNA PORT TEST RESULTS for BTLE Mode

8.1. ON TIME AND DUTY CYCLE

LIMITS

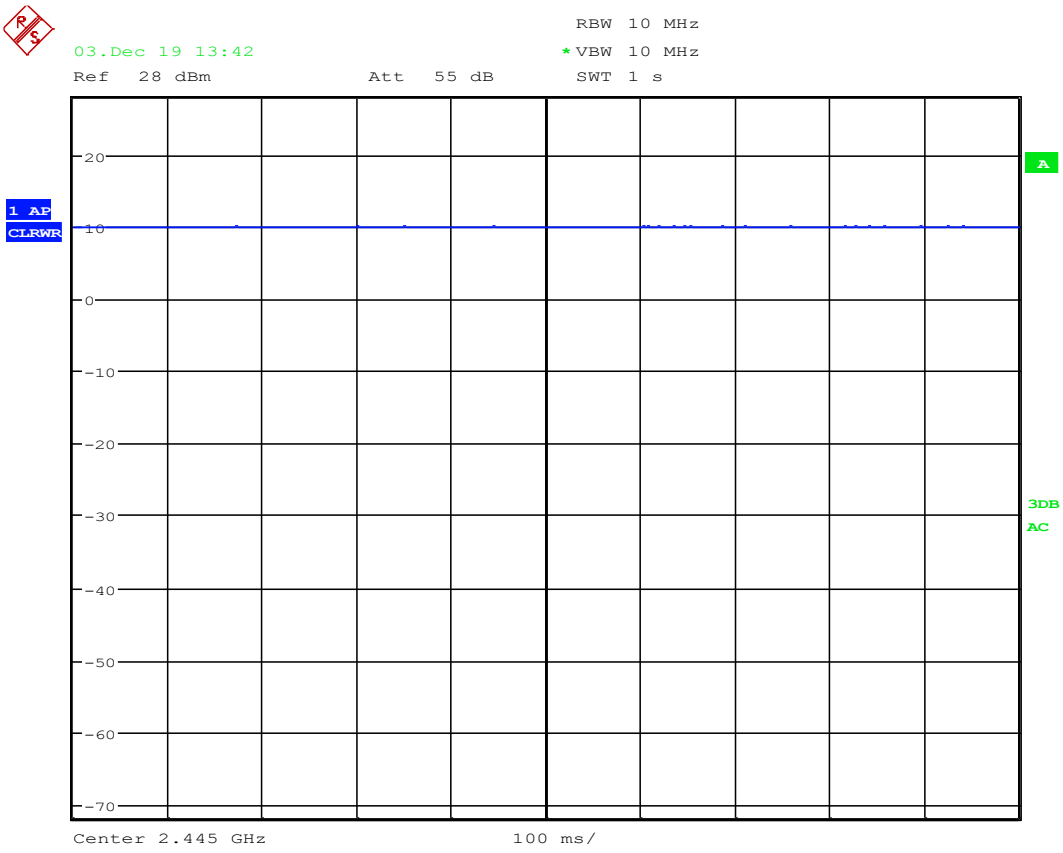
None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

For testing the EUT was set to operate at 100% Duty Cycle.



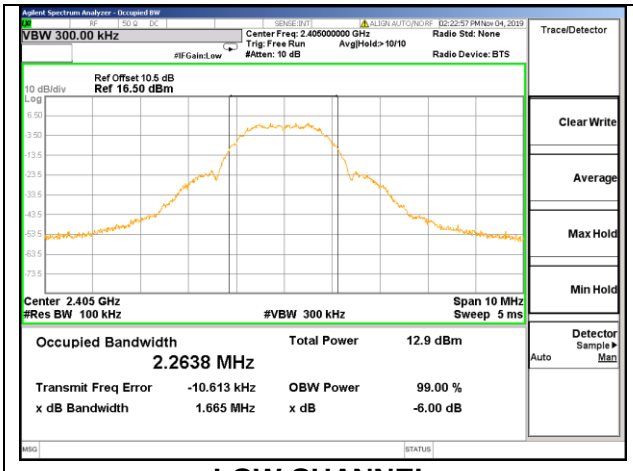
8.2. 99% BANDWIDTH

LIMITS

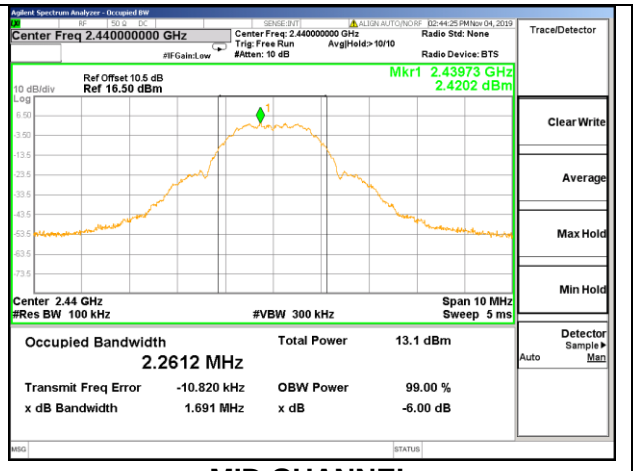
None; for reporting purposes only.

RESULTS

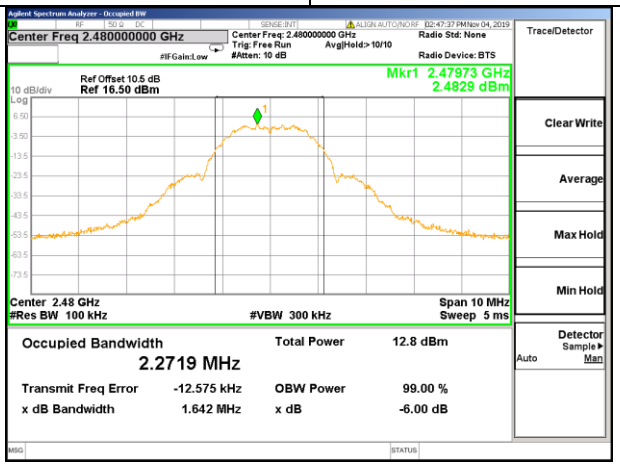
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2405	2.2638
Middle	2440	2.2612
High	2480	2.2719



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.3. 6 dB BANDWIDTH

LIMITS

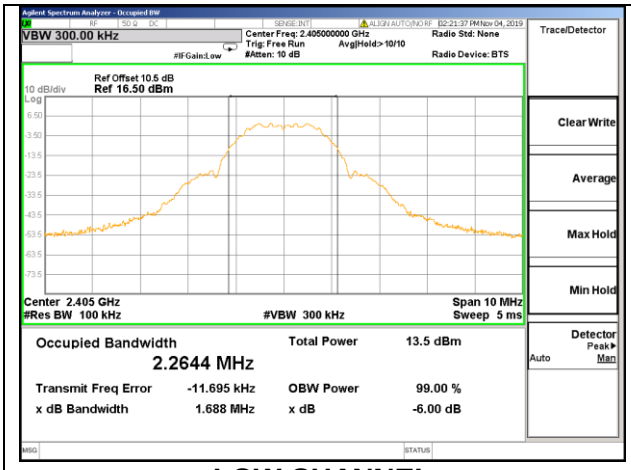
FCC §15.247 (a) (2)

RSS-247 5.2 (a)

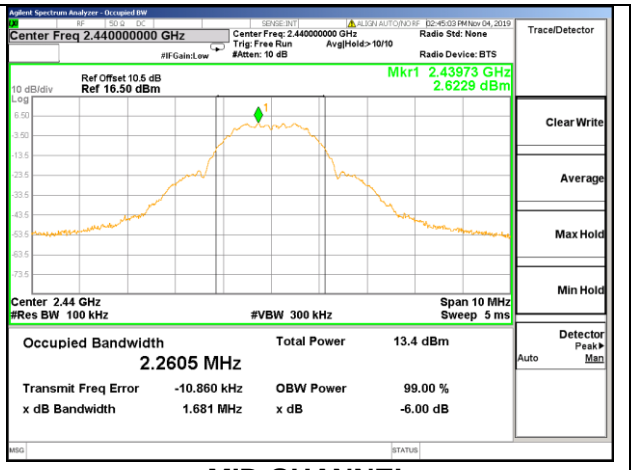
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

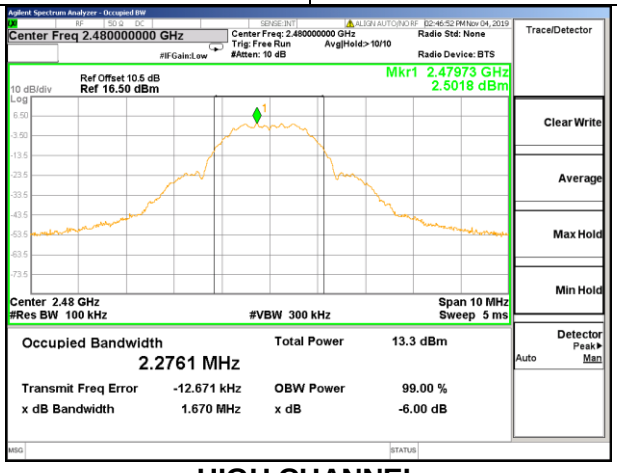
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2405	1.6880	0.5
Middle	2440	1.6810	0.5
High	2480	1.6700	0.5



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

8.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

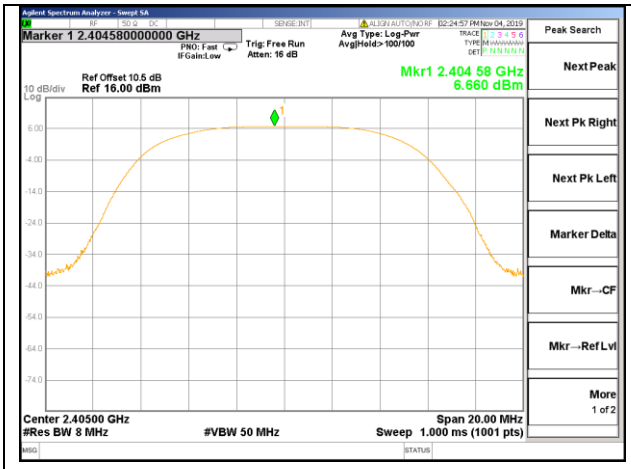
The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE
Transmitter output is connected to spectrum analyzer.

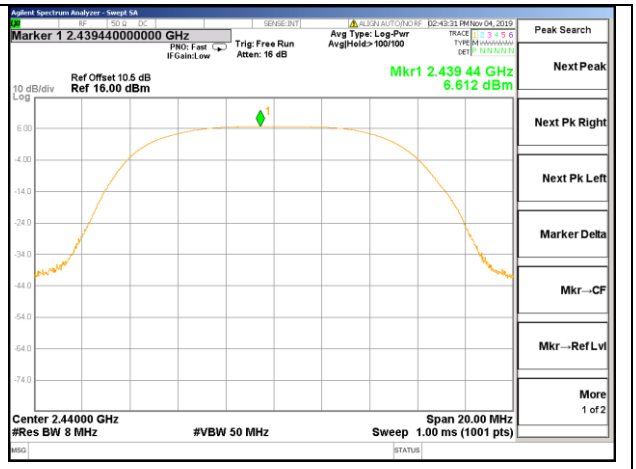
RESULTS

Tested By:	bm06740
Date:	11/4/2019

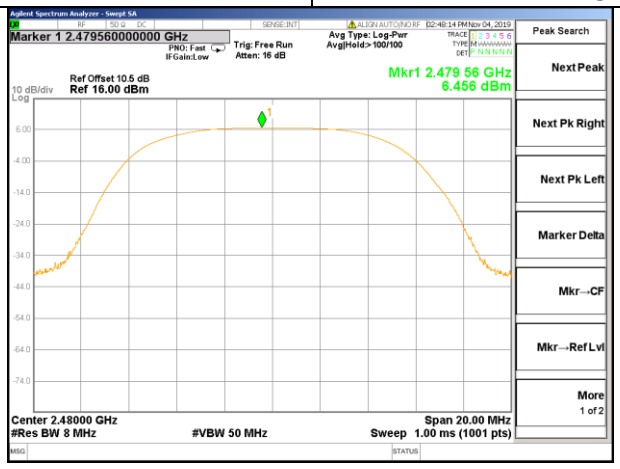
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2405	6.660	30	-23.340
Middle	2440	6.612	30	-23.388
High	2480	6.456	30	-23.544



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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

Tested By:	bm06740
Date:	11/4/2019

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2405	-8.28	8	-16.28
Middle	2440	-8.36	8	-16.36
High	2480	-9.38	8	-17.38

LOW CHANNEL

MID CHANNEL

HIGH CHANNEL

8.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

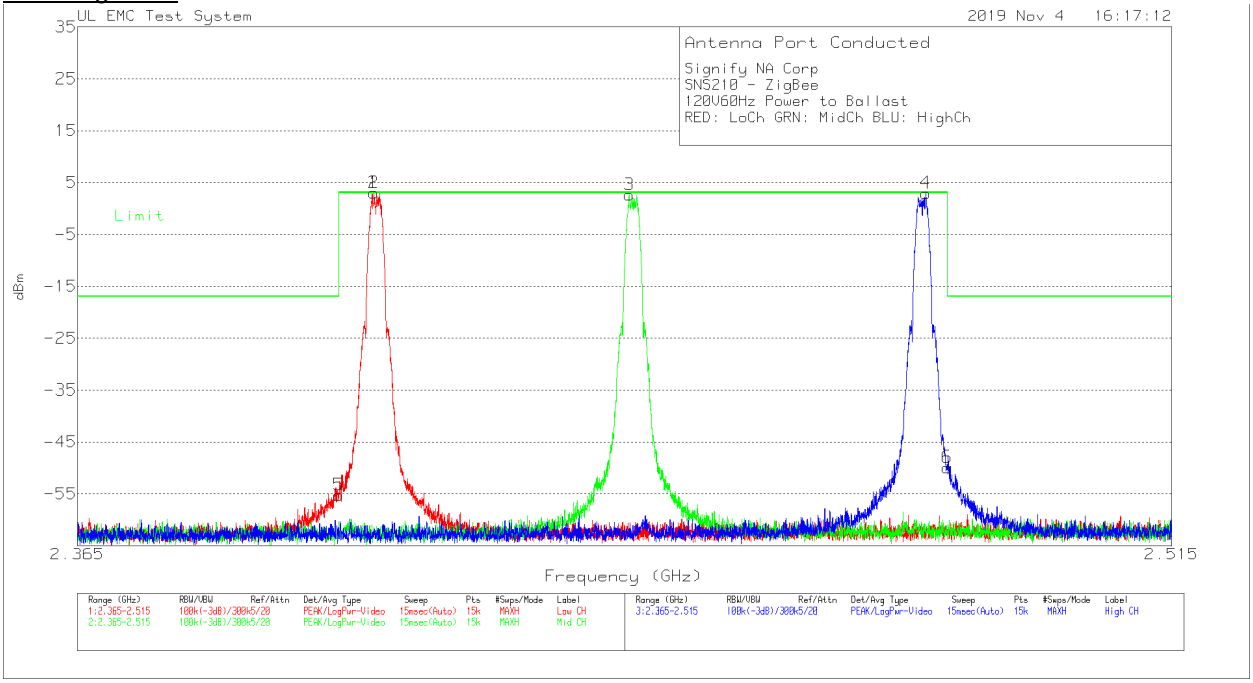
RSS-247 5.5

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

Tested By:	bm06740
Date:	11/4/2019

RESULTS

Bandedge Plot



Bandedge Data

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Signify NA Corp
SNS210 - ZigBee
120V60Hz Power to Ballast
RED: LoCh GRN: MidCh BLU: HighCh

Trace Markers
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No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBm	Limit:1
Low Channel						
*1	2.40475	-7.46dBm Pk	10.5	0	3.04	3.04
					Margin (dB)	0
*2	2.40475	-7.46dBm Pk	10.5	0	3.04	3.04
					Margin (dB)	0
5	2.4	-65.68dBm Pk	10.5	0	-55.18	-16.96
					Margin (dB)	-38.22
Middle Channel						
*3	2.439515	-7.85dBm Pk	10.5	0	2.65	3.04
					Margin (dB)	-.39
High Channel						
*4	2.48049	-7.54dBm Pk	10.5	0	2.96	3.04
					Margin (dB)	-.08
6	2.4835	-60.39dBm Pk	10.5	0	-49.89	-16.96
					Margin (dB)	-32.93

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LIMIT 1: Limit
Pk - Peak detector
* limit and margin not applicable
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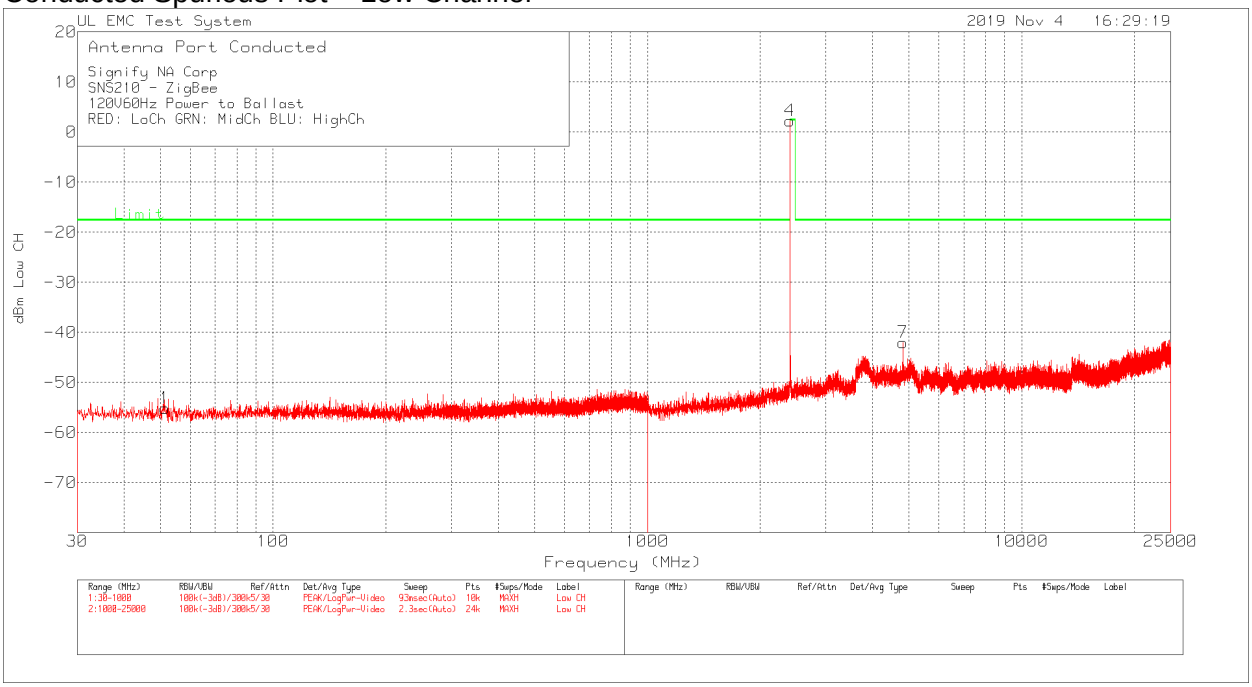
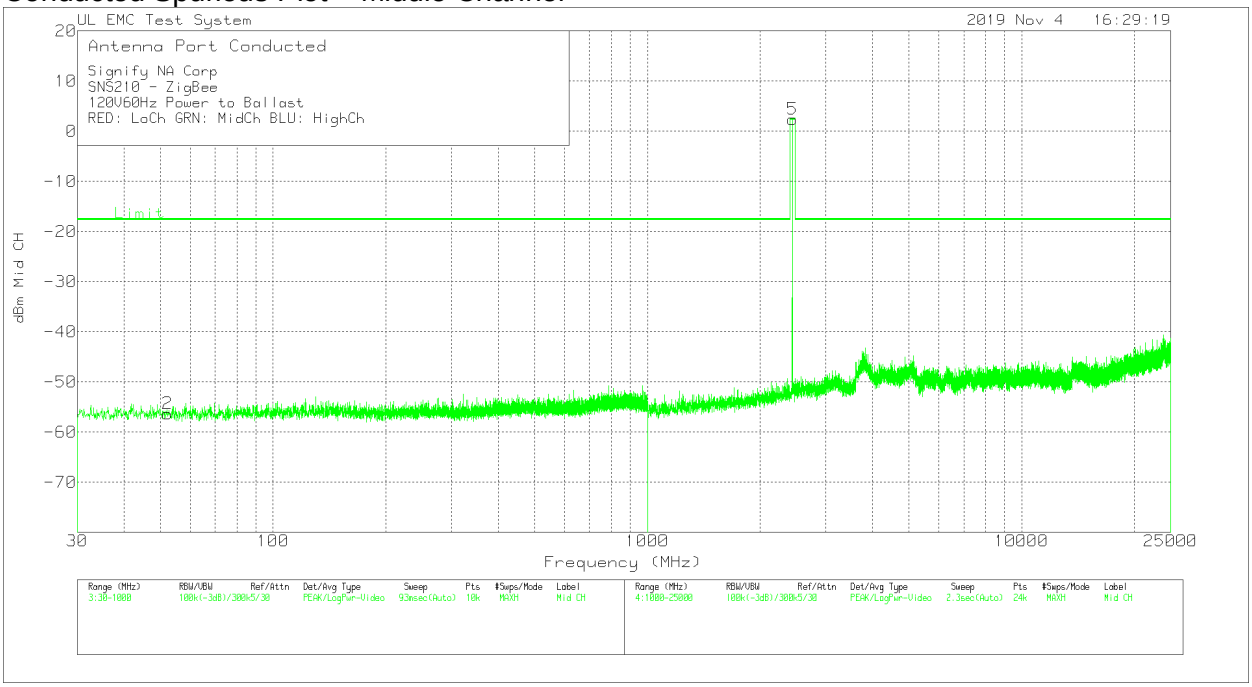
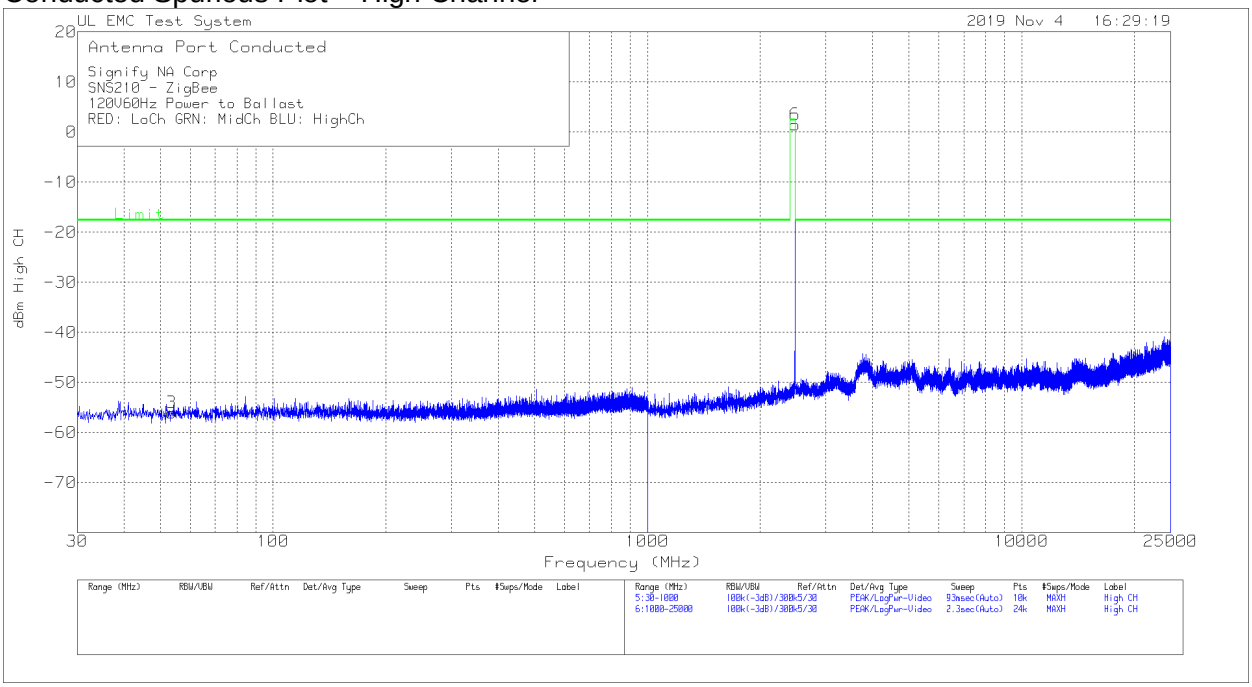
Conducted Spurious Plot – Low Channel



Conducted Spurious Plot – Middle Channel



Conducted Spurious Plot – High Channel



Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBm	Limit:1
Low Channel						
1	51.4392	-65.21dBm Pk	10.1	0	-55.11	-17.59
					Margin (dB)	-37.52
*4	2405	-8.22dBm Pk	10.5	0	2.28	2.41
					Margin (dB)	-.13
7	4811	-52.84dBm Pk	10.8	0	-42.04	-17.59
					Margin (dB)	-24.45
Middle Channel						
2	52.3123	-66.45dBm Pk	10.1	0	-56.35	-17.59
					Margin (dB)	-38.76
*5	2441	-8.09dBm Pk	10.5	0	2.41	2.41
					Margin (dB)	0
High Channel						
3	53.5734	-66.13dBm Pk	10.1	0	-56.03	-17.59
					Margin (dB)	-38.44
*6	2480	-9dBm Pk	10.5	0	1.5	2.41
					Margin (dB)	-.91

LIMIT 1: Limit
Pk - Peak detector
* limit and margin not applicable

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 below 30MHz and frequencies above 1GHz. For frequencies between 30MHz and 1GHz the antenna to EUT 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 120 kHz for 30-1000 MHz peak/quasi-peak detection measurements, 200 Hz for 9-150 kHz peak/quasi-peak measurements and 9 kHz for 0.150-30 MHz peak/quasi-peak measurements. Peak detection is used unless otherwise noted as quasi-peak.

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3MHz for peak measurements.

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.

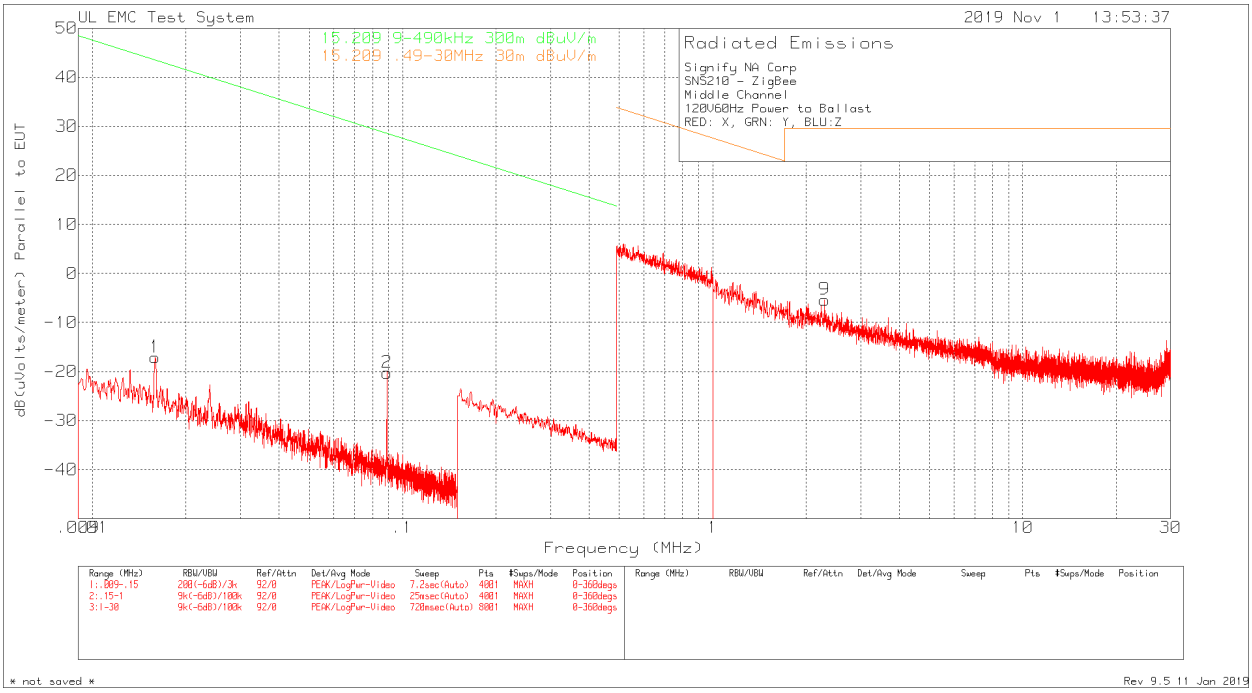
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions. For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel).

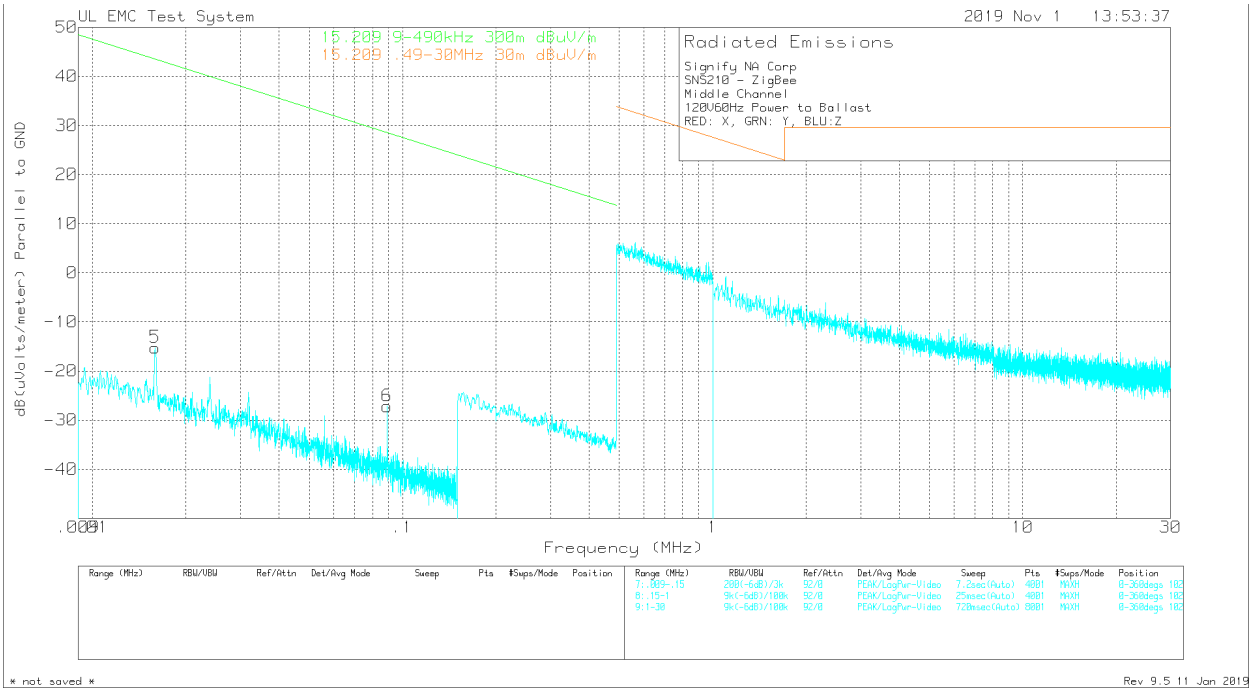
Per FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

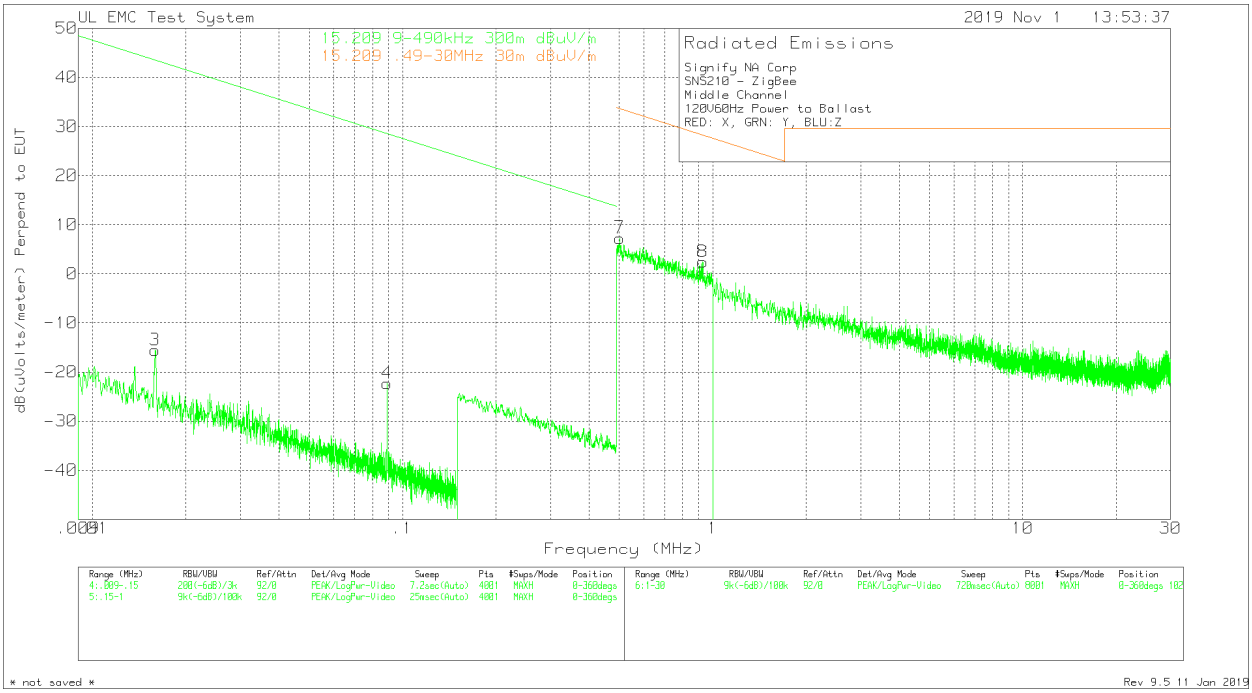
Measurements between 30MHz-1GHz were conducted at measurement distance of 10 meters and data was extrapolated to 3 meters using (20*log(10/3)).Measurements below 30MHz were conducted at measurement distance of 3m and data was extrapolated to measurement distance using (40*log(StandardDistance/3)).

9.2. TRANSMITTER RESULTS BELOW 30MHz

9.2.1. Middle Channel Radiated Emissions







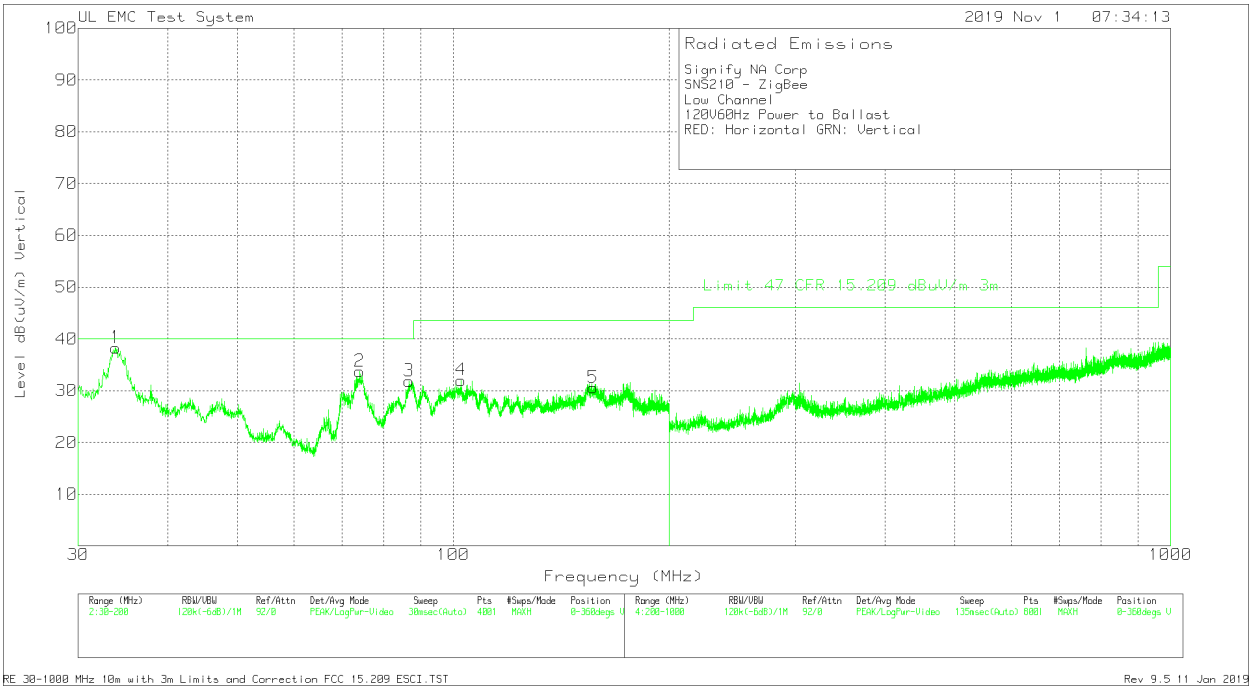
Trace Markers

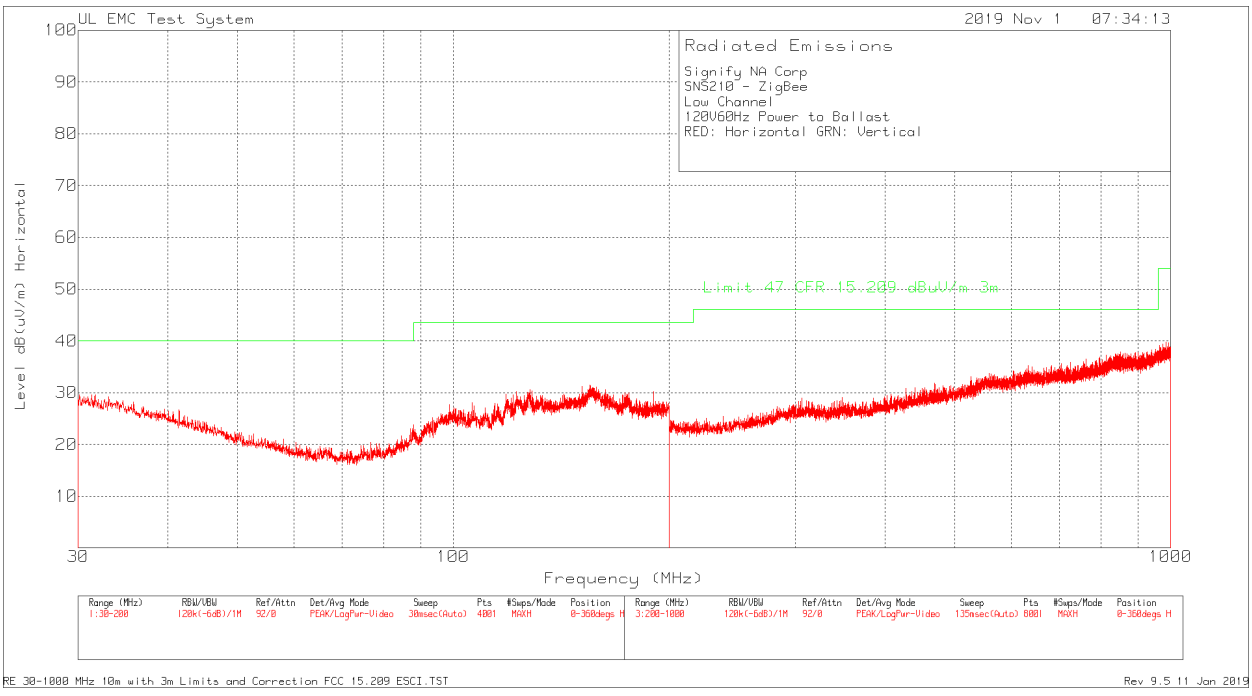
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB	Limit:1 (uVolts/meter)	2
Parallel to EUT							
1	.01593	42.4dBuV Pk	20.5	-80	-17.1	43.55	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-60.65	-
2	.08915	46.95dBuV Pk	12.8	-80	-20.25	28.6	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-48.85	-
9	2.29775	22.24dBuV Pk	12.3	-39.9	-5.36	-	29.54
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-	-34.9
Perpendicular to EUT							
3	.01593	43.96dBuV Pk	20.5	-80	-15.54	43.55	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-59.09	-
4	.08915	44.9dBuV Pk	12.8	-80	-22.3	28.6	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-50.9	-
7	.50102	35.17dBuV Pk	12	-39.9	7.27	-	33.61
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-	-26.34
8	.92937	30.09dBuV Pk	12.2	-39.9	2.39	-	28.24
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-	-25.85
Parallel to Ground							
5	.0159	44.28dBuV Pk	20.5	-80	-15.22	43.57	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-58.79	-
6	.08915	40.03dBuV Pk	12.8	-80	-27.17	28.6	-
		Azimuth:0-360	Height:102 Horz		Margin (dB)	-55.77	-

LIMIT 1: 15.209 9-490kHz 300m dBuV/m
LIMIT 2: 15.209 .49-30MHz 30m dBuV/m
Pk - Peak detector

9.3. TRANSMITTER RESULTS 30MHz-1GHz

9.3.1. Low Channel Radiated Emissions





Signify NA Corp
SNS210 - ZigBee
Low Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)	
1	33.8675	41.29dBuV Pk	16.6	-19.6	38.29	40	
		Azimuth:0-360	Height:101 Vert		Margin (dB)		-1.71
2	74.0725	46.96dBuV Pk	6.3	-19.5	33.76	40	
		Azimuth:0-360	Height:398 Vert		Margin (dB)		-6.24
3	86.8225	42.78dBuV Pk	8.5	-19.4	31.88	40	
		Azimuth:0-360	Height:251 Vert		Margin (dB)		-8.12
4	102.5475	40.23dBuV Pk	11.2	-19.4	32.03	43.52	
		Azimuth:0-360	Height:101 Vert		Margin (dB)		-11.49
5	156.735	34.61dBuV Pk	15	-19	30.61	43.52	
		Azimuth:0-360	Height:101 Vert		Margin (dB)		-12.91

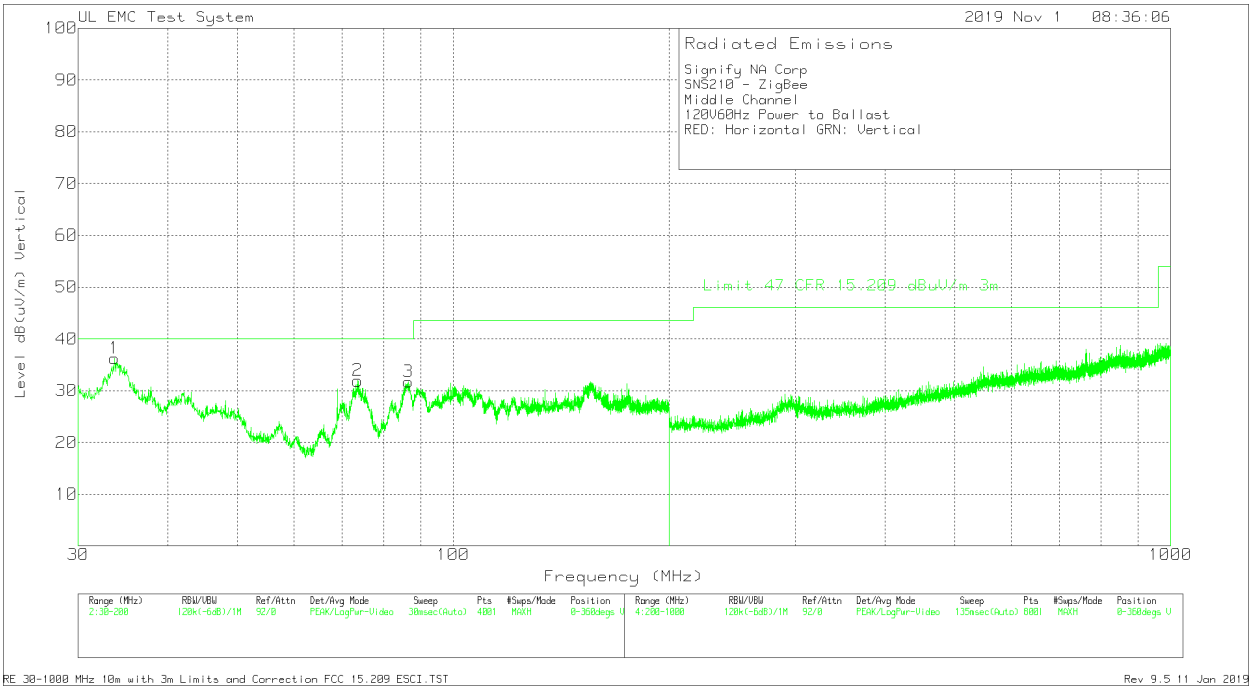
LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m
Pk - Peak detector

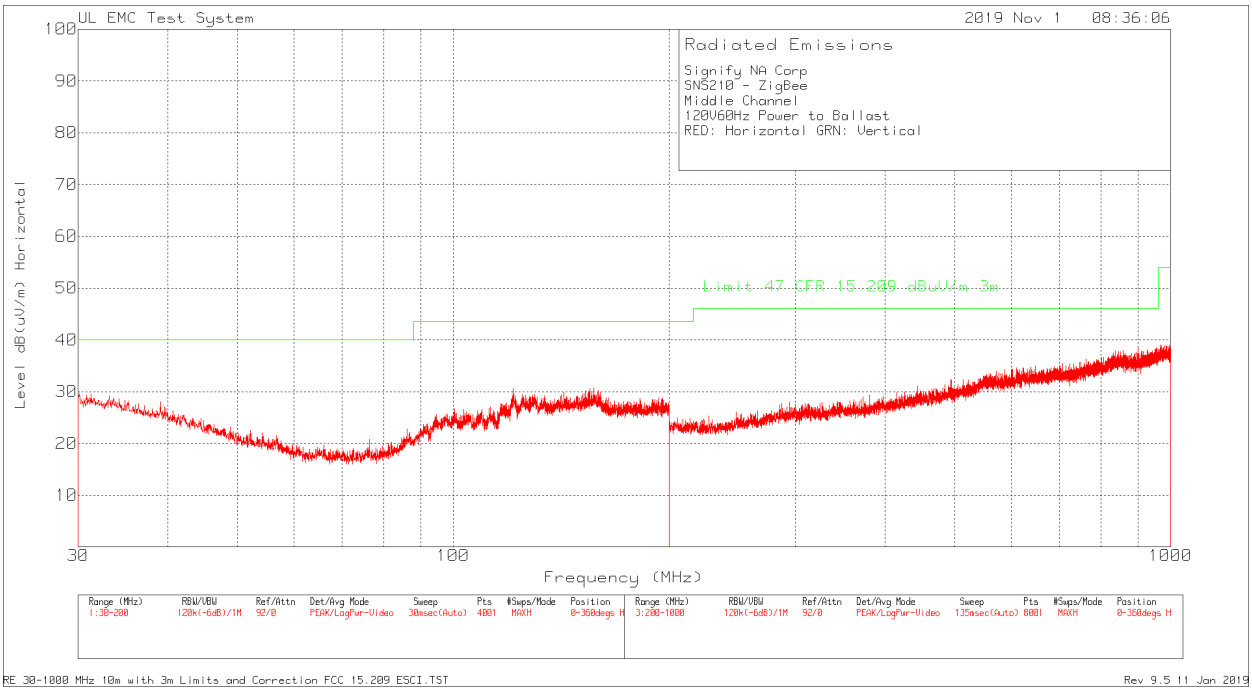
Radiated Emission Data

Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)	
33.93	37.11dBuV Qp	16.5	-19.6	34.01	40	
Azimuth: 143	Height:102 Vert			Margin (dB):		-5.99
73.8325	39.66dBuV Qp	6.3	-19.5	26.46	40	
Azimuth: 132	Height:361 Vert			Margin (dB):		-13.54

LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m
Qp - Quasi-Peak detector

9.3.2. Middle Channel Radiated Emissions





Signify NA Corp
SNS210 - ZigBee
Middle Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)
1	33.6975	39.22dBuV Pk	16.6	-19.6	36.22	40
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-3.78
2	73.605	45.12dBuV Pk	6.3	-19.5	31.92	40
		Azimuth:0-360	Height:399 Vert		Margin (dB)	-8.08
3	86.525	42.73dBuV Pk	8.4	-19.4	31.73	40
		Azimuth:0-360	Height:251 Vert		Margin (dB)	-8.27

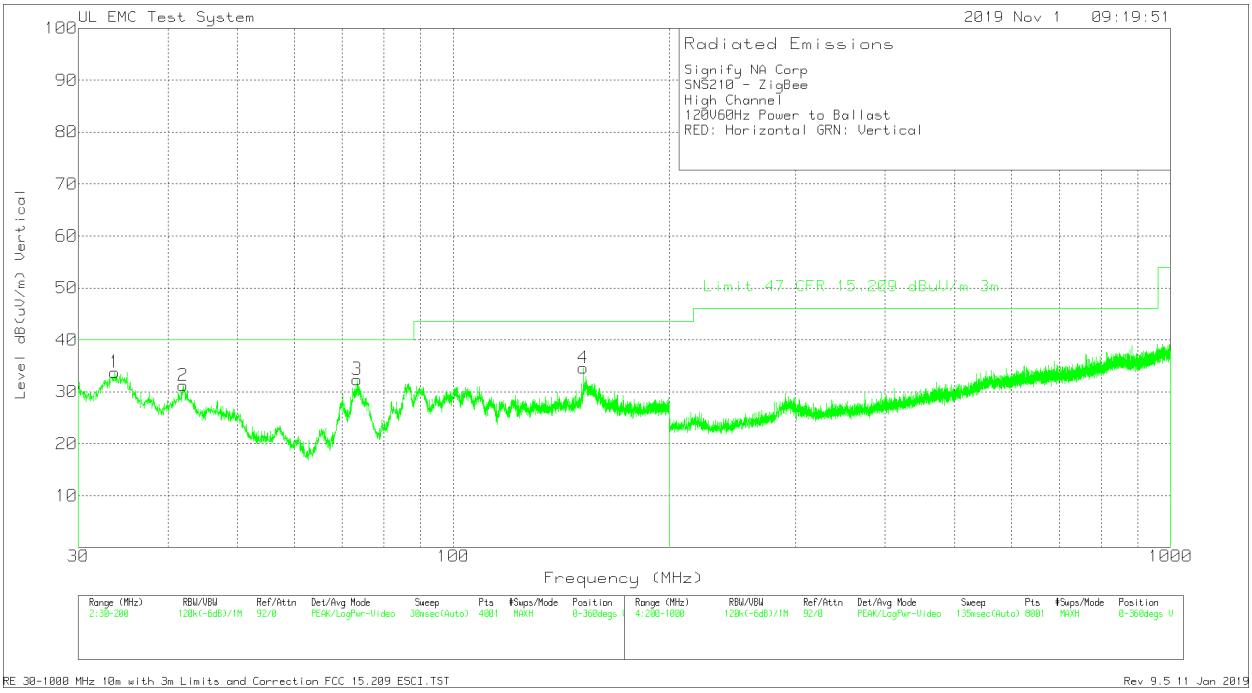
LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m
Pk - Peak detector

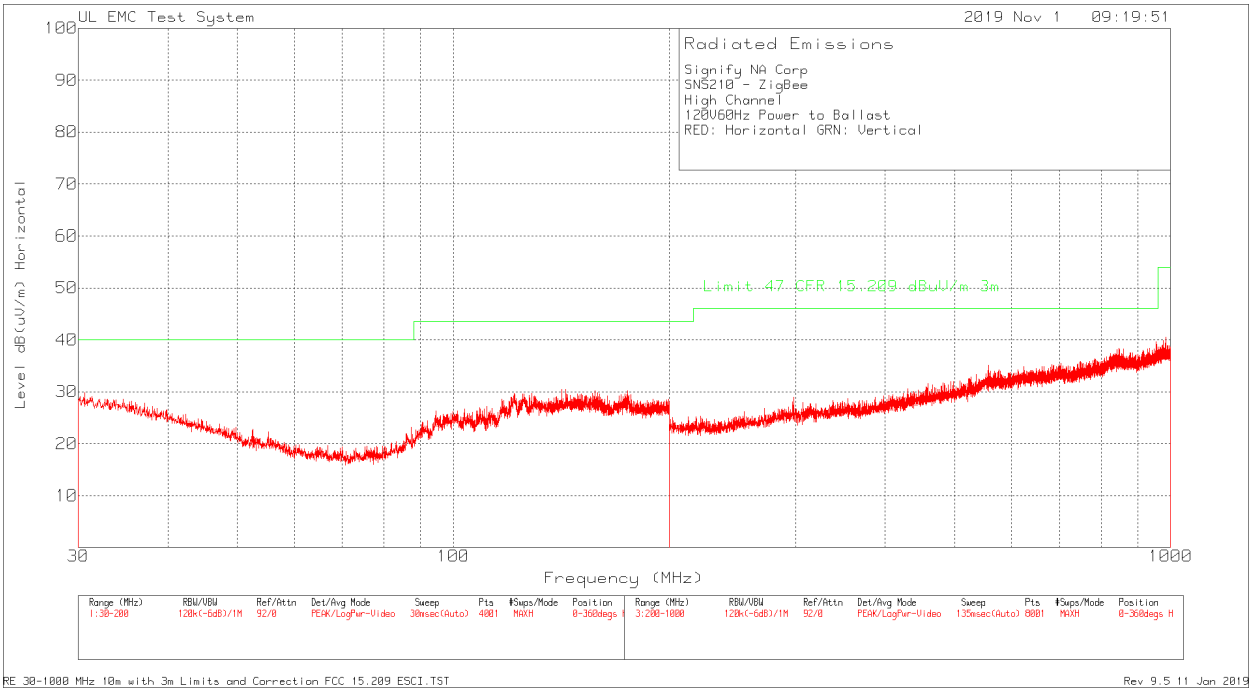
Radiated Emission Data

Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)
33.6975	31.54dBuV Qp	16.6	-19.6	28.54	40
Azimuth: 166	Height:102 Vert			Margin (dB):	-11.46

LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m
Qp - Quasi-Peak detector

9.3.3. High Channel Radiated Emissions





Signify NA Corp
SNS210 - ZigBee
High Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

Trace Markers

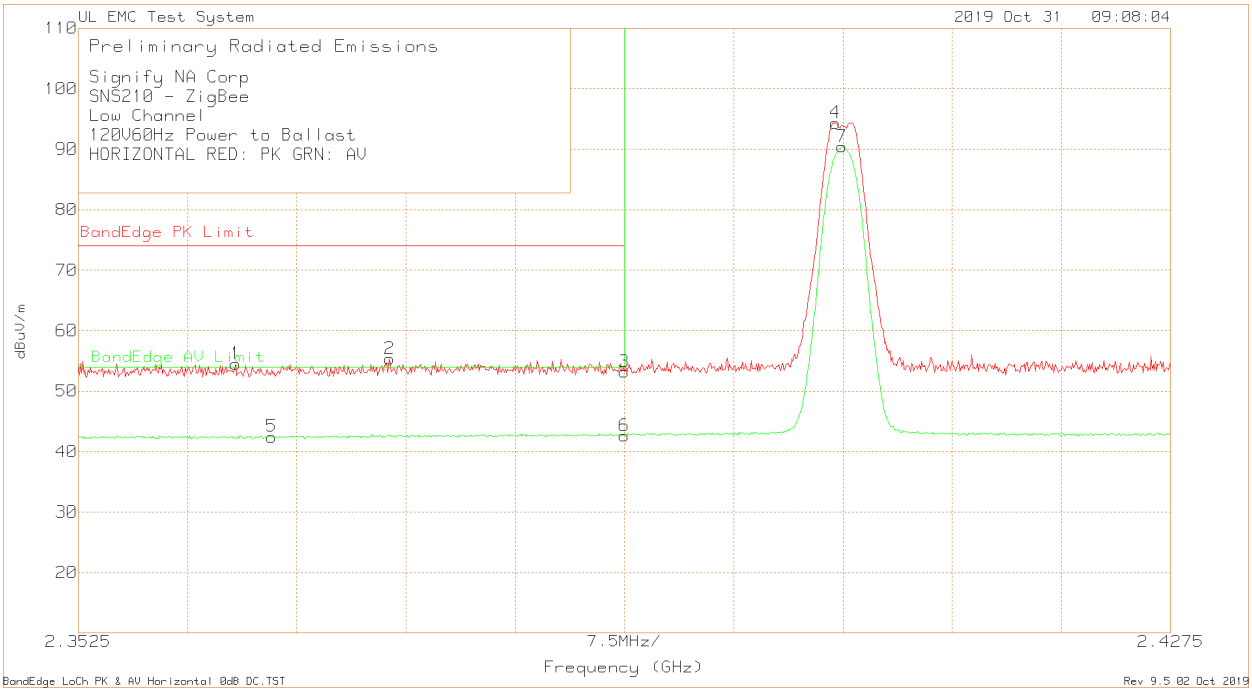
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)
1	33.74	36.76dBuV Pk	16.6	-19.6	33.76	40
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-6.24
2	42.0275	37.41dBuV Pk	13.4	-19.6	31.21	40
		Azimuth:0-360	Height:251 Vert		Margin (dB)	-8.79
3	73.3925	45.58dBuV Pk	6.3	-19.5	32.38	40
		Azimuth:0-360	Height:251 Vert		Margin (dB)	-7.62
4	151.7625	38.83dBuV Pk	14.9	-19.1	34.63	43.52
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-8.89

LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m
Pk - Peak detector

9.4. TRANSMITTER ABOVE 1 GHz

9.4.1. Low Channel Bandedge

HORIZONTAL RESULT



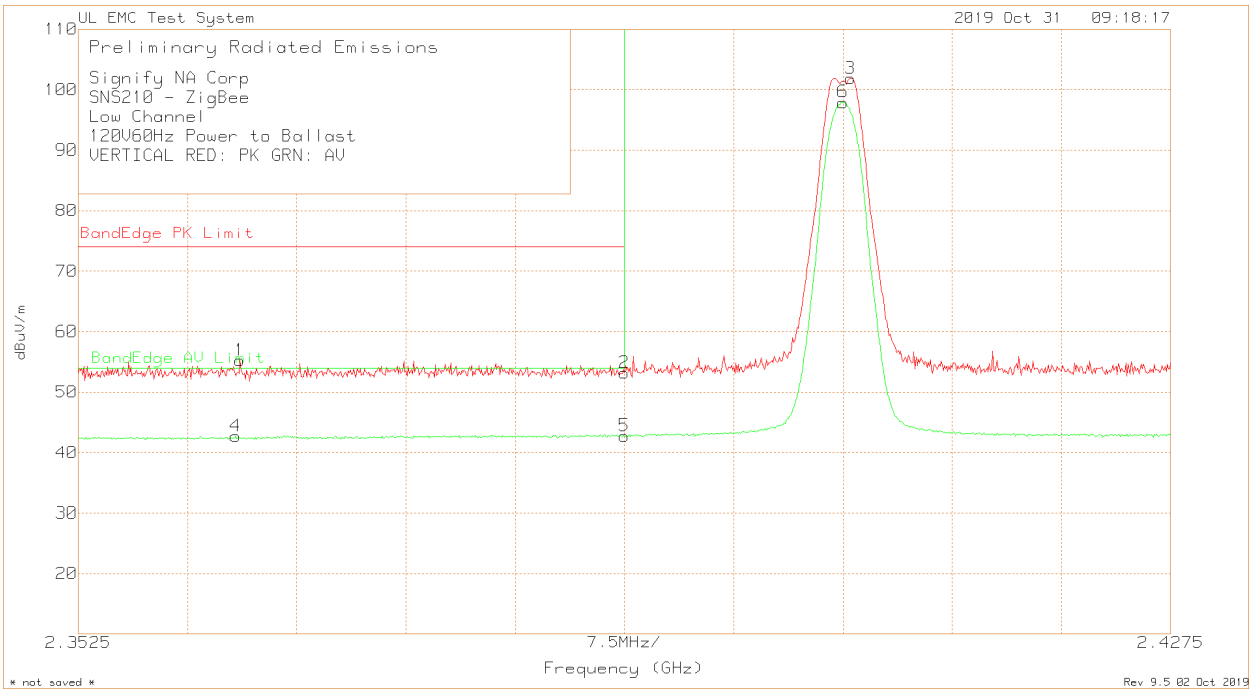
Trace Markers

No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.3633	28.06dBuV Pk	21.8	4.65	54.51	74	-
		Azimuth:112	Height:105 Horz		Margin (dB)	-19.49	-
2	2.373875	28.81dBuV Pk	21.8	4.73	55.34	74	-
		Azimuth:112	Height:105 Horz		Margin (dB)	-18.66	-
3	2.39	26.6dBuV Pk	21.8	4.8	53.2	74	-
		Azimuth:112	Height:105 Horz		Margin (dB)	-20.8	-
4	2.404475	67.83dBuV Pk	21.8	4.72	94.35	-	-
		Azimuth:112	Height:105 Horz		Margin (dB)	-	-
5	2.365775	16.01dBuV RMS	21.8	4.64	42.45	74	54
		Azimuth:112	Height:105 Horz		Margin (dB)	-31.55	-11.55
6	2.39	16.02dBuV RMS	21.8	4.8	42.62	74	54
		Azimuth:112	Height:105 Horz		Margin (dB)	-31.38	-11.38
7	2.404925	63.91dBuV RMS	21.8	4.72	90.43	-	-
		Azimuth:112	Height:105 Horz		Margin (dB)	-	-

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

Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



Trace Markers

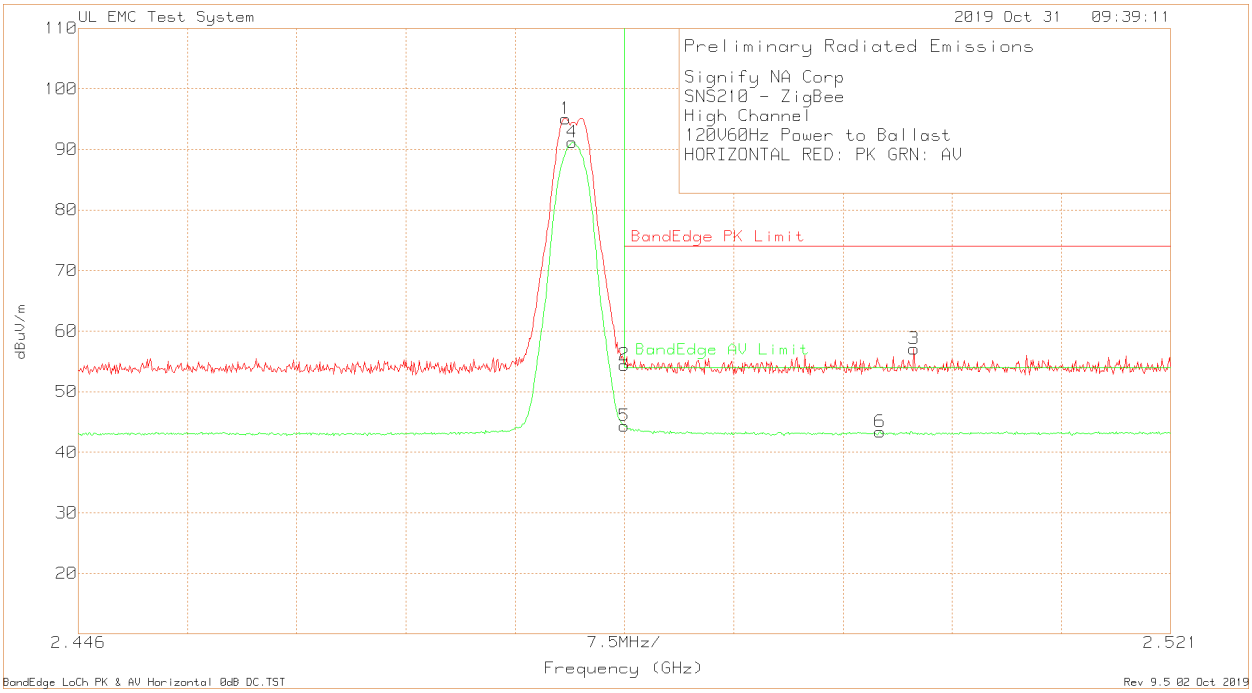
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.3636	28.76dBuV Pk	21.8	4.65	55.21	74	-
		Azimuth:210	Height:114	Vert	Margin (dB)	-18.79	-
2	2.39	26.56dBuV Pk	21.8	4.8	53.16	74	-
		Azimuth:210	Height:114	Vert	Margin (dB)	-20.84	-
3	2.405525	75.37dBuV Pk	21.8	4.71	101.88	-	-
		Azimuth:210	Height:114	Vert	Margin (dB)	-	-
4	2.3633	16.24dBuV RMS	21.8	4.65	42.69	-	54
		Azimuth:210	Height:114	Vert	Margin (dB)	-	-11.31
5	2.39	16.15dBuV RMS	21.8	4.8	42.75	-	54
		Azimuth:210	Height:114	Vert	Margin (dB)	-	-11.25
6	2.405	71.41dBuV RMS	21.8	4.71	97.92	-	-
		Azimuth:210	Height:114	Vert	Margin (dB)	-	-

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

Pk - Peak detector
RMS - RMS detection

9.4.2. High Channel Bandedge

HORIZONTAL RESULT



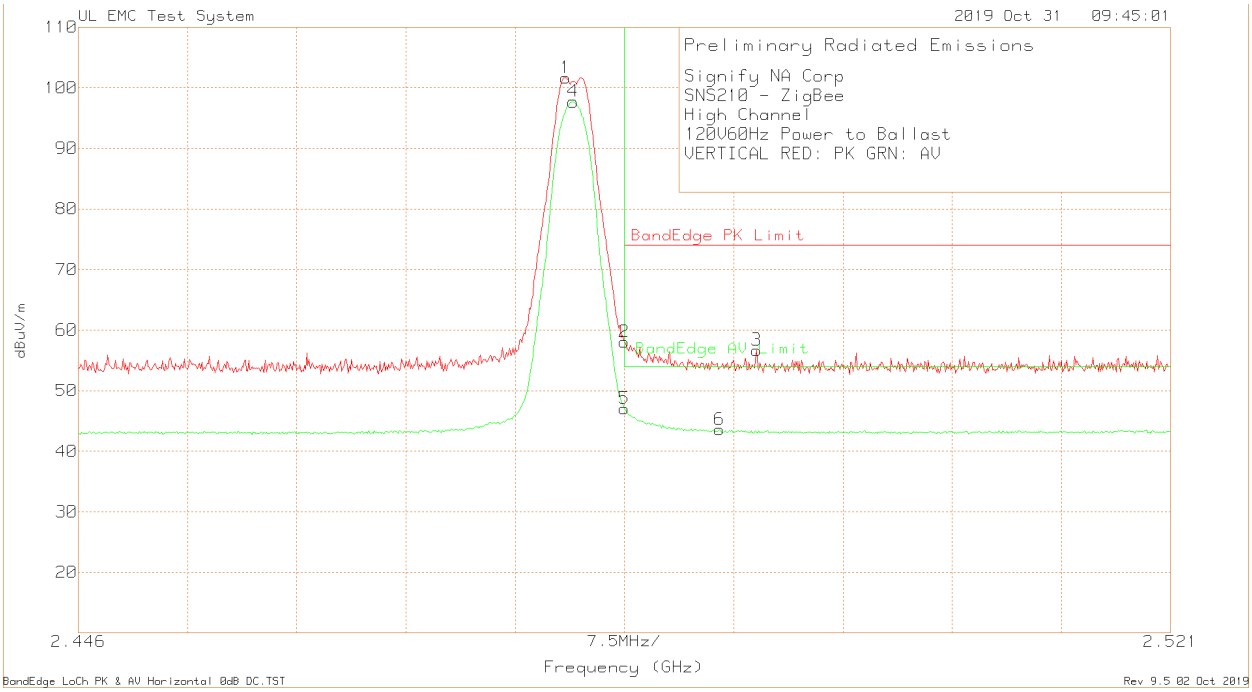
Trace Markers

No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.47945	68.6dBuV Pk	22	4.48	95.08	-	-
		Azimuth:91	Height:100	Horz	Margin (dB)	-	-
2	2.4835	27.85dBuV Pk	22.1	4.47	54.42	74	-
		Azimuth:91	Height:100	Horz	Margin (dB)	-19.58	-
3	2.503375	30.48dBuV Pk	22.1	4.47	57.05	74	-
		Azimuth:91	Height:100	Horz	Margin (dB)	-16.95	-
4	2.4799	64.69dBuV RMS	22	4.47	91.16	-	-
		Azimuth:91	Height:100	Horz	Margin (dB)	-	-
5	2.4835	17.78dBuV RMS	22.1	4.47	44.35	-	54
		Azimuth:91	Height:100	Horz	Margin (dB)	-	-9.65
6	2.50105	16.78dBuV RMS	22.1	4.47	43.35	-	54
		Azimuth:91	Height:100	Horz	Margin (dB)	-	-10.65

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

Pk - Peak detector
RMS - RMS detection

VERTICAL RESULT



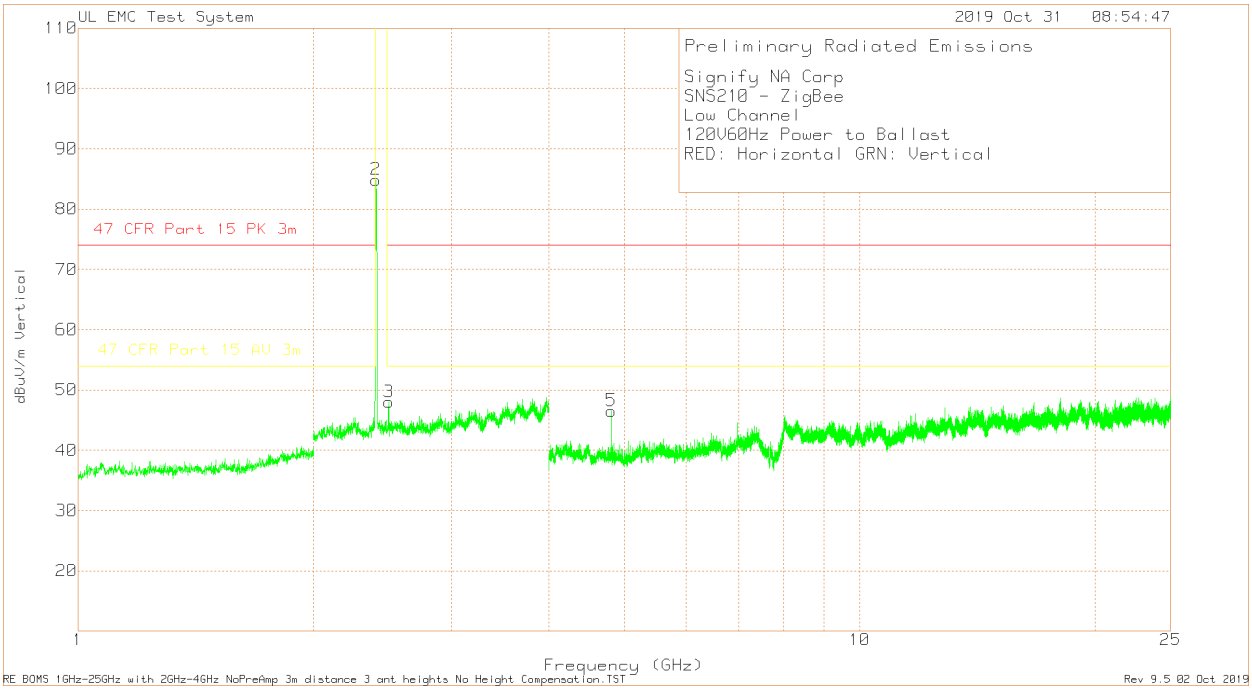
Trace Markers

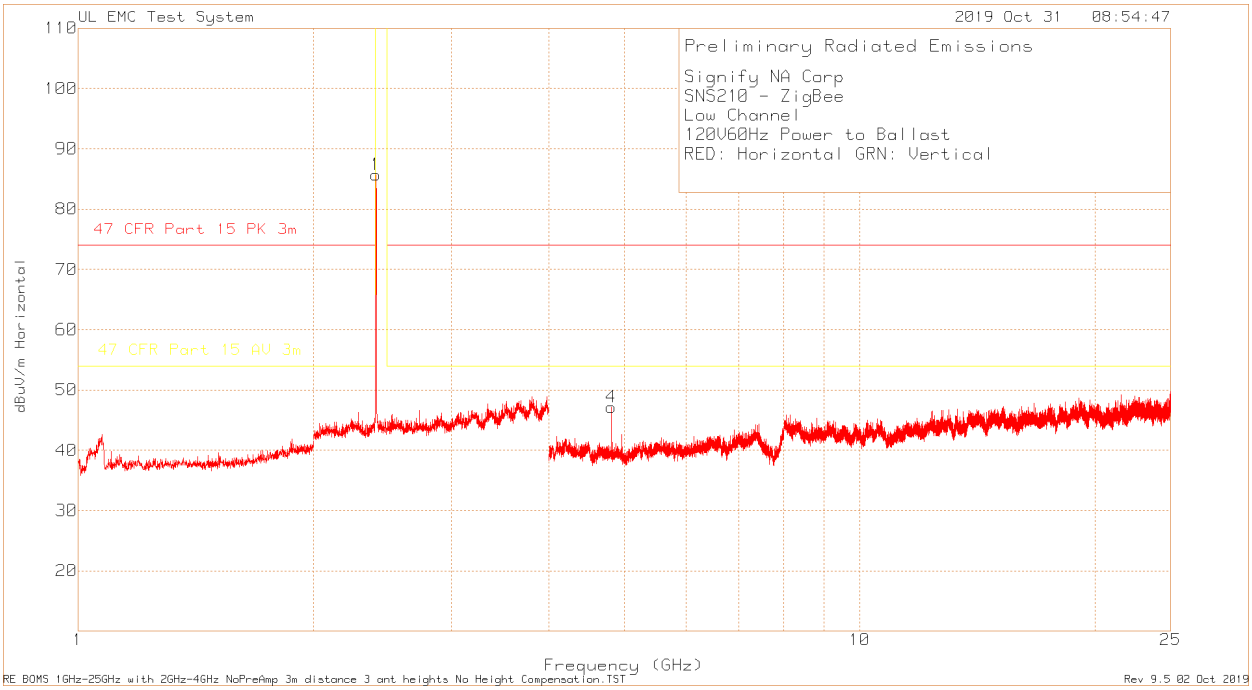
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.47945	75.17dBuV Pk	22	4.48	101.65	-	-
		Azimuth:113	Height:133	Vert	Margin (dB)	-	-
2	2.4835	31.5dBuV Pk	22.1	4.47	58.07	74	-
		Azimuth:113	Height:133	Vert	Margin (dB)	-15.93	-
3	2.492575	30.08dBuV Pk	22.1	4.49	56.67	74	-
		Azimuth:113	Height:133	Vert	Margin (dB)	-17.33	-
4	2.479975	71.24dBuV RMS	22	4.47	97.71	-	-
		Azimuth:113	Height:133	Vert	Margin (dB)	-	-
5	2.4835	20.44dBuV RMS	22.1	4.47	47.01	-	54
		Azimuth:113	Height:133	Vert	Margin (dB)	-	-6.99
6	2.490025	16.97dBuV RMS	22.1	4.5	43.57	-	54
		Azimuth:113	Height:133	Vert	Margin (dB)	-	-10.43

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

Pk - Peak detector
RMS - RMS detection

9.4.3. Harmonics and Spurious Emissions Low Channel





Signify NA Corp
SNS210 - ZigBee
Low Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

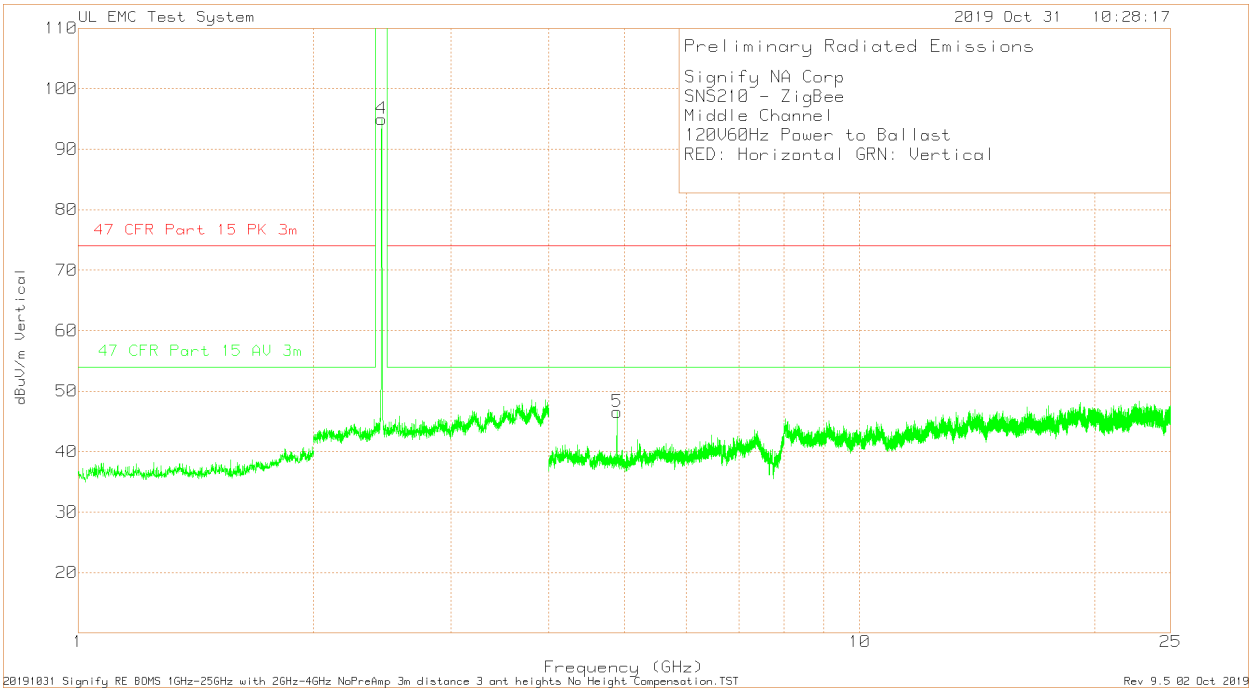
Trace Markers

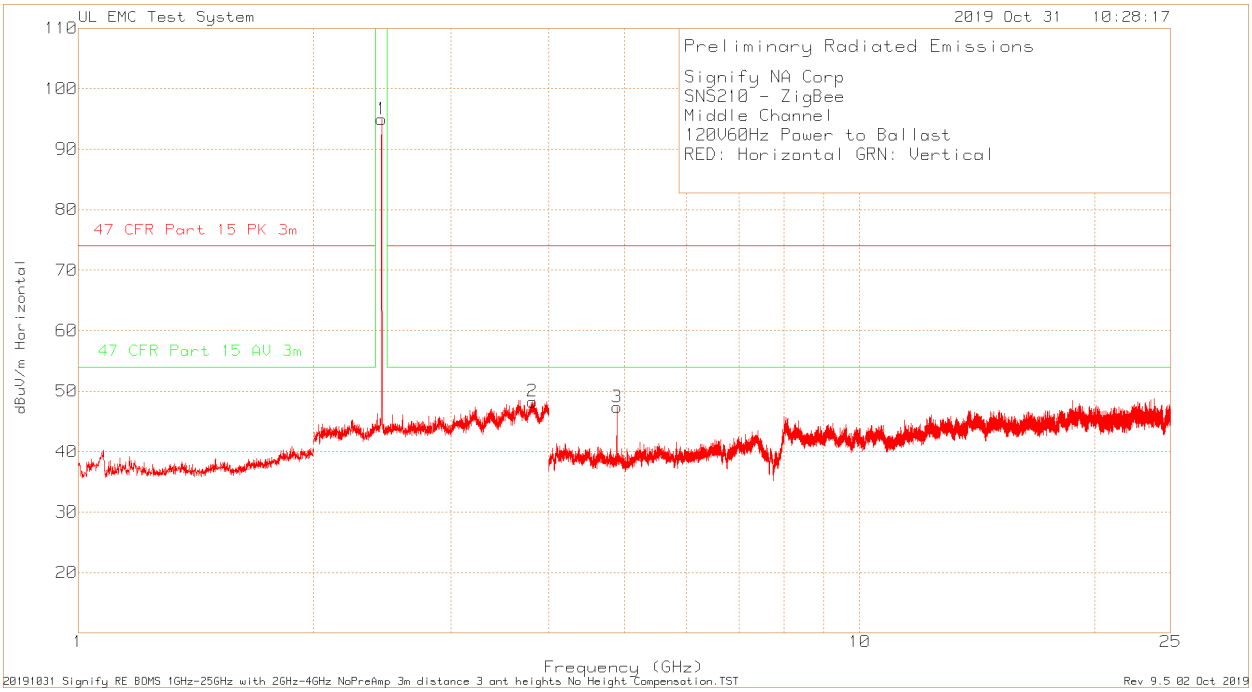
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.404	104.25dBuV Pk	21.8	-40.38	85.67	-	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-	-
4	4.811	70.84dBuV Pk	27.7	-51.38	47.16	74	54
		Azimuth:0-360	Height:149	Horz	Margin (dB)	-26.84	-6.84
2	2.406	103.51dBuV Pk	21.8	-40.45	84.86	-	-
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-	-
3	2.497	66.58dBuV Pk	22.1	-40.67	48.01	74	54
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-25.99	-5.99
5	4.809	70.17dBuV Pk	27.7	-51.33	46.54	74	54
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-27.46	-7.46

LIMIT 1: 47 CFR Part 15 PK 3m
LIMIT 2: 47 CFR Part 15 AV 3m

Pk - Peak detector

9.4.4. Harmonics and Spurious Emissions Middle Channel





Signify NA Corp
SNS210 - ZigBee
Middle Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

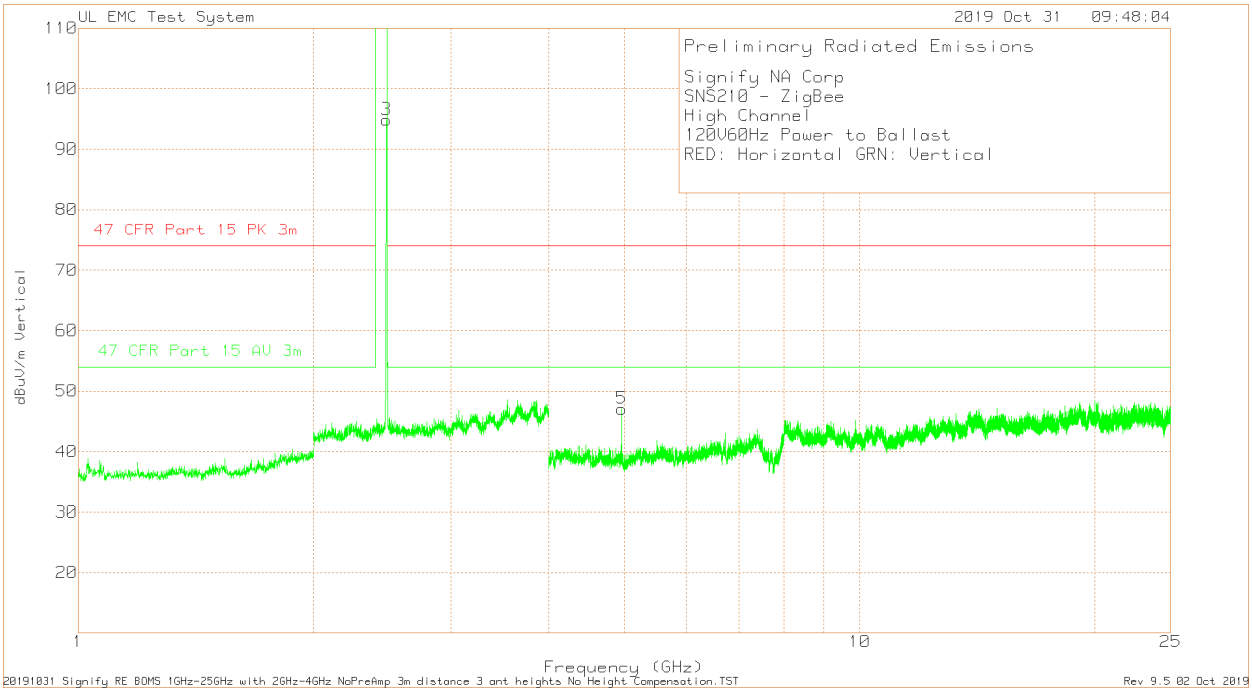
Trace Markers

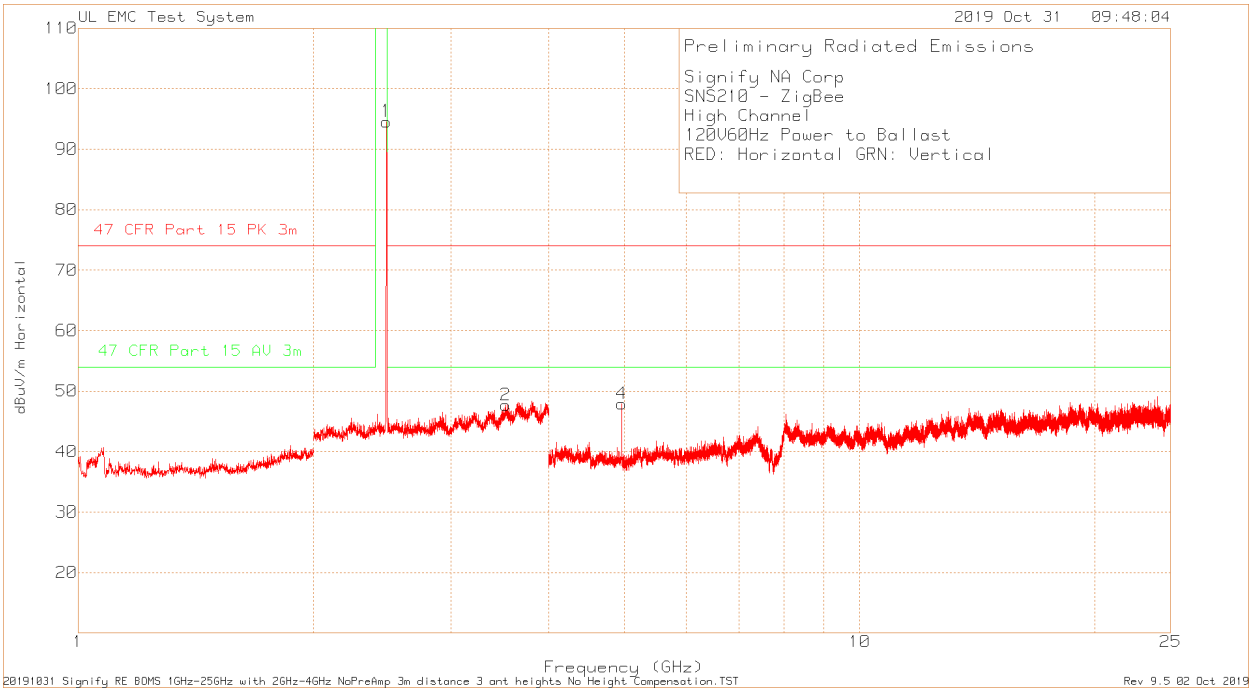
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.444	113.63dBuV Pk	21.9	-40.61	94.92	-	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-	-
2	3.812	63.32dBuV Pk	24.1	-39.14	48.28	74	54
		Azimuth:0-360	Height:200	Horz	Margin (dB)	-25.72	-5.72
3	4.891	69.87dBuV Pk	27.7	-50.23	47.34	74	54
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-26.66	-6.66
4	2.444	113.72dBuV Pk	21.9	-40.61	95.01	-	-
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-	-
5	4.891	69.09dBuV Pk	27.7	-50.23	46.56	74	54
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-27.44	-7.44

LIMIT 1: 47 CFR Part 15 PK 3m
LIMIT 2: 47 CFR Part 15 AV 3m

Pk - Peak detector

9.4.5. Harmonics and Spurious Emissions High Channel





Signify NA Corp
SNS210 - ZigBee
High Channel
120V60Hz Power to Ballast
RED: Horizontal GRN: Vertical

Trace Markers

No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1	2
1	2.479	113.45dBuV RMS	22	-40.89	94.56	-	-
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-	-
2	3.525	63.49dBuV RMS	23.4	-39.2	47.69	74	54
		Azimuth:0-360	Height:200	Horz	Margin (dB)	-26.31	-6.31
4	4.959	69.86dBuV Pk	27.8	-49.76	47.9	74	54
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-26.1	-6.1
3	2.48	113.59dBuV Pk	22	-40.71	94.88	-	-
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-	-
5	4.959	69.05dBuV Pk	27.8	-49.76	47.09	74	54
		Azimuth:0-360	Height:200	Vert	Margin (dB)	-26.91	-6.91

LIMIT 1: 47 CFR Part 15 PK 3m
LIMIT 2: 47 CFR Part 15 AV 3m

Pk - Peak detector
RMS - RMS detection

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

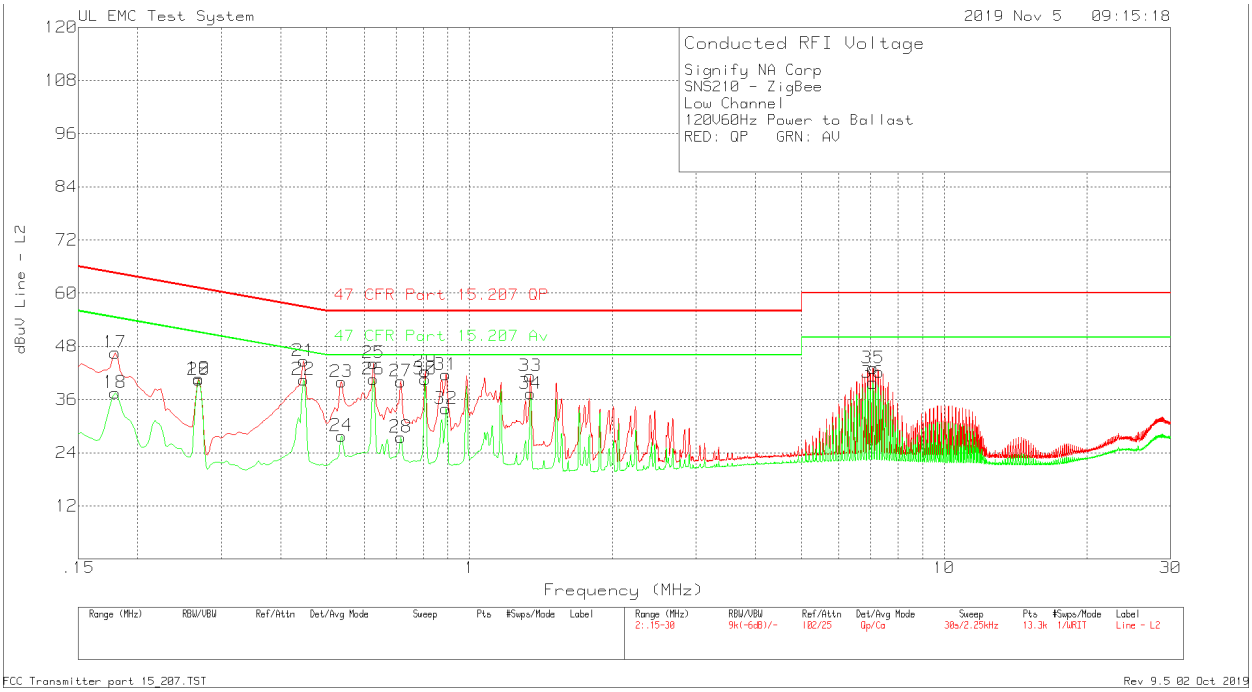
RSS-Gen 8.8

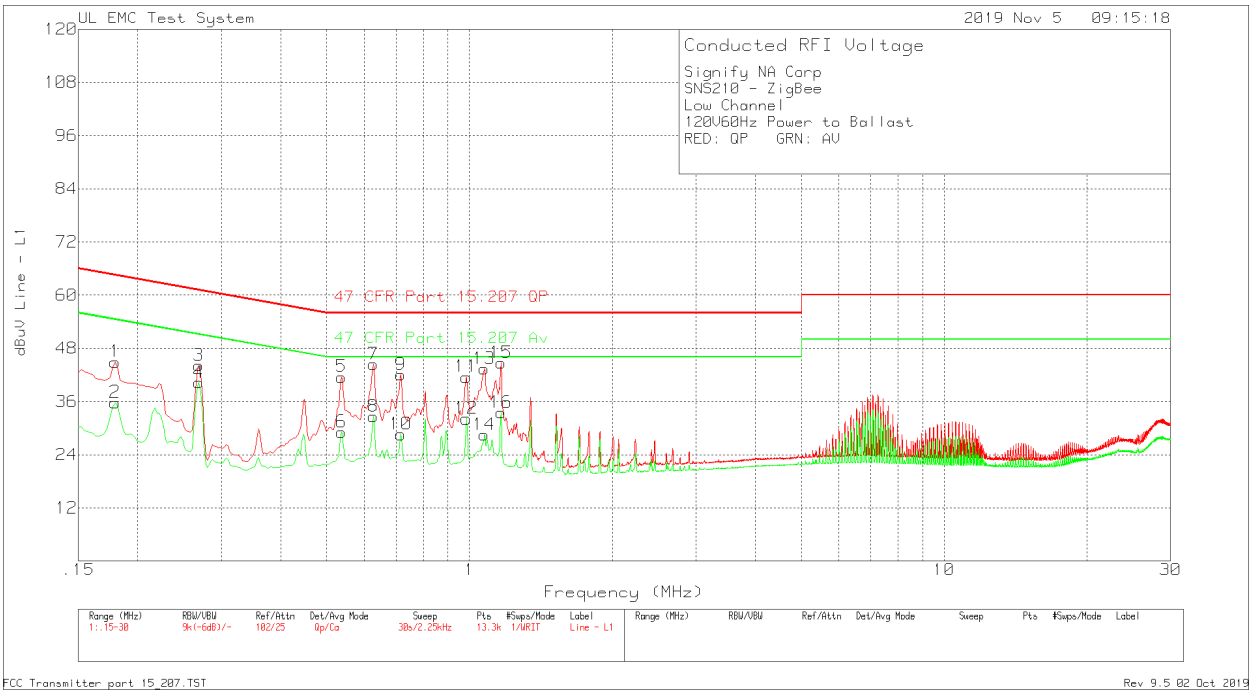
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

RESULTS

10.1. AC Power Line Low Channel





Signify NA Corp
SNS210 - ZigBee
Low Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 1							
1	.17925	32.64dBuV Qp	0	12.3	44.94	64.52	54.52
					Margin (dB)	-19.58	-9.58
2	.17925	23.47dBuV Ca	0	12.3	35.77	64.52	54.52
					Margin (dB)	-28.75	-18.75
3	.26925	33.12dBuV Qp	0	11	44.12	61.14	51.14
					Margin (dB)	-17.02	-7.02
4	.26925	29.33dBuV Ca	0	11	40.33	61.14	51.14
					Margin (dB)	-20.81	-10.81
5	.537	30.95dBuV Qp	0	10.6	41.55	56	46
					Margin (dB)	-14.45	-4.45
6	.537	18.53dBuV Ca	0	10.6	29.13	56	46
					Margin (dB)	-26.87	-16.87
7	.627	33.9dBuV Qp	0	10.5	44.4	56	46
					Margin (dB)	-11.6	-1.6
8	.627	22.12dBuV Ca	0	10.5	32.62	56	46
					Margin (dB)	-23.38	-13.38
9	.717	31.53dBuV Qp	0	10.5	42.03	56	46
					Margin (dB)	-13.97	-3.97
10	.717	18.08dBuV Ca	0	10.5	28.58	56	46
					Margin (dB)	-27.42	-17.42
11	.98475	31.05dBuV Qp	0	10.5	41.55	56	46
					Margin (dB)	-14.45	-4.45
12	.98475	21.63dBuV Ca	0	10.5	32.13	56	46
					Margin (dB)	-23.87	-13.87
13	1.07475	32.92dBuV Qp	0	10.5	43.42	56	46
					Margin (dB)	-12.58	-2.58
14	1.07475	18.01dBuV Ca	0	10.5	28.51	56	46
					Margin (dB)	-27.49	-17.49
15	1.16475	34.19dBuV Qp	0	10.5	44.69	56	46
					Margin (dB)	-11.31	-1.31
16	1.16475	23.02dBuV Ca	0	10.5	33.52	56	46
					Margin (dB)	-22.48	-12.48

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

Signify NA Corp
SNS210 - ZigBee
Low Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

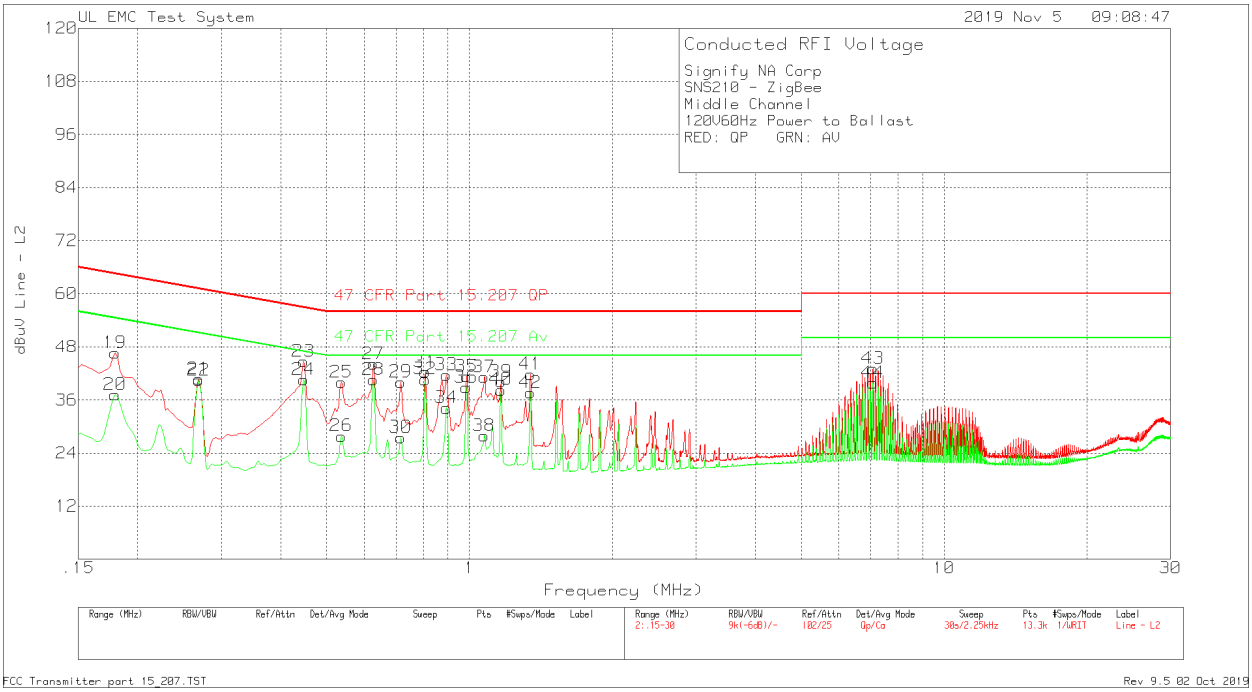
Trace Markers

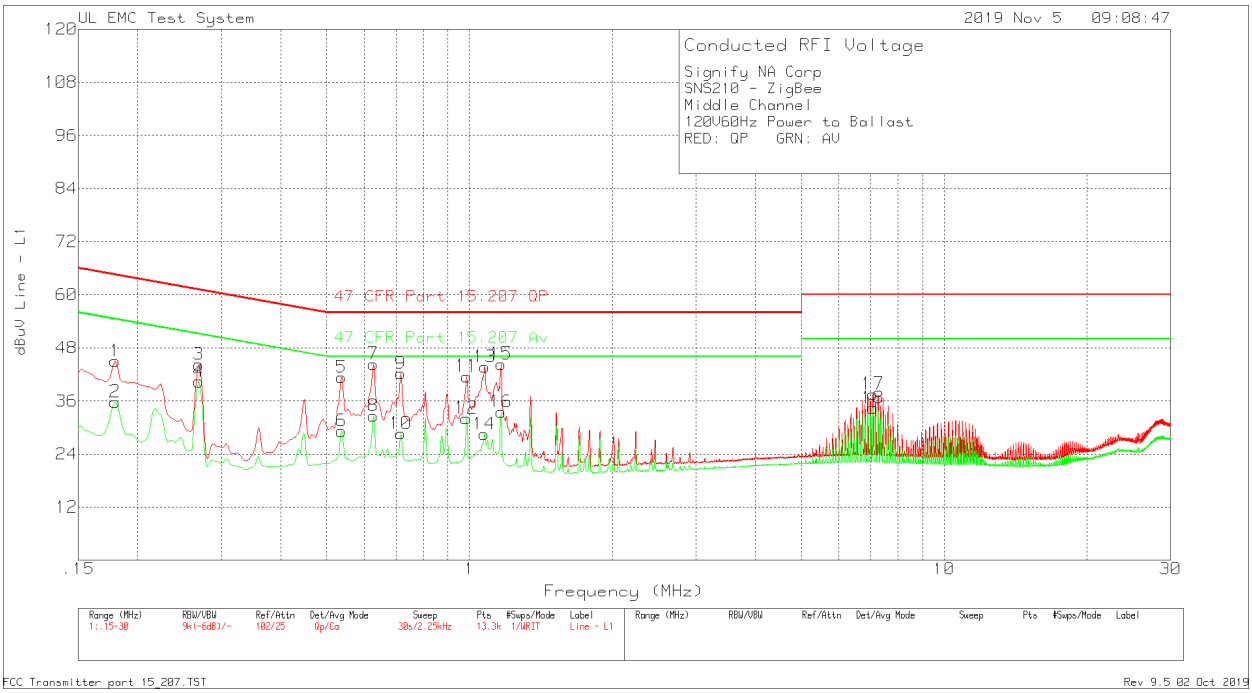
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 2							
17	.17925	34.17dBuV Qp	.1	12.3	46.57	64.52	54.52
					Margin (dB)	-17.95	-7.95
18	.17925	25.14dBuV Ca	.1	12.3	37.54	64.52	54.52
					Margin (dB)	-26.98	-16.98
19	.26925	29.77dBuV Qp	0	11	40.77	61.14	51.14
					Margin (dB)	-20.37	-10.37
20	.26925	29.44dBuV Ca	0	11	40.44	61.14	51.14
					Margin (dB)	-20.7	-10.7
21	.447	34.09dBuV Qp	0	10.6	44.69	56.93	46.93
					Margin (dB)	-12.24	-2.24
22	.447	29.9dBuV Ca	0	10.6	40.5	56.93	46.93
					Margin (dB)	-16.43	-6.43
23	.537	29.4dBuV Qp	0	10.6	40	56	46
					Margin (dB)	-16	-6
24	.537	17.22dBuV Ca	0	10.6	27.82	56	46
					Margin (dB)	-28.18	-18.18
25	.627	33.7dBuV Qp	0	10.5	44.2	56	46
					Margin (dB)	-11.8	-1.8
26	.627	30.06dBuV Ca	0	10.5	40.56	56	46
					Margin (dB)	-15.44	-5.44
27	.717	29.59dBuV Qp	0	10.5	40.09	56	46
					Margin (dB)	-15.91	-5.91
28	.717	17.01dBuV Ca	0	10.5	27.51	56	46
					Margin (dB)	-28.49	-18.49
29	.807	31.83dBuV Qp	0	10.5	42.33	56	46
					Margin (dB)	-13.67	-3.67
30	.807	30.15dBuV Ca	0	10.5	40.65	56	46
					Margin (dB)	-15.35	-5.35
31	.8925	31.12dBuV Qp	0	10.5	41.62	56	46
					Margin (dB)	-14.38	-4.38
32	.8925	23.45dBuV Ca	0	10.5	33.95	56	46
					Margin (dB)	-22.05	-12.05
33	1.3425	30.82dBuV Qp	0	10.5	41.32	56	46
					Margin (dB)	-14.68	-4.68
34	1.34475	26.81dBuV Ca	0	10.5	37.31	56	46
					Margin (dB)	-18.69	-8.69
35	7.07775	32.28dBuV Qp	0	10.8	43.08	60	50
					Margin (dB)	-16.92	-6.92
36	7.07775	28.99dBuV Ca	0	10.8	39.79	60	50
					Margin (dB)	-20.21	-10.21

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

10.2. AC Power Line Middle Channel





Signify NA Corp
SNS210 - ZigBee
Middle Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 1							
1	.17925	32.68dBuV Qp	0	12.3	44.98	64.52	54.52
					Margin (dB)	-19.54	-9.54
2	.17925	23.47dBuV Ca	0	12.3	35.77	64.52	54.52
					Margin (dB)	-28.75	-18.75
3	.26925	33.21dBuV Qp	0	11	44.21	61.14	51.14
					Margin (dB)	-16.93	-6.93
4	.26925	29.39dBuV Ca	0	11	40.39	61.14	51.14
					Margin (dB)	-20.75	-10.75
5	.537	30.74dBuV Qp	0	10.6	41.34	56	46
					Margin (dB)	-14.66	-4.66
6	.537	18.58dBuV Ca	0	10.6	29.18	56	46
					Margin (dB)	-26.82	-16.82
7	.627	33.84dBuV Qp	0	10.5	44.34	56	46
					Margin (dB)	-11.66	-1.66
8	.627	22.14dBuV Ca	0	10.5	32.64	56	46
					Margin (dB)	-23.36	-13.36
9	.717	31.67dBuV Qp	0	10.5	42.17	56	46
					Margin (dB)	-13.83	-3.83
10	.717	18.17dBuV Ca	0	10.5	28.67	56	46
					Margin (dB)	-27.33	-17.33
11	.987	31.03dBuV Qp	0	10.5	41.53	56	46
					Margin (dB)	-14.47	-4.47
12	.98475	21.6dBuV Ca	0	10.5	32.1	56	46
					Margin (dB)	-23.9	-13.9
13	1.077	33.16dBuV Qp	0	10.5	43.66	56	46
					Margin (dB)	-12.34	-2.34
14	1.07475	18dBuV Ca	0	10.5	28.5	56	46
					Margin (dB)	-27.5	-17.5
15	1.16475	33.83dBuV Qp	0	10.5	44.33	56	46
					Margin (dB)	-11.67	-1.67
16	1.16475	22.99dBuV Ca	0	10.5	33.49	56	46
					Margin (dB)	-22.51	-12.51
17	7.08	26.73dBuV Qp	0	10.8	37.53	60	50
					Margin (dB)	-22.47	-12.47
18	7.07775	23.6dBuV Ca	0	10.8	34.4	60	50
					Margin (dB)	-25.6	-15.6

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

Signify NA Corp
SNS210 - ZigBee
Middle Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

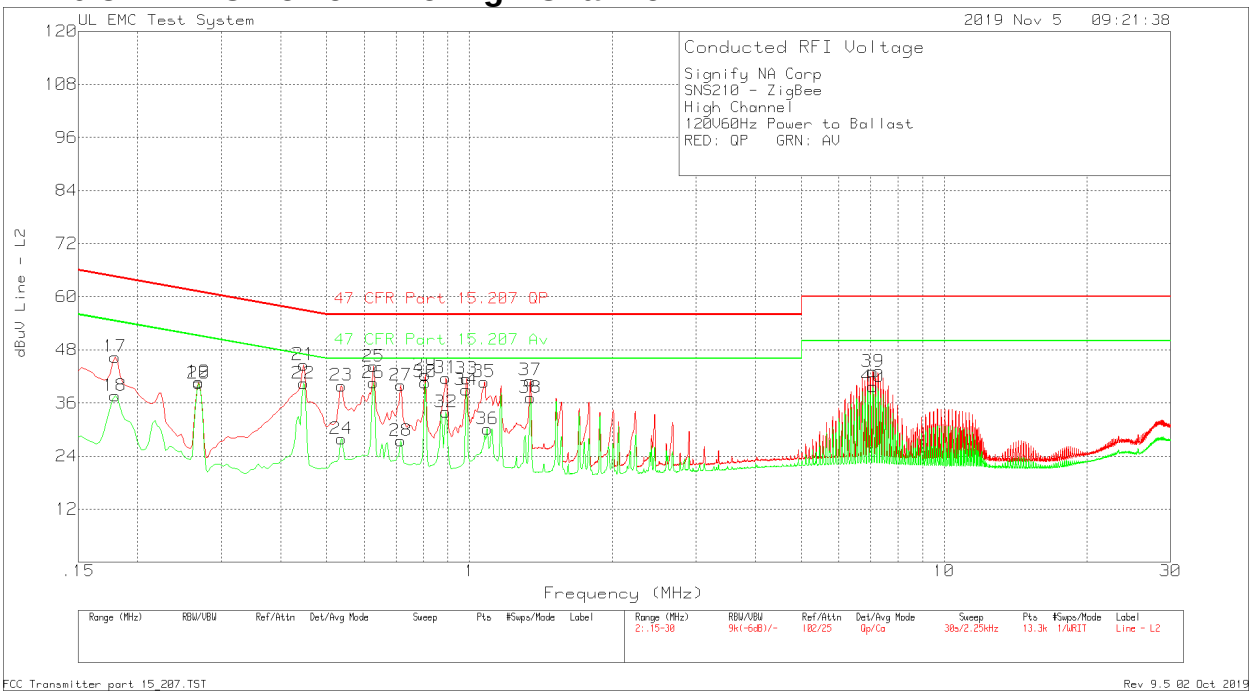
Trace Markers

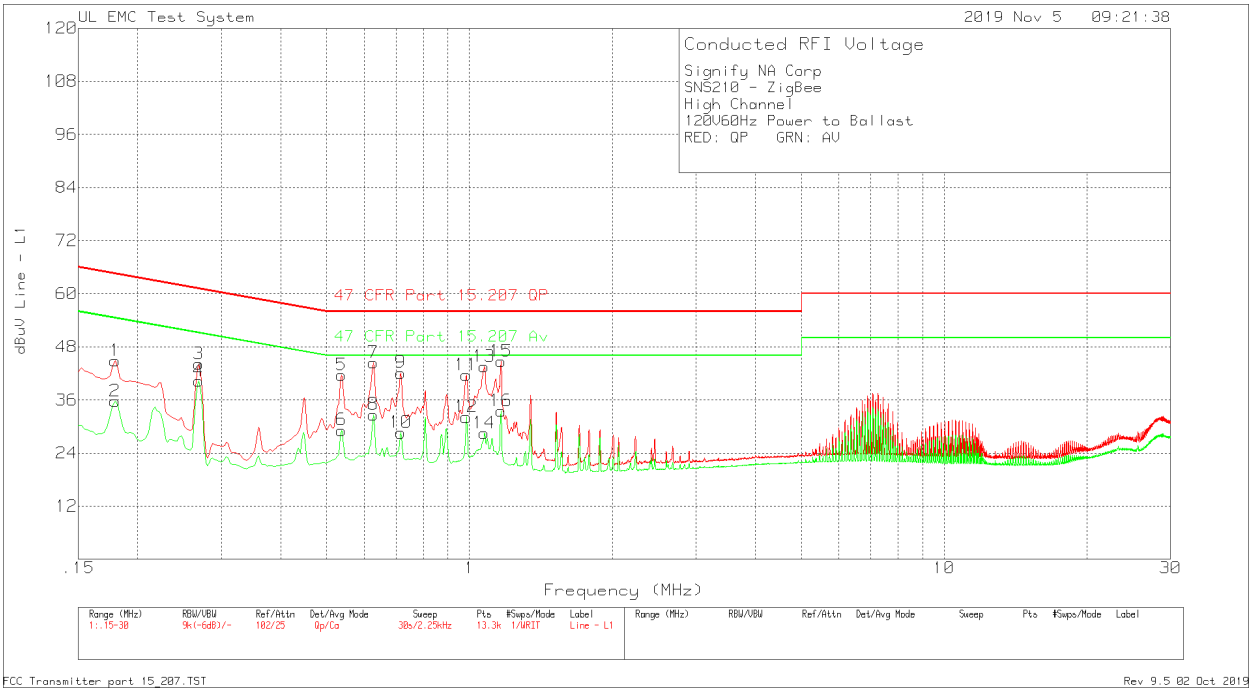
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 2							
19	.17925	34.27dBuV Qp	.1	12.3	46.67	64.52	54.52
					Margin (dB)	-17.85	-7.85
20	.17925	24.79dBuV Ca	.1	12.3	37.19	64.52	54.52
					Margin (dB)	-27.33	-17.33
21	.26925	29.71dBuV Qp	0	11	40.71	61.14	51.14
					Margin (dB)	-20.43	-10.43
22	.26925	29.42dBuV Ca	0	11	40.42	61.14	51.14
					Margin (dB)	-20.72	-10.72
23	.447	34.1dBuV Qp	0	10.6	44.7	56.93	46.93
					Margin (dB)	-12.23	-2.23
24	.447	29.95dBuV Ca	0	10.6	40.55	56.93	46.93
					Margin (dB)	-16.38	-6.38
25	.537	29.37dBuV Qp	0	10.6	39.97	56	46
					Margin (dB)	-16.03	-6.03
26	.537	17.23dBuV Ca	0	10.6	27.83	56	46
					Margin (dB)	-28.17	-18.17
27	.627	33.65dBuV Qp	0	10.5	44.15	56	46
					Margin (dB)	-11.85	-1.85
28	.627	30.07dBuV Ca	0	10.5	40.57	56	46
					Margin (dB)	-15.43	-5.43
29	.717	29.54dBuV Qp	0	10.5	40.04	56	46
					Margin (dB)	-15.96	-5.96
30	.717	17.03dBuV Ca	0	10.5	27.53	56	46
					Margin (dB)	-28.47	-18.47
31	.807	31.83dBuV Qp	0	10.5	42.33	56	46
					Margin (dB)	-13.67	-3.67
32	.807	30.17dBuV Ca	0	10.5	40.67	56	46
					Margin (dB)	-15.33	-5.33
33	.89475	31.17dBuV Qp	0	10.5	41.67	56	46
					Margin (dB)	-14.33	-4.33
34	.89475	23.69dBuV Ca	0	10.5	34.19	56	46
					Margin (dB)	-21.81	-11.81
35	.987	30.86dBuV Qp	0	10.5	41.36	56	46
					Margin (dB)	-14.64	-4.64
36	.98475	28.38dBuV Ca	0	10.5	38.88	56	46
					Margin (dB)	-17.12	-7.12
37	1.07475	30.65dBuV Qp	0	10.5	41.15	56	46
					Margin (dB)	-14.85	-4.85
38	1.07475	17.42dBuV Ca	0	10.5	27.92	56	46
					Margin (dB)	-28.08	-18.08
39	1.16475	29.61dBuV Qp	0	10.5	40.11	56	46
					Margin (dB)	-15.89	-5.89
40	1.16475	27.8dBuV Ca	0	10.5	38.3	56	46
					Margin (dB)	-17.7	-7.7
41	1.34363	31.31dBuV Qp	0	10.5	41.81	56	46
					Margin (dB)	-14.19	-4.19
42	1.34475	27.16dBuV Ca	0	10.5	37.66	56	46
					Margin (dB)	-18.34	-8.34
43	7.08	32.28dBuV Qp	0	10.8	43.08	60	50
					Margin (dB)	-16.92	-6.92
44	7.07775	29.02dBuV Ca	0	10.8	39.82	60	50
					Margin (dB)	-20.18	-10.18

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

10.3. AC Power Line High Channel





Signify NA Corp
SNS210 - ZigBee
High Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 1							
1	.17925	32.6dBuV Qp	0	12.3	44.9	64.52	54.52
					Margin (dB)	-19.62	-9.62
2	.17925	23.43dBuV Ca	0	12.3	35.73	64.52	54.52
					Margin (dB)	-28.79	-18.79
3	.26925	33.12dBuV Qp	0	11	44.12	61.14	51.14
					Margin (dB)	-17.02	-7.02
4	.26925	29.34dBuV Ca	0	11	40.34	61.14	51.14
					Margin (dB)	-20.8	-10.8
5	.537	30.98dBuV Qp	0	10.6	41.58	56	46
					Margin (dB)	-14.42	-4.42
6	.537	18.56dBuV Ca	0	10.6	29.16	56	46
					Margin (dB)	-26.84	-16.84
7	.627	33.95dBuV Qp	0	10.5	44.45	56	46
					Margin (dB)	-11.55	-1.55
8	.627	22.18dBuV Ca	0	10.5	32.68	56	46
					Margin (dB)	-23.32	-13.32
9	.717	31.64dBuV Qp	0	10.5	42.14	56	46
					Margin (dB)	-13.86	-3.86
10	.717	18.09dBuV Ca	0	10.5	28.59	56	46
					Margin (dB)	-27.41	-17.41
11	.98475	31.13dBuV Qp	0	10.5	41.63	56	46
					Margin (dB)	-14.37	-4.37
12	.98475	21.62dBuV Ca	0	10.5	32.12	56	46
					Margin (dB)	-23.88	-13.88
13	1.07475	33.04dBuV Qp	0	10.5	43.54	56	46
					Margin (dB)	-12.46	-2.46
14	1.07475	17.97dBuV Ca	0	10.5	28.47	56	46
					Margin (dB)	-27.53	-17.53
15	1.16475	34.2dBuV Qp	0	10.5	44.7	56	46
					Margin (dB)	-11.3	-1.3
16	1.16475	23.03dBuV Ca	0	10.5	33.53	56	46
					Margin (dB)	-22.47	-12.47

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

Signify NA Corp
SNS210 - ZigBee
High Channel
120V60Hz Power to Ballast
RED: QP GRN: AV

Trace Markers

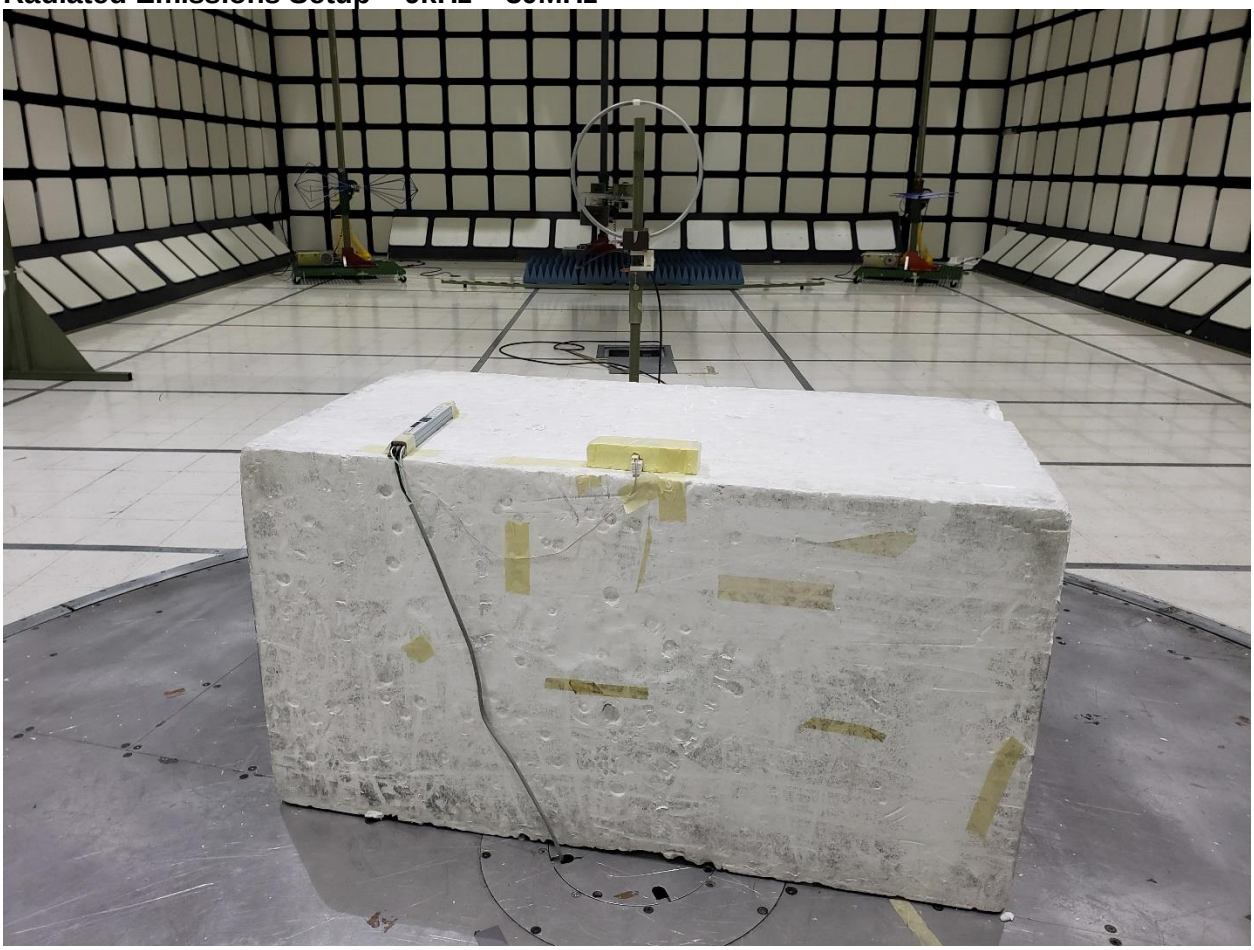
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 2							
17	.17925	34.02dBuV Qp	.1	12.3	46.42	64.52	54.52
					Margin (dB)	-18.1	-8.1
18	.17925	25.27dBuV Ca	.1	12.3	37.67	64.52	54.52
					Margin (dB)	-26.85	-16.85
19	.26925	29.77dBuV Qp	0	11	40.77	61.14	51.14
					Margin (dB)	-20.37	-10.37
20	.26925	29.46dBuV Ca	0	11	40.46	61.14	51.14
					Margin (dB)	-20.68	-10.68
21	.447	34.03dBuV Qp	0	10.6	44.63	56.93	46.93
					Margin (dB)	-12.3	-2.3
22	.447	29.85dBuV Ca	0	10.6	40.45	56.93	46.93
					Margin (dB)	-16.48	-6.48
23	.537	29.33dBuV Qp	0	10.6	39.93	56	46
					Margin (dB)	-16.07	-6.07
24	.537	17.33dBuV Ca	0	10.6	27.93	56	46
					Margin (dB)	-28.07	-18.07
25	.627	33.8dBuV Qp	0	10.5	44.3	56	46
					Margin (dB)	-11.7	-1.7
26	.627	30.06dBuV Ca	0	10.5	40.56	56	46
					Margin (dB)	-15.44	-5.44
27	.717	29.45dBuV Qp	0	10.5	39.95	56	46
					Margin (dB)	-16.05	-6.05
28	.717	16.96dBuV Ca	0	10.5	27.46	56	46
					Margin (dB)	-28.54	-18.54
29	.807	31.83dBuV Qp	0	10.5	42.33	56	46
					Margin (dB)	-13.67	-3.67
30	.807	30.17dBuV Ca	0	10.5	40.67	56	46
					Margin (dB)	-15.33	-5.33
31	.8925	31.17dBuV Qp	0	10.5	41.67	56	46
					Margin (dB)	-14.33	-4.33
32	.8925	23.43dBuV Ca	0	10.5	33.93	56	46
					Margin (dB)	-22.07	-12.07
33	.987	30.94dBuV Qp	0	10.5	41.44	56	46
					Margin (dB)	-14.56	-4.56
34	.98475	28.42dBuV Ca	0	10.5	38.92	56	46
					Margin (dB)	-17.08	-7.08
35	1.07475	30.29dBuV Qp	0	10.5	40.79	56	46
					Margin (dB)	-15.21	-5.21
36	1.0905	19.64dBuV Ca	0	10.5	30.14	56	46
					Margin (dB)	-25.86	-15.86
37	1.3425	30.6dBuV Qp	0	10.5	41.1	56	46
					Margin (dB)	-14.9	-4.9
38	1.34475	26.7dBuV Ca	0	10.5	37.2	56	46
					Margin (dB)	-18.8	-8.8
39	7.07775	32.27dBuV Qp	0	10.8	43.07	60	50
					Margin (dB)	-16.93	-6.93
40	7.07775	28.93dBuV Ca	0	10.8	39.73	60	50
					Margin (dB)	-20.27	-10.27

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

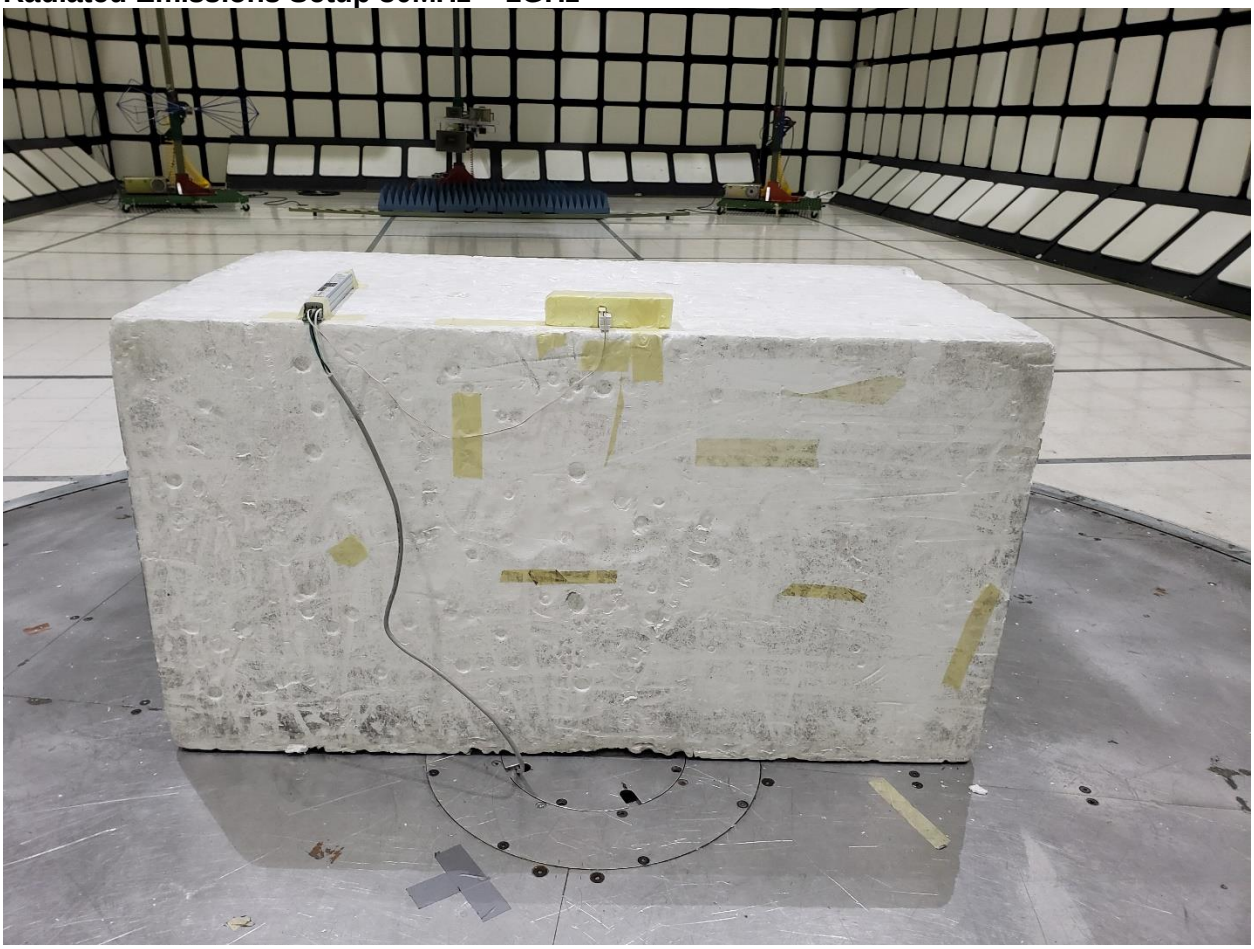
Qp - Quasi-Peak detector
Ca - CISPR Average detection

11. SETUP PHOTOS

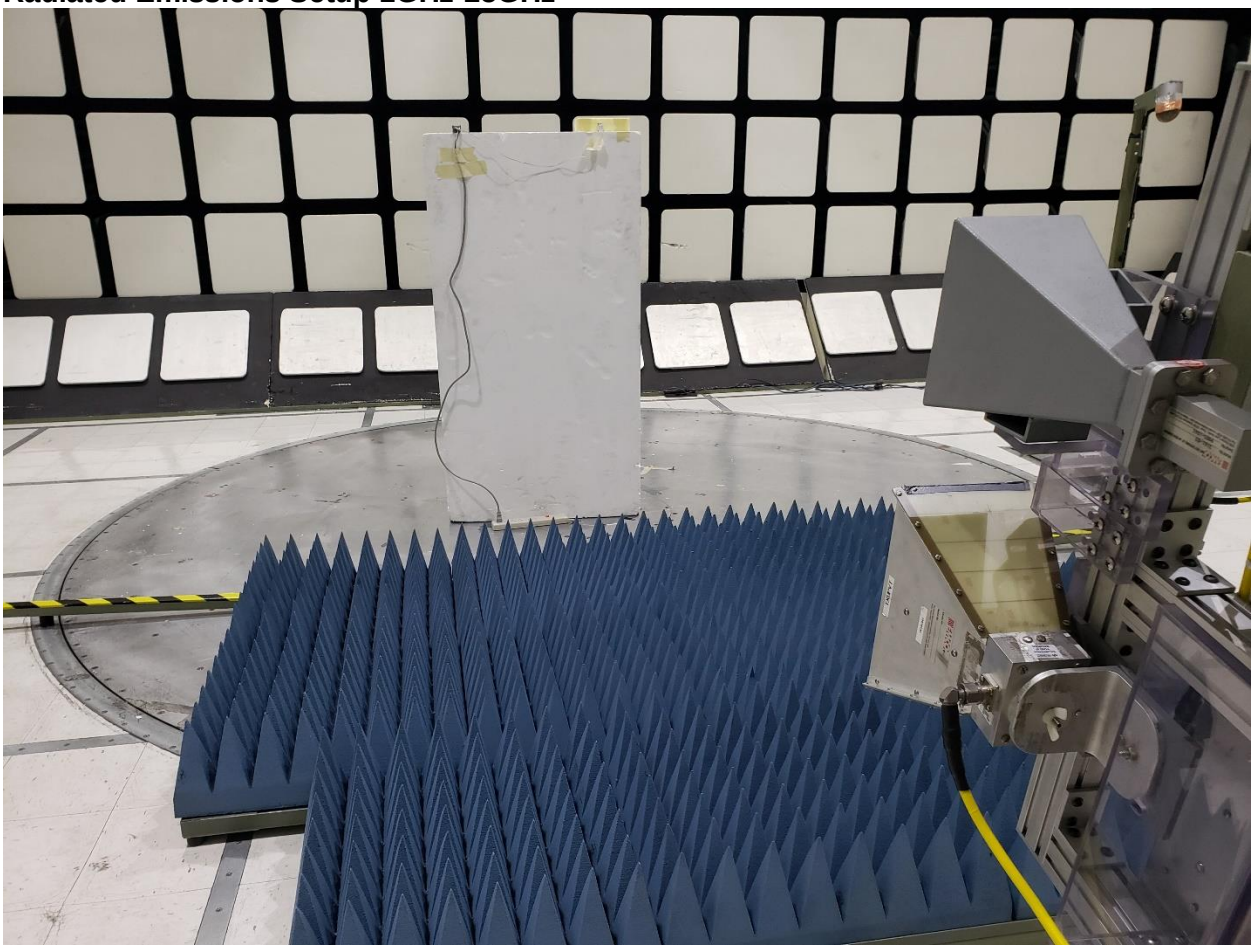
Radiated Emissions Setup – 9kHz – 30MHz



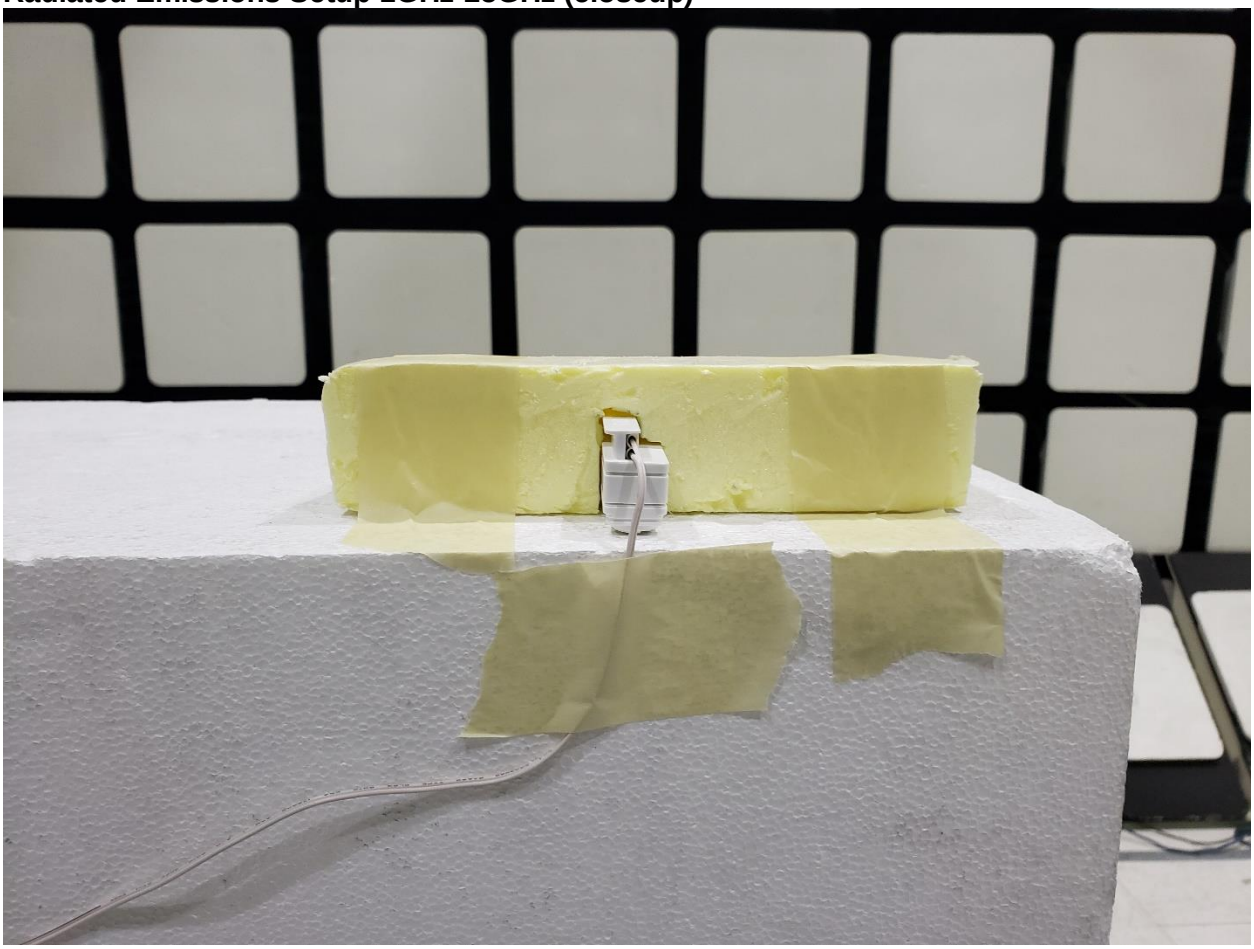
Radiated Emissions Setup 30MHz – 1GHz



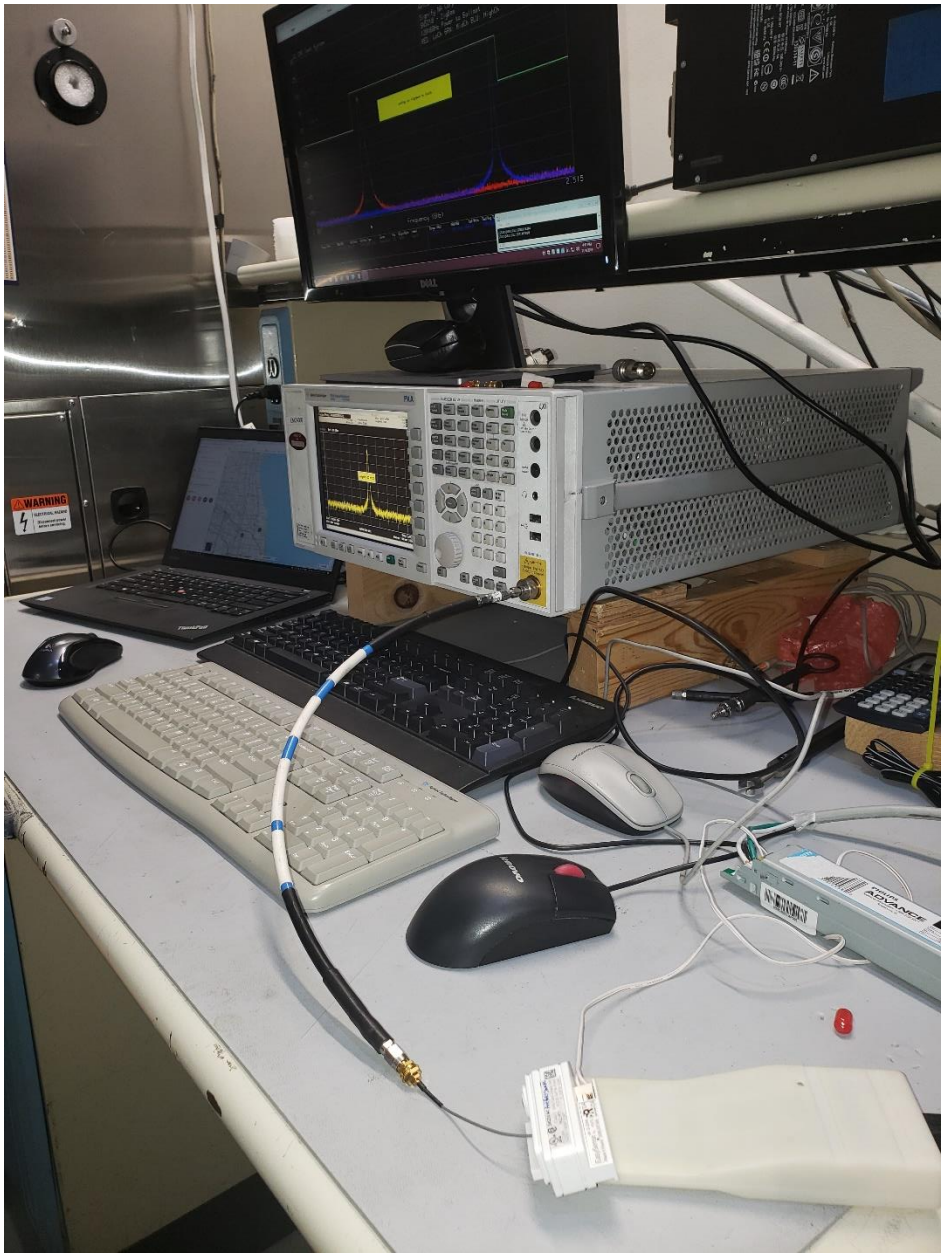
Radiated Emissions Setup 1GHz-25GHz



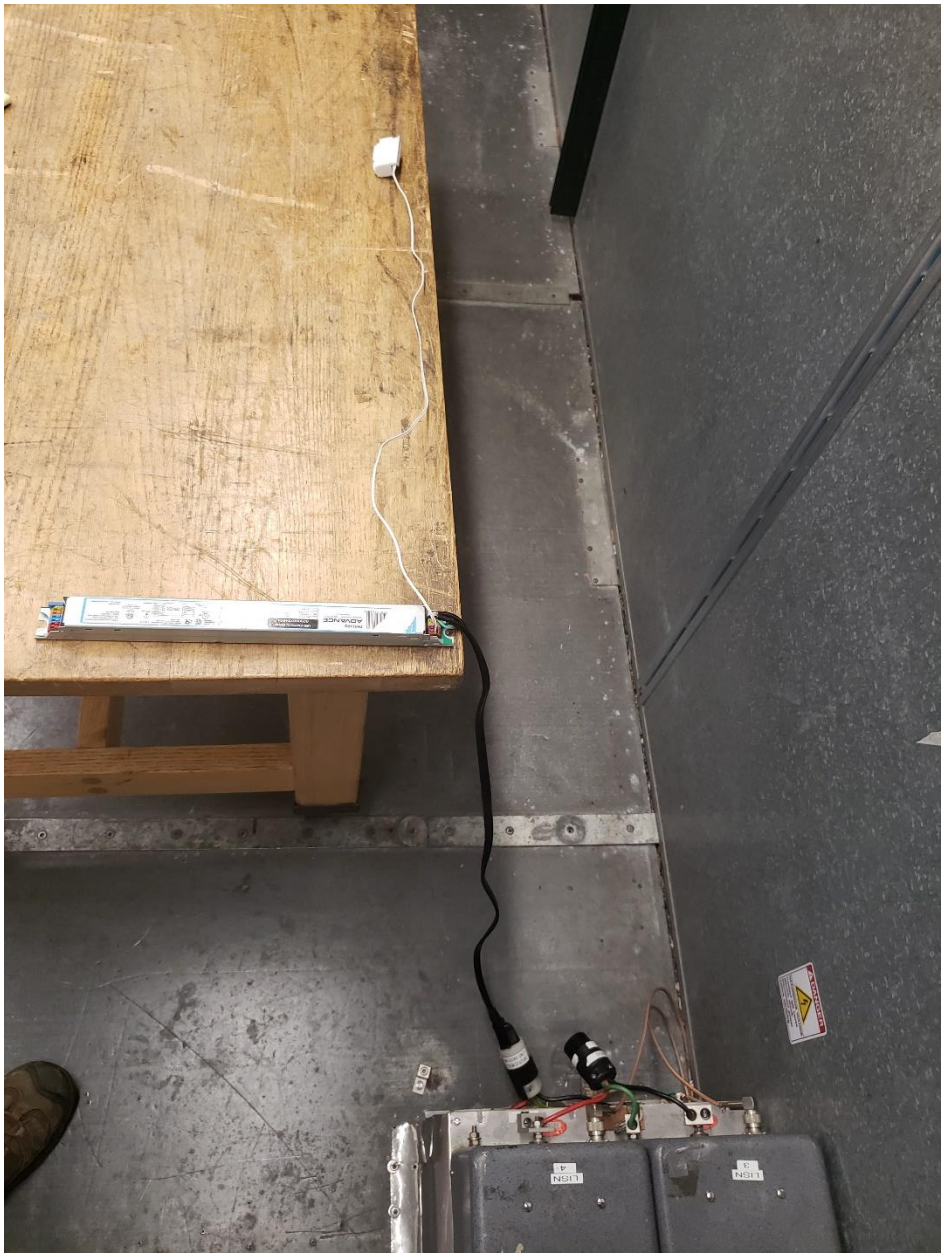
Radiated Emissions Setup 1GHz-25GHz (closeup)



Antenna Port Conducted Emissions



Line Conducted Emissions



END OF TEST REPORT