CERTIFICATION TEST REPORT

Report Number. : 13115029A

Applicant	:	Signify North America Corporation O'Hare International Center 10275 W. Higgins Rd. Rosemont, IL 60018
Model	:	SNS441
FCC ID	:	2AF2N-SNSS
IC	:	20659-SNSS
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:
2020-01-14

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	

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TABLE OF CONTENTS

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Signify North America Corporation

EUT DESCRIPTION: Occupancy and Daylight Sensor Lighting Control

MODEL: SNS441

SERIAL NUMBER: Radiated Sample: 4863570314
Antenna Port Sample: 4447980226

DATE TESTED: **2019-12-03 – 2020-01-07**

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

Approved & Released For
UL LLC By:

Brian Kiewra
Project Engineer
Consumer Technology Division

Prepared By:

Bart Mucha
Test Engineer
Consumer Technology Division

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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 v05R02, 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

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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%.

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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 BTLE only. See report #12229356E for ZigBee transceiver data. 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)
2402 - 2480	BLE	0.971	1.25

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes an FPCB antenna, with a maximum gain of 0.7dBi

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing was FCC Mode V4.x

5.5. 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.

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

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

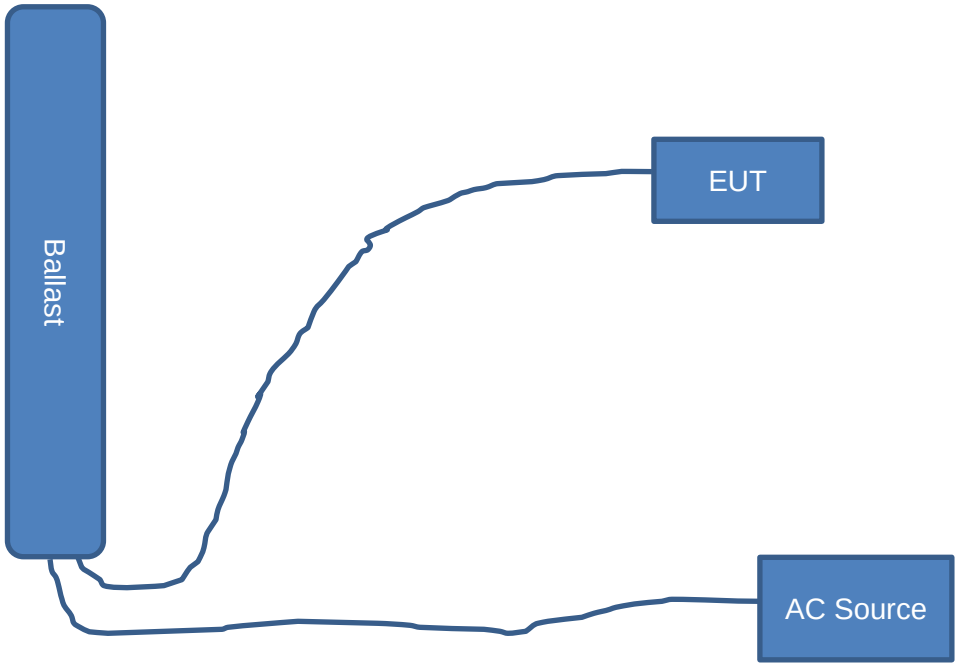
I/O CABLES

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 Power	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

Conducted Spurious Emissions: ANSI C63.10, Subclause 6.10.4

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.

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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
EMI Test Receiver	Rohde & Schwarz	ESCI	EMC4328	2019-12-26	2020-12-31
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	2019-12-31	2020-12-31

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8. ANTENNA PORT TEST RESULTS for BTLE Mode

8.1. ON TIME AND DUTY CYCLE

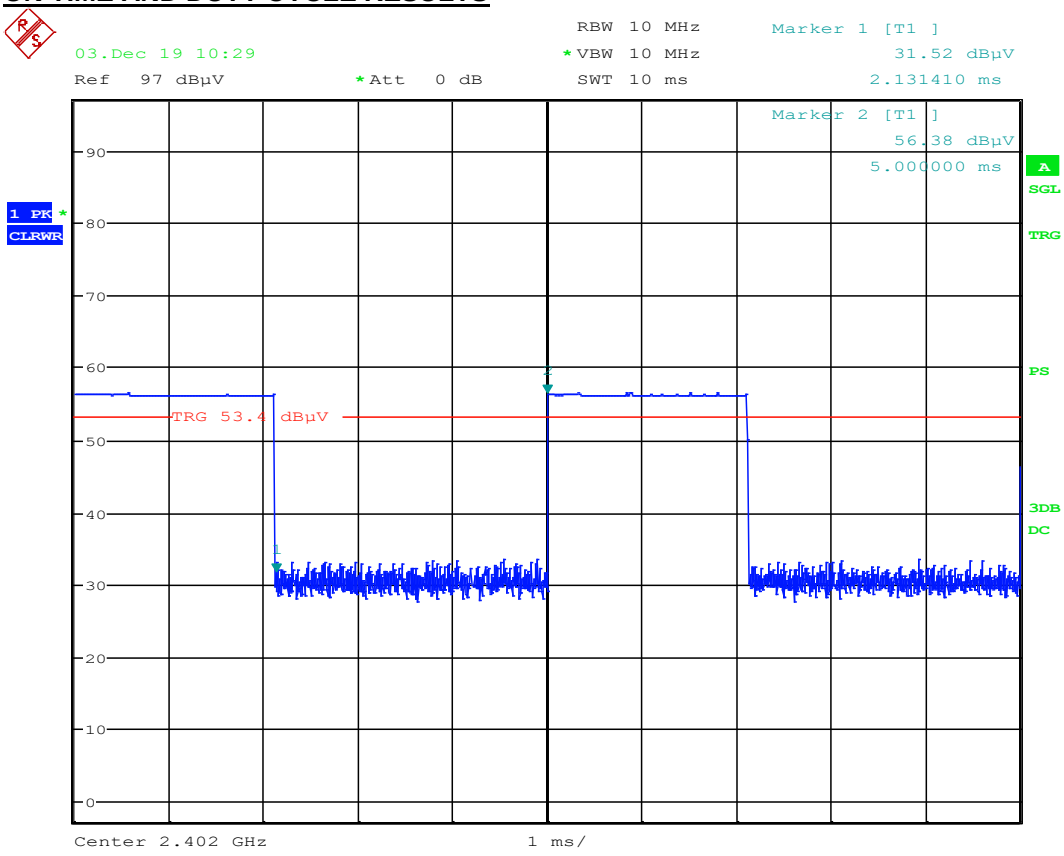
LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS



On Time: 2.13ms, Period: 5.0ms

For testing the EUT was set to operate at 42.6% Duty Cycle.

Radiated Spurious Emissions correction factor 10*log(2.13/5) = 3.71dB for PWR RMS detector.

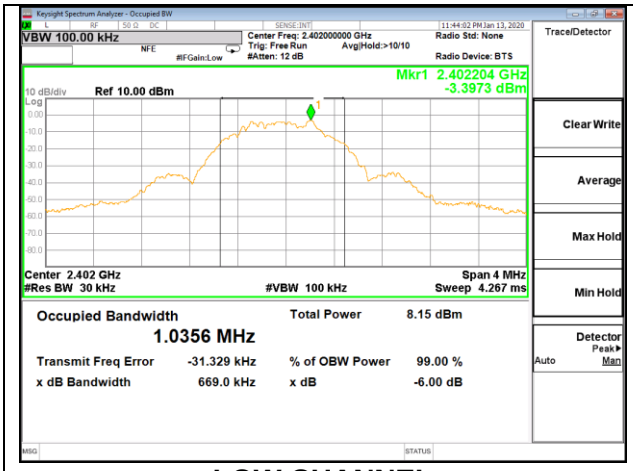
8.2. 99% BANDWIDTH

LIMITS

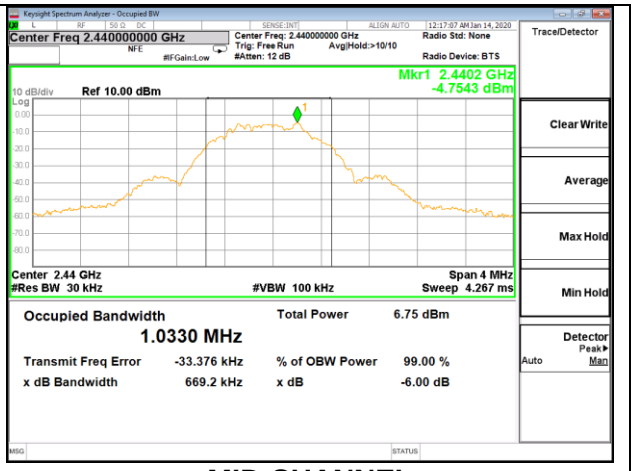
None; for reporting purposes only.

RESULTS

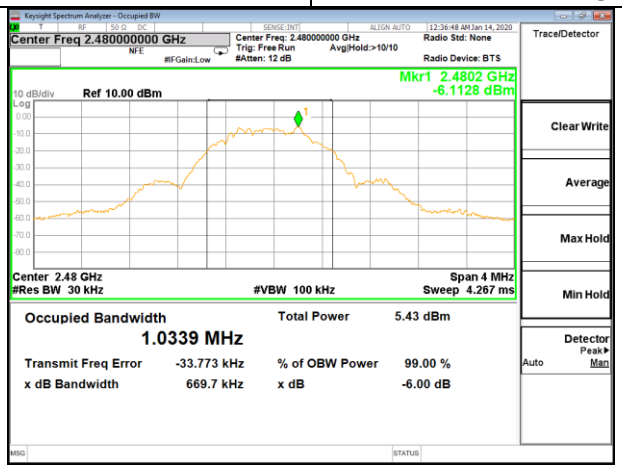
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0356
Middle	2440	1.0330
High	2480	1.0339



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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8.3. 6 dB BANDWIDTH

LIMITS

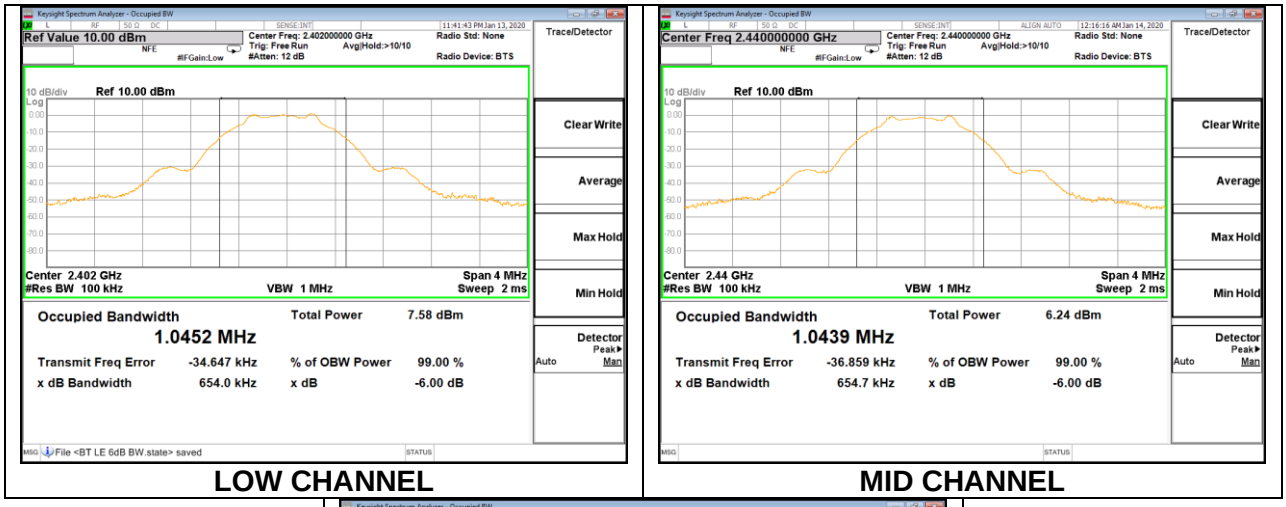
FCC §15.247 (a) (2)

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	2402	0.6540	0.5
Middle	2440	0.6547	0.5
High	2480	0.6555	0.5



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.

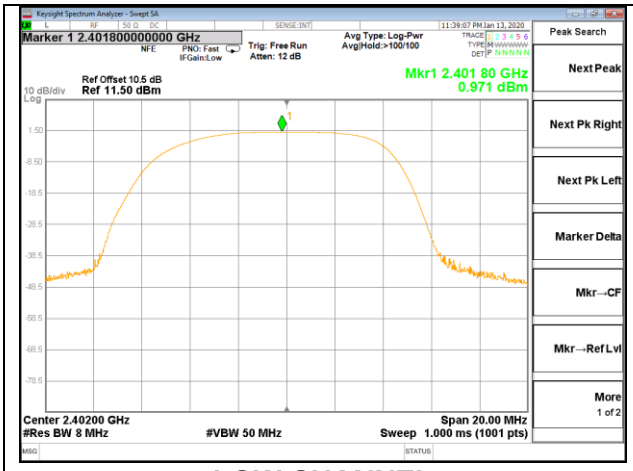
TEST PROCEDURE

Transmitter output is connected to spectrum analyzer.

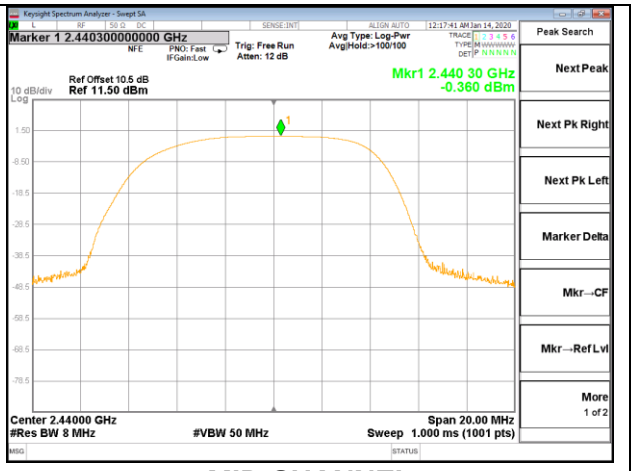
RESULTS

Tested By:	bm06740
Date:	1/13/2020

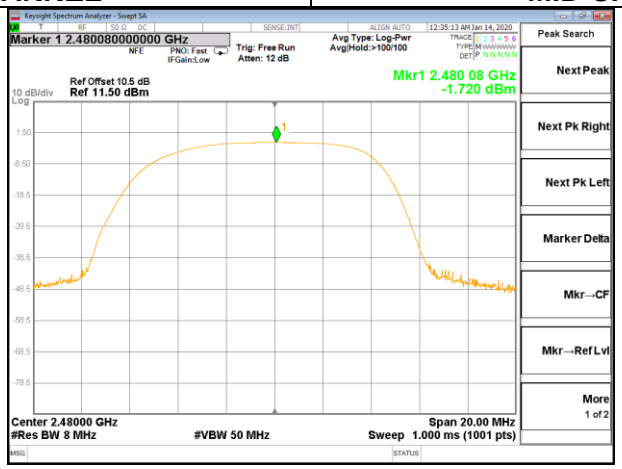
Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	0.971	30	-29.029
Middle	2440	-0.360	30	-30.360
High	2480	-1.720	30	-31.720



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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8.5. POWER SPECTRAL DENSITY

LIMITS

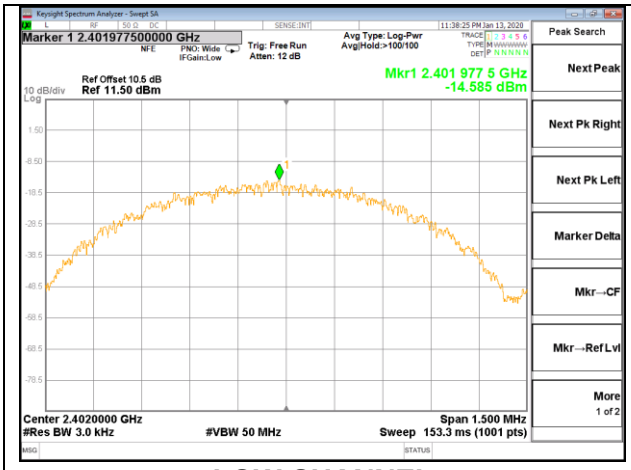
FCC §15.247 (e)
RSS-247 (5.2) (b)

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.

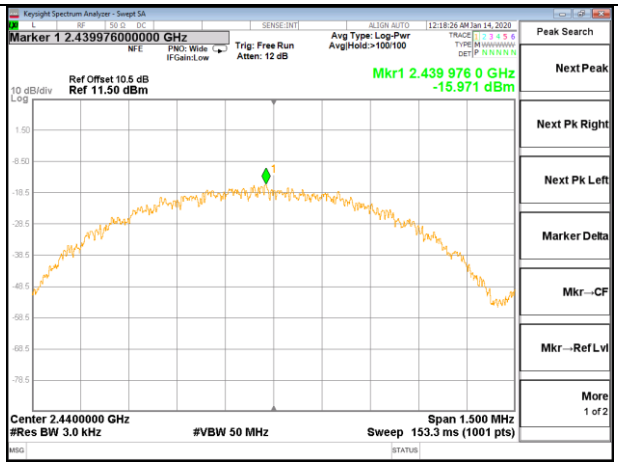
RESULTS

Tested By:	bm06740
Date:	2020-01-13

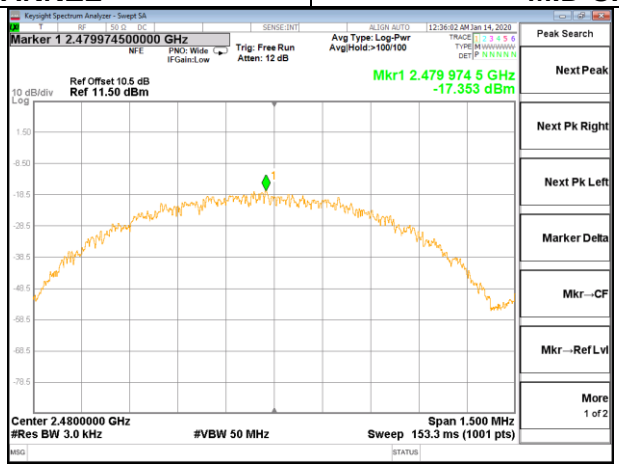
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-14.59	8	-22.59
Middle	2440	-15.97	8	-23.97
High	2480	-17.35	8	-25.35



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:	2019-12-05

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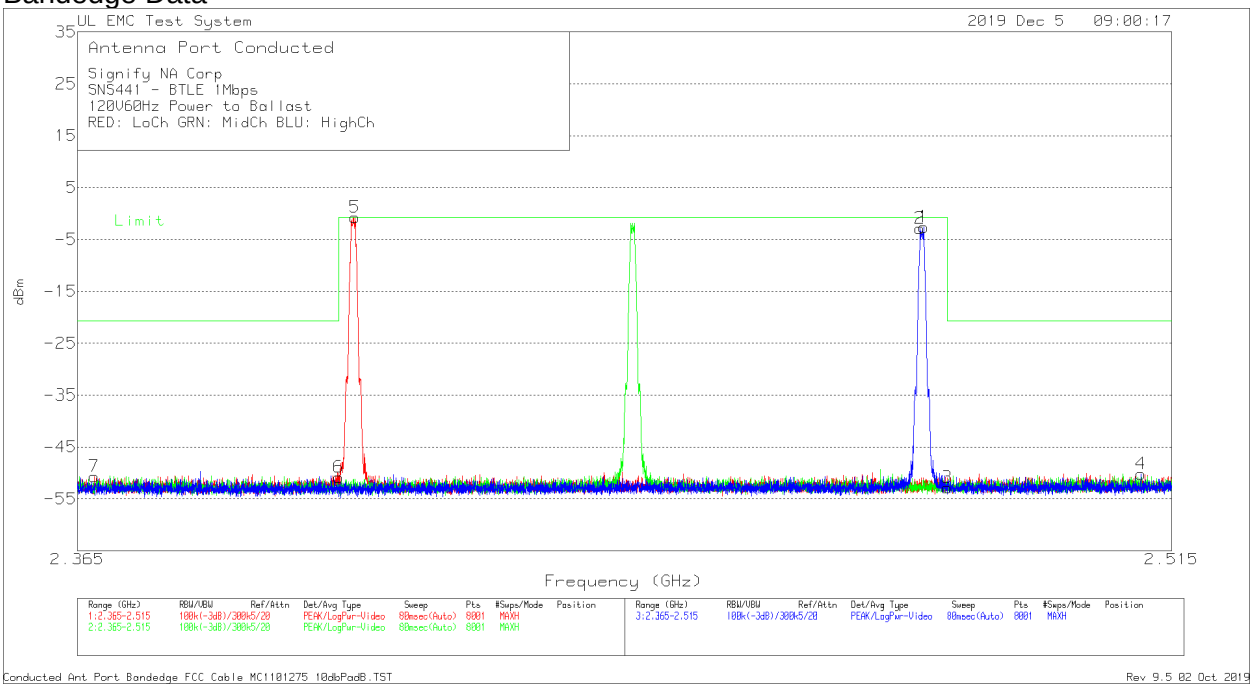
RESULTS

Bandedge Data



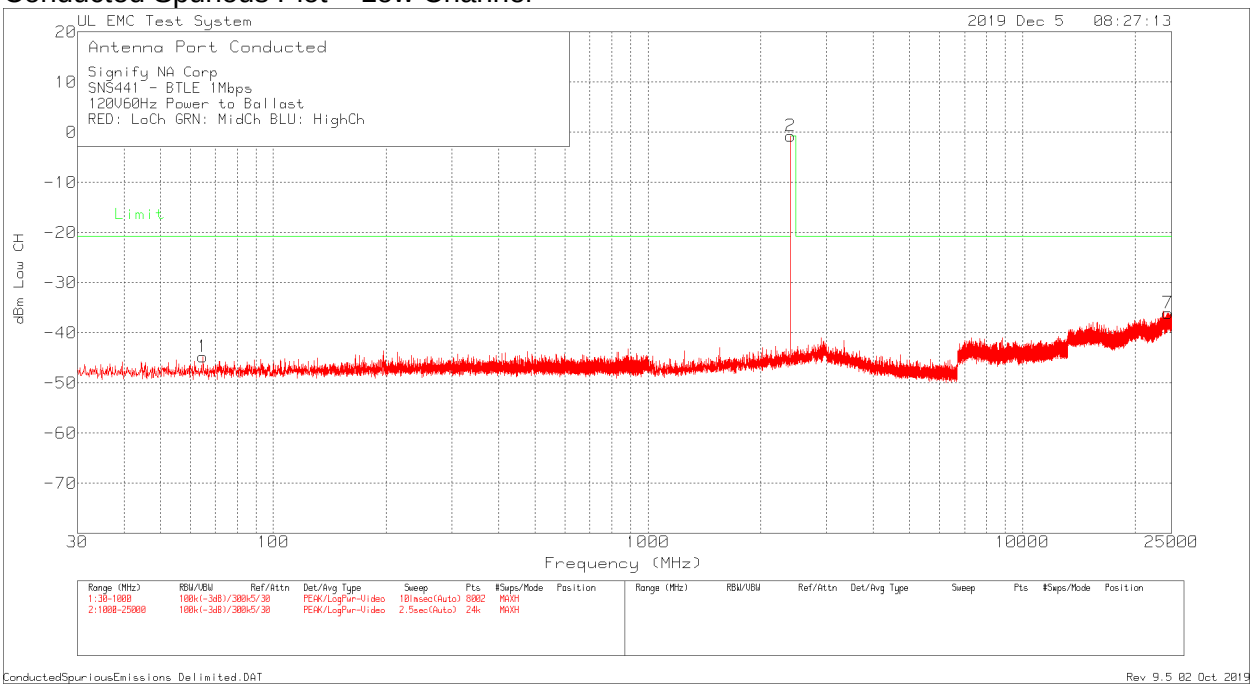
Signify NA Corp
SNS441 - BTLE 1Mbps
120V60Hz Power to Ballast
RED: LoCh GRN: MidCh BLU: HighCh

Trace Markers

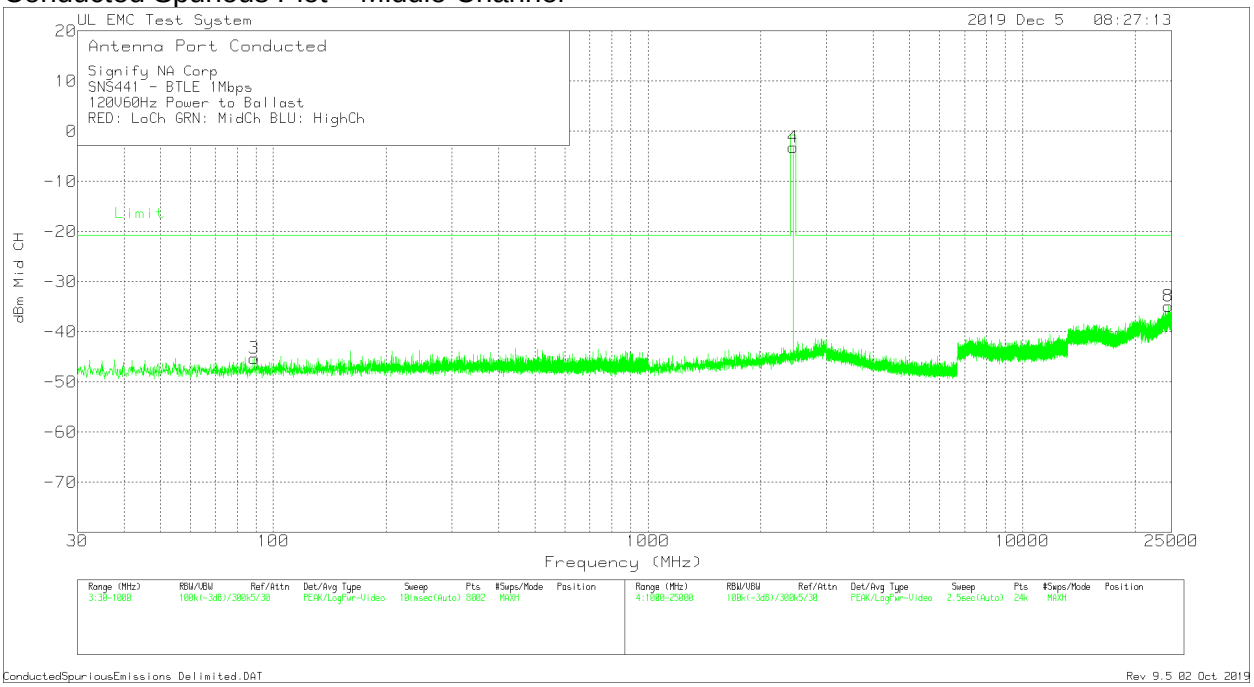
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBm	Limit:1
Low Channel						
5	2.4022	-11.22dBm Pk	10.5	0	-.72	-
					Margin (dB)	-
6	2.400000	-61.34dBm Pk	10.5	0	-50.84	-.72
					Margin (dB)	-50.12
7	2.367231	-61.15dBm Pk	10.5	0	-50.65	-20.72
					Margin (dB)	-29.93
High Channel						
1	2.4802	-13.08dBm Pk	10.5	0	-2.58	-
					Margin (dB)	-
2	2.479713	-13.39dBm Pk	10.5	0	-2.89	-
					Margin (dB)	-
3	2.4835	-63.3dBm Pk	10.5	0	-52.8	-20.72
					Margin (dB)	-32.08
4	2.51065	-60.72dBm Pk	10.5	0	-50.22	-20.72
					Margin (dB)	-29.5

LIMIT 1: Limit
Pk - Peak detector

Conducted Spurious Plot – Low Channel



Conducted Spurious Plot – Middle Channel



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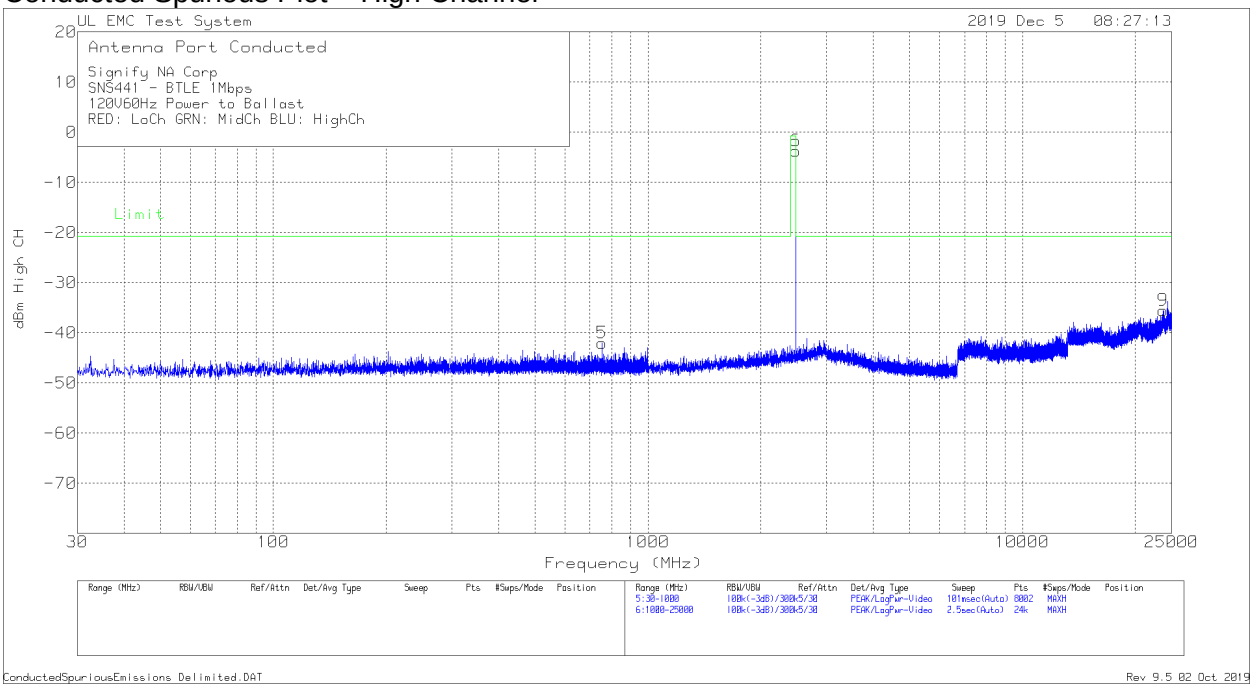
Conducted Spurious Plot – High Channel



Conducted Spurious Data – Low, Middle and High Channel

Signify NA Corp
SNS441 - BTLE 1Mbps
120V60Hz Power to Ballast
RED: LoCh GRN: MidCh BLU: HighCh

Trace Markers

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBm	Limit:1
Low Channel						
1	64.9157	-54.8dBm Pk	10.1	0	-44.7	-20.75
					Margin (dB)	-23.95
2	2401.8836	-11.25dBm Pk	10.5	0	-.75	-
					Margin (dB)	-
7	24453.0532	-47.84dBm Pk	11.8	0	-36.04	-20.75
					Margin (dB)	-15.29
Middle Channel						
3	89.0414	-55.4dBm Pk	10.1	0	-45.3	-20.75
					Margin (dB)	-24.55
4	2439.8805	-13.71dBm Pk	10.5	0	-3.21	-
					Margin (dB)	-
8	24516.048	-46.58dBm Pk	11.7	0	-34.88	-20.75
					Margin (dB)	-14.13
High Channel						
5	755.349	-52.25dBm Pk	10.2	0	-42.05	-20.75
					Margin (dB)	-21.3
6	2479.8772	-14.18dBm Pk	10.5	0	-3.68	-
					Margin (dB)	-
9	23757.111	-47.43dBm Pk	11.9	0	-35.53	-20.75
					Margin (dB)	-14.78

LIMIT 1: Limit
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 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.

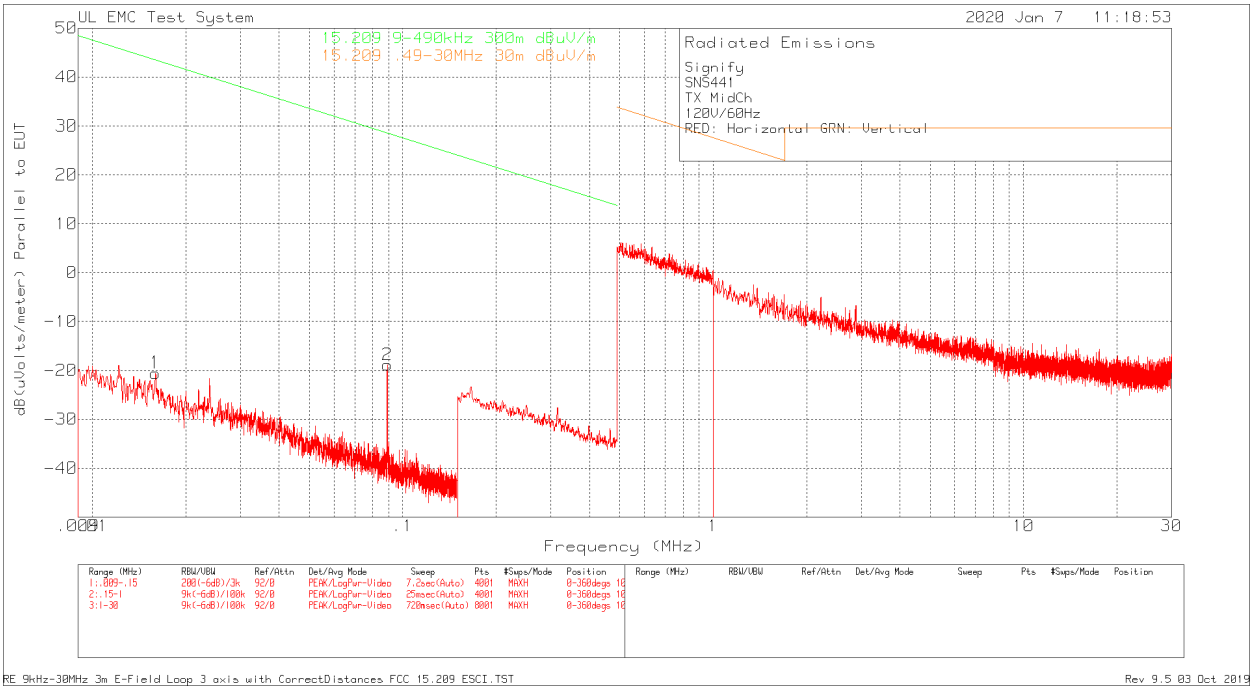
The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized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

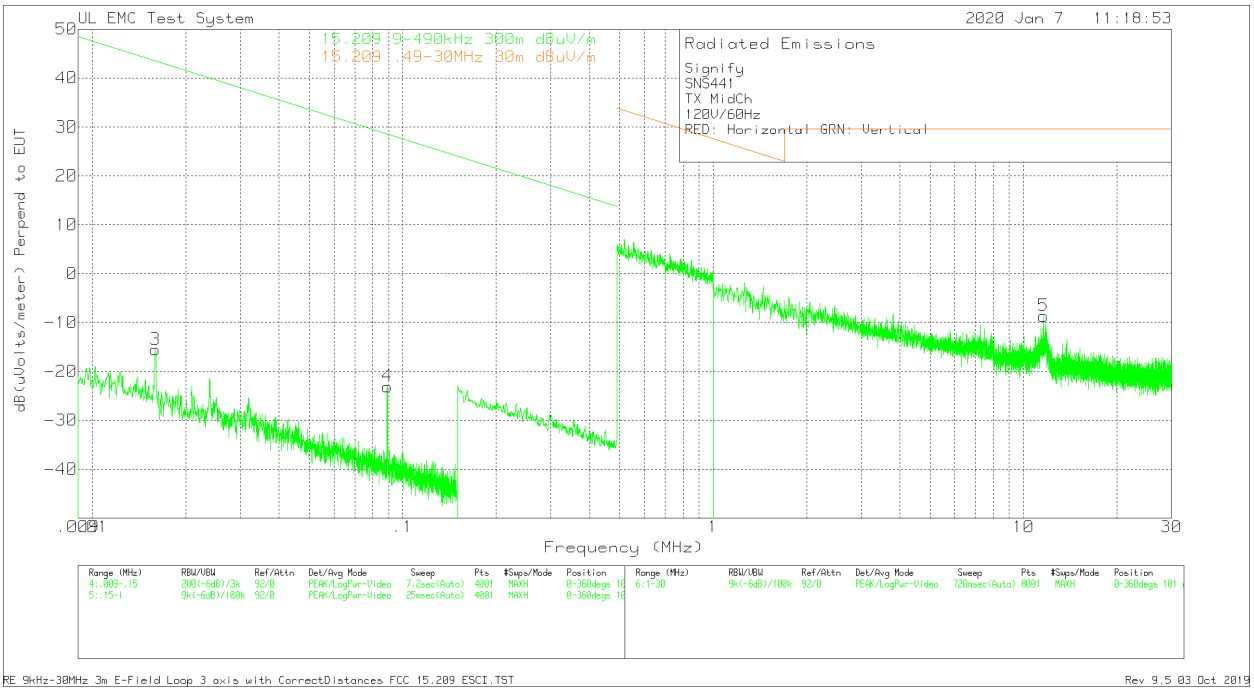
Per FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. OFS and chamber correlation testing had been performed and chamber measured test result is the worst case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

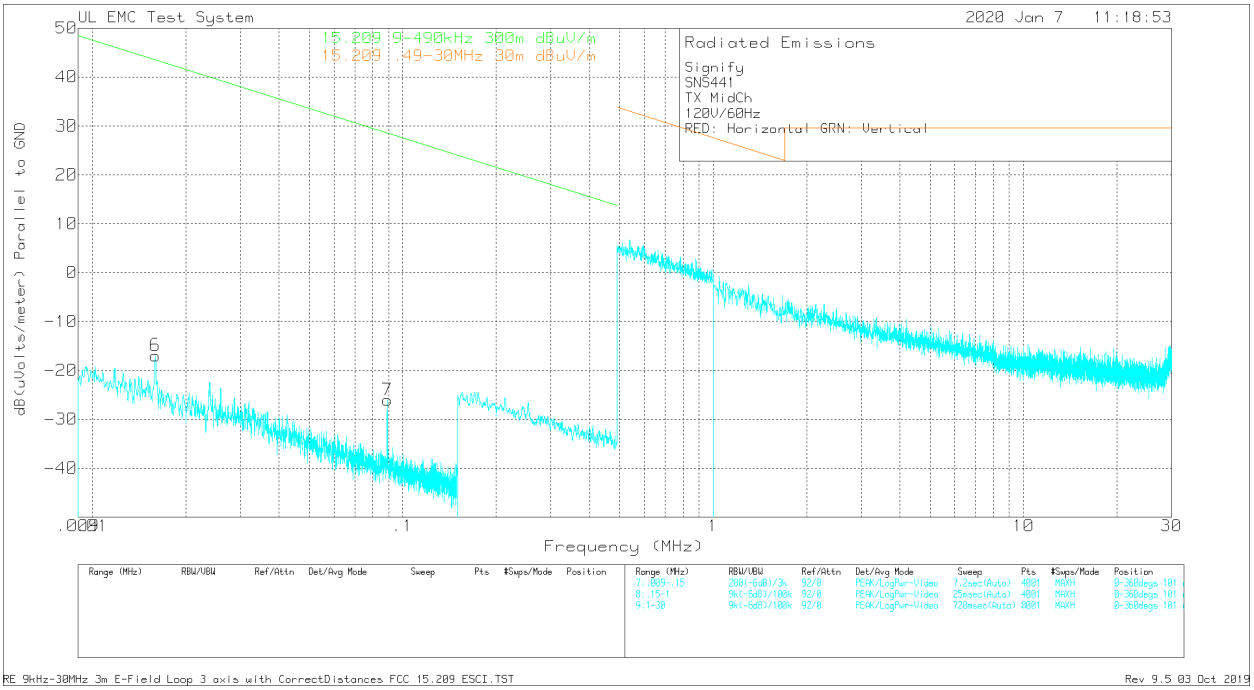
Measurements between 30MHz-1GHz were conducted at measurement distance of 10 meters and data was extrapolated to 3 meters using (20*log(10/3)).Measurements below 30MHz were conducted at measurement distance of 3m and data was extrapolated to measurement distance using (40*log(StandardDistance/3)).

9.2. TRANSMITTER RESULTS BELOW 30MHz

9.2.1. Middle Channel Radiated Emissions







Signify
SNS441
TX MidCh
120V/60Hz
RED: Horizontal GRN: Vertical

Trace Markers

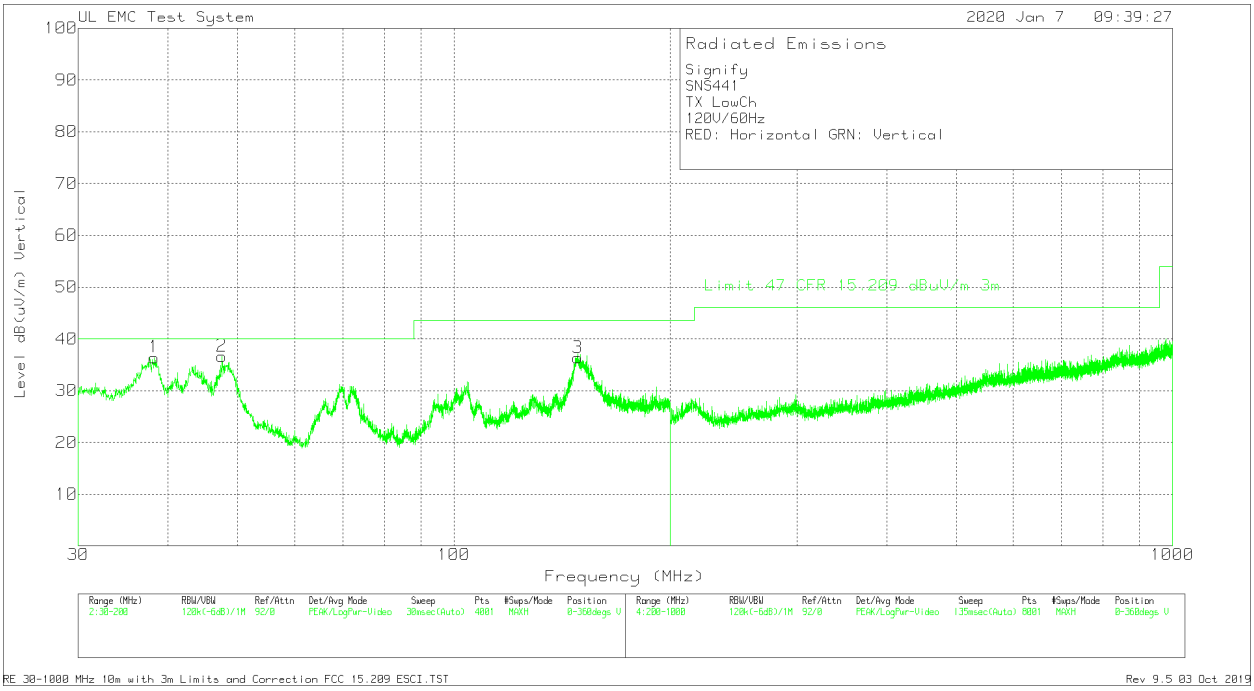
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dB(uVolts/meter)	Limit:1	2
Parallel to EUT							
1	.01597	38.96dBuV Pk	20.5	-80	-20.54	43.53	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-64.07	-
2	.08915	48.33dBuV Pk	12.8	-80	-18.87	28.6	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-47.47	-
Perpendicular to EUT							
3	.01593	43.93dBuV Pk	20.5	-80	-15.57	43.55	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-59.12	-
4	.08915	44.14dBuV Pk	12.8	-80	-23.06	28.6	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-51.66	-
5	11.58863	19.23dBuV Pk	11.7	-39.6	-8.67	-	29.54
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-	-38.21
Parallel to Ground							
6	.01593	42.54dBuV Pk	20.5	-80	-16.96	43.55	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-60.51	-
7	.08915	41.12dBuV Pk	12.8	-80	-26.08	28.6	-
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-54.68	-

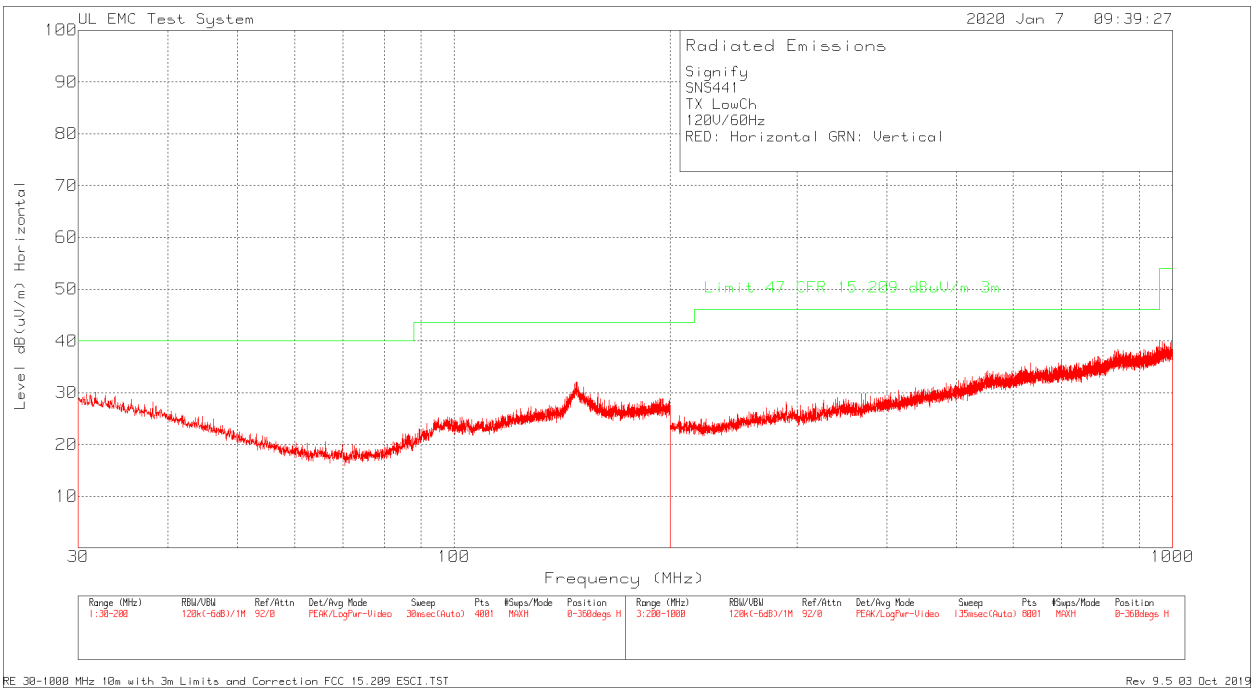
LIMIT 1: 15.209 9-490kHz 300m dBuV/m
LIMIT 2: 15.209 .49-30MHz 30m dBuV/m

Pk - Peak detector

9.3. TRANSMITTER RESULTS 30MHz-1GHz

9.3.1. Low Channel Radiated Emissions





Signify
SNS441
TX LowCh
120V/60Hz
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	38.245	41.23dBuV Pk	14.8	-19.6	36.43	40
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-3.57
2	47.5525	45.06dBuV Pk	11.2	-19.6	36.66	40
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-3.34
3	148.83	40.54dBuV Pk	14.9	-19.1	36.34	43.52
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-7.18

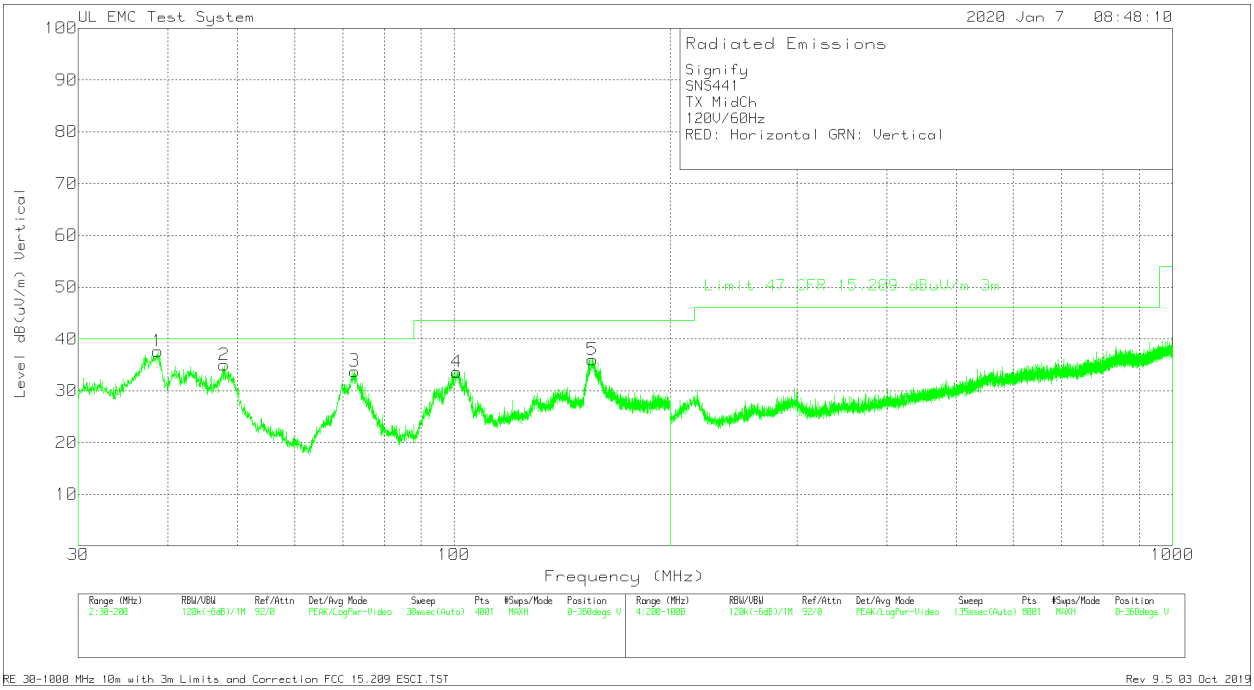
Radiated Emission Data

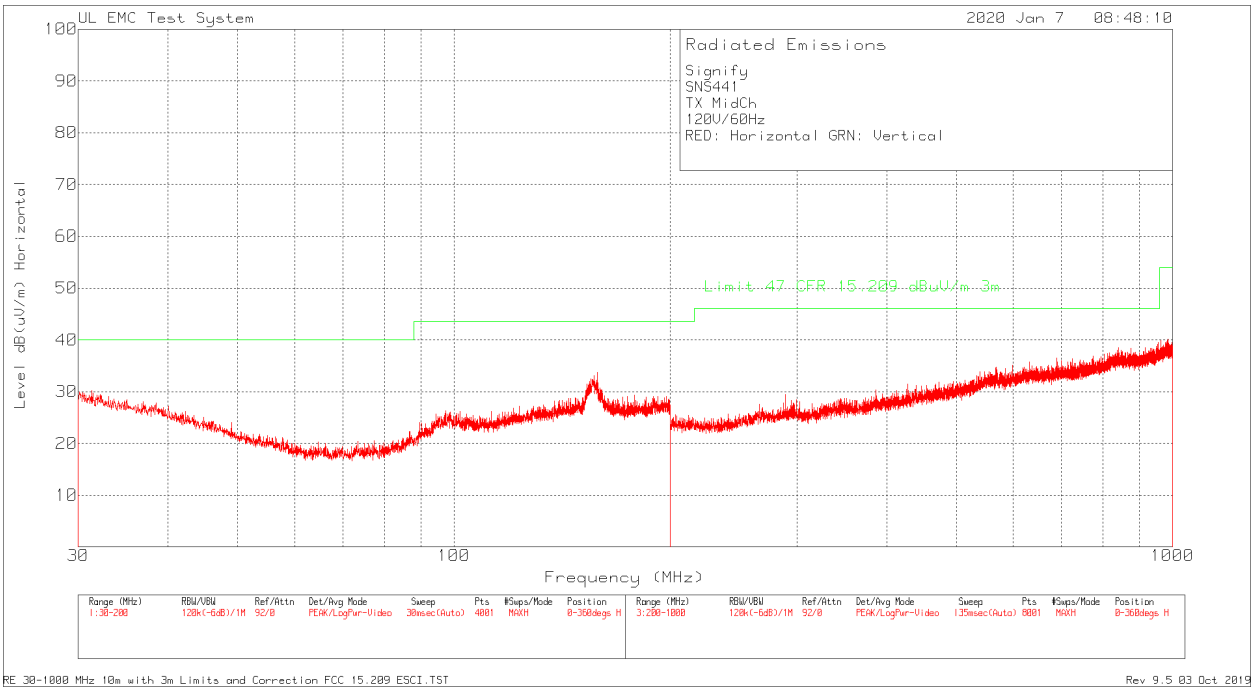
Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)
38.245	36.44dBuV Qp	14.8	-19.6	31.64	40
Azimuth: 270	Height:104 Vert			Margin (dB):	-8.36
48.4325	39.79dBuV Qp	10.8	-19.6	30.99	40
Azimuth: 44	Height:101 Vert			Margin (dB):	-9.01

LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m

Pk - Peak detector
Qp - Quasi-Peak detector
* distance correction factor (10.45dB) from 10m to 3m is added as part of the Gain/Loss Factor

9.3.2. Middle Channel Radiated Emissions





Signify
SNS441
TX MidCh
120V/60Hz
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	38.7125	42.55dBuV Pk	14.7	-19.6	37.65	40	
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-2.35	
2	47.8925	43.55dBuV Pk	11	-19.6	34.95	40	
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-5.05	
3	72.7975	46.96dBuV Pk	6.3	-19.5	33.76	40	
		Azimuth:0-360	Height:398 Vert		Margin (dB)	-6.24	
4	100.8475	42.06dBuV Pk	10.9	-19.4	33.56	43.52	
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-9.96	
5	155.8425	40dBuV Pk	15	-19	36	43.52	
		Azimuth:0-360	Height:101 Vert		Margin (dB)	-7.52	

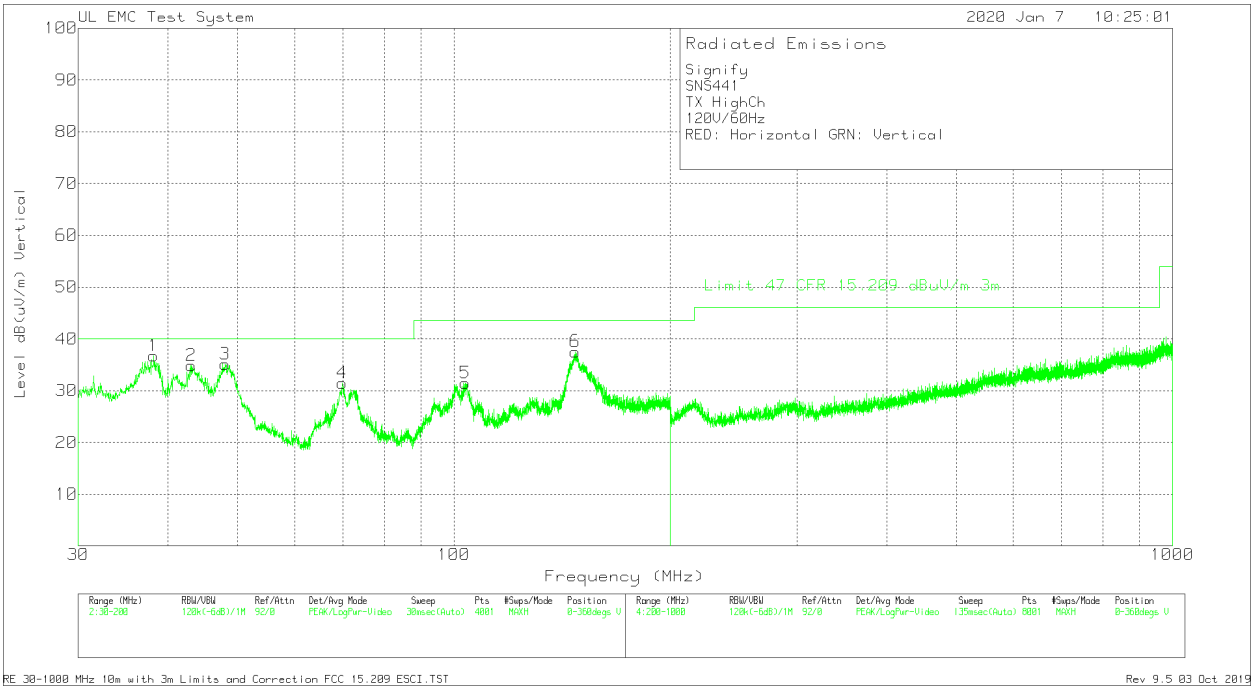
Radiated Emission Data

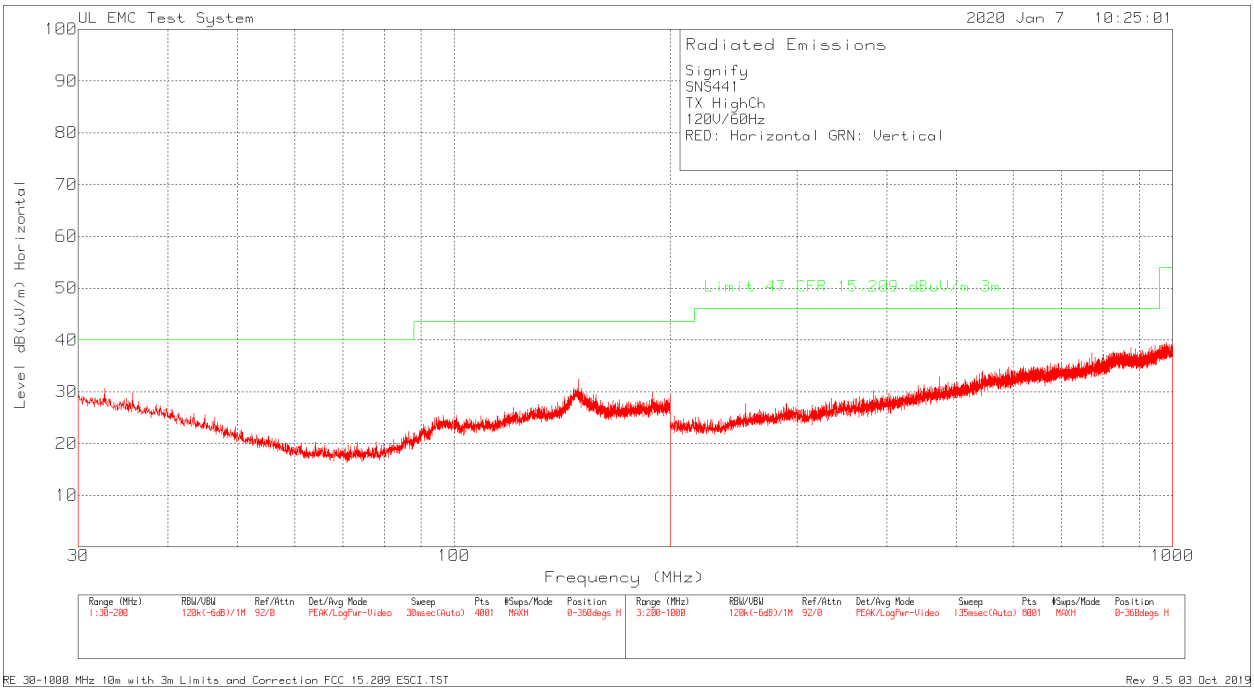
Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)
38.2125	37.95dBuV Qp	14.8	-19.6	33.15	40
Azimuth: 201	Height:102 Vert			Margin (dB): -6.85	
48.3725	37.71dBuV Qp	10.9	-19.6	29.01	40
Azimuth: 359	Height:101 Vert			Margin (dB): -10.99	

LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m

Pk - Peak detector
Qp - Quasi-Peak detector
* distance correction factor (10.45dB) from 10m to 3m is added as part of the Gain/Loss Factor

9.3.3. High Channel Radiated Emissions





Signify
SNS441
TX HighCh
120V/60Hz
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	38.2025	41.53dBuV Pk	14.8	-19.6	36.73	40	
		Azimuth:0-360	Height:102 Vert		Margin (dB)		-3.27
2	43.1325	41.54dBuV Pk	12.9	-19.6	34.84	40	
		Azimuth:0-360	Height:102 Vert		Margin (dB)		-5.16
3	48.02	43.68dBuV Pk	11	-19.6	35.08	40	
		Azimuth:0-360	Height:102 Vert		Margin (dB)		-4.92
4	69.9075	44.76dBuV Pk	6.2	-19.5	31.46	40	
		Azimuth:0-360	Height:251 Vert		Margin (dB)		-8.54
5	103.6525	39.44dBuV Pk	11.3	-19.3	31.44	43.52	
		Azimuth:0-360	Height:102 Vert		Margin (dB)		-12.08
6	147.5975	41.83dBuV Pk	14.8	-19.1	37.53	43.52	
		Azimuth:0-360	Height:102 Vert		Margin (dB)		-5.99

Radiated Emission Data

Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading	Limit:1 Level dB(uV/m)	
38.5375	37.69dBuV Qp	14.7	-19.6	32.79	40	
Azimuth: 290	Height:101 Vert			Margin (dB):		-7.21
43.2525	37dBuV Qp	12.9	-19.6	30.3	40	
Azimuth: 81	Height:111 Vert			Margin (dB):		-9.7
48.42	39.59dBuV Qp	10.8	-19.6	30.79	40	
Azimuth: 116	Height:102 Vert			Margin (dB):		-9.21
147.9575	39.12dBuV Qp	14.8	-19.1	34.82	43.52	
Azimuth: 27	Height:101 Vert			Margin (dB):		-8.7

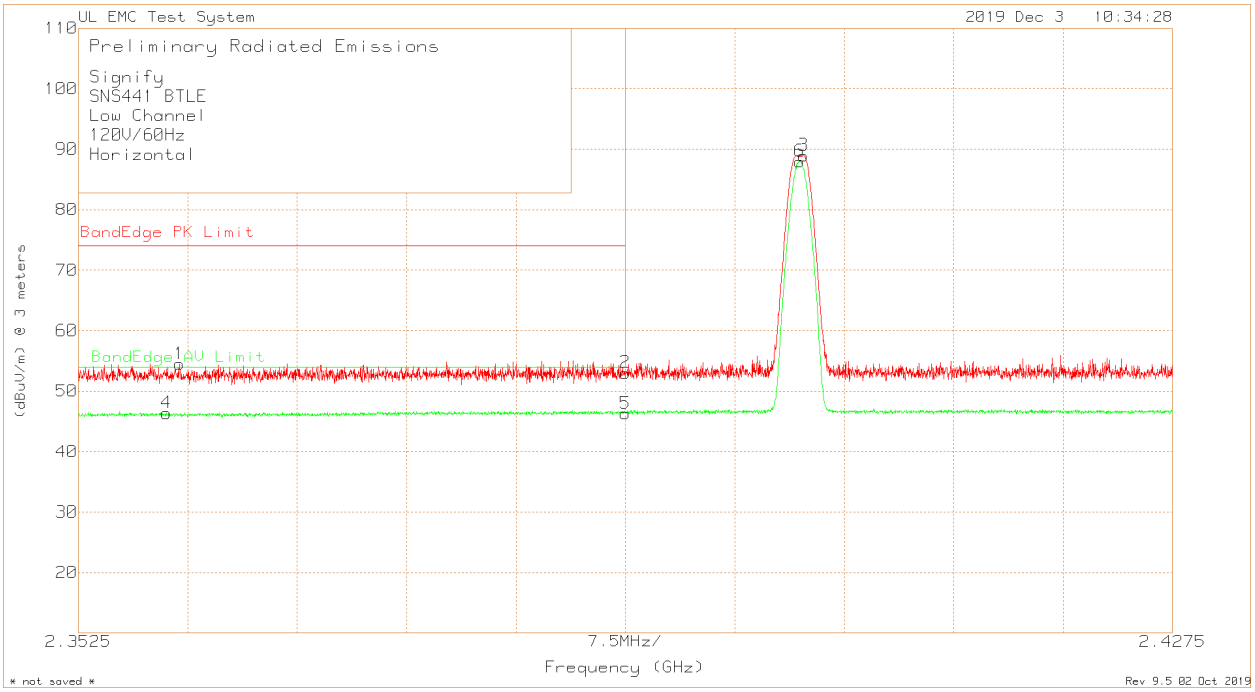
LIMIT 1: Limit 47 CFR 15.209 dBuV/m 3m

Pk - Peak detector
Qp - Quasi-Peak detector
* distance correction factor (10.45dB) from 10m to 3m is added as part of the Gain/Loss Factor

9.4. TRANSMITTER ABOVE 1 GHz

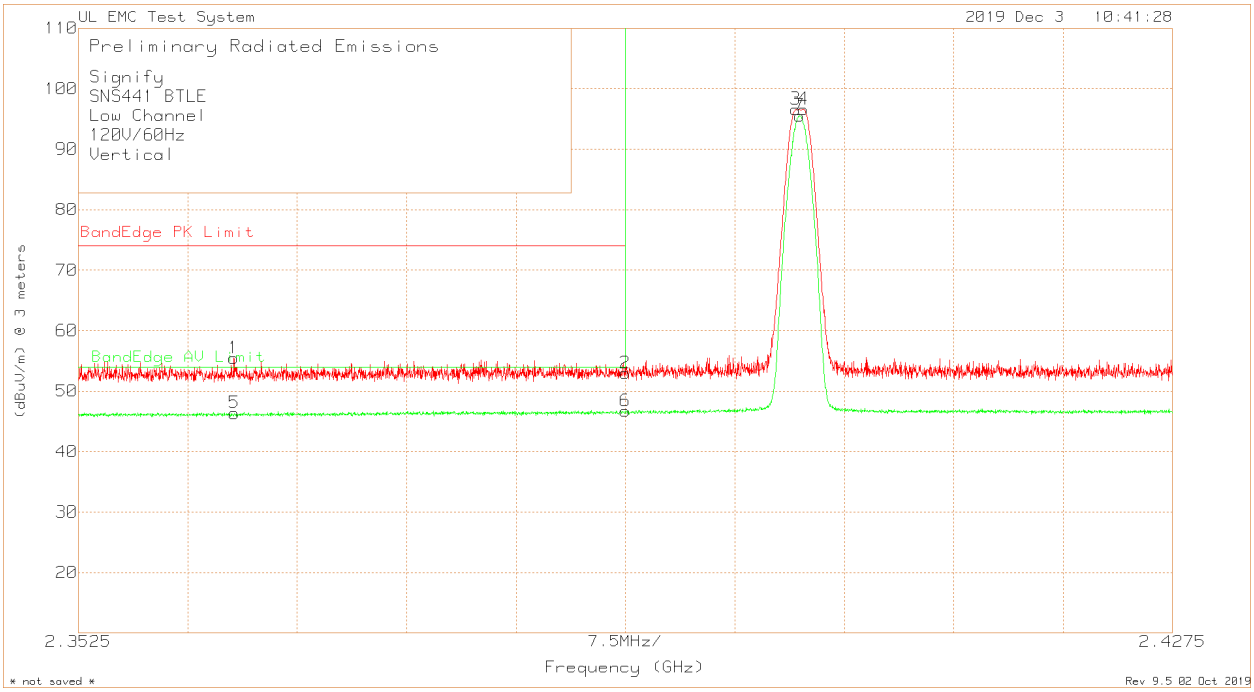
9.4.1. Low Channel Bandedge

HORIZONTAL RESULT



Signify												
SNS441 BTLE												
Low Channel												
120V/60Hz												
Horizontal												
Trace MArkers												
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	DC Correction (dB)	Path Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	2.3594	28	Pk	21.8	-	4.68	54.48	74	-19.52	231	116	H
2	2.39	26.43	Pk	21.8	-	4.8	53.03	74	-20.97	231	116	H
3	2.4022	62.42	Pk	21.8	-	4.74	88.96	-	-	231	116	H
4	2.3585	16.16	Av	21.8	3.7	4.69	46.35	54	-7.65	231	116	H
5	2.39	16	Av	21.8	3.7	4.8	46.3	54	-7.7	231	116	H
6	2.402	57.75	Av	21.8	3.7	4.74	87.99	-	-	231	116	H
Pk - Peak detector												
Av - PWR RMS Detector												

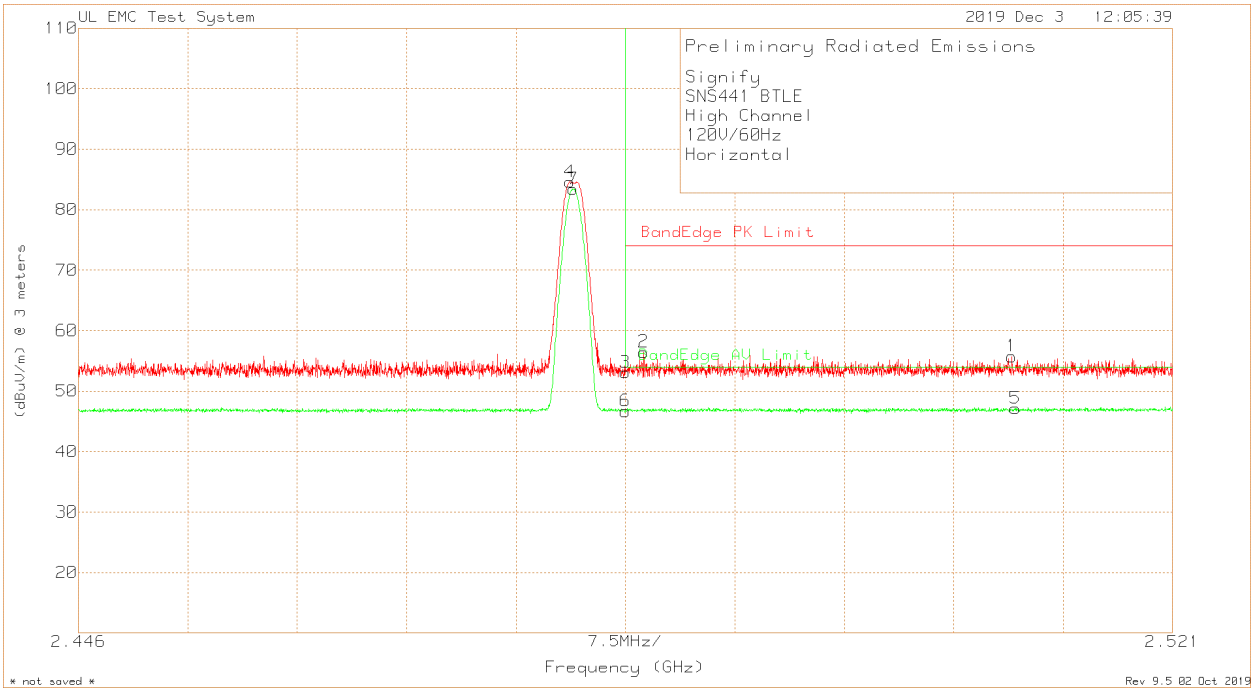
VERTICAL RESULT



Signify												
SNS441 BTLE												
Low Channel												
120V/60Hz												
Vertical												
Trace MArkers												
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	DC Correction (dB)	Path Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	2.3632	28.97	Pk	21.8	-	4.65	55.42	74	-18.58	112	136	V
2	2.39	26.38	Pk	21.8	-	4.8	52.98	74	-21.02	112	136	V
3	2.4017	70.06	Pk	21.8	-	4.75	96.61	-	-	112	136	V
4	2.4022	70.06	Pk	21.8	-	4.74	96.6	-	-	112	136	V
5	2.3632	16.19	Av	21.8	3.7	4.65	46.34	54	-7.66	112	136	V
6	2.39	16.42	Av	21.8	3.7	4.8	46.72	54	-7.28	112	136	V
7	2.402	65.31	Av	21.8	3.7	4.74	95.55	-	-	112	136	V
Pk - Peak detector												
Av - PWR RMS Detector												

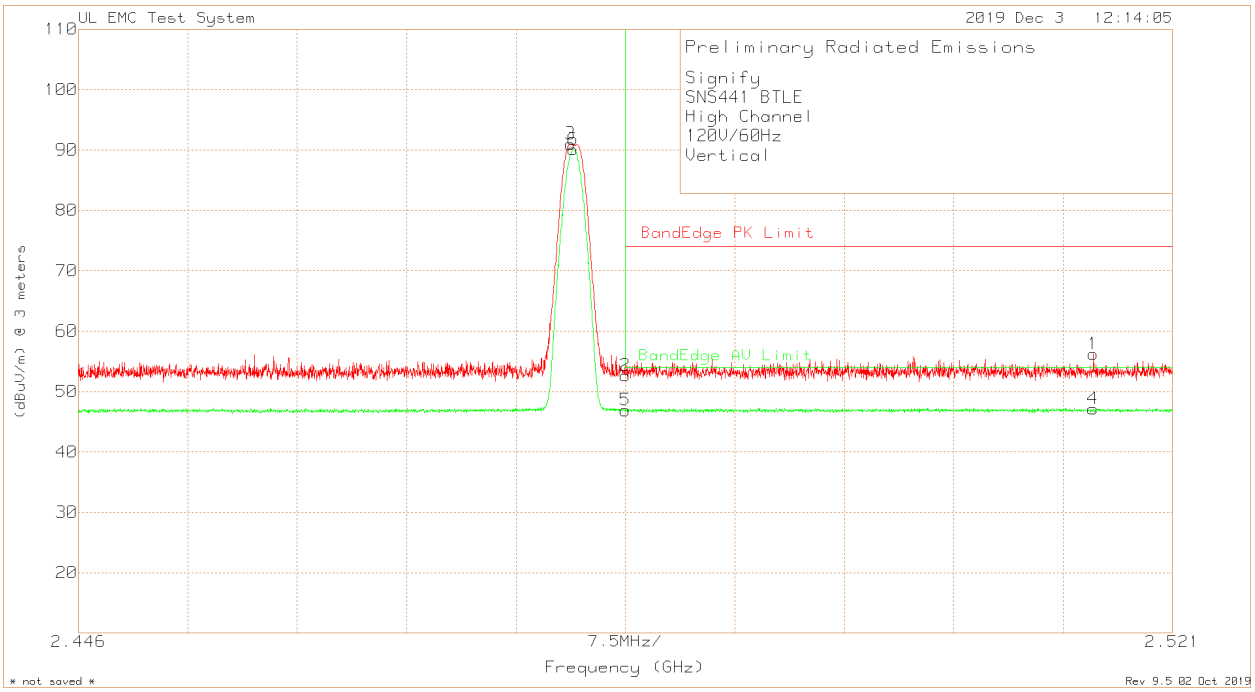
9.4.2. High Channel Bandedge

HORIZONTAL RESULT



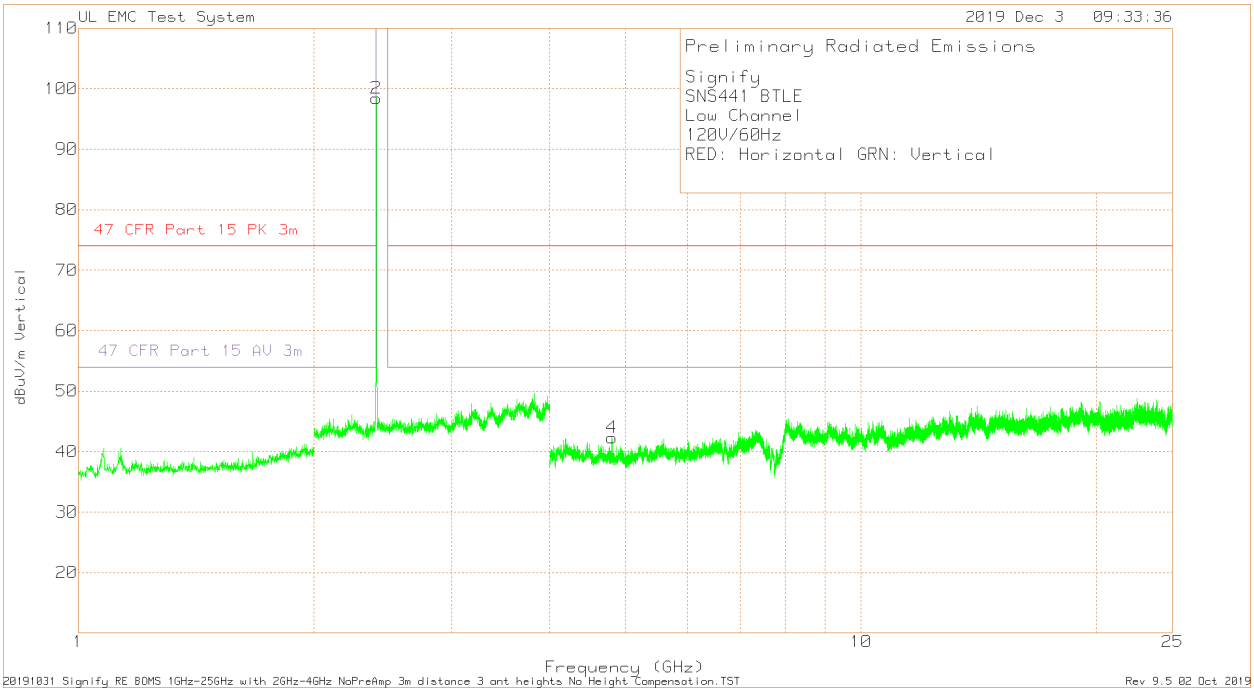
Signify												
SNS441 BTLE												
High Channel												
120V/60Hz												
Horizontal												
Trace MArkers												
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	DC Correction (dB)	Path Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	2.51	29.15	Pk	22.1	-	4.48	55.73	74	-18.27	81	100	H
2	2.4848	29.89	Pk	22.1	-	4.48	56.47	74	-17.53	81	100	H
3	2.4835	26.5	Pk	22.1	-	4.47	53.07	74	-20.93	81	100	H
4	2.4797	58.13	Pk	22	-	4.48	84.61	-	-	81	100	H
5	2.5102	16.86	Av	22.1	3.7	4.48	47.14	54	-6.86	81	100	H
6	2.4835	16.4	Av	22.1	3.7	4.47	46.67	54	-7.33	81	100	H
7	2.4799	53.26	Av	22	3.7	4.47	83.43	-	-	81	100	H
Pk - Peak detector												
Av - PWR RMS Detector												

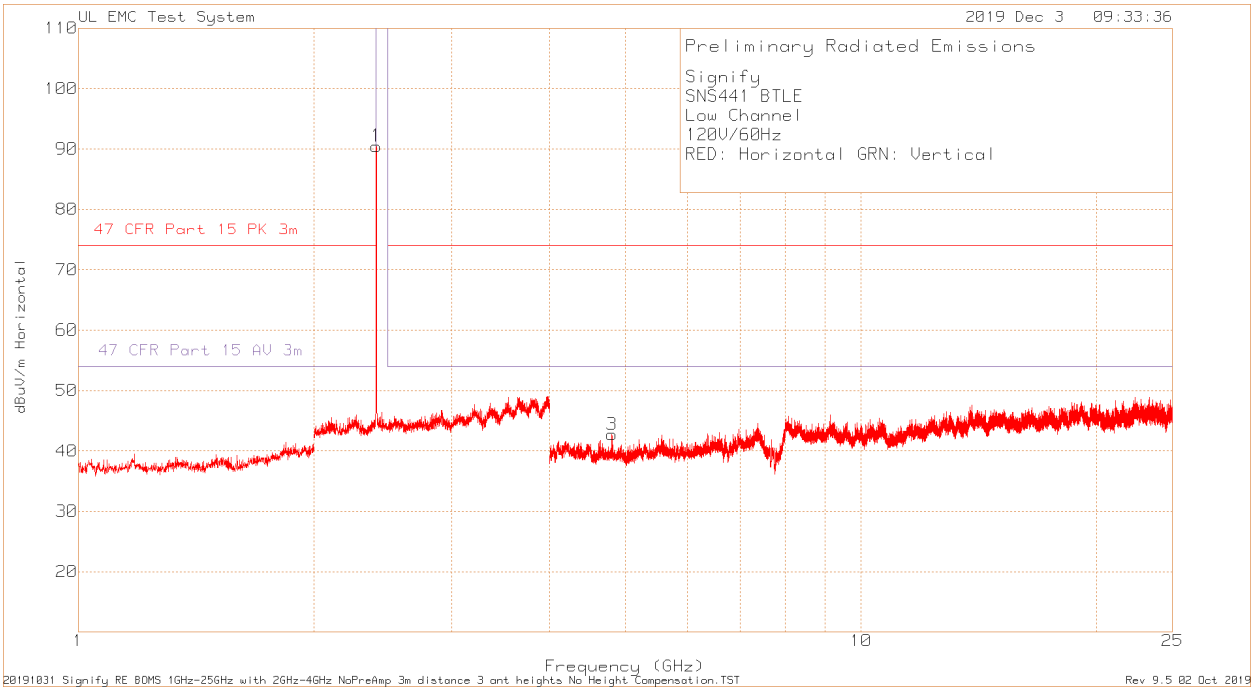
VERTICAL RESULT



Signify												
SNS441 BTLE												
High Channel												
120V/60Hz												
Vertical												
Trace MArkers												
Marker No.	Test Frequency (GHz)	Meter Reading (dBuV)	Detector	Antenna Factor (dB/m)	DC Correction (dB)	Path Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Azimuth [Degs]	Height [cm]	Polarity
1	2.5156	29.64	Pk	22.1	-	4.46	56.2	74	-17.8	115	102	V
2	2.4835	26.06	Pk	22.1	-	4.47	52.63	74	-21.37	115	102	V
3	2.4797	64.51	Pk	22	-	4.48	90.99	-	-	115	102	V
4	2.5156	16.91	Av	22.1	3.7	4.46	47.17	54	-6.83	115	102	V
5	2.4835	16.61	Av	22.1	3.7	4.47	46.88	54	-7.12	115	102	V
6	2.4799	59.92	Av	22	3.7	4.47	90.09	-	-	115	102	V
Pk - Peak detector												
Av - PWR RMS Detector												

9.4.3. Harmonics and Spurious Emissions Low Channel





Signify
SNS441 BTLE
Low Channel
120V/60Hz
RED: Horizontal GRN: Vertical

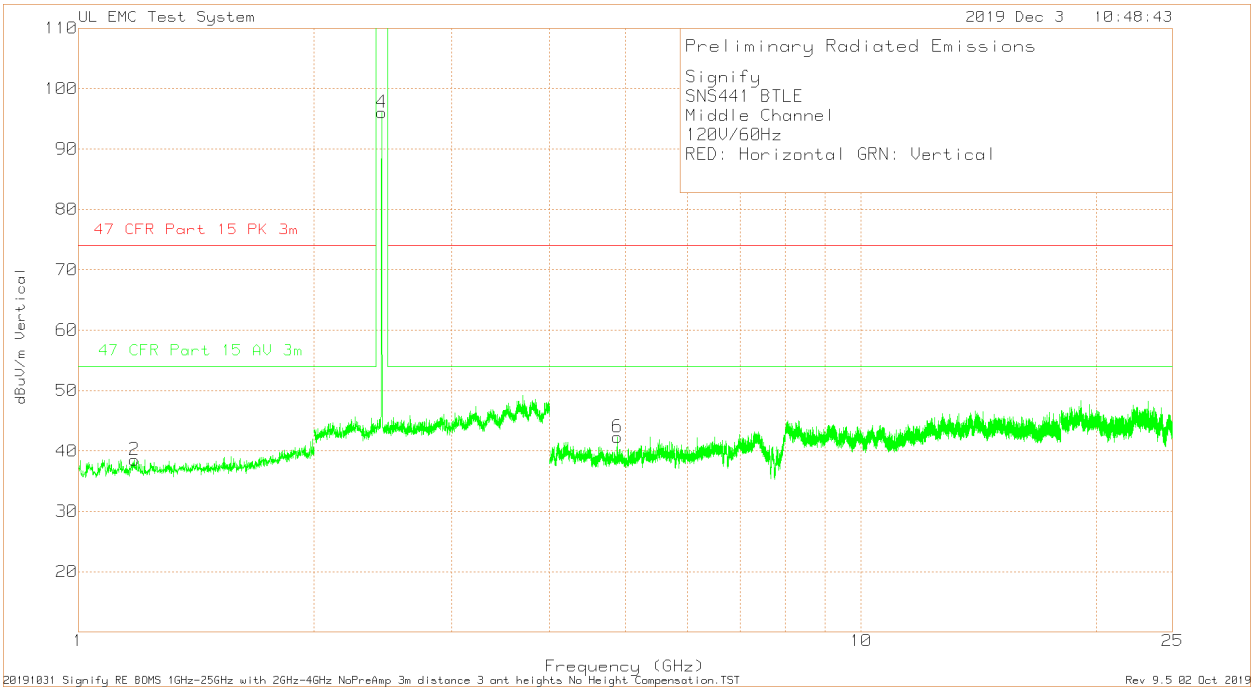
Trace Markers

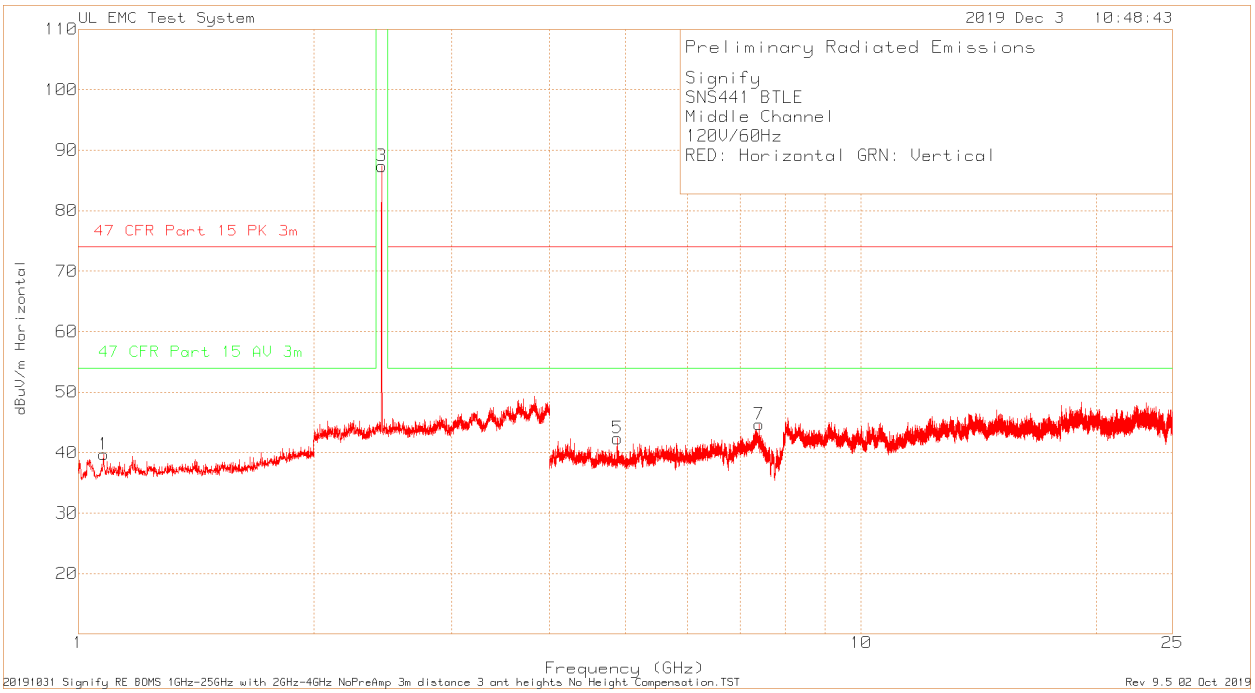
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1
1	2.402	109.06dBuV Pk	21.8	-40.39	90.47	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-
3	4.804	66.4dBuV Pk	27.7	-51.39	42.71	74
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-31.29
2	2.402	116.98dBuV Pk	21.8	-40.39	98.39	-
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-
4	4.804	65.98dBuV Pk	27.7	-51.39	42.29	74
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-31.71

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
SNS441 BTLE
Middle Channel
120V/60Hz
RED: Horizontal GRN: Vertical

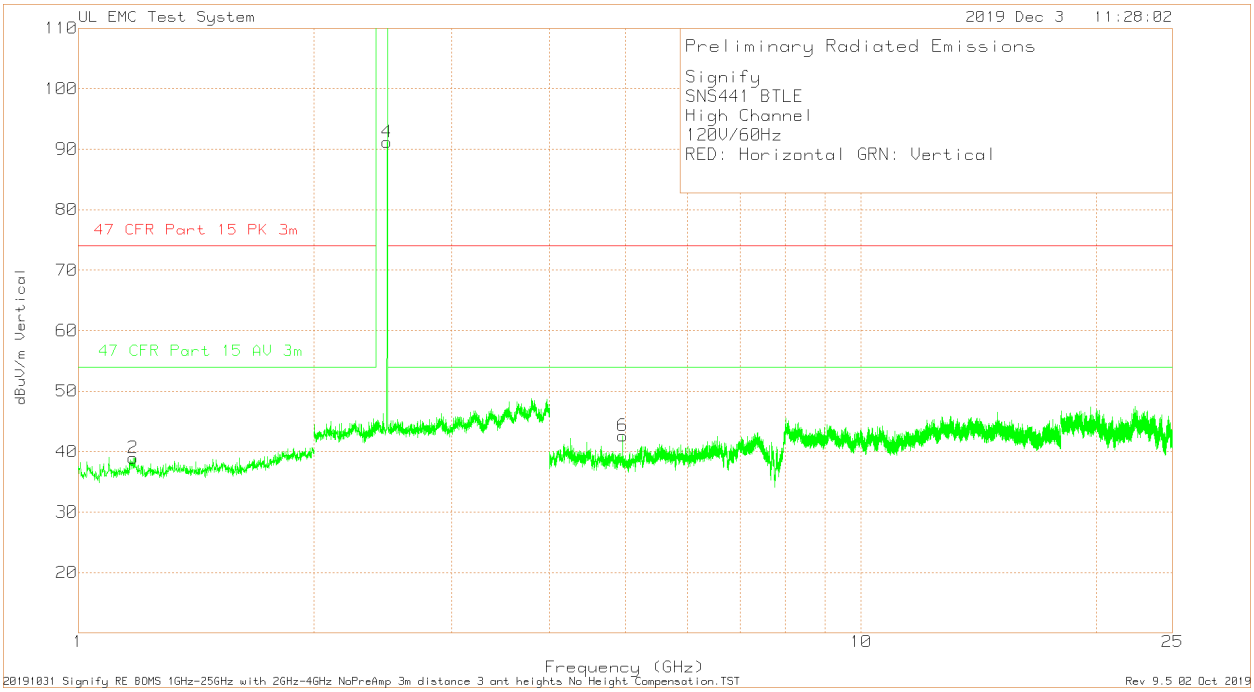
Trace Markers

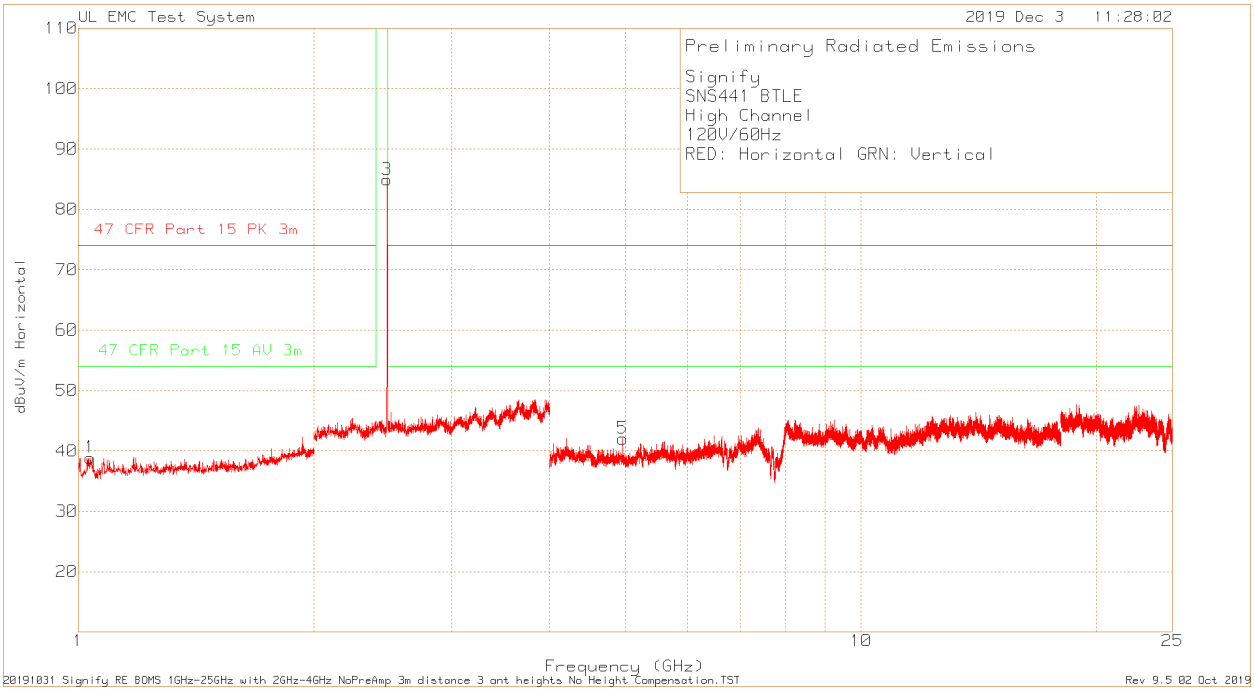
No.	Test Frequency (GHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV/m	Limit:1
1	1.077	71.57dBuV Pk	24.6	-56.48	39.69	74
		Azimuth:0-360	Height:200	Horz	Margin (dB)	-34.31
3	2.44	105.98dBuV Pk	21.9	-40.52	87.36	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-
5	4.88	65.31dBuV Pk	27.7	-50.66	42.35	74
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-31.65
7	7.404	60.17dBuV Pk	31.1	-46.6	44.67	74
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-29.33
2	1.179	69.67dBuV Pk	24.9	-56.03	38.54	74
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-35.46
4	2.44	114.68dBuV Pk	21.9	-40.52	96.06	-
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-
6	4.88	65.29dBuV Pk	27.7	-50.66	42.33	74
		Azimuth:0-360	Height:150	Vert	Margin (dB)	-31.67

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
SNS441 BTLE
High Channel
120V/60Hz
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
1	1.035	70.81dBuV Pk	24.2	-56.12	38.89	74
		Azimuth:0-360	Height:150	Horz	Margin (dB)	-35.11
3	2.48	103.62dBuV Pk	22	-40.71	84.91	-
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-
5	4.96	64.07dBuV Pk	27.8	-49.84	42.03	74
		Azimuth:0-360	Height:100	Horz	Margin (dB)	-31.97
2	1.174	70.04dBuV Pk	24.8	-55.91	38.93	74
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-35.07
4	2.48	109.91dBuV Pk	22	-40.71	91.2	-
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-
6	4.959	64.55dBuV Pk	27.8	-49.76	42.59	74
		Azimuth:0-360	Height:100	Vert	Margin (dB)	-31.41

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

Pk - Peak detector

UL LLC
333 Pfingsten Road, Northbrook, IL 60062; USA TEL:(847) 272-8800

10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

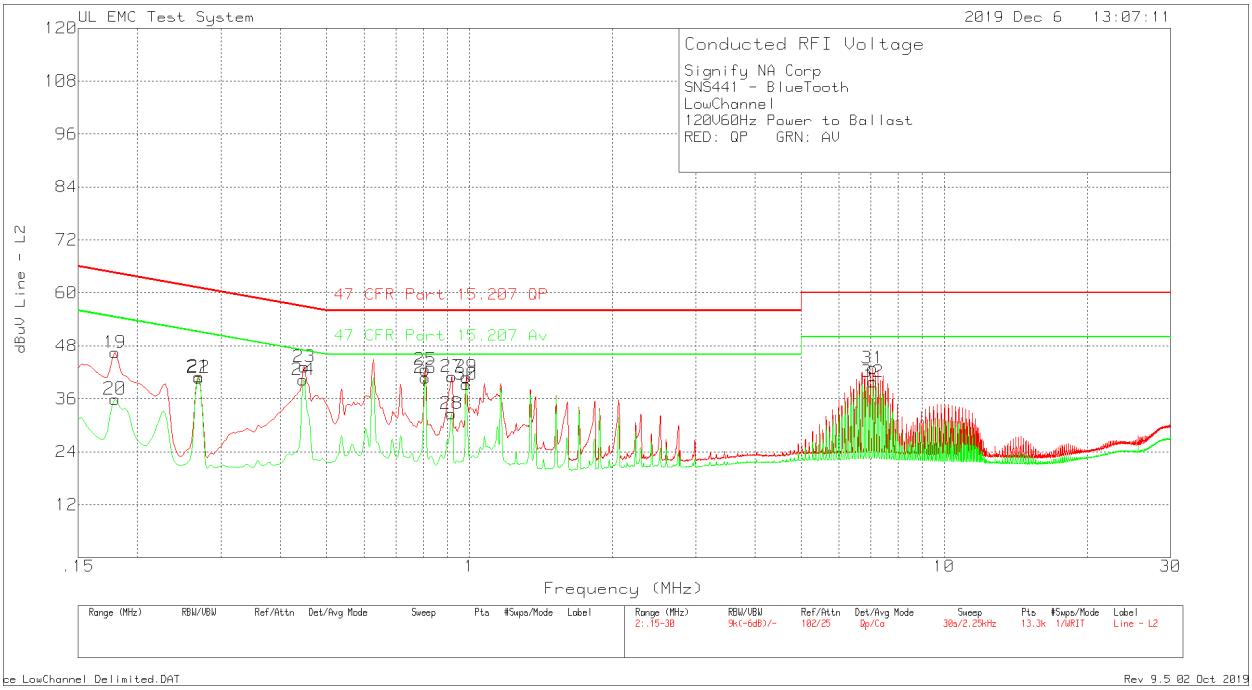
Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

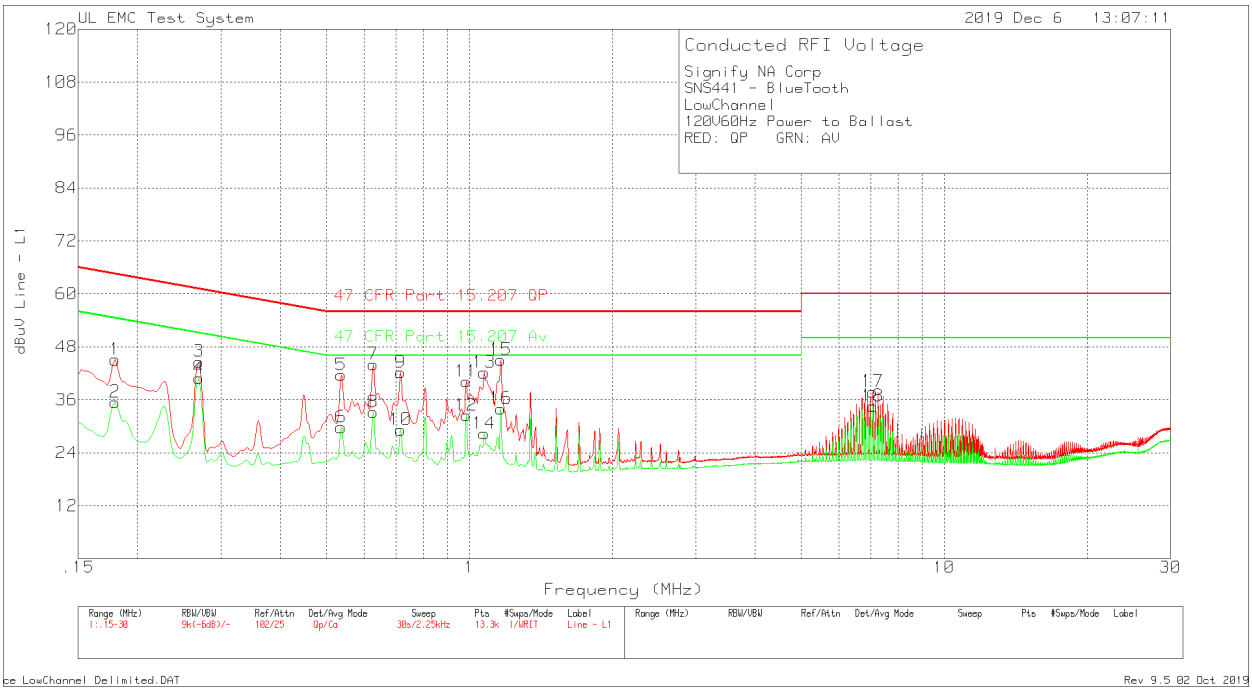
* Decreases with the logarithm of the frequency.

RESULTS

UL LLC
333 Pfingsten Road, Northbrook, IL 60062; USA TEL:(847) 272-8800

10.1. AC Power Line Low Channel





Signify NA Corp
SNS441 - BlueTooth
LowChannel
120V60Hz Power to Ballast
RED: QP GRN: AV

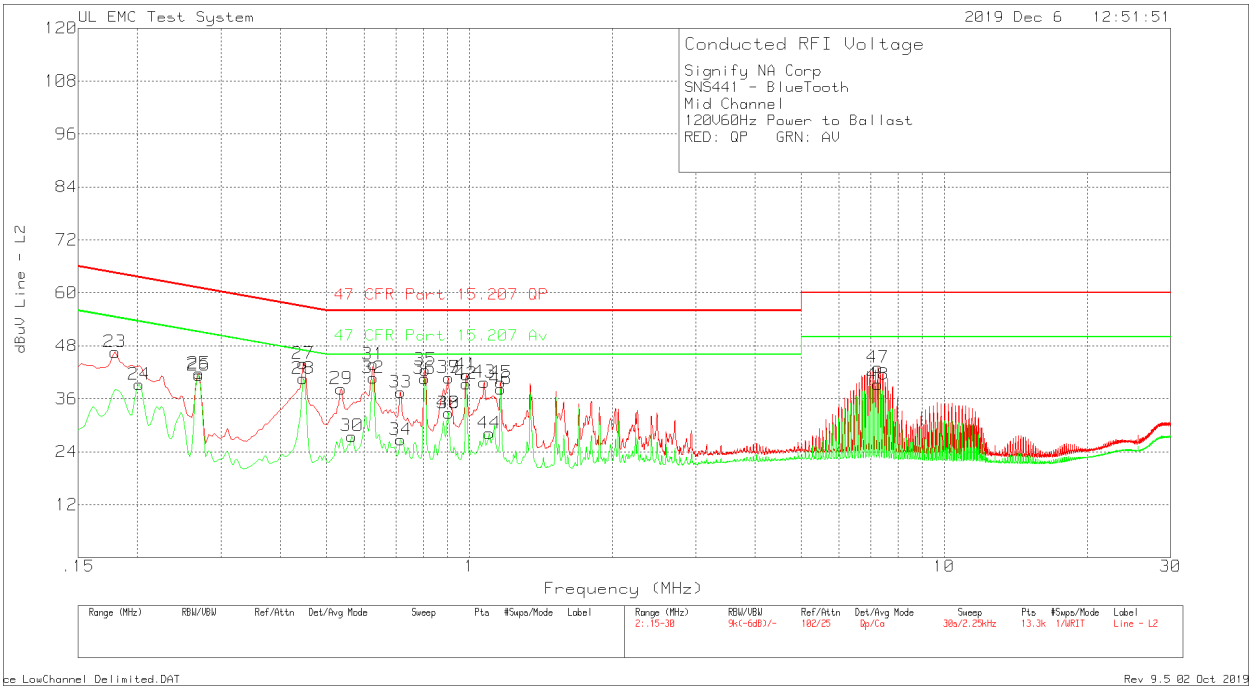
Trace Markers

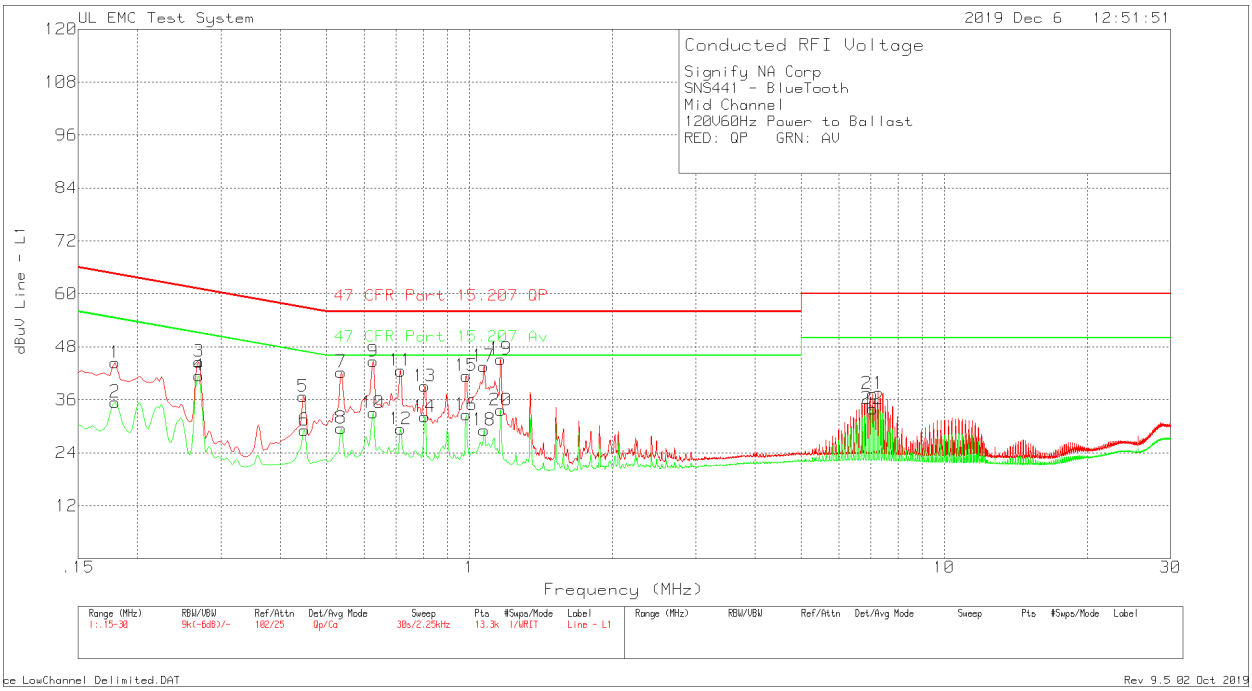
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 1							
1	.17925	32.81dBuV Qp	0	12.3	45.11	64.52	54.52
					Margin (dB)	-19.41	-9.41
2	.17925	23.17dBuV Ca	0	12.3	35.47	64.52	54.52
					Margin (dB)	-29.05	-19.05
3	.26925	33.65dBuV Qp	0	11	44.65	61.14	51.14
					Margin (dB)	-16.49	-6.49
4	.26925	29.88dBuV Ca	0	11	40.88	61.14	51.14
					Margin (dB)	-20.26	-10.26
5	.537	31.04dBuV Qp	0	10.6	41.64	56	46
					Margin (dB)	-14.36	-4.36
6	.537	19.16dBuV Ca	0	10.6	29.76	56	46
					Margin (dB)	-26.24	-16.24
7	.627	33.55dBuV Qp	0	10.5	44.05	56	46
					Margin (dB)	-11.95	-1.95
8	.627	22.7dBuV Ca	0	10.5	33.2	56	46
					Margin (dB)	-22.8	-12.8
9	.717	31.7dBuV Qp	0	10.5	42.2	56	46
					Margin (dB)	-13.8	-3.8
10	.717	18.67dBuV Ca	0	10.5	29.17	56	46
					Margin (dB)	-26.83	-16.83
11	.98475	29.65dBuV Qp	0	10.5	40.15	56	46
					Margin (dB)	-15.85	-5.85
12	.98475	21.98dBuV Ca	0	10.5	32.48	56	46
					Margin (dB)	-23.52	-13.52
13	1.07475	31.65dBuV Qp	0	10.5	42.15	56	46
					Margin (dB)	-13.85	-3.85
14	1.07475	17.84dBuV Ca	0	10.5	28.34	56	46
					Margin (dB)	-27.66	-17.66
15	1.16475	34.56dBuV Qp	0	10.5	45.06	56	46
					Margin (dB)	-10.94	-.94
16	1.16475	23.52dBuV Ca	0	10.5	34.02	56	46
					Margin (dB)	-21.98	-11.98
17	7.0755	27.04dBuV Qp	0	10.8	37.84	60	50
					Margin (dB)	-22.16	-12.16
18	7.07325	23.78dBuV Ca	0	10.8	34.58	60	50
					Margin (dB)	-25.42	-15.42
Line 2							
19	.17925	34.12dBuV Qp	.1	12.3	46.52	64.52	54.52
					Margin (dB)	-18	-8
20	.17925	23.52dBuV Ca	.1	12.3	35.92	64.52	54.52
					Margin (dB)	-28.6	-18.6
21	.26925	30.06dBuV Qp	0	11	41.06	61.14	51.14
					Margin (dB)	-20.08	-10.08
22	.26925	29.8dBuV Ca	0	11	40.8	61.14	51.14
					Margin (dB)	-20.34	-10.34
23	.44925	32.66dBuV Qp	0	10.6	43.26	56.89	46.89
					Margin (dB)	-13.63	-3.63
24	.447	29.67dBuV Ca	0	10.6	40.27	56.93	46.93
					Margin (dB)	-16.66	-6.66
25	.807	32.1dBuV Qp	0	10.5	42.6	56	46
					Margin (dB)	-13.4	-3.4
26	.807	30.24dBuV Ca	0	10.5	40.74	56	46
					Margin (dB)	-15.26	-5.26
27	.9195	30.49dBuV Qp	0	10.5	40.99	56	46
					Margin (dB)	-15.01	-5.01
28	.91725	22.11dBuV Ca	0	10.5	32.61	56	46
					Margin (dB)	-23.39	-13.39
29	.98475	30.44dBuV Qp	0	10.5	40.94	56	46
					Margin (dB)	-15.06	-5.06
30	.98475	28.72dBuV Ca	0	10.5	39.22	56	46
					Margin (dB)	-16.78	-6.78
31	7.0755	32.16dBuV Qp	0	10.8	42.96	60	50
					Margin (dB)	-17.04	-7.04
32	7.07325	29.06dBuV Ca	0	10.8	39.86	60	50
					Margin (dB)	-20.14	-10.14

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
SNS441 - BlueTooth
Mid 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	32.09dBuV Qp	0	12.3	44.39	64.52	54.52
					Margin (dB)	-20.13	-10.13
2	.17925	23.17dBuV Ca	0	12.3	35.47	64.52	54.52
					Margin (dB)	-29.05	-19.05
3	.26925	33.65dBuV Qp	0	11	44.65	61.14	51.14
					Margin (dB)	-16.49	-6.49
4	.26925	30.43dBuV Ca	0	11	41.43	61.14	51.14
					Margin (dB)	-19.71	-9.71
5	.447	26.12dBuV Qp	0	10.6	36.72	56.93	46.93
					Margin (dB)	-20.21	-10.21
6	.44925	18.54dBuV Ca	0	10.6	29.14	56.89	46.89
					Margin (dB)	-27.75	-17.75
7	.537	31.66dBuV Qp	0	10.6	42.26	56	46
					Margin (dB)	-13.74	-3.74
8	.537	18.99dBuV Ca	0	10.6	29.59	56	46
					Margin (dB)	-26.41	-16.41
9	.627	34.17dBuV Qp	0	10.5	44.67	56	46
					Margin (dB)	-11.33	-1.33
10	.627	22.58dBuV Ca	0	10.5	33.08	56	46
					Margin (dB)	-22.92	-12.92
11	.717	32.09dBuV Qp	0	10.5	42.59	56	46
					Margin (dB)	-13.41	-3.41
12	.717	18.84dBuV Ca	0	10.5	29.34	56	46
					Margin (dB)	-26.66	-16.66
13	.80475	28.58dBuV Qp	0	10.5	39.08	56	46
					Margin (dB)	-16.92	-6.92
14	.80475	21.68dBuV Ca	0	10.5	32.18	56	46
					Margin (dB)	-23.82	-13.82
15	.98475	30.92dBuV Qp	0	10.5	41.42	56	46
					Margin (dB)	-14.58	-4.58
16	.98475	22.08dBuV Ca	0	10.5	32.58	56	46
					Margin (dB)	-23.42	-13.42
17	1.0725	33.09dBuV Qp	0	10.5	43.59	56	46
					Margin (dB)	-12.41	-2.41
18	1.07475	18.63dBuV Ca	0	10.5	29.13	56	46
					Margin (dB)	-26.87	-16.87
19	1.16475	34.72dBuV Qp	0	10.5	45.22	56	46
					Margin (dB)	-10.78	-.78
20	1.16475	23.18dBuV Ca	0	10.5	33.68	56	46
					Margin (dB)	-22.32	-12.32
21	7.071	26.6dBuV Qp	0	10.8	37.4	60	50
					Margin (dB)	-22.6	-12.6
22	7.06875	23.2dBuV Ca	0	10.8	34	60	50
					Margin (dB)	-26	-16

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

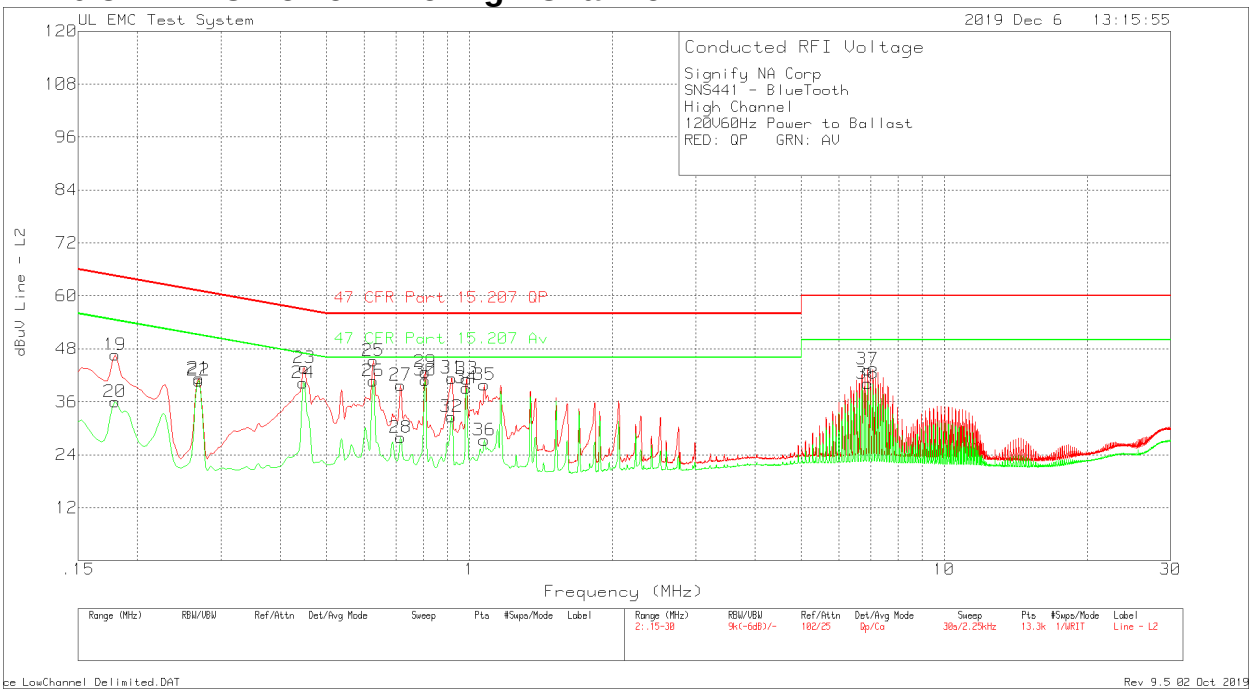
Trace Markers – Cont.

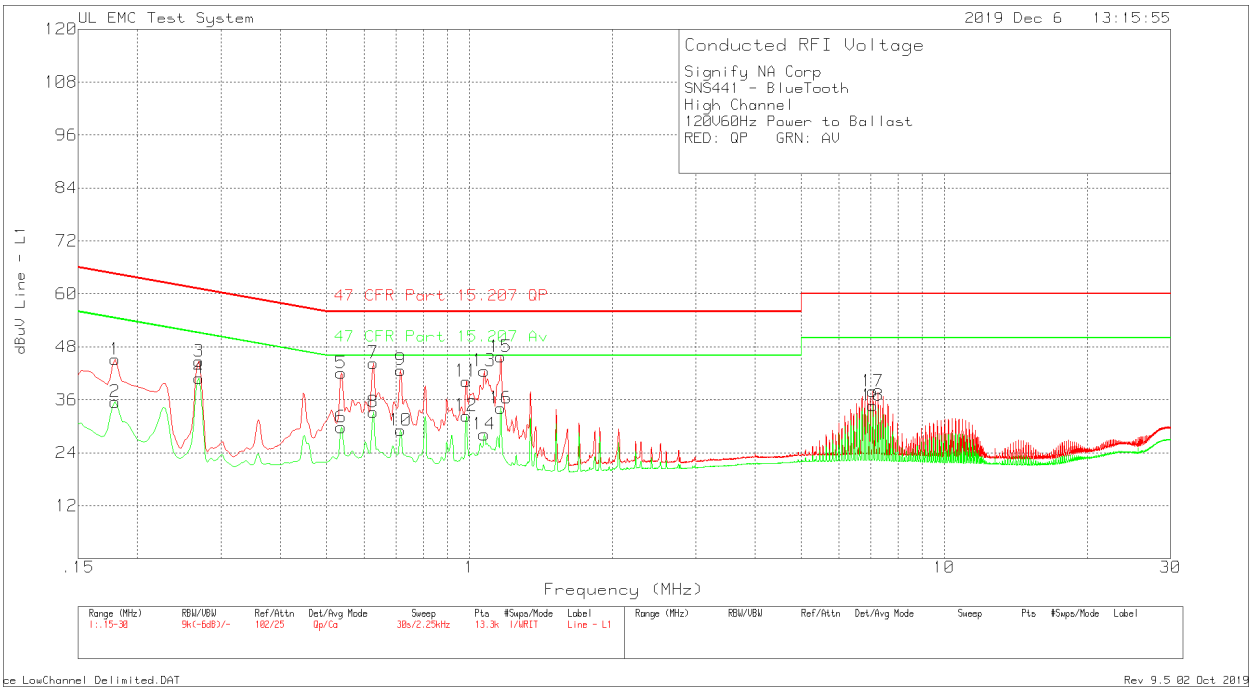
No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 2							
23	.17925	34.18dBuV Qp	.1	12.3	46.58	64.52	54.52
					Margin (dB)	-17.94	-7.94
24	.20175	27.78dBuV Ca	0	11.5	39.28	63.54	53.54
					Margin (dB)	-24.26	-14.26
25	.26925	30.77dBuV Qp	0	11	41.77	61.14	51.14
					Margin (dB)	-19.37	-9.37
26	.26925	30.35dBuV Ca	0	11	41.35	61.14	51.14
					Margin (dB)	-19.79	-9.79
27	.447	33.4dBuV Qp	0	10.6	44	56.93	46.93
					Margin (dB)	-12.93	-2.93
28	.447	29.97dBuV Ca	0	10.6	40.57	56.93	46.93
					Margin (dB)	-16.36	-6.36
29	.537	27.67dBuV Qp	0	10.6	38.27	56	46
					Margin (dB)	-17.73	-7.73
30	.56625	17.04dBuV Ca	0	10.5	27.54	56	46
					Margin (dB)	-28.46	-18.46
31	.627	33.35dBuV Qp	0	10.5	43.85	56	46
					Margin (dB)	-12.15	-2.15
32	.627	30.25dBuV Ca	0	10.5	40.75	56	46
					Margin (dB)	-15.25	-5.25
33	.717	26.95dBuV Qp	0	10.5	37.45	56	46
					Margin (dB)	-18.55	-8.55
34	.717	16.19dBuV Ca	0	10.5	26.69	56	46
					Margin (dB)	-29.31	-19.31
35	.807	32.07dBuV Qp	0	10.5	42.57	56	46
					Margin (dB)	-13.43	-3.43
36	.80475	30.14dBuV Ca	0	10.5	40.64	56	46
					Margin (dB)	-15.36	-5.36
37	.90375	30.3dBuV Qp	0	10.5	40.8	56	46
					Margin (dB)	-15.2	-5.2
38	.90375	22.24dBuV Ca	0	10.5	32.74	56	46
					Margin (dB)	-23.26	-13.26
39	.90375	30.3dBuV Qp	0	10.5	40.8	56	46
					Margin (dB)	-15.2	-5.2
40	.90375	22.24dBuV Ca	0	10.5	32.74	56	46
					Margin (dB)	-23.26	-13.26
41	.98475	31.01dBuV Qp	0	10.5	41.51	56	46
					Margin (dB)	-14.49	-4.49
42	.98475	28.92dBuV Ca	0	10.5	39.42	56	46
					Margin (dB)	-16.58	-6.58
43	1.07475	29.27dBuV Qp	0	10.5	39.77	56	46
					Margin (dB)	-16.23	-6.23
44	1.10175	17.69dBuV Ca	0	10.5	28.19	56	46
					Margin (dB)	-27.81	-17.81
45	1.16475	29.21dBuV Qp	0	10.5	39.71	56	46
					Margin (dB)	-16.29	-6.29
46	1.16475	27.78dBuV Ca	0	10.5	38.28	56	46
					Margin (dB)	-17.72	-7.72
47	7.251	32.31dBuV Qp	0	10.8	43.11	60	50
					Margin (dB)	-16.89	-6.89
48	7.24875	28.43dBuV Ca	0	10.8	39.23	60	50
					Margin (dB)	-20.77	-10.77

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
SNS441 - BlueTooth
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	32.85dBuV Qp	0	12.3	45.15	64.52	54.52
					Margin (dB)	-19.37	-9.37
2	.17925	23.21dBuV Ca	0	12.3	35.51	64.52	54.52
					Margin (dB)	-29.01	-19.01
3	.26925	33.71dBuV Qp	0	11	44.71	61.14	51.14
					Margin (dB)	-16.43	-6.43
4	.26925	29.91dBuV Ca	0	11	40.91	61.14	51.14
					Margin (dB)	-20.23	-10.23
5	.537	31.45dBuV Qp	0	10.6	42.05	56	46
					Margin (dB)	-13.95	-3.95
6	.537	19.17dBuV Ca	0	10.6	29.77	56	46
					Margin (dB)	-26.23	-16.23
7	.627	33.83dBuV Qp	0	10.5	44.33	56	46
					Margin (dB)	-11.67	-1.67
8	.627	22.73dBuV Ca	0	10.5	33.23	56	46
					Margin (dB)	-22.77	-12.77
9	.717	32.23dBuV Qp	0	10.5	42.73	56	46
					Margin (dB)	-13.27	-3.27
10	.717	18.57dBuV Ca	0	10.5	29.07	56	46
					Margin (dB)	-26.93	-16.93
11	.98475	29.71dBuV Qp	0	10.5	40.21	56	46
					Margin (dB)	-15.79	-5.79
12	.98475	21.88dBuV Ca	0	10.5	32.38	56	46
					Margin (dB)	-23.62	-13.62
13	1.07475	32.07dBuV Qp	0	10.5	42.57	56	46
					Margin (dB)	-13.43	-3.43
14	1.07475	17.64dBuV Ca	0	10.5	28.14	56	46
					Margin (dB)	-27.86	-17.86
15	1.16475	35.27dBuV Qp	0	10.5	45.77	56	46
					Margin (dB)	-10.23	-.23
16	1.16475	23.55dBuV Ca	0	10.5	34.05	56	46
					Margin (dB)	-21.95	-11.95
17	7.07775	27.15dBuV Qp	0	10.8	37.95	60	50
					Margin (dB)	-22.05	-12.05
18	7.0755	23.91dBuV Ca	0	10.8	34.71	60	50
					Margin (dB)	-25.29	-15.29

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection

Trace Markers – Cont.

No.	Test Frequency (MHz)	Meter Reading	Transducer Factor (dB)	Gain/Loss Factor (dB)	Corrected Reading dBuV	Limit:1	2
Line 2							
19	.17925	34.19dBuV Qp	.1	12.3	46.59	64.52	54.52
					Margin (dB)	-17.93	-7.93
20	.17925	23.62dBuV Ca	.1	12.3	36.02	64.52	54.52
					Margin (dB)	-28.5	-18.5
21	.26925	30.33dBuV Qp	0	11	41.33	61.14	51.14
					Margin (dB)	-19.81	-9.81
22	.26925	29.82dBuV Ca	0	11	40.82	61.14	51.14
					Margin (dB)	-20.32	-10.32
23	.44925	33.09dBuV Qp	0	10.6	43.69	56.89	46.89
					Margin (dB)	-13.2	-3.2
24	.447	29.66dBuV Ca	0	10.6	40.26	56.93	46.93
					Margin (dB)	-16.67	-6.67
25	.627	34.81dBuV Qp	0	10.5	45.31	56	46
					Margin (dB)	-10.69	-.69
26	.627	30.24dBuV Ca	0	10.5	40.74	56	46
					Margin (dB)	-15.26	-5.26
27	.717	29.27dBuV Qp	0	10.5	39.77	56	46
					Margin (dB)	-16.23	-6.23
28	.717	17.41dBuV Ca	0	10.5	27.91	56	46
					Margin (dB)	-28.09	-18.09
29	.807	32.24dBuV Qp	0	10.5	42.74	56	46
					Margin (dB)	-13.26	-3.26
30	.807	30.4dBuV Ca	0	10.5	40.9	56	46
					Margin (dB)	-15.1	-5.1
31	.9195	30.87dBuV Qp	0	10.5	41.37	56	46
					Margin (dB)	-14.63	-4.63
32	.91725	22.08dBuV Ca	0	10.5	32.58	56	46
					Margin (dB)	-23.42	-13.42
33	.987	30.74dBuV Qp	0	10.5	41.24	56	46
					Margin (dB)	-14.76	-4.76
34	.98475	28.68dBuV Ca	0	10.5	39.18	56	46
					Margin (dB)	-16.82	-6.82
35	1.07475	29.35dBuV Qp	0	10.5	39.85	56	46
					Margin (dB)	-16.15	-6.15
36	1.07475	16.82dBuV Ca	0	10.5	27.32	56	46
					Margin (dB)	-28.68	-18.68
37	6.89775	32.52dBuV Qp	0	10.8	43.32	60	50
					Margin (dB)	-16.68	-6.68
38	6.89775	29.3dBuV Ca	0	10.8	40.1	60	50
					Margin (dB)	-19.9	-9.9

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

Qp - Quasi-Peak detector
Ca - CISPR Average detection