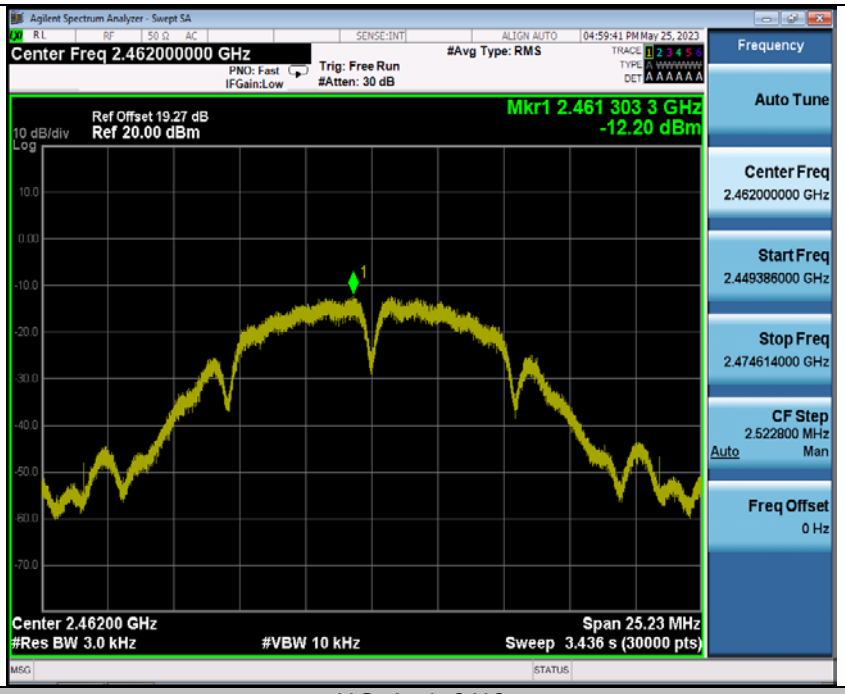
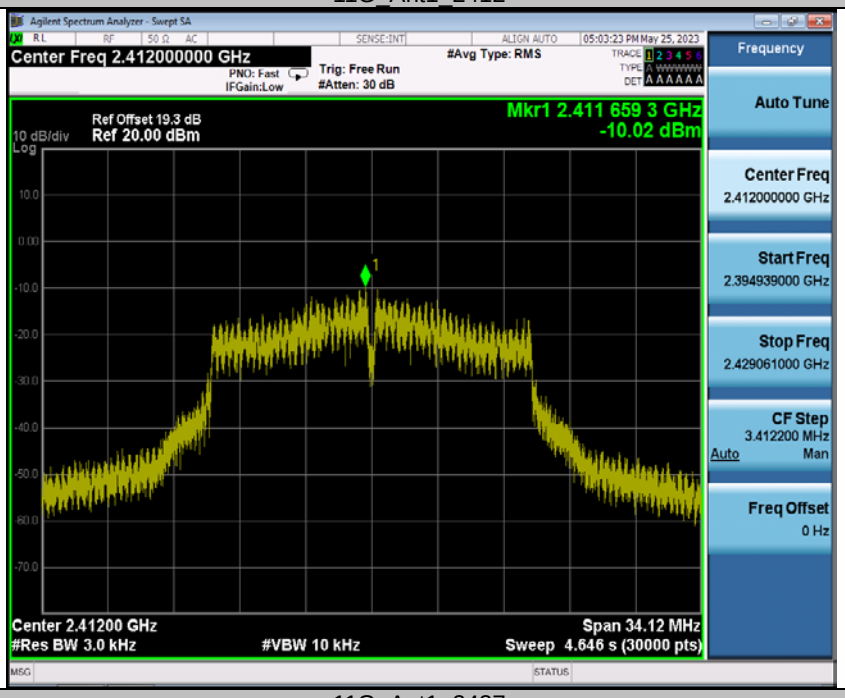
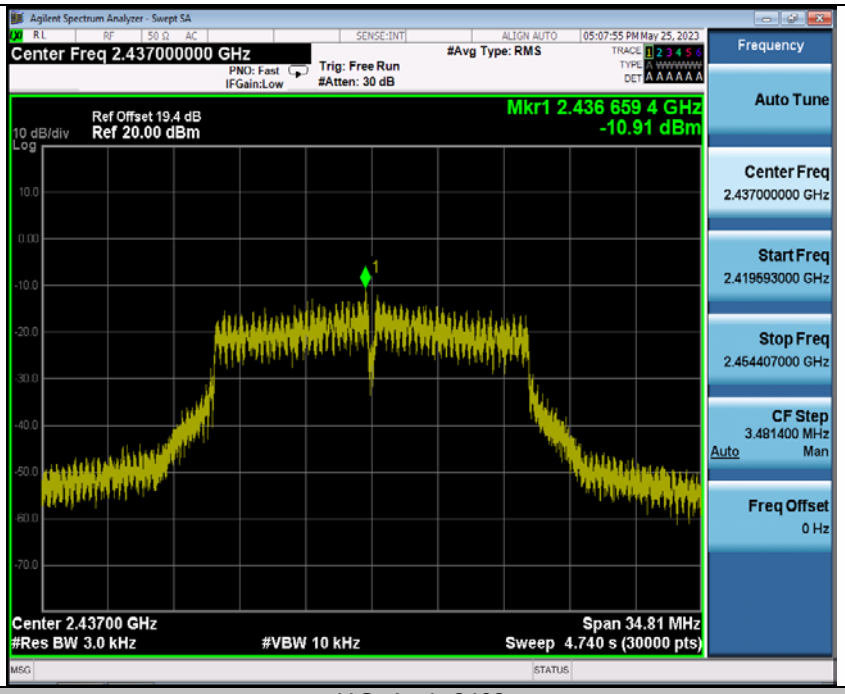


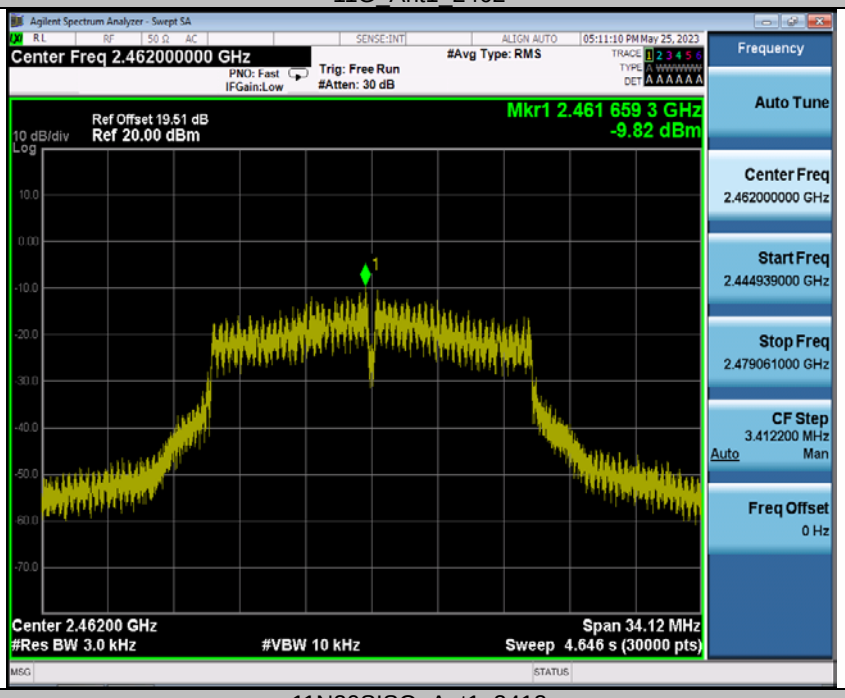
11G_Ant1_2412



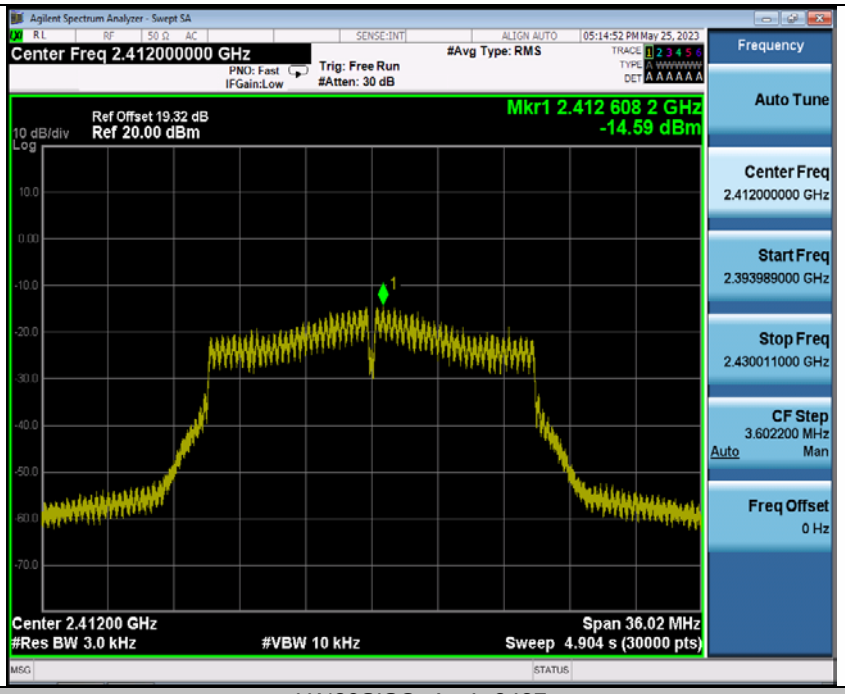
11G_Ant1_2437



11G_Ant1_2462



11N20SISO_Ant1_2412



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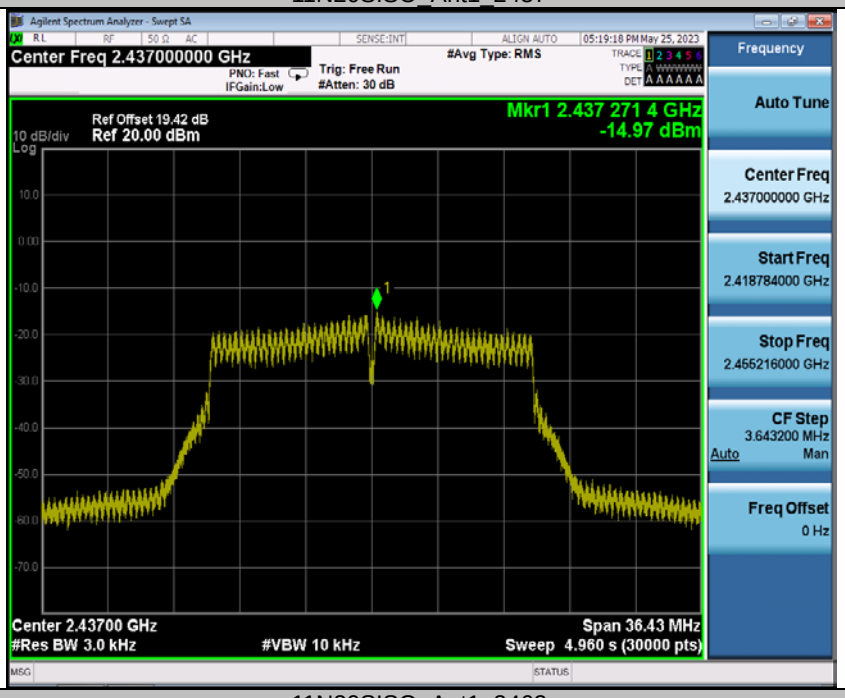
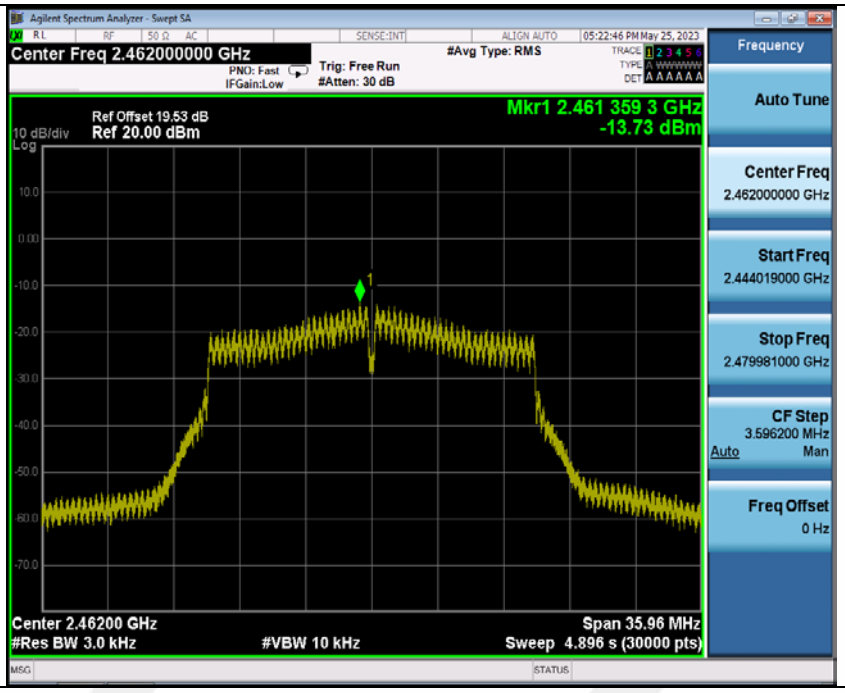


11N20SISO_Ant1_2462


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.462000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
05:22:46 PM May 25, 2023
Ref Offset 19.53 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.461 359 3 GHz
-13.73 dBm
Center 2.46200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 35.96 MHz
Sweep 4.896 s (30000 pts)
Frequency
Auto Tune
Center Freq
2.462000000 GHz
Start Freq
2.444019000 GHz
Stop Freq
2.479981000 GHz
CF Step
3.596200 MHz
Auto
Man
Freq Offset
0 Hz

8.5 UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

8.5.1 Applicable Standard

According to FCC Part15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02
According to RSS-247, 5.5

8.5.2 Conformance Limit

According to FCC Part 15.247(d):
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted undersection 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

8.5.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.5.4 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer

- **Reference level measurement**

Establish a reference level by using the following procedure:
Set instrument center frequency to DTS channel center frequency.
Set the span to ≥ 1.5 times the DTS bandwidth.
Set the RBW = 100 kHz.
Set the VBW ≥ 3 x RBW.
Set Detector = peak.
Set Sweep time = auto couple.
Set Trace mode = max hold.
Allow trace to fully stabilize.
Use the peak marker function to determine the maximum PSD level.
Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

- **Band-edge measurement**

Use the following spectrum analyzer settings:
Span = wide enough to capture the peak level of the emission operating on the channel closest to the band-edge, as well as any modulation products which fall outside of the authorized band of operation
Set RBW ≥ 1% of the span=100kHz Set VBW ≥3 x RBW
Set Sweep = autoSet Detector function = peakSet Trace = max hold
Allow the trace to stabilize. Set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. The marker-delta value now displayed must comply with the limit specified in this Section.

- **Emission level measurement**

Set the center frequency and span to encompass frequency range to be measured.
Set the RBW = 100 kHz.
Set the VBW =300 kHz.
Set Detector = peak
Sweep time = auto couple.
Trace mode = max hold.
Allow trace to fully stabilize.
Use the peak marker function to determine the maximum amplitude level.
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements . Report the three highest emissions relative to the limit.

8.5.5 Test Results

Temperature:	25 ˚C
Relative Humidity:	45%
ATM Pressure:	1011 mbar

Note: N/A

All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1,802.11b) resultrecorded was report as below:

TestMode	Antenna	Frequency[MHz]	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	9.66	9.66	---	PASS
			30~1000	9.66	-68.23	≤-20.34	PASS
			1000~26500	9.66	-52.99	≤-20.34	PASS
		2437	Reference	9.46	9.46	---	PASS
			30~1000	9.46	-68.71	≤-20.54	PASS
			1000~26500	9.46	-52.86	≤-20.54	PASS
		2462	Reference	9.53	9.53	---	PASS
			30~1000	9.53	-68.16	≤-20.47	PASS
			1000~26500	9.53	-51.42	≤-20.47	PASS

11B_Ant1_2412_0~Reference

11B_Ant1_2412_30~1000

11B_Ant1_2412_1000~26500

11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000

11B_Ant1_2437_1000~26500

11B_Ant1_2462_0~Reference

11B_Ant1_2462_30~1000

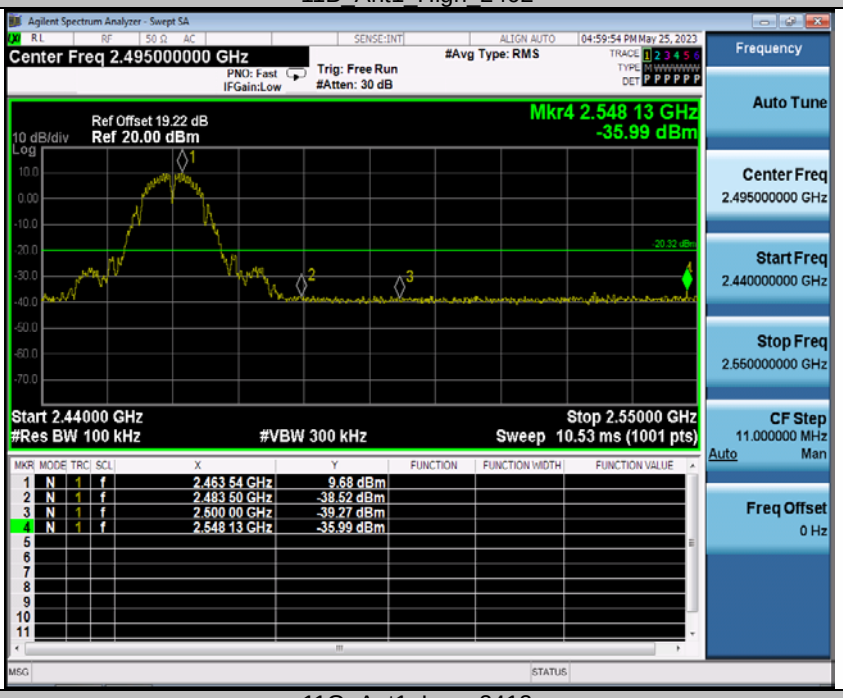
11B_Ant1_2462_1000~26500

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.750000000 GHz
PNO: Fast
IFGain:High
Trig: Free Run
#Atten: 0 dB
#Avg Type: RMS
05:17:17 PM Jun 05, 2023
Frequency
Auto Tune
Center Freq
13.750000000 GHz
Start Freq
1.000000000 GHz
Stop Freq
26.500000000 GHz
CF Step
2.550000000 GHz
Auto
Man
Freq Offset
0 Hz
Ref Offset 19.22 dB
10 dB/div
Ref -0.78 dBm
Mkr2 25.751 15 GHz
-51.42 dBm
Start 1.00 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.438 s (30001 pts)
1 N 1 f 2.461 15 GHz 9.43 dBm
2 N 1 f 25.751 15 GHz -51.42 dBm
Input Overload;ADC over range

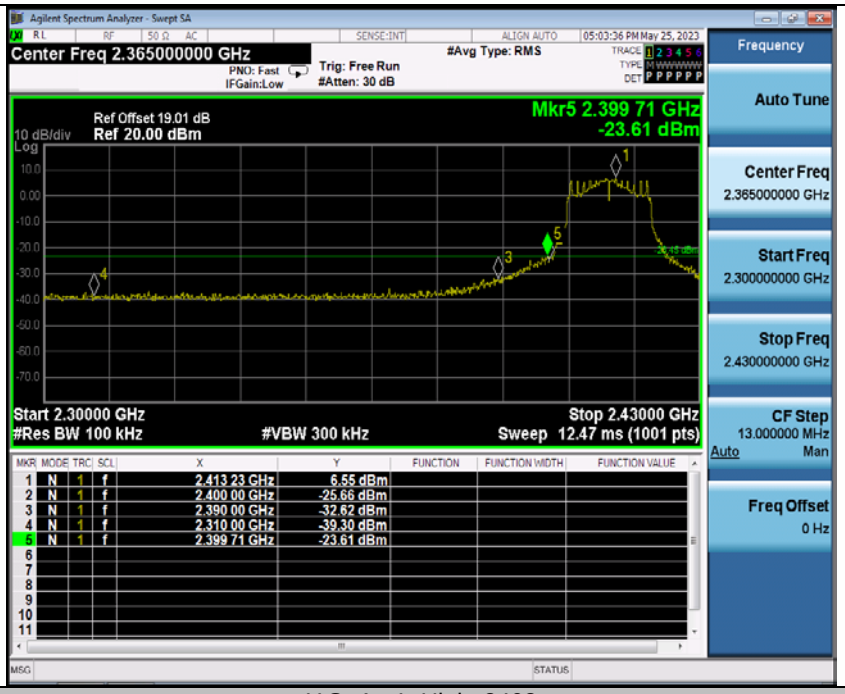
TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	9.57	-28.75	≤-20.43	PASS
		High	2462	9.68	-35.99	≤-20.32	PASS
11G	Ant1	Low	2412	6.55	-23.61	≤-23.45	PASS
		High	2462	6.99	-34.84	≤-23.01	PASS
11N20SISO	Ant1	Low	2412	5.33	-27.28	≤-24.67	PASS
		High	2462	5.87	-35.19	≤-24.13	PASS

11B_Ant1_Low_2412

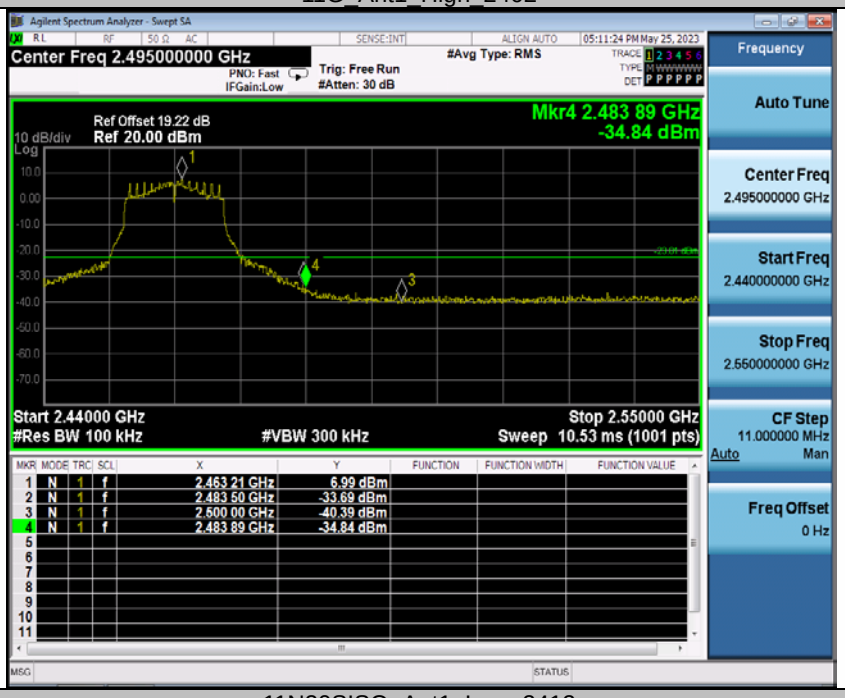
11B_Ant1_High_2462



11G_Ant1_Low_2412

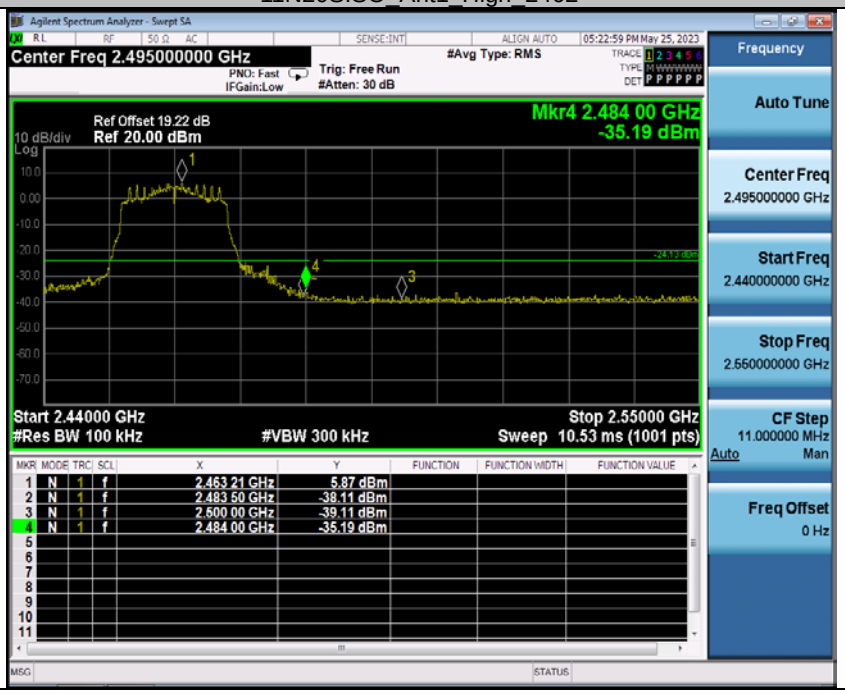


11G_Ant1_High_2462



11N20SISO_Ant1_Low_2412

11N20SISO_Ant1_High_2462



8.6 RADIATED SPURIOUS EMISSION

8.6.1 Applicable Standard

According to FCC Part 15.247(d),15.205, 15.209 and KDB 558074 D01 15.247 Meas Guidancev05r02
According to IC RSS-Gen and RSS-247

8.6.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

According toFCC Part15.205the level of any transmitter spurious emission in Restricted bands shall not exceed the level of the emission specified in the following table

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009-0.490	2400/F(KHz)	20 log (uV/m)	300
0.490-1.705	24000/F(KHz)	20 log (uV/m)	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

8.6.3 Test Configuration

Test according to clause 6.2 radio frequency test setup

8.6.4 Test Procedure

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:
For Above 1GHz:
The EUT was placed on a turn table which is 1.5m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 1 MHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold

For Below 1GHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 100 kHz for
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
For Below 30MHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 9kHz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
For Below 150KHz:
The EUT was placed on a turn table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Span = wide enough to fully capture the emission being measured
RBW = 200Hz
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Follow the guidelines in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization, etc. A pre-amp and a high pass filter are required for this test, in order to provide the measuring system with sufficient sensitivity. Allow the trace to stabilize. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, which must comply with the limit. Submit this data.
Now set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit. If the dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the limit. Submit this data.
Repeat above procedures until all frequency measured was complete.

8.6.5 Test Results

Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

■ Spurious Emission below 30MHz(9KHz to 30MHz)

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
--	--	--	--	--	--	--	--

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor

■ Spurious Emission Above 1GHz(1GHz to 25GHz)

All theantenna(Antenna 1&2)and modes(802.11b/g/n)have been tested and the worst(Antenna 1,802.11b) resultrecorded was report as below:

Test mode: 802.11b Frequency: Channel 1: 2412MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
4822.5	V	49.32	45.23	74.00	54.00	24.68	8.77
7233.75	V	54.64	46.67	74.00	54.00	19.36	7.33
17953.12	V	69.05	47.26	74.00	54.00	4.95	6.74
4822.5	H	47.11	41.10	74.00	54.00	26.89	12.90
7237.5	H	56.40	50.61	74.00	54.00	17.60	3.39
17643.75	H	69.52	48.32	74.00	54.00	4.48	5.68

Test mode: 802.11b Frequency: Channel 6: 2437MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
4873.125	V	48.05	43.20	74.00	54.00	25.95	10.80
7312.5	V	51.57	41.85	74.00	54.00	22.43	12.15
17613.75	V	69.01	47.70	74.00	54.00	4.99	6.30
4873.125	H	47.76	43.55	74.00	54.00	26.24	10.45
7312.5	H	54.44	46.78	74.00	54.00	19.56	7.22
17608.12	H	69.60	47.23	74.00	54.00	4.40	6.77

Test mode: 802.11b Frequency: Channel 11: 2462MHz

Freq. (MHz)	Ant.Pol.	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
	H/V	PK	AV	PK	AV	PK	AV
4923.75	V	48.37	47.05	74.00	54.00	25.63	6.95
14535	V	64.11	46.88	74.00	54.00	9.89	7.12
17632.5	V	69.83	48.12	74.00	54.00	4.17	5.88
4923.75	H	46.74	49.52	74.00	54.00	27.26	4.48
14595	H	64.32	48.10	74.00	54.00	9.68	5.90
17608.12	H	69.97	48.53	74.00	54.00	4.03	5.47

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

■ Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz

All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1,802.11b) resultrecorded was report as below:

Test mode:	802.11b	Frequency:	Channel 1: 2412MHz

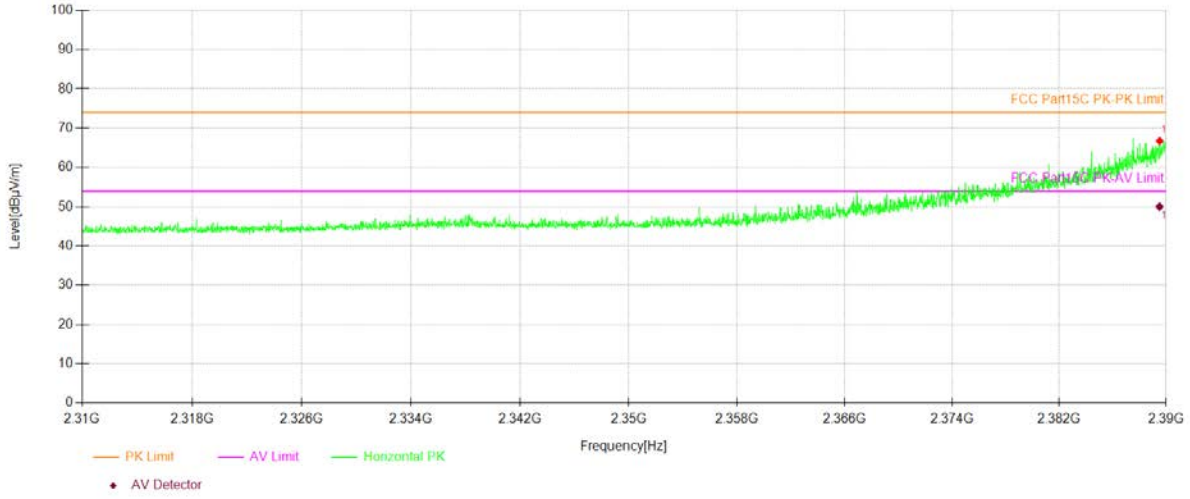
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2389.51	H	66.77	74.00	66.77	54.00
2389.83	V	68.75	74.00	51.54	54.00

Test mode:	802.11b	Frequency:	Channel 11: 2462MHz

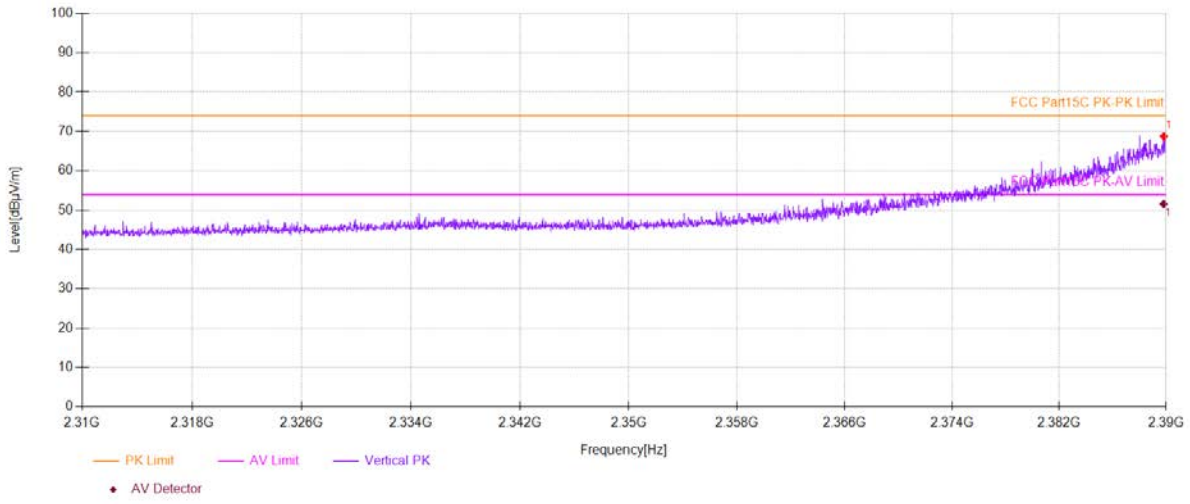
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)
2483.59	H	71.00	74.00	50.66	54.00
2483.54	V	66.41	74.00	47.16	54.00

Note: (1) All Readings are Peak Value (VBW=3MHz) and Average Value (VBW=10Hz).
(2) Emission Level= Reading Level+Correct Factor.
(3) Correct Factor= Ant_F + Cab_L - Preamp
(4) The reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

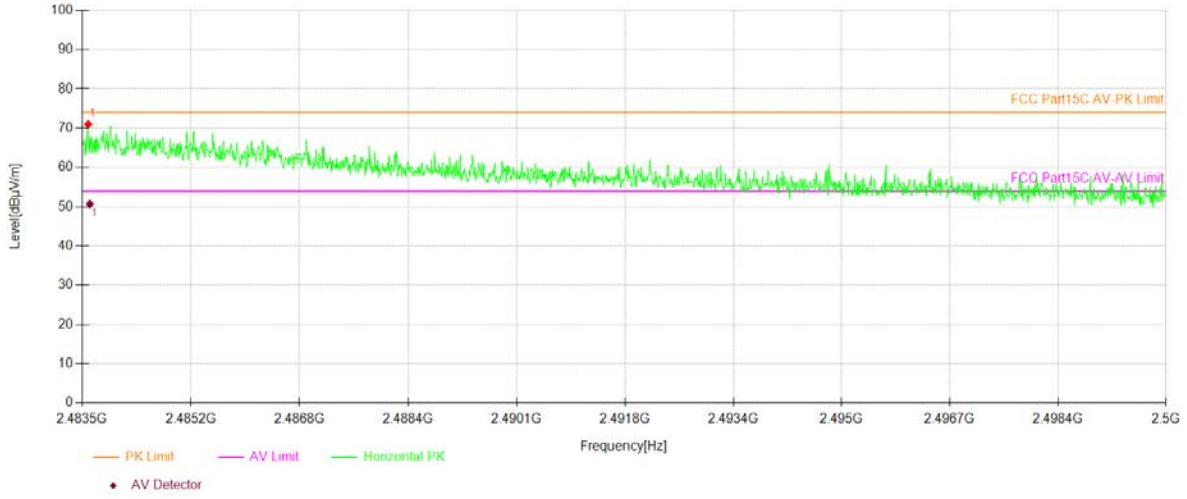
Test Model	Spurious Emission in Restricted Band 2310-2390MHz			
	802.11b	Channel 1: 2412MHz	VBW=3MHz	Polarity: H



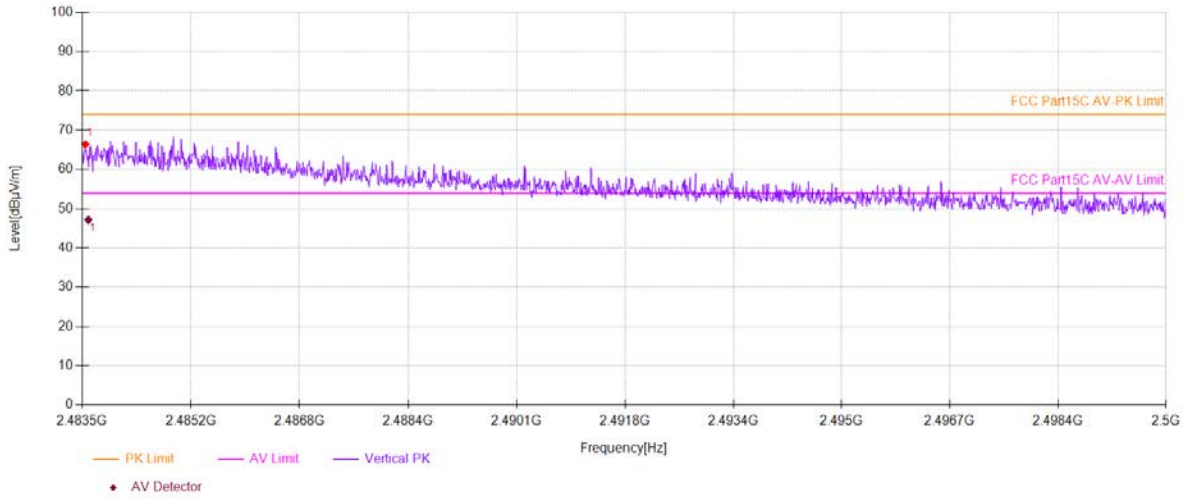
Test Model	Spurious Emission in Restricted Band 2310-2390MHz			
	802.11b	Channel 1: 2412MHz	VBW=3MHz	Polarity: V



Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz			
	802.11b	Channel 11: 2462MHz	VBW=3MHz	Polarity: H



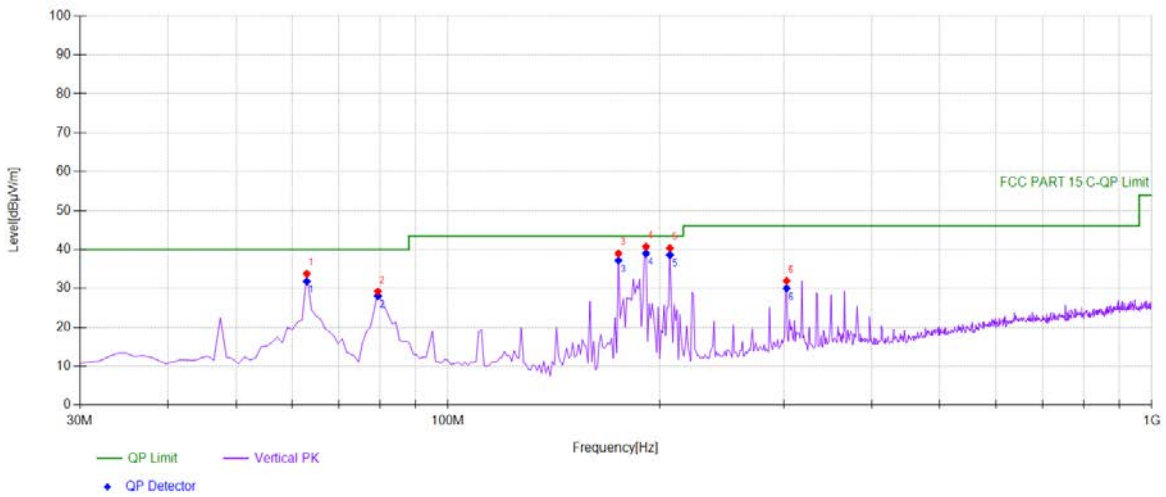
Test Model	Spurious Emission in Restricted Band2483.5-2500MHz			
	802.11b	Channel 11: 2462MHz	VBW=3MHz	Polarity: V



■ Spurious Emission below 1GHz (30MHz to 1GHz)

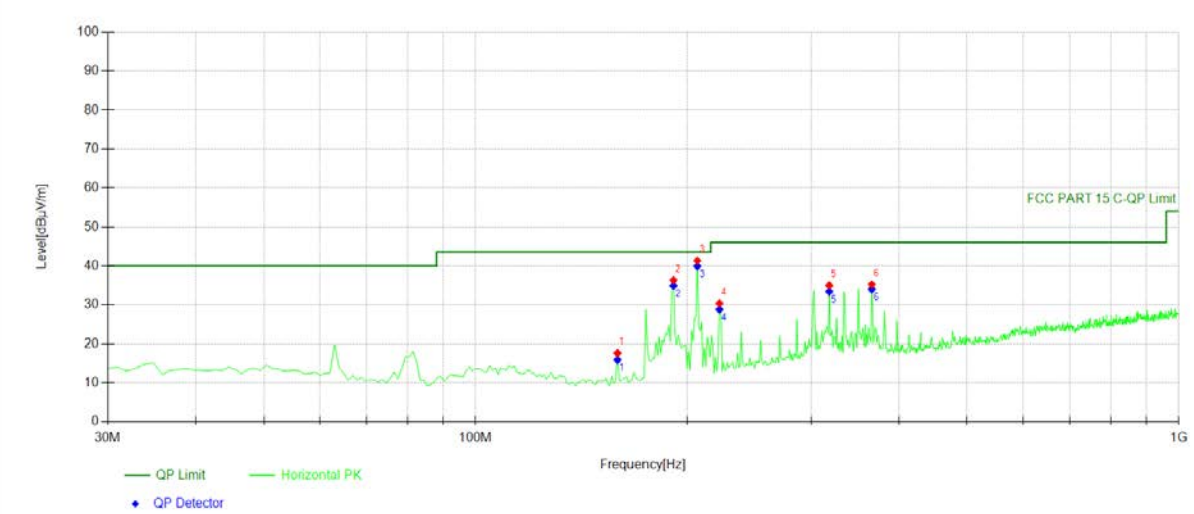
All the antenna(Antenna 1&2) and modes(802.11b/g/n) have been tested and the worst(Antenna 1,802.11b) resultrecorded was report as below:

Mode:	11B 2412



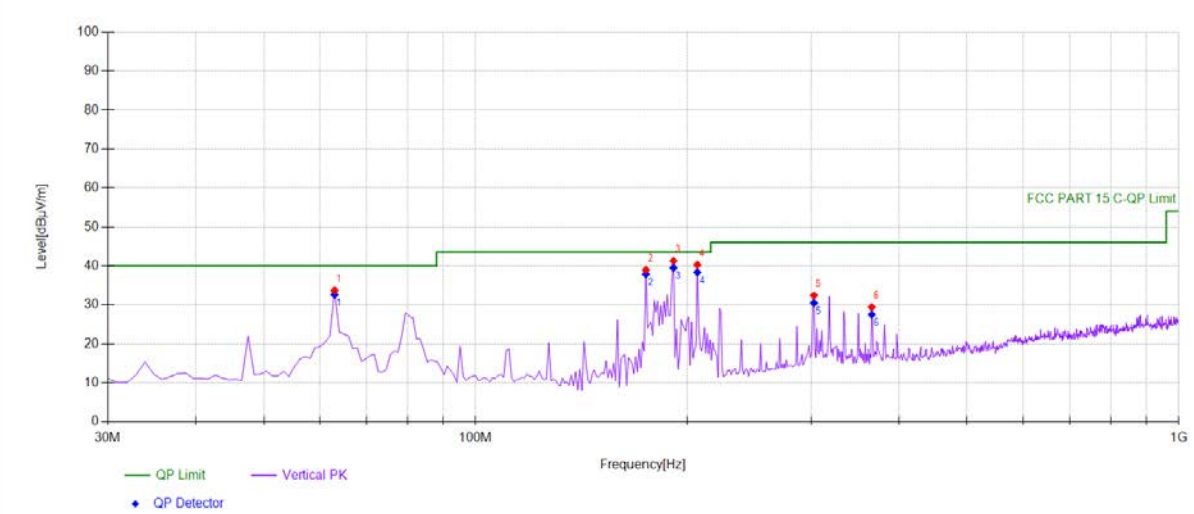
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV]	Factor [dB/m]	Level [dBµV/m]	Detector	Limit [dBµV/m]	Margin [dB]	Polarity
1	63.013	52.73	-18.98	33.75	PK	40.00	6.25	Vertical
2	79.5195	50.59	-21.42	29.17	PK	40.00	10.83	Vertical
3	174.6747	57.63	-18.69	38.94	PK	43.50	4.56	Vertical
4	191.1812	58.40	-17.68	40.72	PK	43.50	2.78	Vertical
5	206.7167	57.48	-17.13	40.35	PK	43.50	3.15	Vertical
6	302.8428	46.06	-14.14	31.92	PK	46.00	14.08	Vertical

Mode:	11B 2412



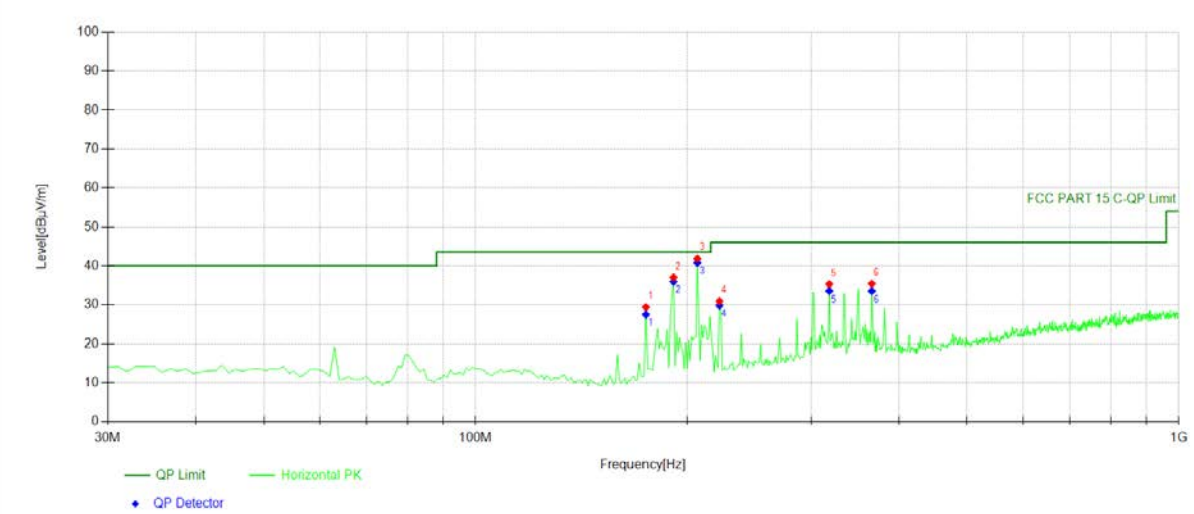
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	159.1391	37.24	-19.62	17.62	PK	43.50	25.88	Horizontal
2	191.1812	54.00	-17.68	36.32	PK	43.50	7.18	Horizontal
3	206.7167	58.47	-17.13	41.34	PK	43.50	2.16	Horizontal
4	222.2523	47.27	-16.89	30.38	PK	46.00	15.62	Horizontal
5	318.3784	49.12	-14.13	34.99	PK	46.00	11.01	Horizontal
6	365.956	48.19	-12.96	35.23	PK	46.00	10.77	Horizontal

Mode:	11B 2437



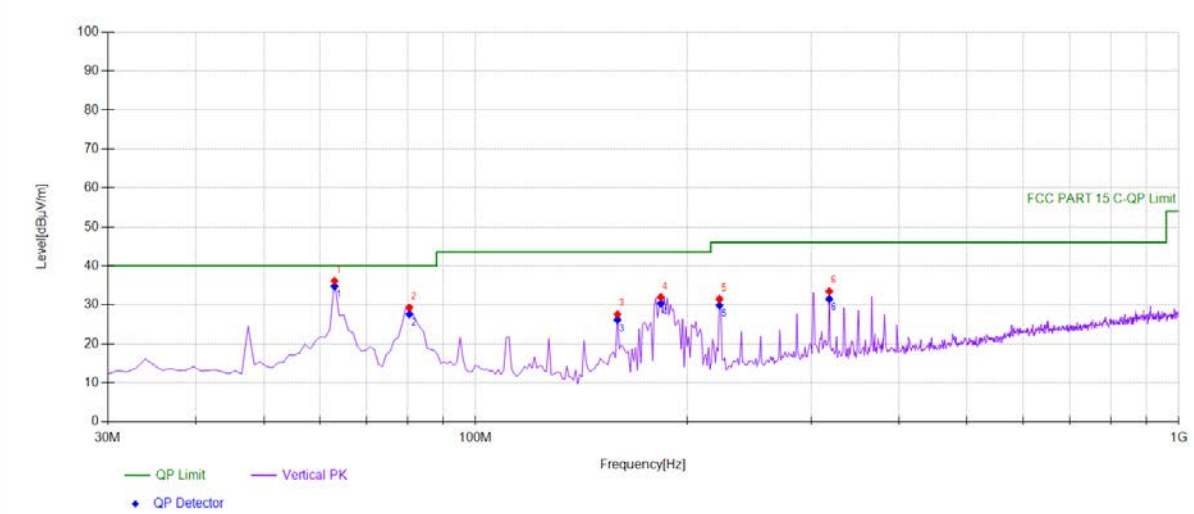
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	63.013	52.72	-18.98	33.74	PK	40.00	6.26	Vertical
2	174.6747	57.71	-18.69	39.02	PK	43.50	4.48	Vertical
3	191.1812	58.99	-17.68	41.31	PK	43.50	2.19	Vertical
4	206.7167	57.42	-17.13	40.29	PK	43.50	3.21	Vertical
5	302.8428	46.57	-14.14	32.43	PK	46.00	13.57	Vertical
6	365.956	42.40	-12.96	29.44	PK	46.00	16.56	Vertical

Mode:	11B 2437



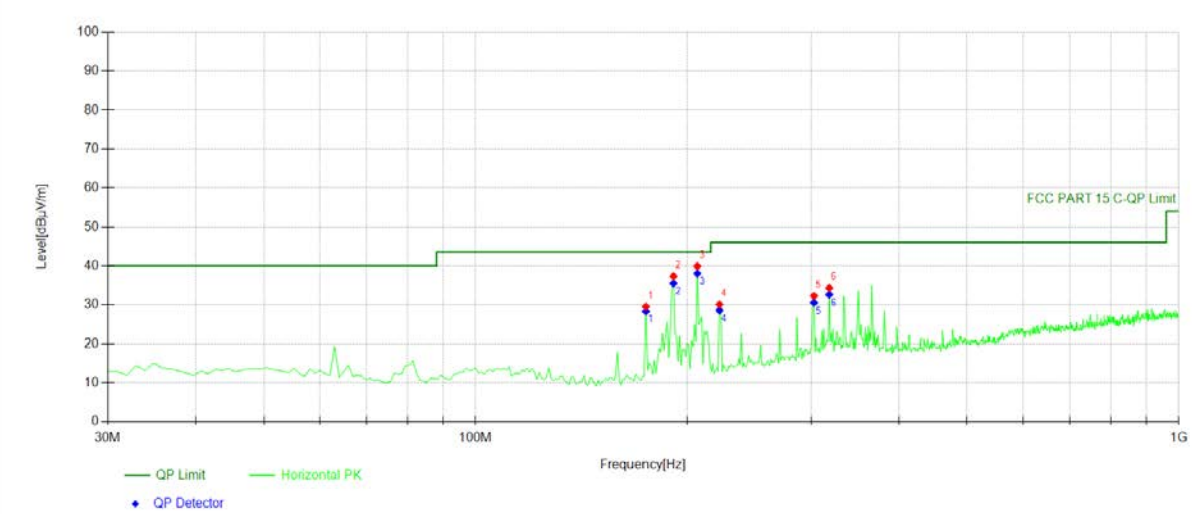
Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	174.6747	48.14	-18.69	29.45	PK	43.50	14.05	Horizontal
2	191.1812	54.71	-17.68	37.03	PK	43.50	6.47	Horizontal
3	206.7167	59.03	-17.13	41.90	PK	43.50	1.60	Horizontal
4	222.2523	47.83	-16.89	30.94	PK	46.00	15.06	Horizontal
5	318.3784	49.45	-14.13	35.32	PK	46.00	10.68	Horizontal
6	365.956	48.39	-12.96	35.43	PK	46.00	10.57	Horizontal

Mode:	11B 2462



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	63.013	55.13	-18.98	36.15	PK	40.00	3.85	Vertical
2	80.4905	50.71	-21.37	29.34	PK	40.00	10.66	Vertical
3	159.1391	47.21	-19.62	27.59	PK	43.50	15.91	Vertical
4	183.4134	50.13	-18.17	31.96	PK	43.50	11.54	Vertical
5	222.2523	48.40	-16.89	31.51	PK	46.00	14.49	Vertical
6	318.3784	47.59	-14.13	33.46	PK	46.00	12.54	Vertical

Mode:	11B 2462



Suspected Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB/m]	Level [dBμV/m]	Detector	Limit [dBμV/m]	Margin [dB]	Polarity
1	174.6747	48.27	-18.69	29.58	PK	43.50	13.92	Horizontal
2	191.1812	55.04	-17.68	37.36	PK	43.50	6.14	Horizontal
3	206.7167	57.05	-17.13	39.92	PK	43.50	3.58	Horizontal
4	222.2523	47.02	-16.89	30.13	PK	46.00	15.87	Horizontal
5	302.8428	46.42	-14.14	32.28	PK	46.00	13.72	Horizontal
6	318.3784	48.47	-14.13	34.34	PK	46.00	11.66	Horizontal

8.7 CONDUCTED EMISSION TEST

8.7.1 Applicable Standard

According to FCC Part 15.207(a)
According to IC RSS-Gen 8.8

8.7.2 Conformance Limit

Conducted Emission Limit

Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56	56-46
0.5-5.0	56	46
5.0-30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

8.7.3 Test Configuration

Test according to clause 6.3conducted emission test setup

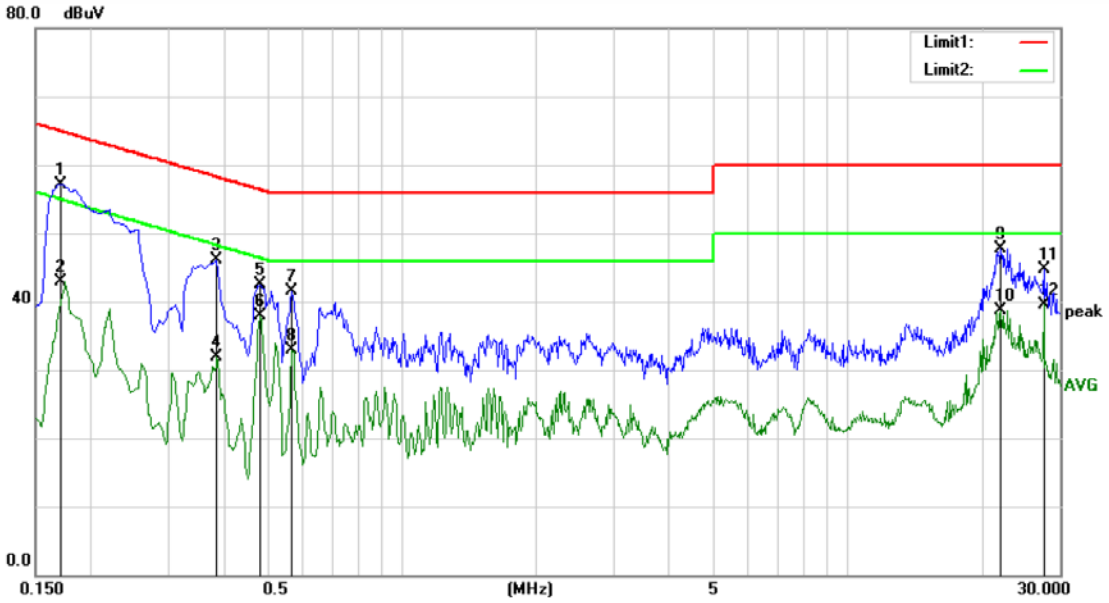
8.7.4 Test Procedure

The EUT was placed on a table which is 0.8m above ground plane.
Maximum procedure was performed on the highest emissions to ensure EUT compliance.
Repeat above procedures until all frequency measured were complete.

8.7.5 Test Results

Pass

The AC120V &240V voltage have been tested, and the worst result recorded was report as below:



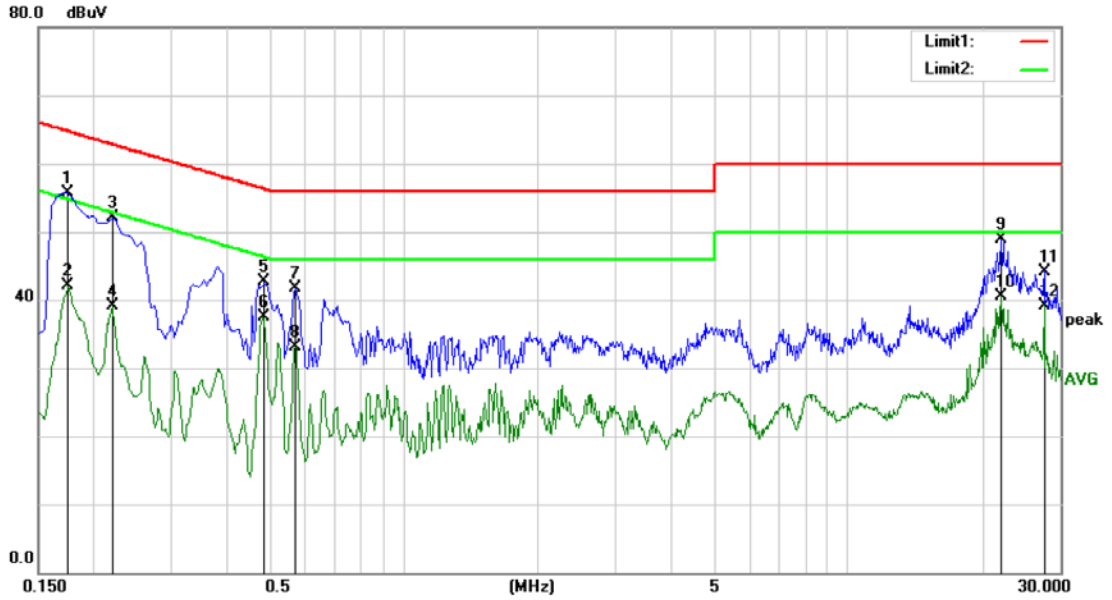
Site Conduction #1 Phase: *L1* Temperature: 21.9

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 58 %

Mode: WIFI 2.4G mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1720	47.53	9.53	57.06	64.86	-7.80	QP	
2		0.1720	33.41	9.53	42.94	54.86	-11.92	AVG	
3		0.3850	36.61	9.54	46.15	58.17	-12.02	QP	
4		0.3850	22.27	9.54	31.81	48.17	-16.36	AVG	
5		0.4800	32.96	9.53	42.49	56.34	-13.85	QP	
6		0.4800	28.32	9.53	37.85	46.34	-8.49	AVG	
7		0.5650	32.03	9.53	41.56	56.00	-14.44	QP	
8		0.5650	23.34	9.53	32.87	46.00	-13.13	AVG	
9		22.1300	37.67	10.05	47.72	60.00	-12.28	QP	
10		22.1300	28.64	10.05	38.69	50.00	-11.31	AVG	
11		27.6300	34.26	10.39	44.65	60.00	-15.35	QP	
12		27.6300	29.02	10.39	39.41	50.00	-10.59	AVG	



Site Conduction #1 Phase: N Temperature: 21.9

Limit: (CE)FCC PART 15 class B_QP Power: AC 120V/60Hz Humidity: 58 %

Mode: WIFI 2.4G mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1750	46.15	9.53	55.68	64.72	-9.04	QP	
2		0.1750	32.49	9.53	42.02	54.72	-12.70	AVG	
3		0.2200	42.49	9.53	52.02	62.82	-10.80	QP	
4		0.2200	29.67	9.53	39.20	52.82	-13.62	AVG	
5		0.4850	33.09	9.53	42.62	56.25	-13.63	QP	
6	*	0.4850	27.99	9.53	37.52	46.25	-8.73	AVG	
7		0.5700	32.19	9.53	41.72	56.00	-14.28	QP	
8		0.5700	23.58	9.53	33.11	46.00	-12.89	AVG	
9		22.1300	38.79	10.05	48.84	60.00	-11.16	QP	
10		22.1300	30.51	10.05	40.56	50.00	-9.44	AVG	
11		27.6300	33.81	10.39	44.20	60.00	-15.80	QP	
12		27.6300	28.68	10.39	39.07	50.00	-10.93	AVG	

8.8 ANTENNA APPLICATION

8.8.1 Antenna Requirement

Standard	Requirement
FCC CRF Part15.203	An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.
FCC 47 CFR Part 15.247 (b)	If transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.
RSS-Gen Section 6.8	The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.
RSS-247 Section 5.4	If the transmitter employs an antenna system that emits multiple directional beams, but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device (i.e. the sum of the power supplied to all antennas, antenna elements, staves, etc., and summed across all carriers or frequency channels) shall not exceed the applicable output power limit. However, the total conducted output power shall be reduced by 1 dB below the specified limits for each 3 dB that the directional gain of the antenna/antenna array exceeds 6 dBi. The directional antenna gain shall be computed as the sum of 10 log (number of array elements or staves) plus the directional gain of the element or stave having the highest gain.

8.8.2 Result

PASS.

Note: ☑ Antenna use a permanently attached antenna which is not replaceable.
☐ Not using a standard antenna jack or electrical connector for antenna replacement
☐ The antenna has to be professionally installed (please provide method of installation)

Please refer to the attached documentInternal Photos to show the antenna connector.

*** End of Report ***