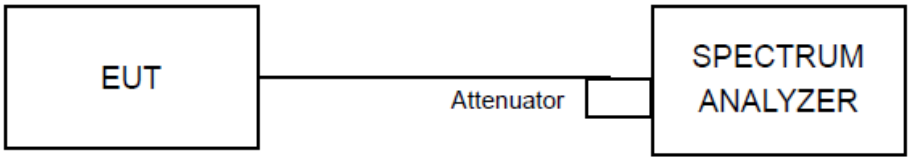
4.5 Conducted Band Edges Measurement

4.5.1 Limit

Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

4.5.2 Test Setup



4.5.3 Test Procedures

The EUT was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 11.0) for compliance to FCC 47CFR 15.247 requirements.

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ⩾ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ⩾ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

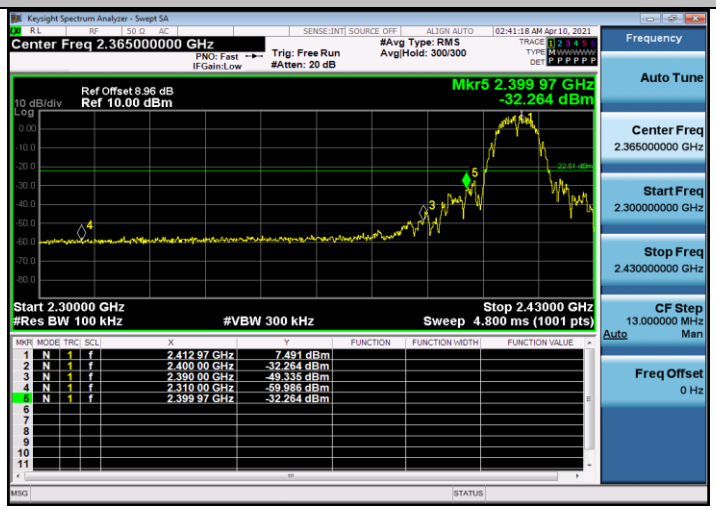
4.5.4 Deviation of Test Standard

No deviation.

4.5.5 Test Results

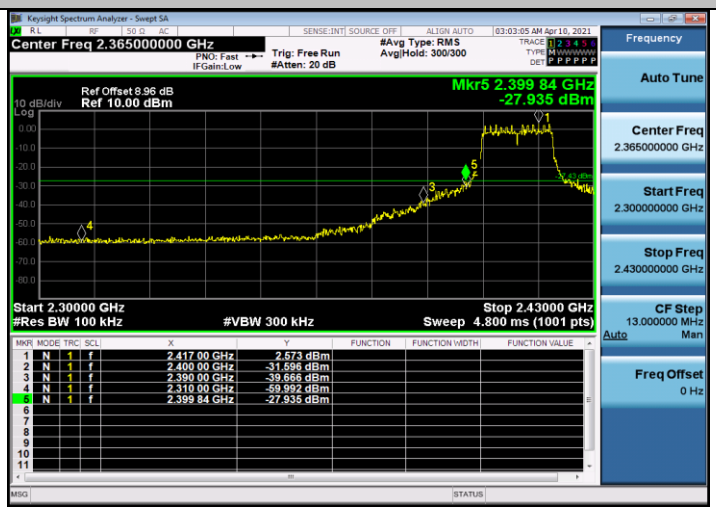
Test Mode	Antenna	ChName	Channel [MHz]	RefLevel [dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
11B	Ant1	Low	2412	7.49	-32.26	<=-22.51	PASS
		High	2462	7.89	-35.39	<=-22.11	PASS
11G	Ant1	Low	2412	2.57	-27.94	<=-27.43	PASS
		High	2462	5.43	-27.73	<=-24.57	PASS
11N20SISO	Ant1	Low	2412	1.70	-29.8	<=-28.3	PASS
		High	2462	5.07	-25.36	<=-24.93	PASS

11B_Ant1_Low_2412



11B_Ant1_High_2462

11G_Ant1_Low_2412



11G_Ant1_High_2462

11N20SISO_Ant1_Low_2412

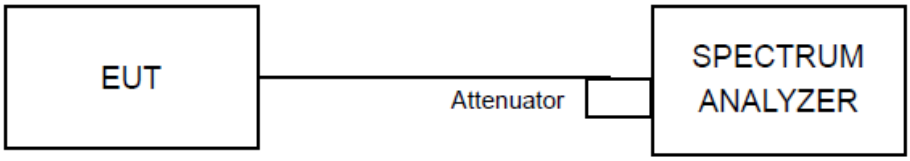
11N20SISO_Ant1_High_2462


4.6 Conducted Spurious Emissions

4.6.1 Limit

Below 30 dB of the highest emission level of operating band (in 100 kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Procedures

The EUT was tested according to DTS test procedure of "KDB558074 D01 DTS Meas Guidance" (clause 11.0) for compliance to FCC 47CFR 15.247 requirements.

MEASUREMENT PROCEDURE REF

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.4 Deviation of Test Standard

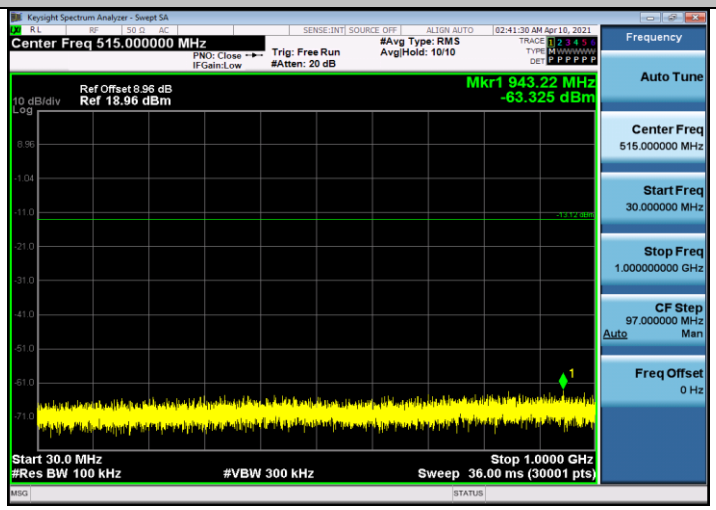
No deviation.

4.6.5 Test Results

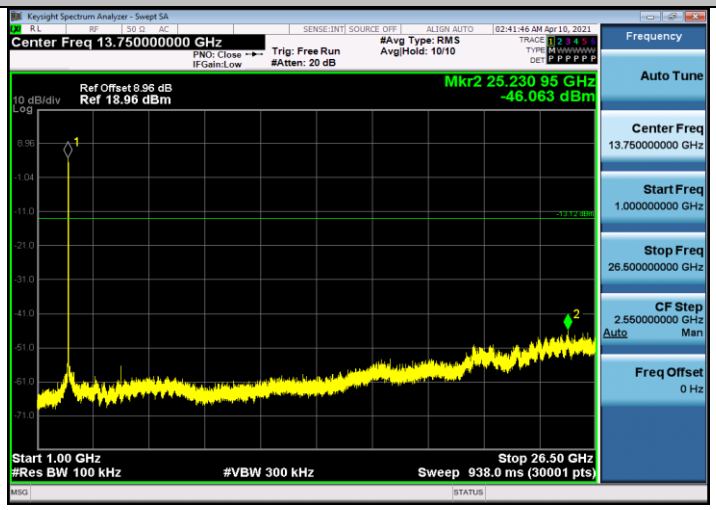
Test Mode	Antenna	Channel [MHz]	FreqRange [MHz]	RefLevel [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.88	6.88	---	PASS
			30~1000	6.88	-63.33	<=-13.12	PASS
			1000~26500	6.88	-46.06	<=-13.12	PASS
		2437	Reference	8.07	8.07	---	PASS
			30~1000	8.07	-63.19	<=-11.93	PASS
			1000~26500	8.07	-45.96	<=-11.93	PASS
		2462	Reference	7.09	7.09	---	PASS
			30~1000	7.09	-63.38	<=-12.91	PASS
			1000~26500	7.09	-46.06	<=-12.91	PASS
11G	Ant1	2412	Reference	2.72	2.72	---	PASS
			30~1000	2.72	-63.14	<=-17.28	PASS
			1000~26500	2.72	-46.92	<=-17.28	PASS
		2437	Reference	5.55	5.55	---	PASS
			30~1000	5.55	-63.21	<=-14.45	PASS
			1000~26500	5.55	-46.71	<=-14.45	PASS
		2462	Reference	5.61	5.61	---	PASS
			30~1000	5.61	-63.3	<=-14.4	PASS
			1000~26500	5.61	-47.17	<=-14.4	PASS
11N20SISO	Ant1	2412	Reference	1.78	1.78	---	PASS
			30~1000	1.78	-63.42	<=-18.22	PASS
			1000~26500	1.78	-46.53	<=-18.22	PASS
		2437	Reference	4.92	4.92	---	PASS
			30~1000	4.92	-61.86	<=-15.08	PASS
			1000~26500	4.92	-46.89	<=-15.08	PASS
		2462	Reference	5.14	5.14	---	PASS
			30~1000	5.14	-63.29	<=-14.86	PASS
			1000~26500	5.14	-47.16	<=-14.86	PASS

11B_Ant1_2412_0~Reference

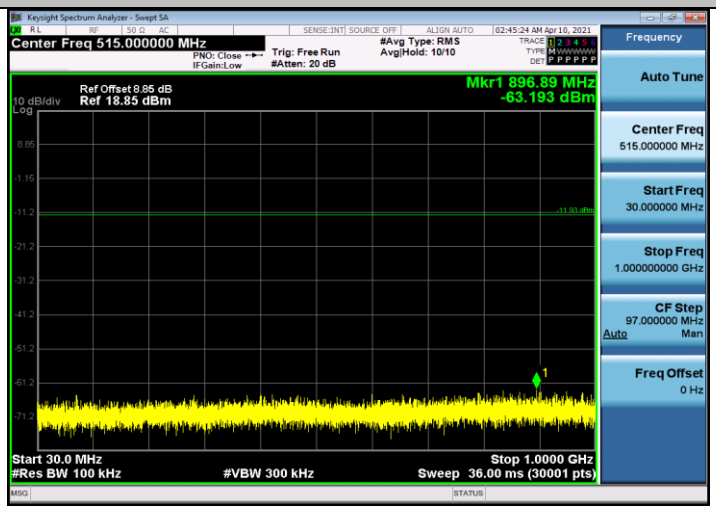
11B_Ant1_2412_30~1000

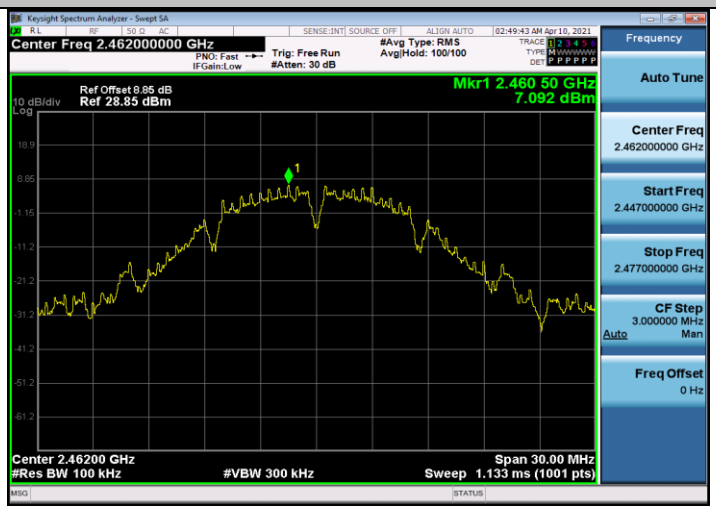
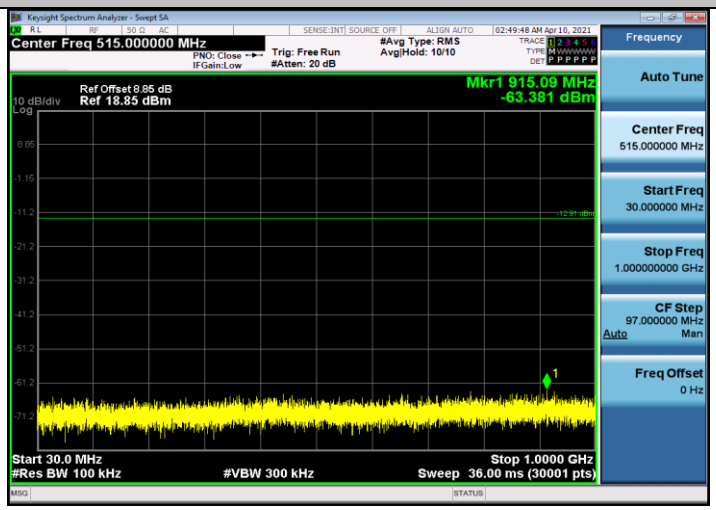
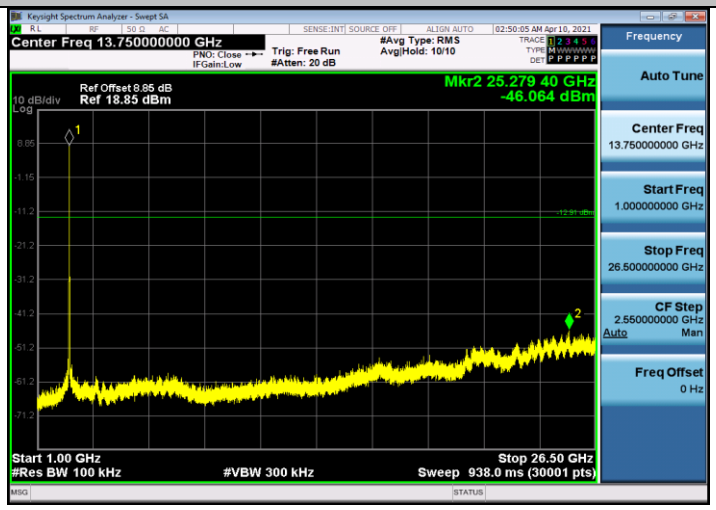


11B_Ant1_2412_1000~26500

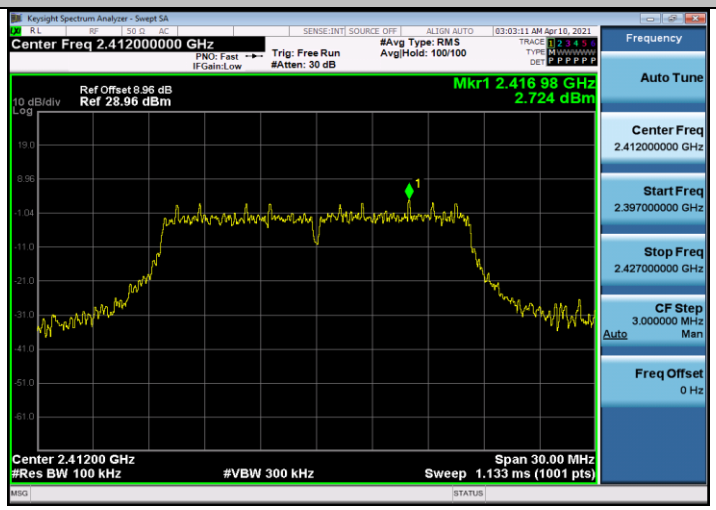


11B_Ant1_2437_0~Reference

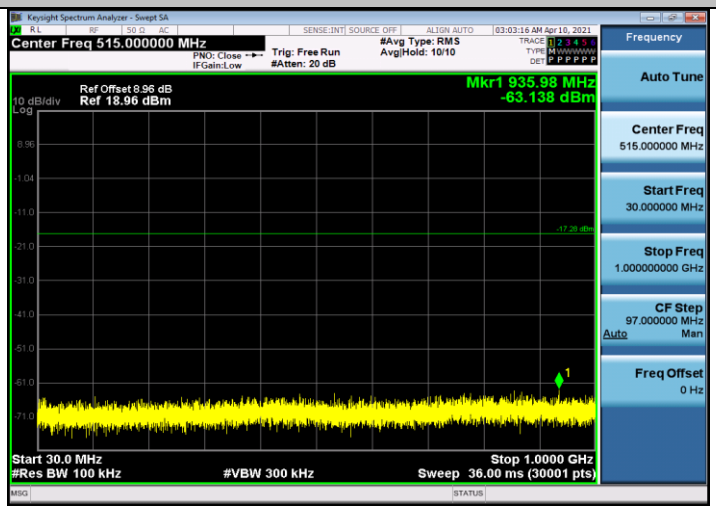
11B_Ant1_2437_30~1000

11B_Ant1_2437_1000~26500


11B_Ant1_2462_0~Reference

11B_Ant1_2462_30~1000

11B_Ant1_2462_1000~26500


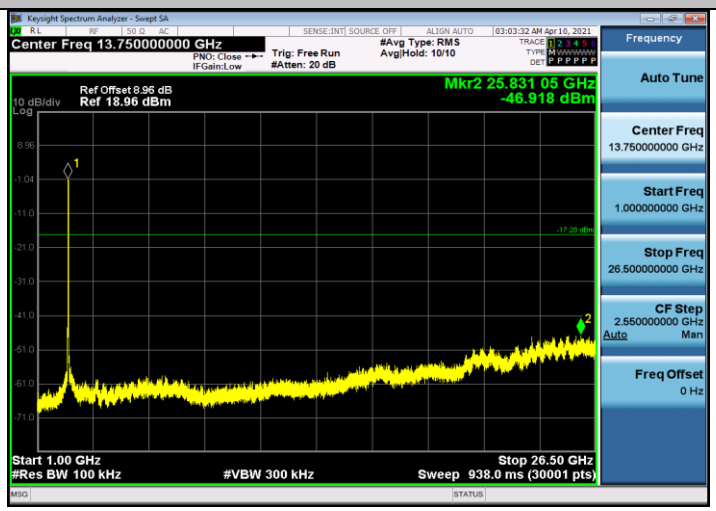
11G_Ant1_2412_0~Reference

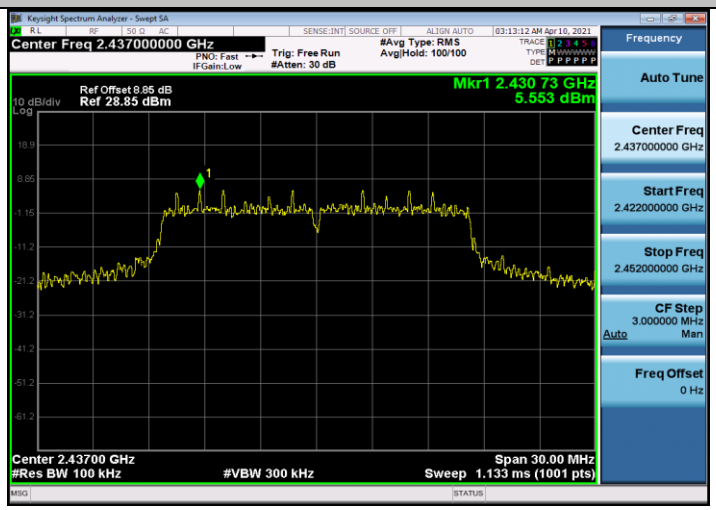
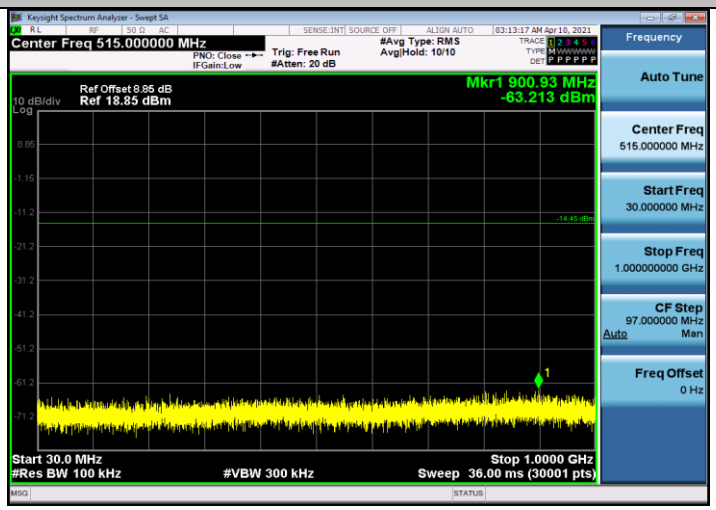


11G_Ant1_2412_30~1000



11G_Ant1_2412_1000~26500



11G_Ant1_2437_0~Reference

11G_Ant1_2437_30~1000

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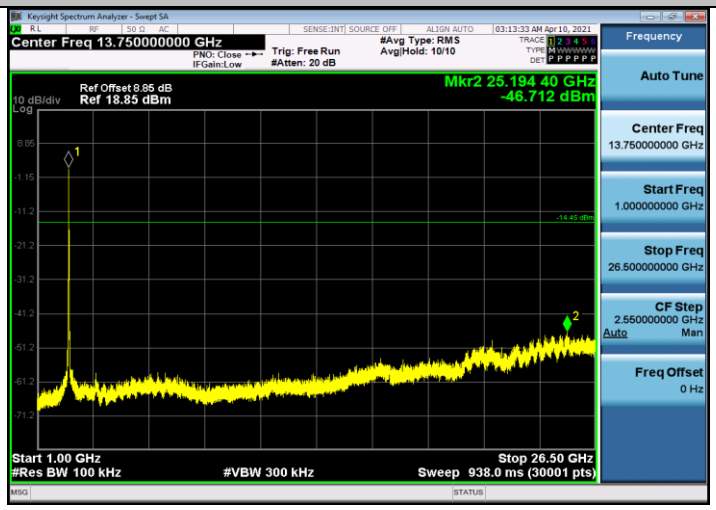
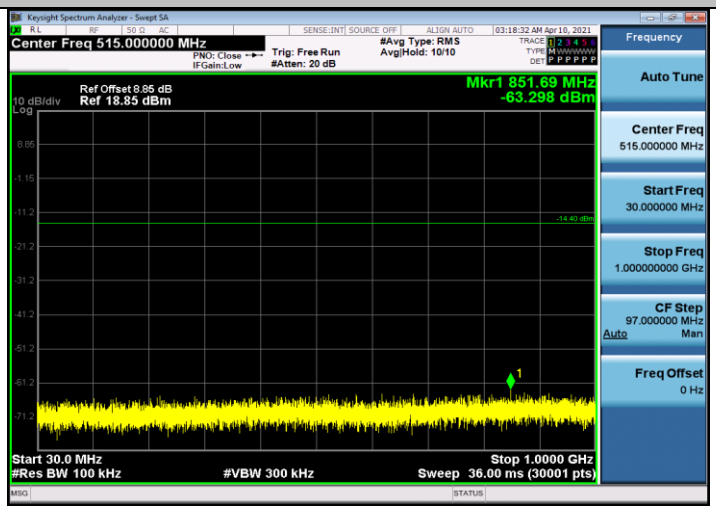
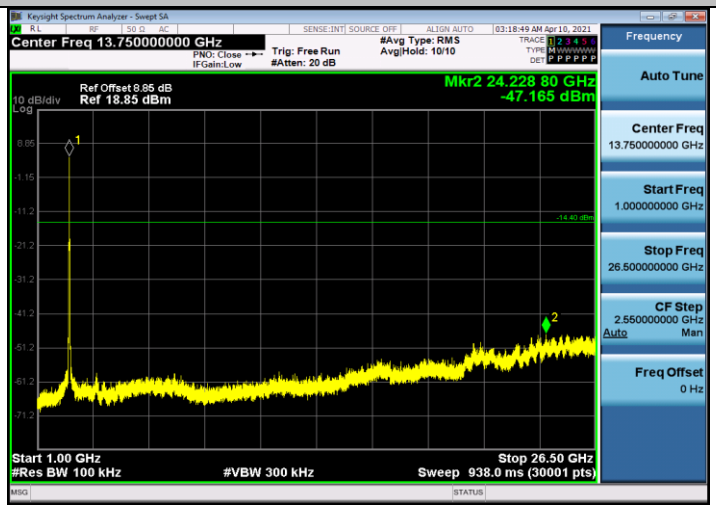
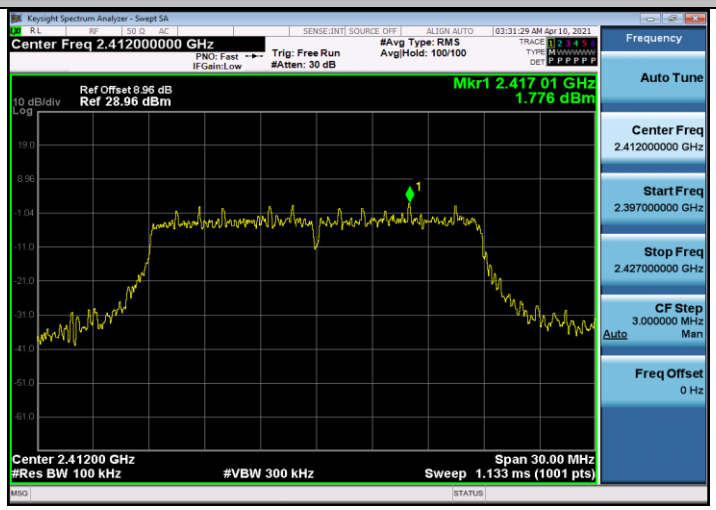
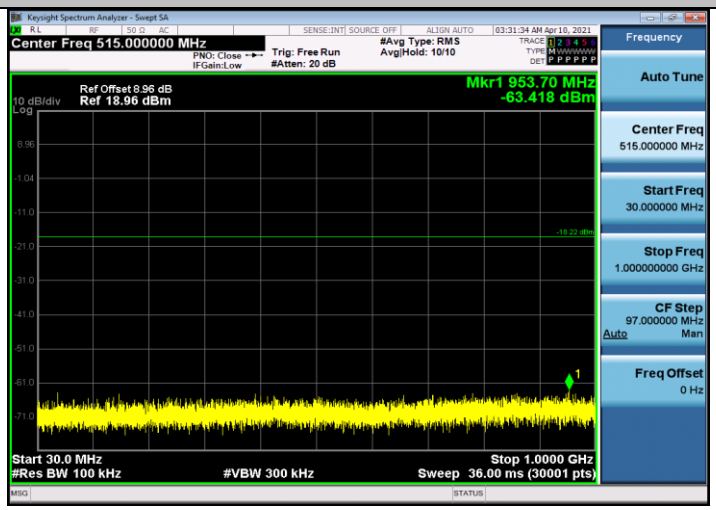
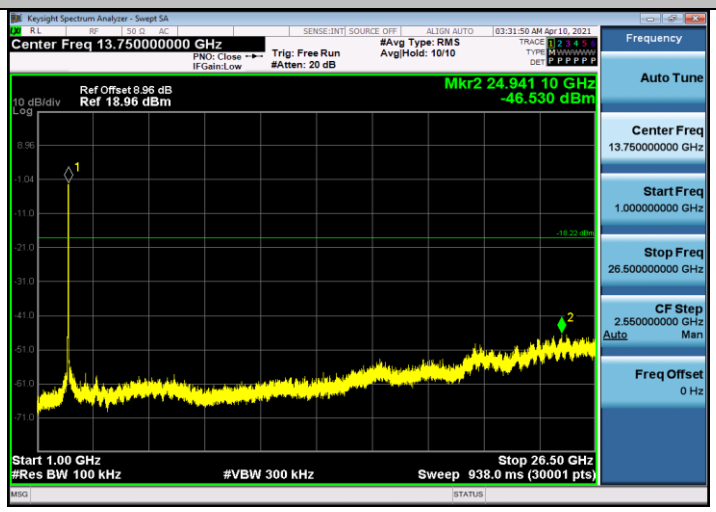


11G_Ant1_2462_0~Reference

11G_Ant1_2462_30~1000

11G_Ant1_2462_1000~26500


11N20SISO_Ant1_2412_0~Reference

11N20SISO_Ant1_2412_30~1000

11N20SISO_Ant1_2412_1000~26500


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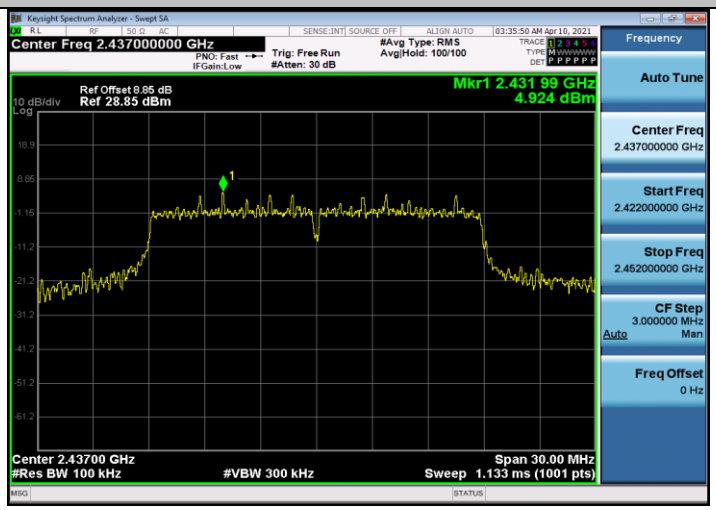
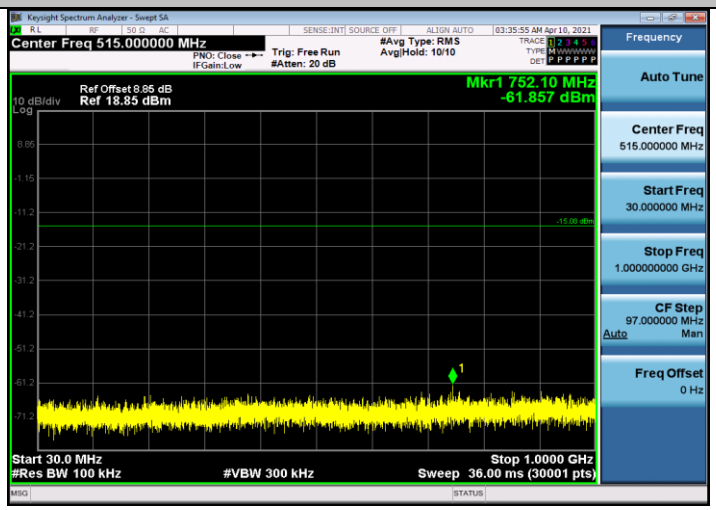

11N20SISO_Ant1_2437_30~1000

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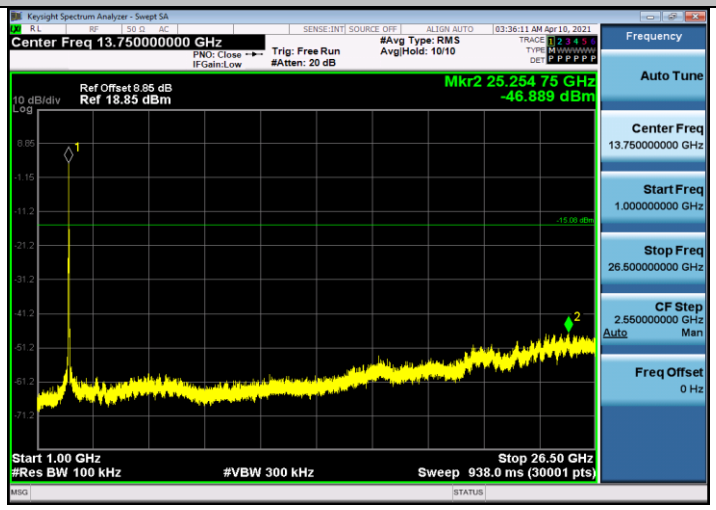
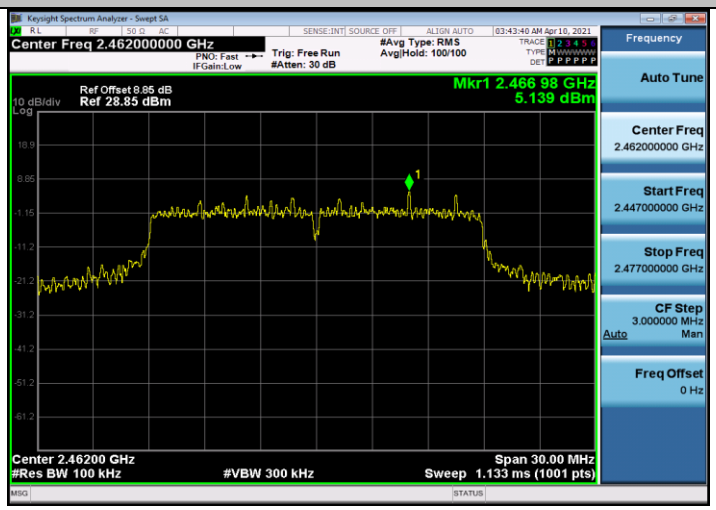
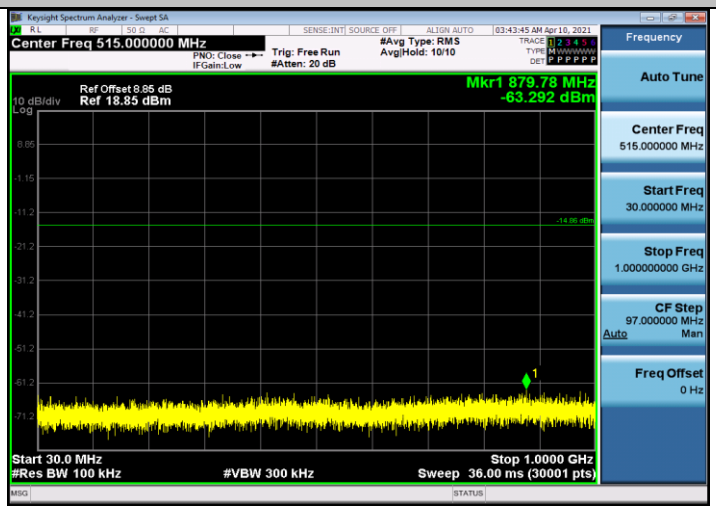
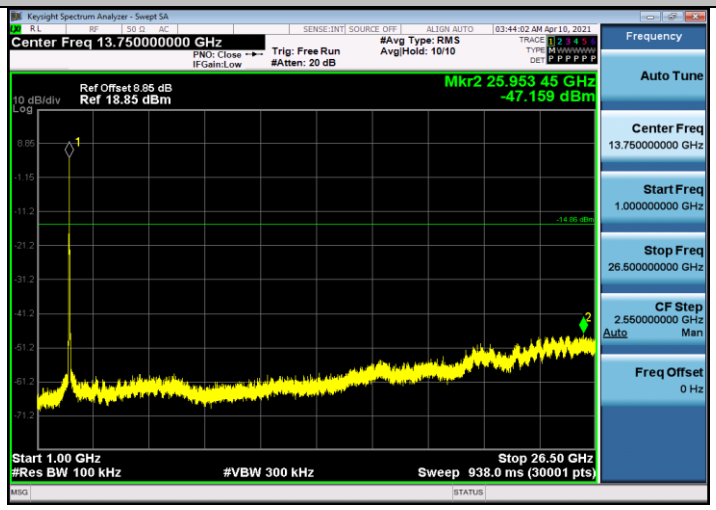


11N20SISO_Ant1_2462_0~Reference

11N20SISO_Ant1_2462_30~1000

11N20SISO_Ant1_2462_1000~26500


4.7 Emissions in restricted frequency bands

4.7.1 Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
1 0.495 - 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	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	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 - 156.525	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	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

4.7.2 Test Procedure Reference

ANSI C63.10 Section 6.3 (General Requirements)

ANSI C63.10 Section 6.6 (Standard test method above 1GHz)

4.7.3 Test Procedures

Peak Field Strength Measurements

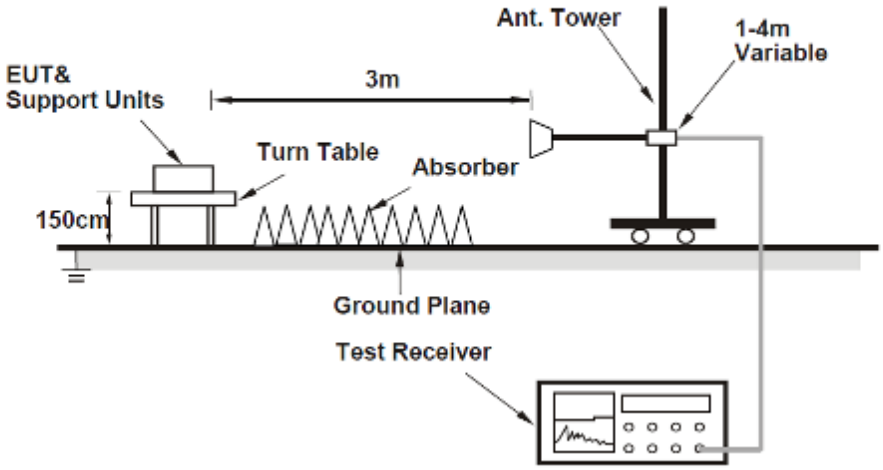
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

8. 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
9. 2. RBW = 1MHz
10. 3. VBW; If the EUT is configured to transmit with duty cycle ≥ 98%, set VBW = 10 Hz.
11. If the EUT duty cycle is < 98%, set VBW ≥ 1/T. T is the minimum transmission duration.
12. 4. Detector = Peak
13. 5. Sweep time = auto
14. 6. Trace mode = max hold
15. 7. Trace was allowed to stabilize

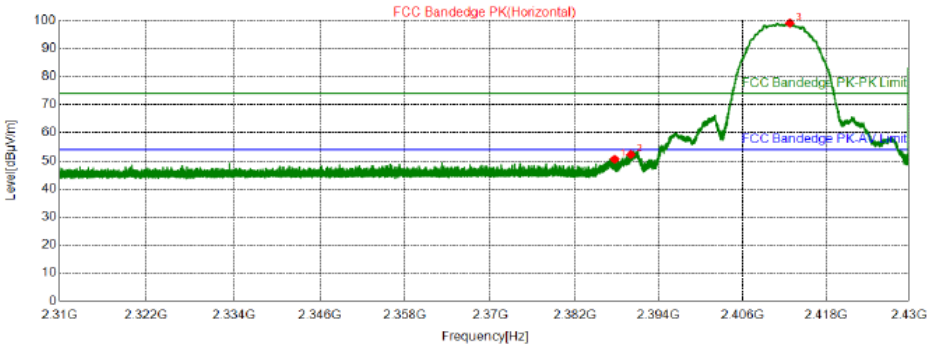
4.7.4 Test Setup

For Radiated emission above 1GHz



4.7.5 Test Results

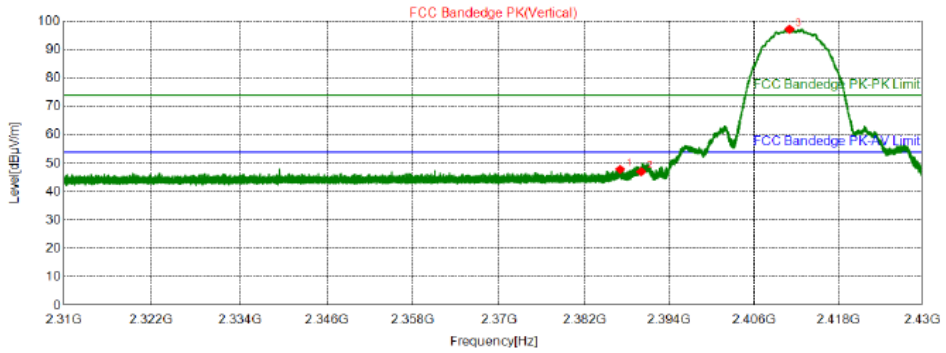
802.11b-2412MHz/ Horizontal



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.6880	46.14	50.56	74.00	23.44	355	314	Horizontal	PK
2	2390.0040	47.75	52.19	74.00	21.81	355	294	Horizontal	PK
3	2412.8160	94.40	98.98	74.00	-24.98	355	314	Horizontal	PK

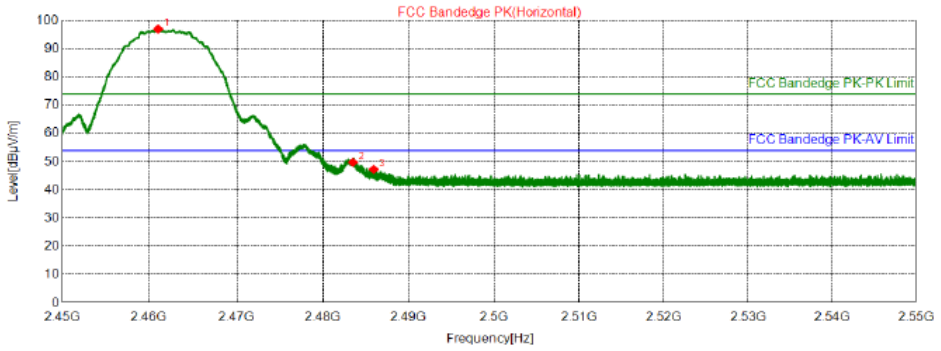
802.11b-2412MHz/ Vertical



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.0280	43.48	47.90	74.00	26.10	355	65	Vertical	PK
2	2390.0040	42.60	47.04	74.00	26.96	355	234	Vertical	PK
3	2411.0460	92.60	97.17	74.00	-23.17	355	65	Vertical	PK

802.11b-2462MHz/ Horizontal



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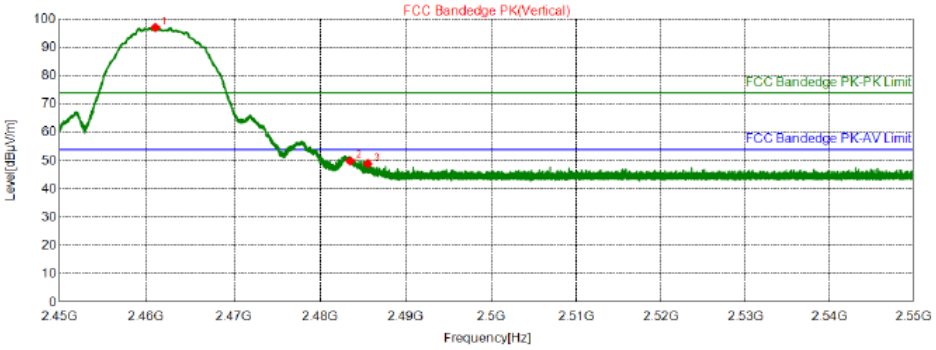
Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2461.0600	92.12	96.95	74.00	-22.95	355	165	Horizontal	PK
2	2483.5000	44.83	49.77	74.00	24.23	355	155	Horizontal	PK
3	2485.9250	42.31	47.26	74.00	26.74	355	175	Horizontal	PK

802.11b-2462MHz/ Vertical



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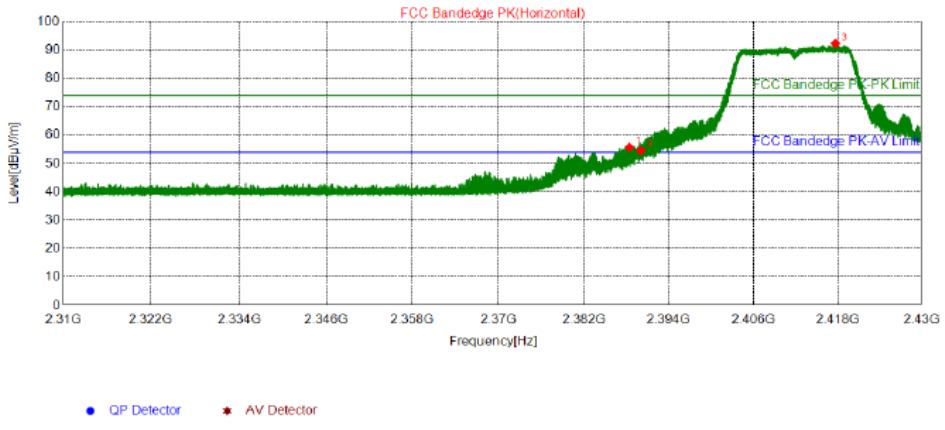
Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2461.0600	92.19	97.02	74.00	-23.02	355	223	Vertical	PK
2	2483.5000	44.99	49.93	74.00	24.07	355	56	Vertical	PK
3	2485.5600	43.95	48.90	74.00	25.10	355	76	Vertical	PK

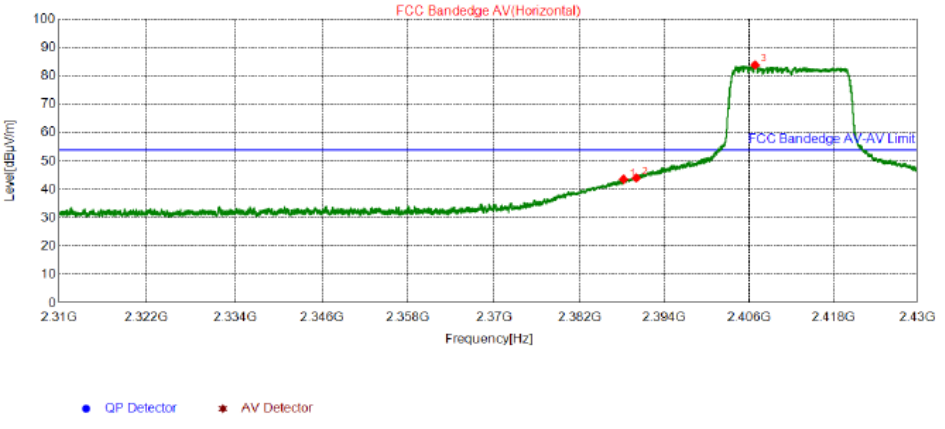
802.11g-2412MHz/ Horizontal-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2388.4200	51.27	55.69	74.00	18.31	355	304	Horizontal	PK
2	2390.0100	50.11	54.55	74.00	19.45	355	285	Horizontal	PK
3	2417.7060	87.69	92.30	74.00	-18.30	355	157	Horizontal	PK

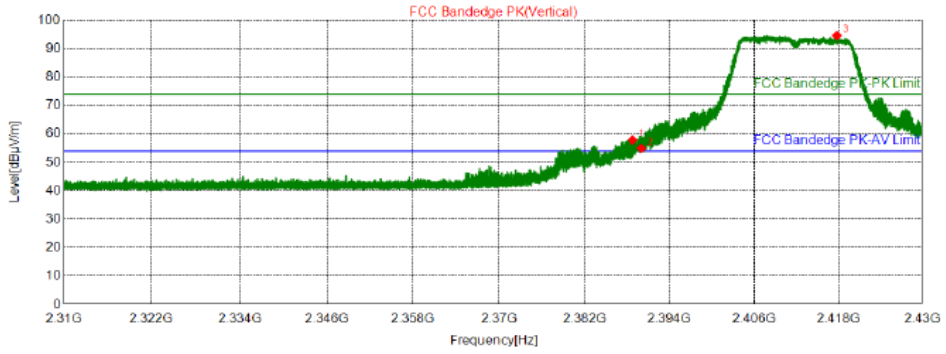
802.11g-2412MHz/ Horizontal-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2388.2100	39.16	43.58	54.00	10.42	355	308	Horizontal	PK
2	2390.0100	39.58	44.02	54.00	9.98	355	308	Horizontal	PK
3	2406.8550	79.26	83.80	54.00	-29.80	355	308	Horizontal	PK

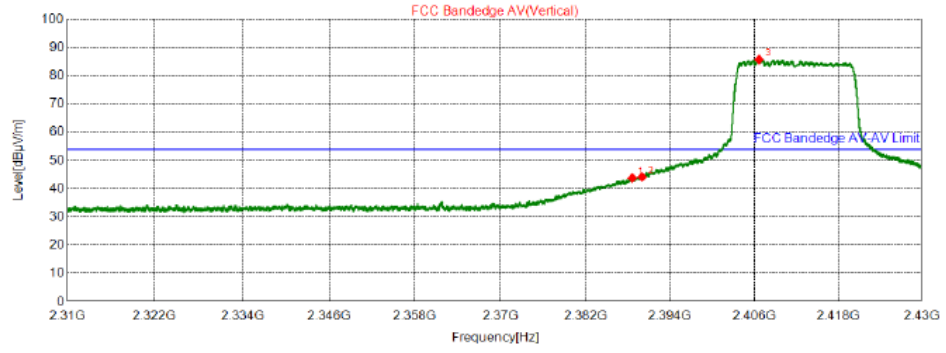
802.11g-2412MHz/ Vertical-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2388.7560	53.44	57.87	74.00	16.13	355	17	Vertical	PK
2	2390.0100	50.52	54.96	74.00	19.04	355	0	Vertical	PK
3	2417.7840	89.97	94.58	74.00	-20.58	355	37	Vertical	PK

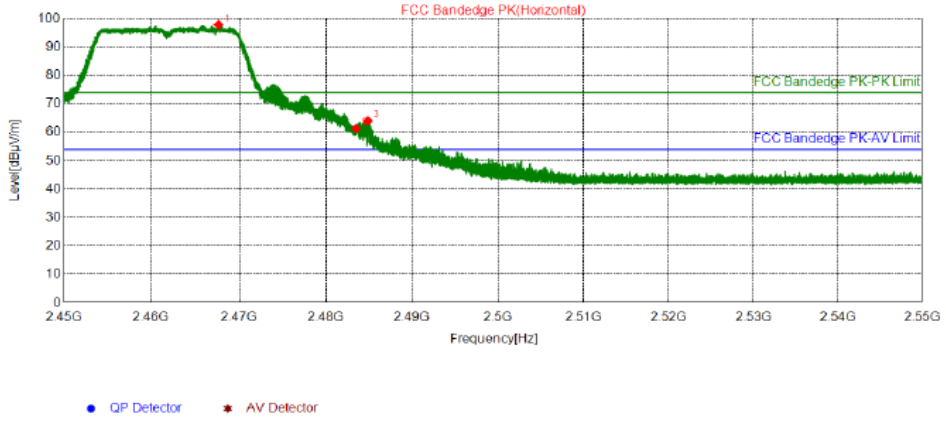
802.11g-2412MHz/ Vertical-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2388.6150	39.34	43.77	54.00	10.23	355	25	Vertical	PK
2	2390.0100	39.70	44.14	54.00	9.86	355	25	Vertical	PK
3	2406.6750	81.19	85.73	54.00	-31.73	355	44	Vertical	PK

802.11g-2462MHz/ Horizontal-PK



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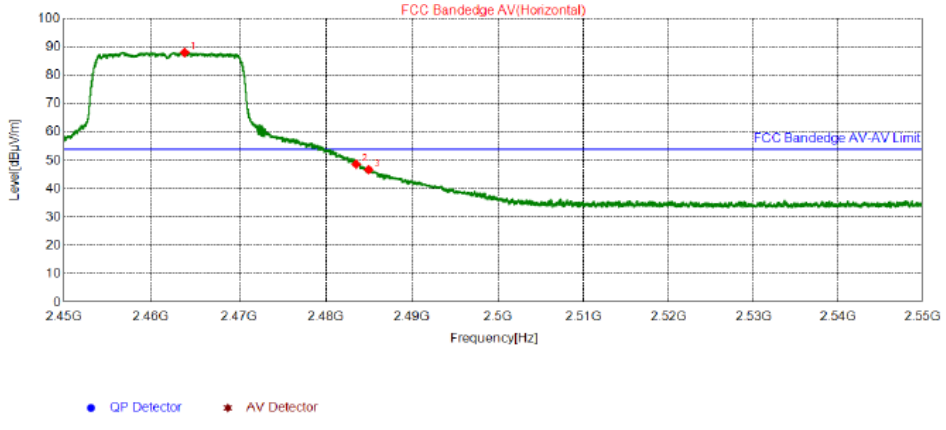
Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2467.6050	92.94	97.80	74.00	-23.80	355	334	Horizontal	PK
2	2483.5000	56.32	61.26	74.00	12.74	355	324	Horizontal	PK
3	2484.8650	59.04	63.98	74.00	10.02	355	334	Horizontal	PK

802.11g-2462MHz/ Horizontal-AV



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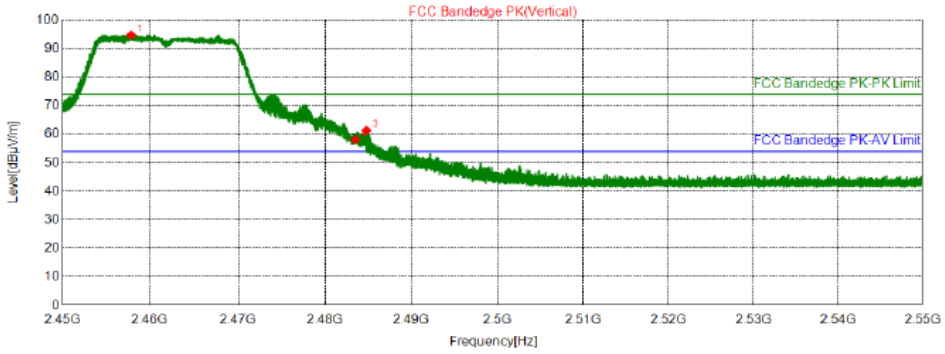
Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2463.8625	83.18	88.03	54.00	-34.03	355	339	Horizontal	PK
2	2483.5000	43.70	48.64	54.00	5.36	355	339	Horizontal	PK
3	2484.9500	41.75	46.69	54.00	7.31	355	339	Horizontal	PK

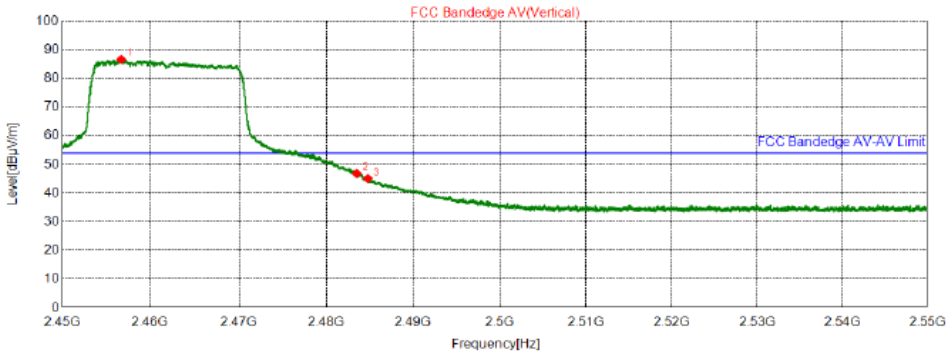
802.11g-2462MHz/ Vertical-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2457.8750	89.89	94.71	74.00	-20.71	355	206	Vertical	PK
2	2483.5000	53.17	58.11	74.00	15.89	355	18	Vertical	PK
3	2484.7900	56.32	61.26	74.00	12.74	355	38	Vertical	PK

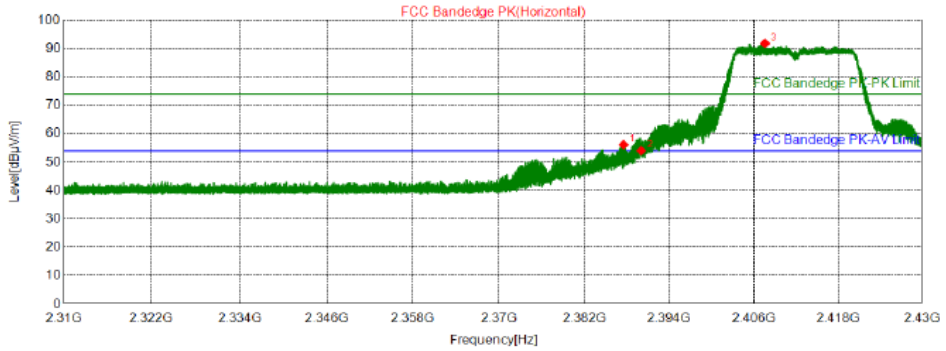
802.11g-2462MHz/ Vertical-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2456.7125	81.75	86.56	54.00	-32.56	355	210	Vertical	PK
2	2483.5000	41.84	46.78	54.00	7.22	355	45	Vertical	PK
3	2484.7750	40.14	45.08	54.00	8.92	355	45	Vertical	PK

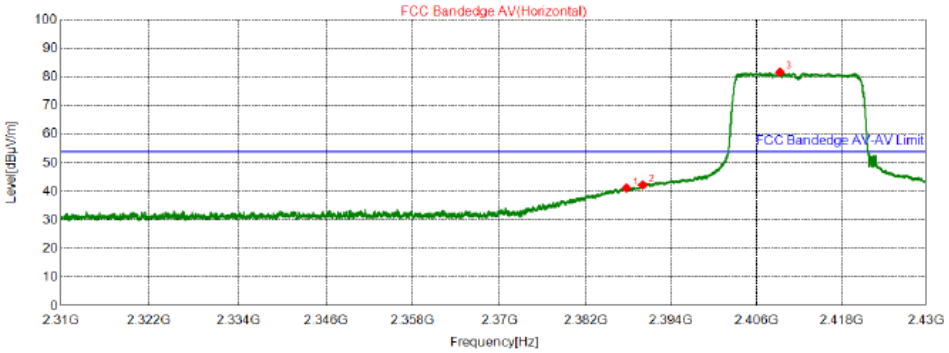
802.11n (HT20)-2412MHz/ Horizontal-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.5320	51.68	56.10	74.00	17.90	355	296	Horizontal	PK
2	2390.0100	49.56	54.00	74.00	20.00	355	296	Horizontal	PK
3	2407.5720	87.25	91.80	74.00	-17.80	355	296	Horizontal	PK

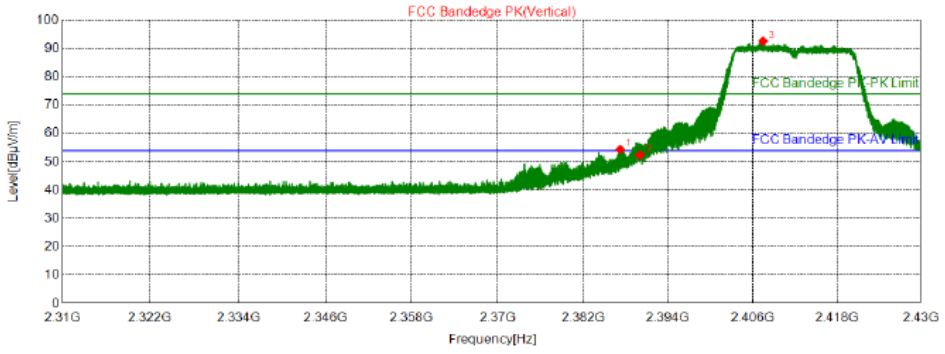
802.11n (HT20)-2412MHz/ Horizontal-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.7150	36.75	41.17	54.00	12.83	355	295	Horizontal	PK
2	2390.0100	37.83	42.27	54.00	11.73	355	302	Horizontal	PK
3	2409.3000	77.09	81.65	54.00	-27.65	355	302	Horizontal	PK

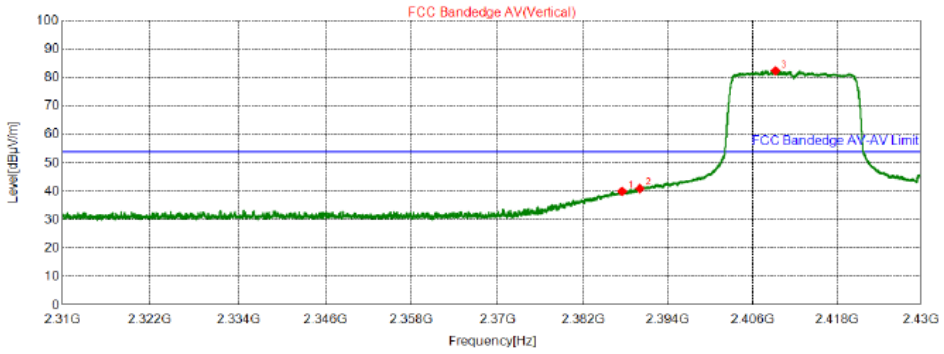
802.11n (HT20)-2412MHz/ Vertical-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.2200	49.91	54.33	74.00	19.67	355	29	Vertical	PK
2	2390.0100	47.97	52.41	74.00	21.59	355	20	Vertical	PK
3	2407.4820	88.06	92.61	74.00	-18.61	355	20	Vertical	PK

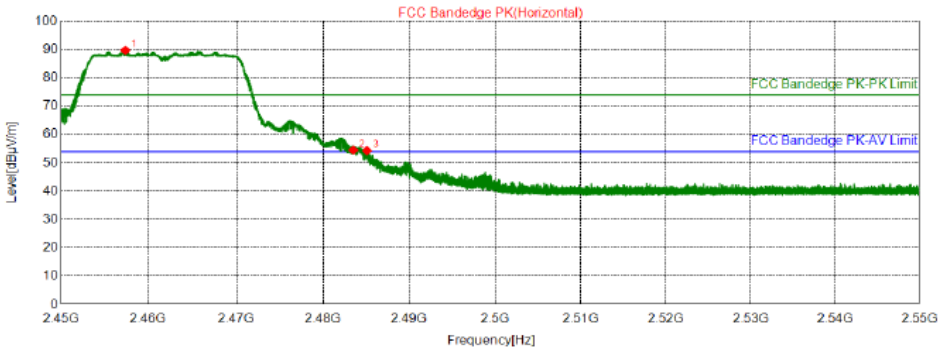
802.11n (HT20)-2412MHz/ Vertical-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.5050	35.59	40.01	54.00	13.99	355	13	Vertical	PK
2	2390.0100	36.53	40.97	54.00	13.03	355	6	Vertical	PK
3	2409.2400	77.83	82.39	54.00	-28.39	355	32	Vertical	PK

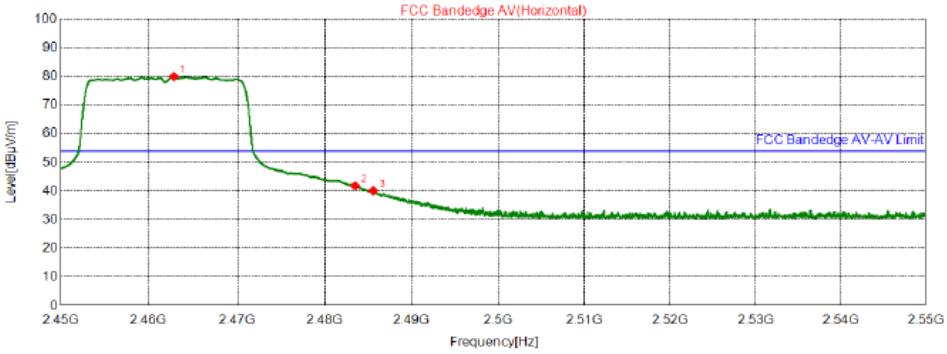
802.11n (ht20)-2462MHz/ Horizontal-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2457.3800	84.87	89.69	74.00	-15.69	355	19	Horizontal	PK
2	2483.5000	49.55	54.49	74.00	19.51	355	235	Horizontal	PK
3	2485.0800	49.32	54.26	74.00	19.74	355	48	Horizontal	PK

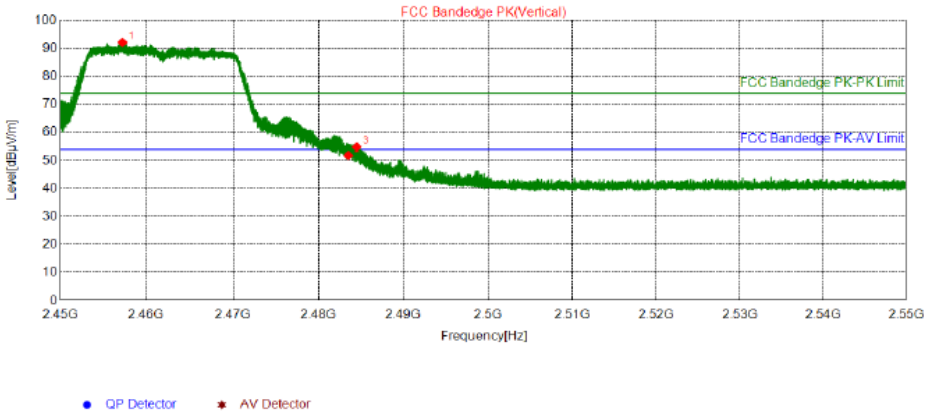
802.11n (HT20)-2462MHz/ Horizontal-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2462.9000	75.11	79.95	54.00	-25.95	355	332	Horizontal	PK
2	2483.5000	36.84	41.78	54.00	12.22	355	134	Horizontal	PK
3	2485.5750	35.19	40.14	54.00	13.86	355	70	Horizontal	PK

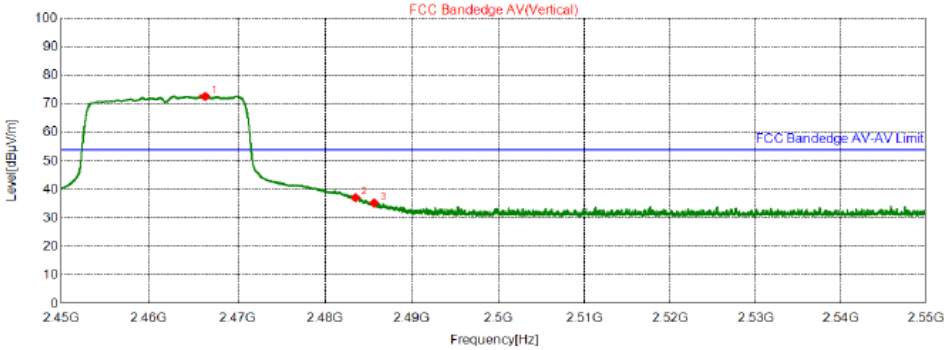
802.11n (ht20)-2462MHz/ Vertical-PK



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2457.2400	87.28	92.10	74.00	-18.10	355	177	Vertical	PK
2	2483.5000	46.78	51.72	74.00	22.28	355	157	Vertical	PK
3	2484.4950	49.91	54.85	74.00	19.15	355	186	Vertical	PK

802.11n (HT20)-2462MHz/ Vertical-AV



Suspected List

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2466.2625	67.81	72.67	54.00	-18.67	355	353	Vertical	PK
2	2483.5000	32.19	37.13	54.00	16.87	355	258	Vertical	PK
3	2485.6500	30.38	35.33	54.00	18.67	355	167	Vertical	PK

4.8 Radiated Emission Measurement

4.8.1 Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

4.8.2 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degree to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. Both X and Y axes of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and the rotate table was turned from 0 degree to 360 degree to find the maximum reading.

e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1 GHz) / 1.5 meters (for above 1 GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

f. The test-receiver system was set to peak and average detected function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

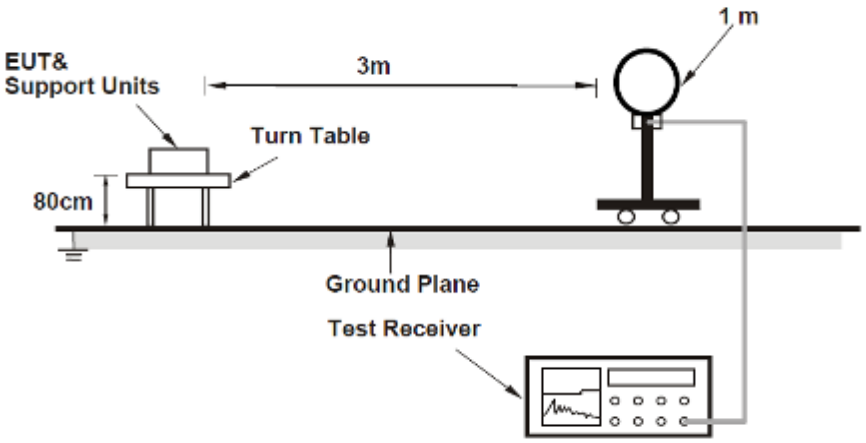
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1 GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 1/T for RMS Average (Duty cycle < 98 %) for Peak detection at frequency above 1 GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz (Duty cycle $\geqslant$ 98 %) for Average detection (AV) at frequency above 1 GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.8.3 Deviation from Test Standard

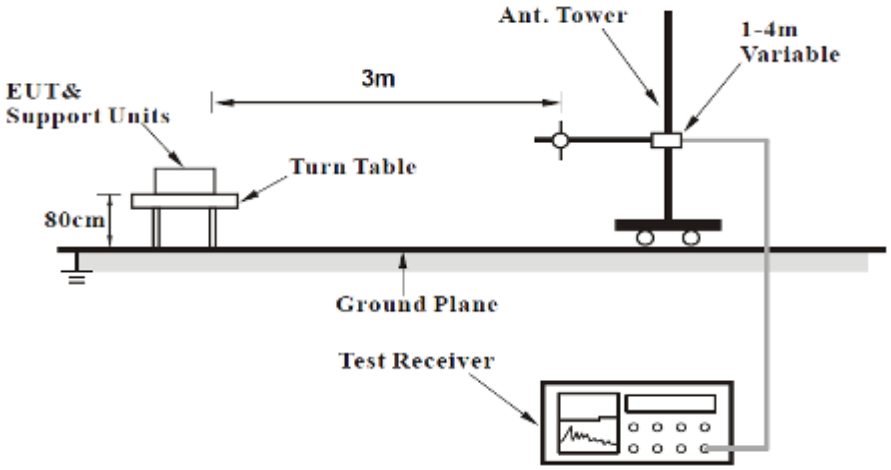
No deviation.

4.8.4 Test Setup

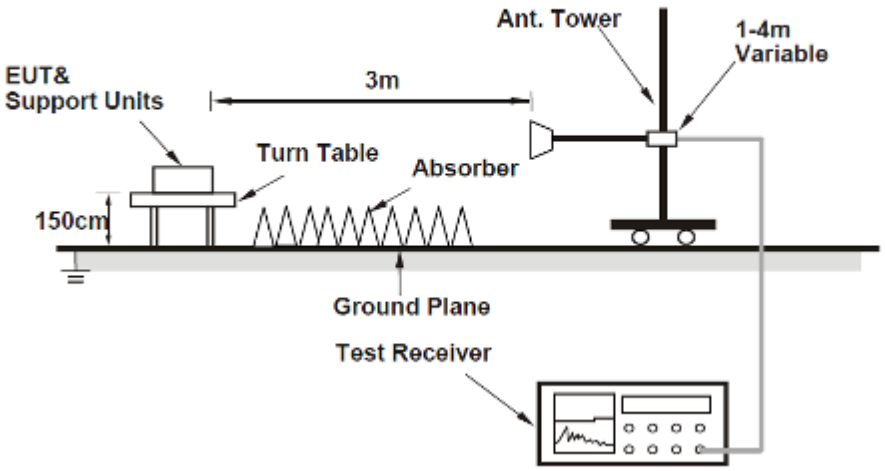
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.8.5 EUT Operating Conditions

a. Placed the EUT on a testing table.

b. Use the software to control the EUT under transmission condition continuously at specific channel frequency.

4.8.6 Test Results

Radiated Emissions Range 9kHz~30MHz

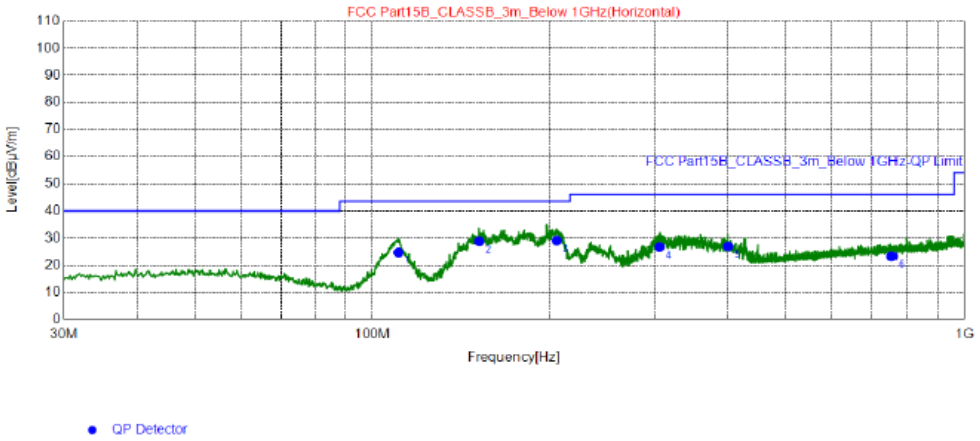
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

Radiated Emissions Range 30MHz~1GHz

Below is the worst test data

Channel	Channel 1	**Detector Function**	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz	**Antenna Polarity**	Horizontal

Test Plot:



Final Data List

NO.	Freq. [MHz]	QP Reading [dBµV/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	110.7	38.35	-13.65	24.70	43.50	18.80	200	264	Horizontal
2	151.6	38.84	-9.99	28.85	43.50	14.65	200	268	Horizontal
3	204.9	41.13	-12.03	29.10	43.50	14.40	100	249	Horizontal
4	306.0	35.25	-8.47	26.78	46.00	19.22	100	89	Horizontal
5	399.9	33.29	-6.30	26.99	46.00	19.01	100	53	Horizontal
6	756.1	23.87	-0.59	23.28	46.00	22.72	100	298	Horizontal

REMARKS:

1. Emission Level(dBuV/m) = Spectrum reading (dBuV) + Correction Factor(dB/m)

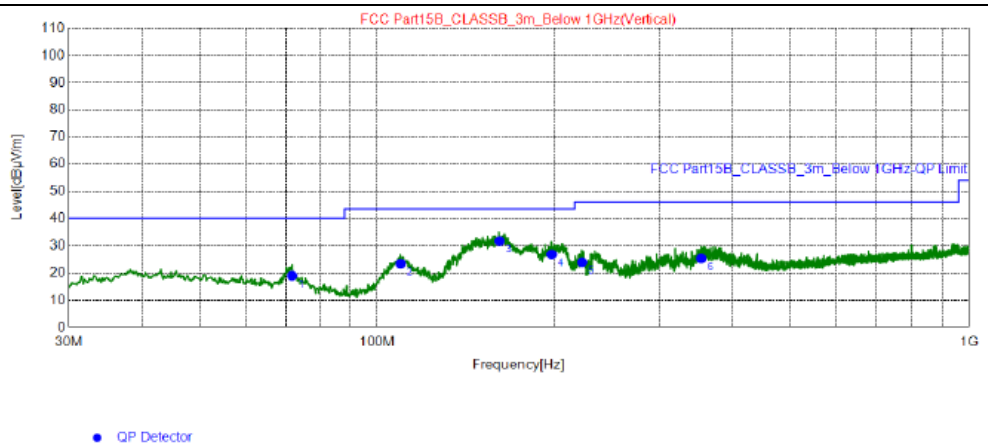
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Limit value – Emission Level

Channel	Channel 1	**Detector Function**	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz	**Antenna Polarity**	Vertical

Test Plot:



Final Data List									
NO.	Freq. [MHz]	QP Reading [dBµV/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	71.71	31.35	-12.44	18.91	40.00	21.09	100	38	Vertical
2	109.5	37.15	-13.79	23.36	43.50	20.14	100	257	Vertical
3	161.1	41.53	-9.82	31.71	43.50	11.79	100	293	Vertical
4	197.4	38.79	-11.97	26.82	43.50	16.68	100	208	Vertical
5	222.2	35.55	-11.67	23.88	46.00	22.12	100	199	Vertical
6	353.7	32.59	-7.34	25.25	46.00	20.75	100	302	Vertical

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Limit value – Emission Level

Radiated Emission Range 1GHz~10th Harmonic

802.11b

Channel	TX Channel 1	**Detector Function**	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Correction Factor (dB/m)**	**Antenna Polarity**	**Detector**
1	7237.3000	41.90	74.00	32.10	-0.66	H	PK
2	7237.3000	38.08	54.00	15.92	-0.66	H	AV
3	7237.3000	40.41	74.00	33.59	-0.66	V	PK
4	7237.3000	37.50	54.00	16.50	-0.66	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Channel	TX Channel 6	**Detector Function**	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Correction Factor (dB/m)**	**Antenna Polarity**	**Detector**
1	7310.4000	43.77	74.00	30.23	-0.85	H	PK
2	7312.1000	41.73	54.00	12.27	-0.85	H	AV
3	7308.7000	41.77	74.00	32.23	-0.85	V	PK
4	7312.1000	39.31	54.00	14.69	-0.85	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Channel	TX Channel 11	**Detector Function**	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Correction Factor (dB/m)**	**Antenna Polarity**	**Detector**
1	7385.2000	44.43	74.00	29.57	-1.05	H	PK
2	7388.6000	41.04	54.00	12.96	-1.05	H	AV
3	7385.2000	41.13	74.00	32.87	-1.05	V	PK
4	7386.9000	38.52	54.00	15.48	-1.05	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value =Limit value – Emission Level

802.11g

Channel	TX Channel 1	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	7240.7000	40.41	74.00	33.59	-0.67	H	PK
2	7240.7000	33.93	54.00	20.07	-0.67	H	AV
3	7230.5000	40.41	74.00	33.59	-0.64	V	PK
4	7237.3000	35.20	54.00	18.80	-0.66	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	7312.1000	43.02	74.00	30.98	-0.85	H	PK
2	7312.1000	32.22	54.00	21.78	-0.85	H	AV
3	7307.0000	38.33	74.00	35.67	-0.84	V	PK
4	7301.9000	31.82	54.00	22.18	-0.83	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value =Limit value – Emission Level

Channel	TX Channel 11	**Detector Function**	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Correction Factor (dB/m)**	**Antenna Polarity**	**Detector**
1	7386.9000	42.51	74.00	31.49	-1.05	H	PK
2	7386.9000	31.21	54.00	22.79	-1.05	H	AV
3	7386.9000	36.61	74.00	37.39	-1.05	V	PK
4	7386.9000	31.21	54.00	22.79	-1.05	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Limit value – Emission Level

802.11n (HT20)

Channel	TX Channel 1	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	7233.9000	7233.9000	74.00	33.50	-0.65	H	PK
2	7227.1000	33.04	54.00	20.96	-0.63	H	AV
3	7237.3000	35.07	74.00	38.93	-0.66	V	PK
4	7237.3000	28.87	54.00	25.13	-0.66	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Limit value – Emission Level

Channel	TX Channel 6	Detector Function	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Correction Factor (dB/m)	Antenna Polarity	Detector
1	7312.1000	35.00	74.00	39.00	-0.85	H	PK
2	7312.1000	30.76	54.00	23.24	-0.85	H	AV
3	7312.1000	35.56	74.00	38.44	-0.85	V	PK
4	7312.1000	30.71	54.00	23.29	-0.85	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value =Limit value – Emission Level

Channel	TX Channel 11	**Detector Function**	Peak (PK)
Frequency Range	1GHz ~ 25GHz		Average (AV)

Spurious Emission Level							
No.	**Frequency (MHz)**	**Emission Level (dBuV/m)**	**Limit (dBuV/m)**	**Margin (dB)**	**Correction Factor (dB/m)**	**Antenna Polarity**	**Detector**
1	7386.9000	34.62	74.00	39.38	-1.05	H	PK
2	7386.9000	29.30	54.00	24.70	-1.05	H	AV
3	7386.9000	33.22	74.00	40.78	-1.05	V	PK
4	7386.9000	27.93	54.00	26.07	-1.05	V	AV

REMARKS:

1. Emission Level(dBuV/m) = Original Spectrum reading (dBuV) + Correction Factor(dB/m)

2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)

3. The other emission levels were very low against the limit.

4. Margin value = Limit value – Emission Level

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

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