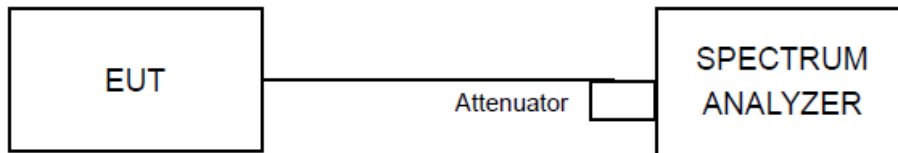


## 4.6 Conducted Spurious Emissions

### 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  $\geq$  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 OOB

1. Set RBW = 100 kHz.
2. Set VBW  $\geq$  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.



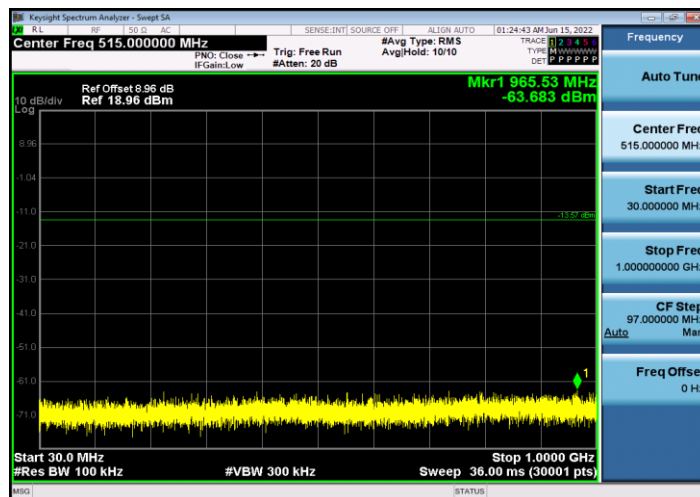
#### 4.6.5 Test Results

Test Mode	Antenna	Channel [MHz]	FreqRange [MHz]	RefLevel [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	6.43	6.43	---	PASS
			30~1000	6.43	-63.68	<=-13.57	PASS
			1000~26500	6.43	-45.67	<=-13.57	PASS
		2437	Reference	7.00	7.00	---	PASS
			30~1000	7.00	-63.35	<=-13	PASS
			1000~26500	7.00	-45.95	<=-13	PASS
		2462	Reference	6.11	6.11	---	PASS
			30~1000	6.11	-62.83	<=-13.89	PASS
			1000~26500	6.11	-46.13	<=-13.89	PASS
11G	Ant1	2412	Reference	-2.49	-2.49	---	PASS
			30~1000	-2.49	-63.28	<=-22.49	PASS
			1000~26500	-2.49	-46.09	<=-22.49	PASS
		2437	Reference	-1.77	-1.77	---	PASS
			30~1000	-1.77	-63.75	<=-21.77	PASS
			1000~26500	-1.77	-44.8	<=-21.77	PASS
		2462	Reference	-1.92	-1.92	---	PASS
			30~1000	-1.92	-62.68	<=-21.92	PASS
			1000~26500	-1.92	-45.83	<=-21.92	PASS
11N20SISO	Ant1	2412	Reference	-3.94	-3.94	---	PASS
			30~1000	-3.94	-62.57	<=-23.94	PASS
			1000~26500	-3.94	-45.17	<=-23.94	PASS
		2437	Reference	-2.22	-2.22	---	PASS
			30~1000	-2.22	-62.83	<=-22.22	PASS
			1000~26500	-2.22	-45.97	<=-22.22	PASS
		2462	Reference	-4.79	-4.79	---	PASS
			30~1000	-4.79	-63.61	<=-24.79	PASS
			1000~26500	-4.79	-45.68	<=-24.79	PASS

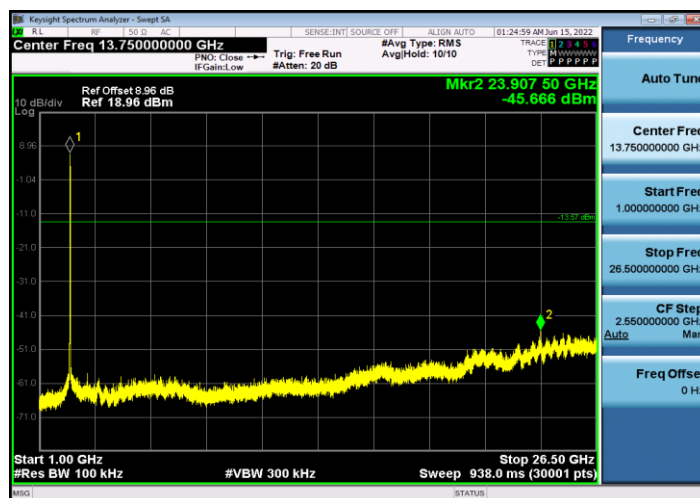
### 11B\_Ant1\_2412\_0~Reference



### 11B\_Ant1\_2412\_30~1000



### 11B\_Ant1\_2412\_1000~26500

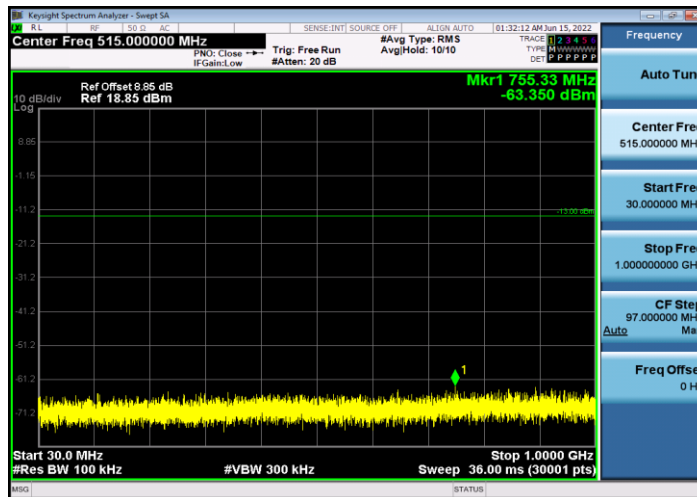




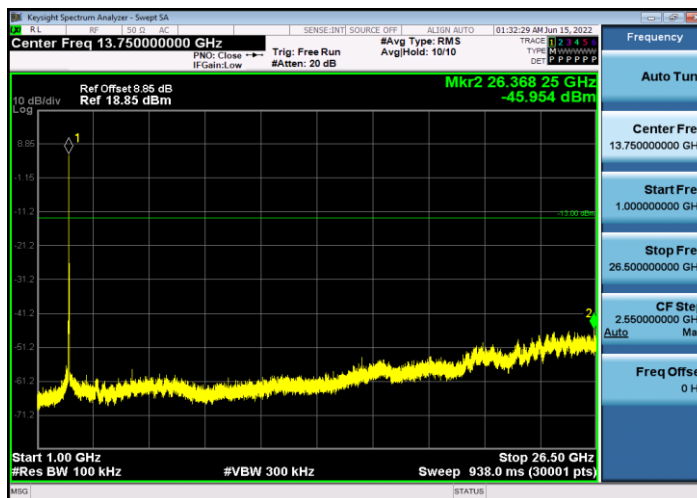
### 11B\_Ant1\_2437\_0~Reference



### 11B\_Ant1\_2437\_30~1000



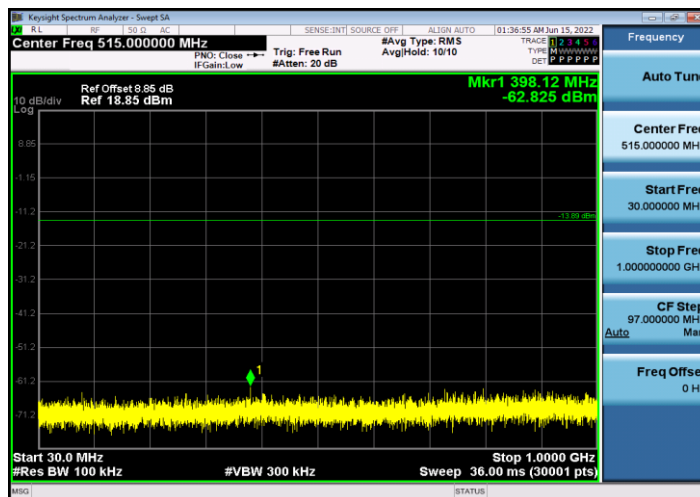
### 11B\_Ant1\_2437\_1000~26500



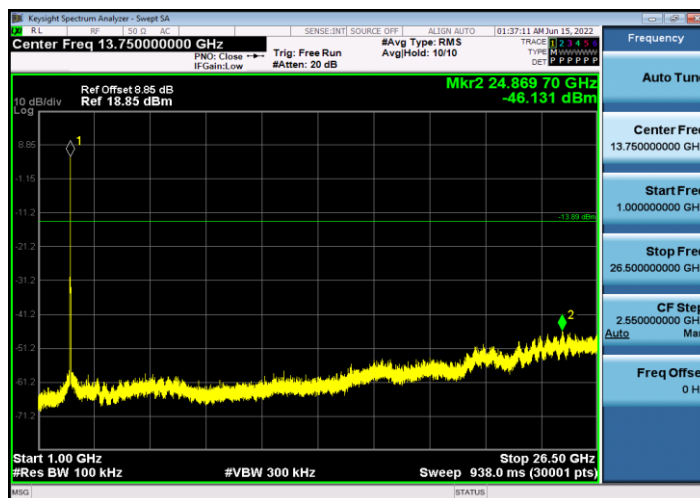
### 11B\_Ant1\_2462\_0~Reference



### 11B\_Ant1\_2462\_30~1000

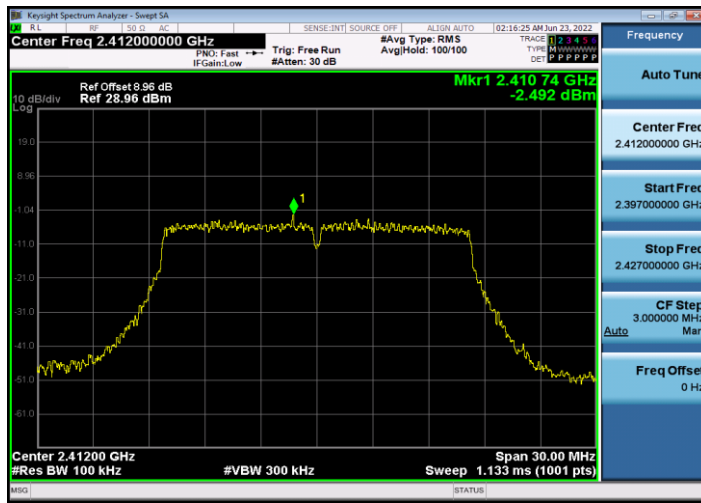


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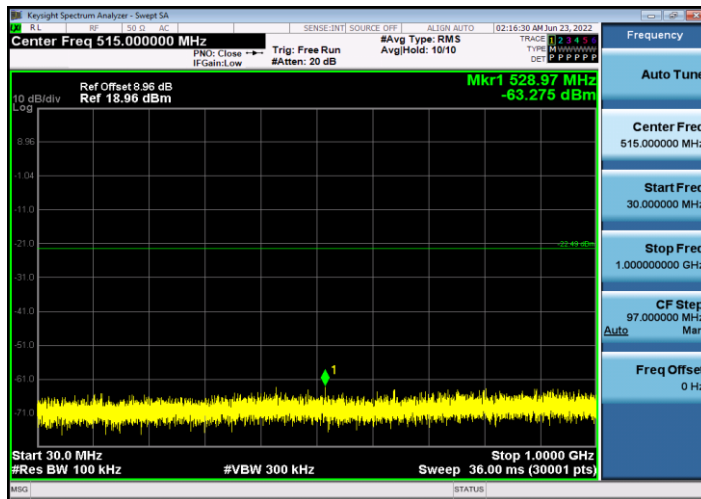




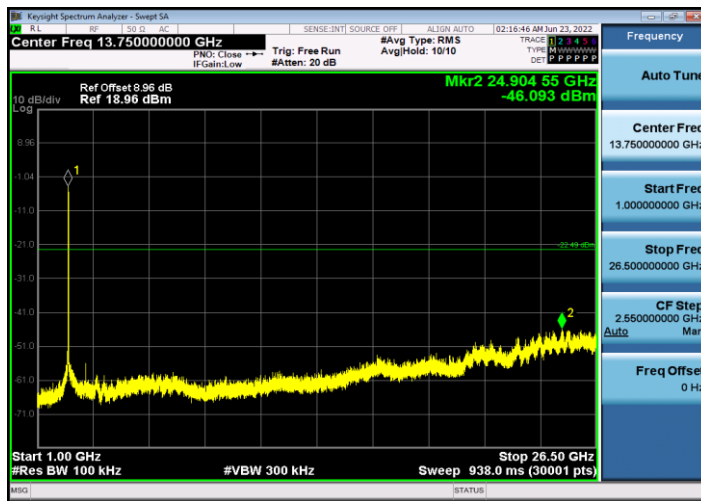
### 11G\_Ant1\_2412\_0~Reference



### 11G\_Ant1\_2412\_30~1000

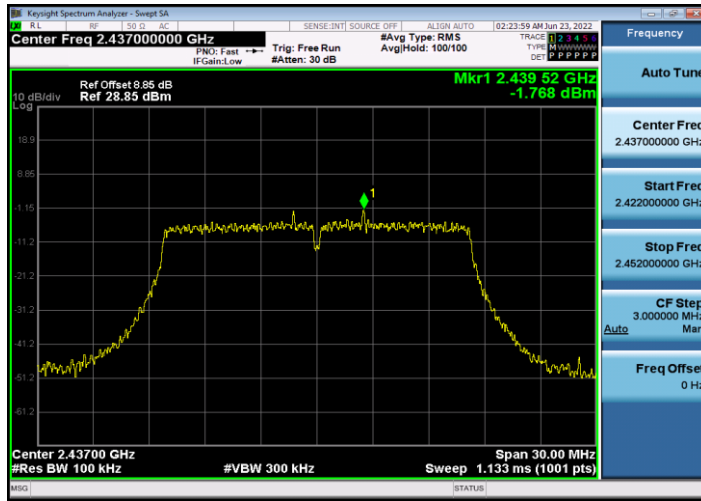


### 11G\_Ant1\_2412\_1000~26500

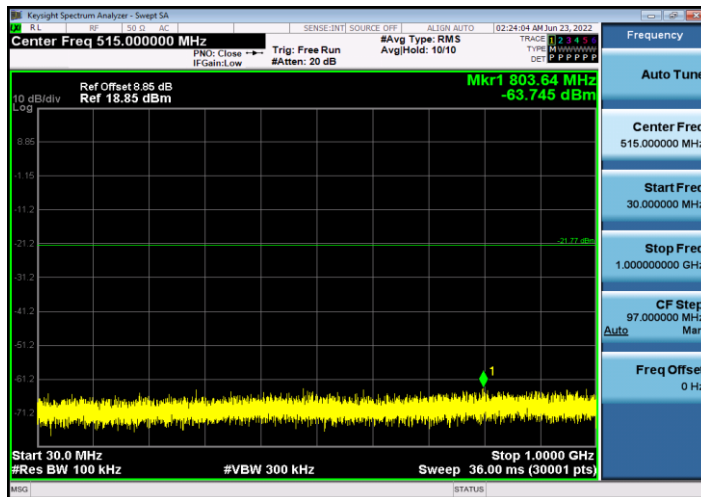




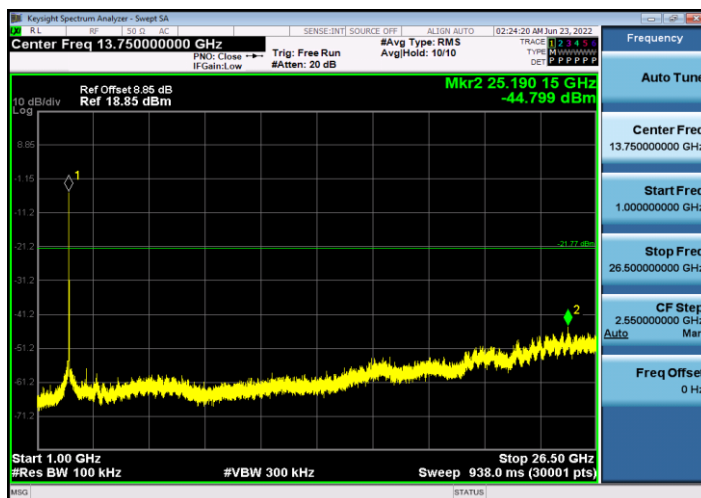
### 11G\_Ant1\_2437\_0~Reference



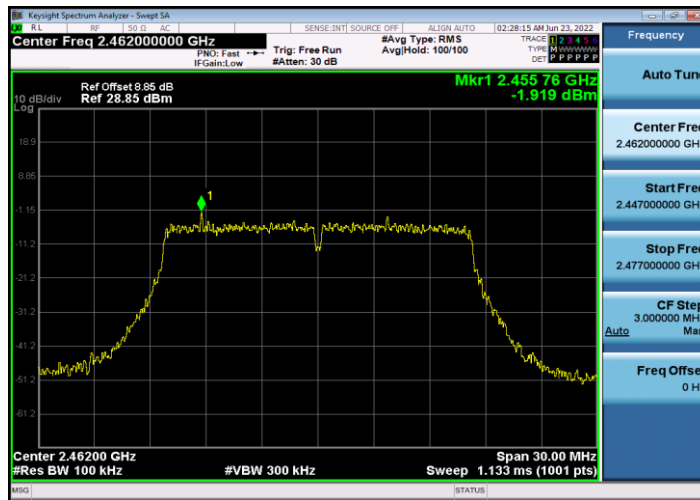
### 11G\_Ant1\_2437\_30~1000



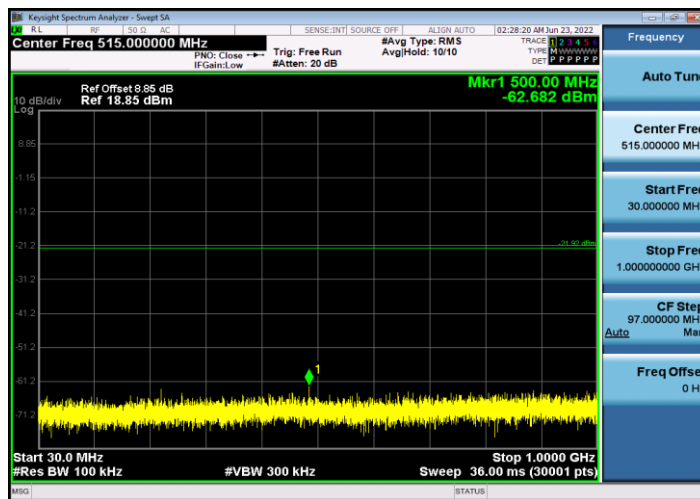
### 11G\_Ant1\_2437\_1000~26500



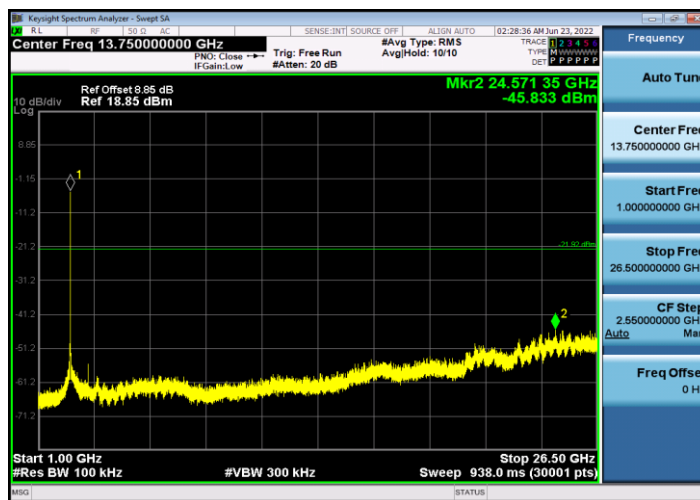
### 11G\_Ant1\_2462\_0~Reference



### 11G\_Ant1\_2462\_30~1000



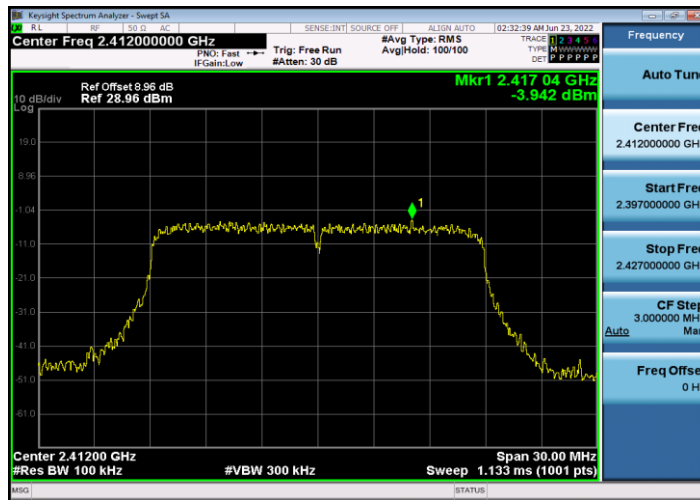
### 11G\_Ant1\_2462\_1000~26500



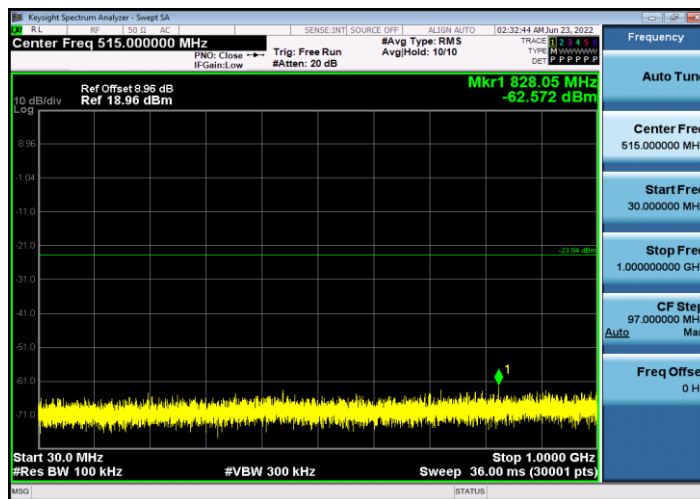




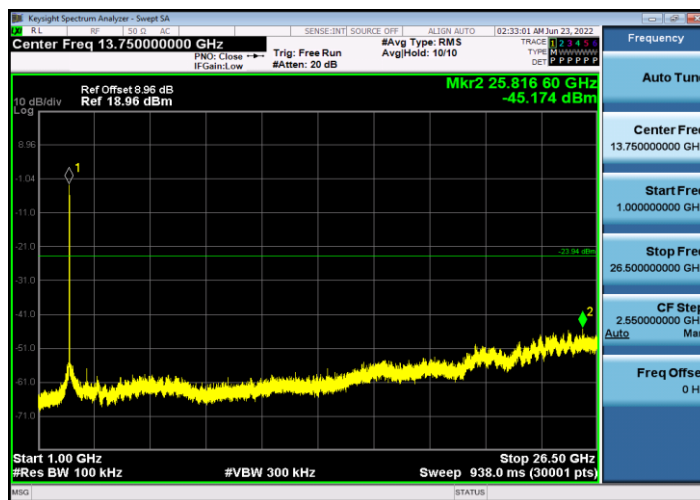
### 11N20SISO\_Ant1\_2412\_0~Reference



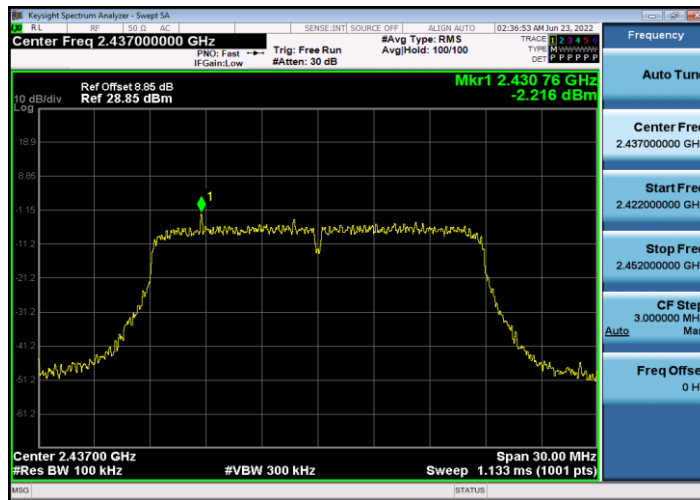
### 11N20SISO\_Ant1\_2412\_30~1000



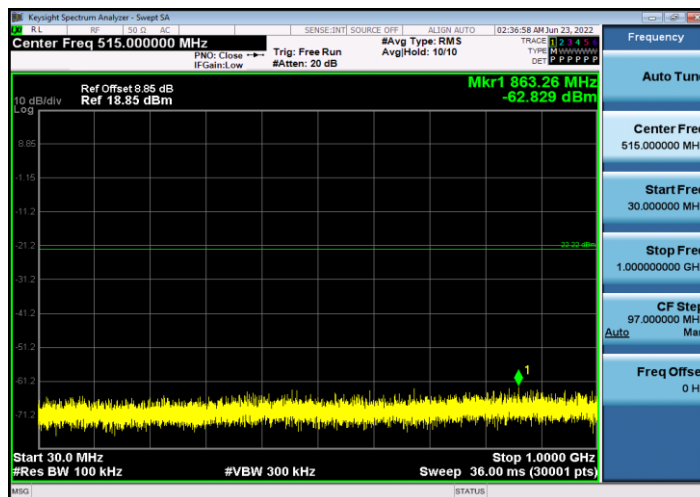
### 11N20SISO\_Ant1\_2412\_1000~26500



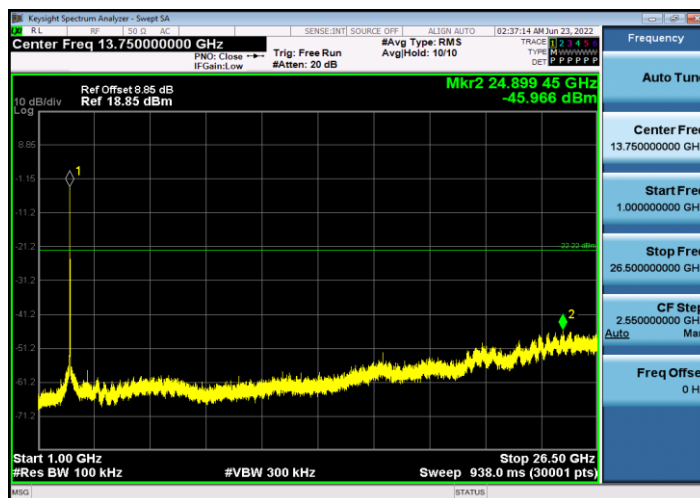
### 11N20SISO\_Ant1\_2437\_0~Reference



### 11N20SISO\_Ant1\_2437\_30~1000

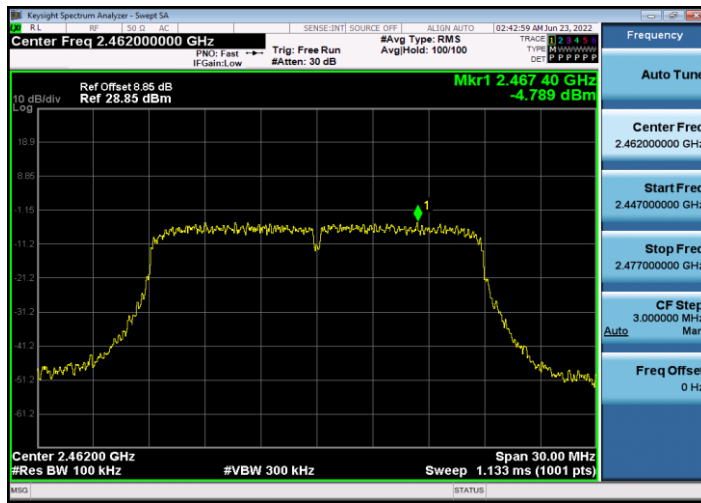


### 11N20SISO\_Ant1\_2437\_1000~26500

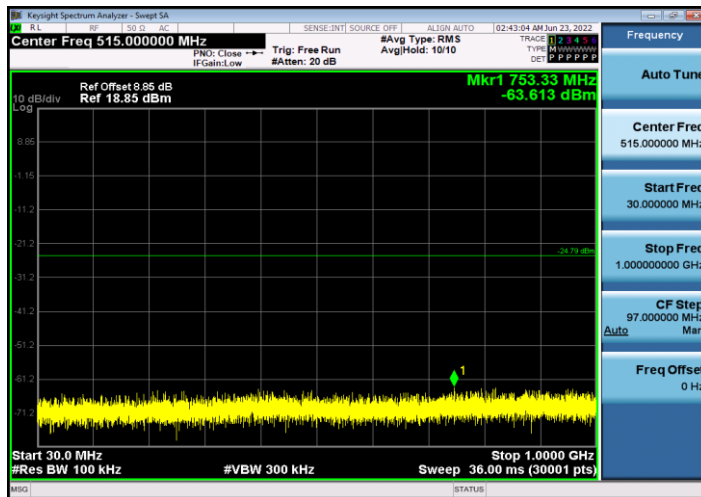




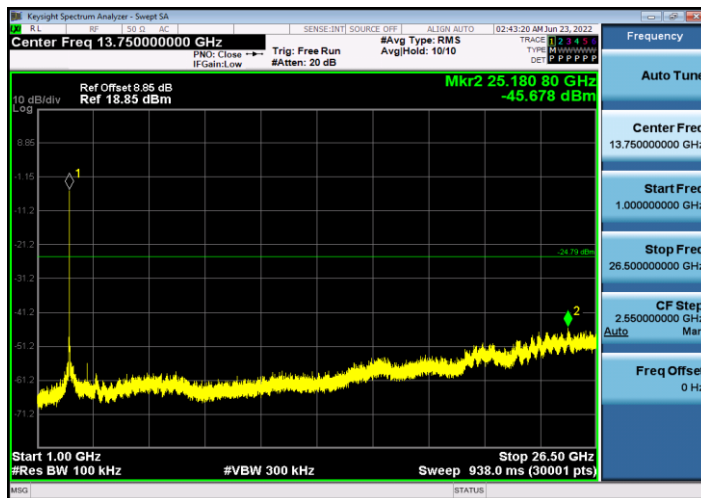
### 11N20SISO\_Ant1\_2462\_0~Reference



### 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.

<b>FCC Part 15 Subpart C Paragraph 15.209</b>		
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

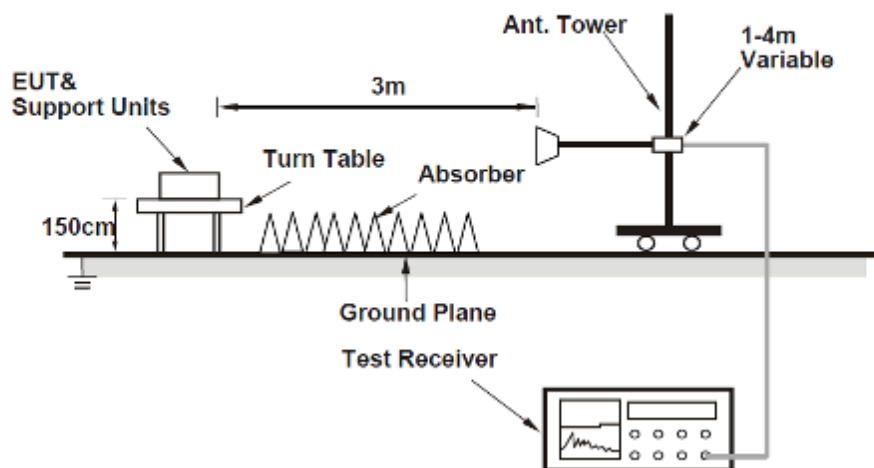
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### Average Measurements above 1GHz (Method VB)

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

#### 4.7.4 Test Setup

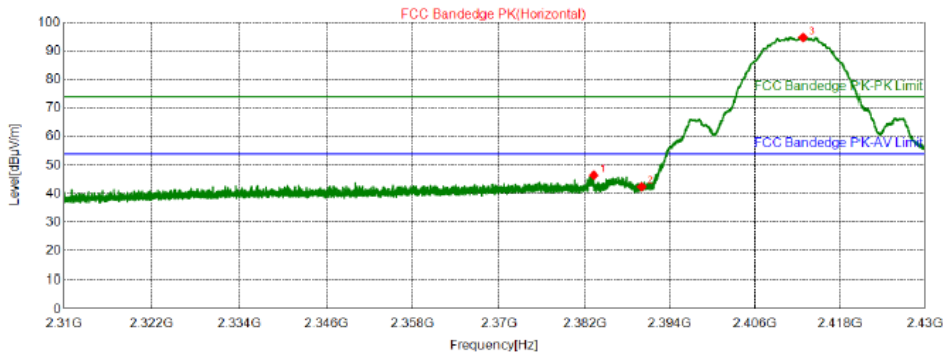
For Radiated emission above 1GHz





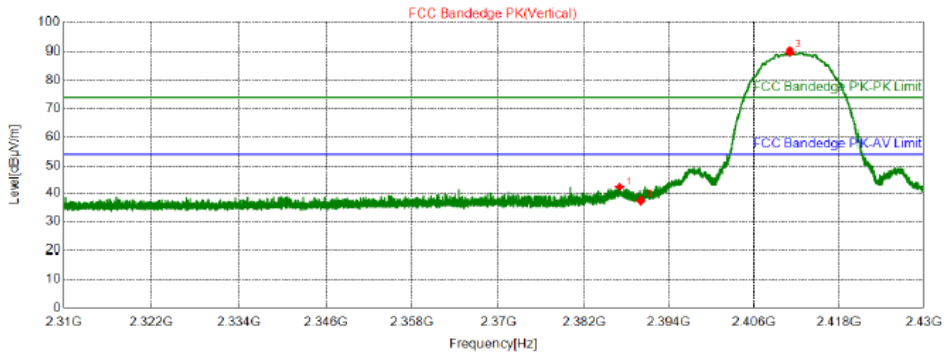
### 4.7.5 Test Results

#### 802.11b-2412MHz/ Horizontal



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2383.2750	64.15	46.41	74.00	27.59	155	338	Horizontal	PK
2	2390.0100	60.14	42.42	74.00	31.58	155	358	Horizontal	PK
3	2412.8550	112.42	94.77	74.00	-20.77	155	242	Horizontal	PK

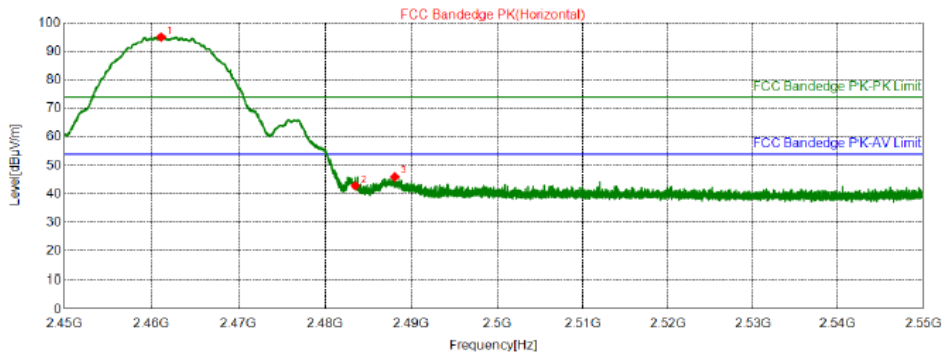
#### 802.11b-2412MHz/ Vertical



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.0250	60.02	42.29	74.00	31.71	155	271	Vertical	PK
2	2390.0100	54.92	37.20	74.00	36.80	155	246	Vertical	PK
3	2411.1150	107.53	89.87	74.00	-15.87	155	265	Vertical	PK



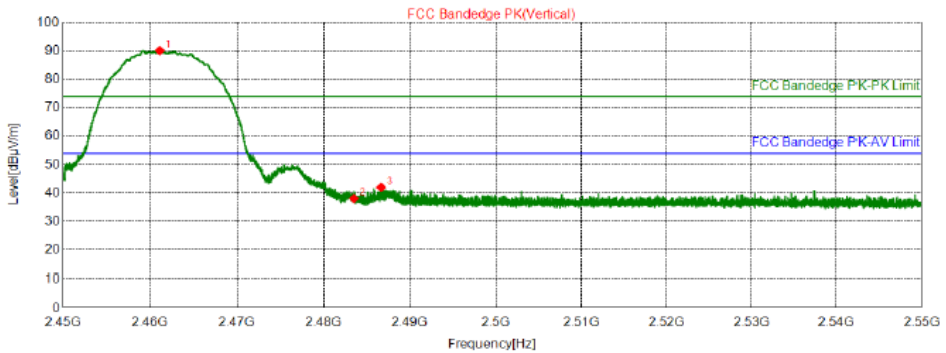
### 802.11b-2462MHz/ Horizontal



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2461.1000	112.58	95.08	74.00	-21.08	155	242	Horizontal	PK
2	2483.5000	60.31	42.87	74.00	31.13	155	242	Horizontal	PK
3	2488.0750	63.37	45.95	74.00	28.05	155	242	Horizontal	PK

### 802.11b-2462MHz/ Vertical

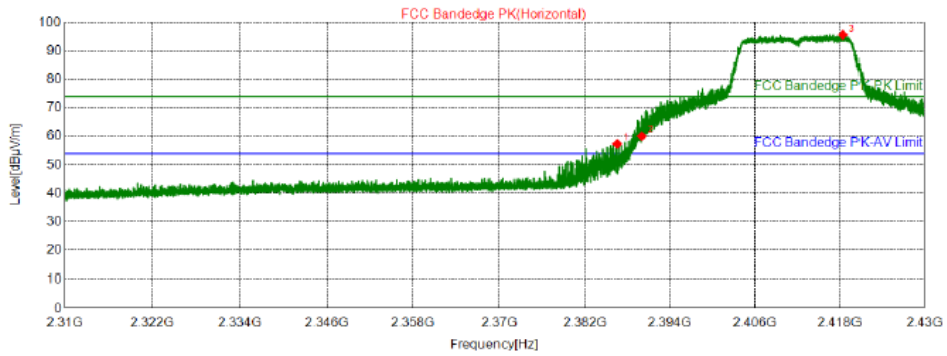


★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2461.1000	107.62	90.12	74.00	-16.12	155	268	Vertical	PK
2	2483.5000	55.50	38.06	74.00	35.94	155	166	Vertical	PK
3	2486.6625	59.39	41.96	74.00	32.04	155	256	Vertical	PK



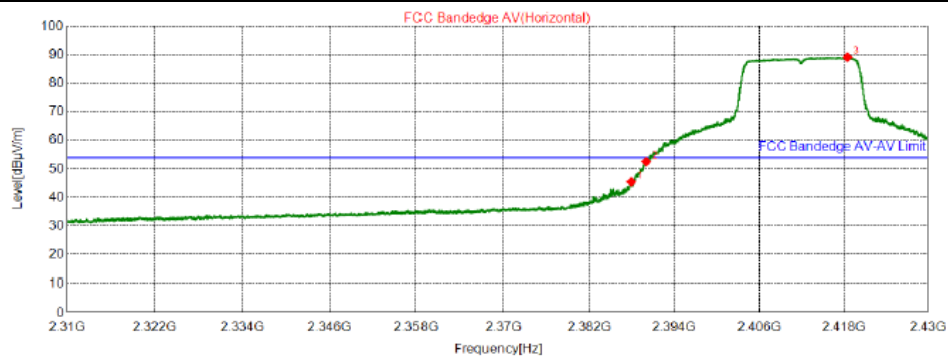
### 802.11g-2412MHz/ Horizontal-PK



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2386.5450	75.07	57.34	74.00	16.66	155	238	Horizontal	PK
2	2390.0100	77.76	60.04	74.00	13.96	155	238	Horizontal	PK
3	2418.5400	113.30	95.67	74.00	-21.67	155	238	Horizontal	PK

### 802.11g-2412MHz/ Horizontal-AV

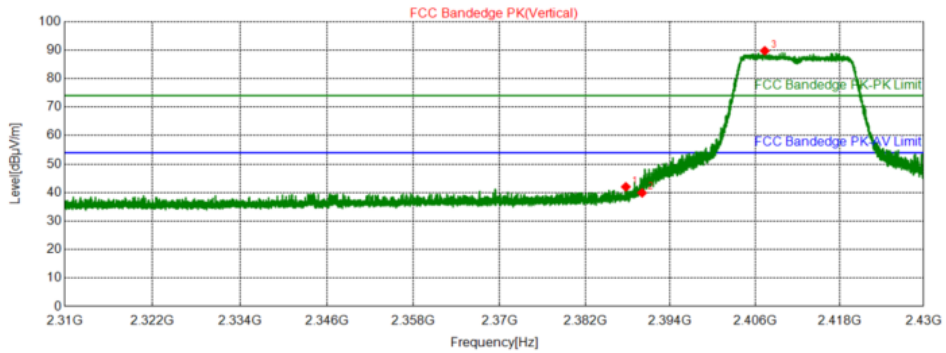


● QP Detector ★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.9100	62.95	45.47	54.00	8.53	150	242	Horizontal	PK
2	2390.0100	70.02	52.55	54.00	1.45	150	254	Horizontal	PK
3	2418.5250	106.49	89.11	54.00	-35.11	150	236	Horizontal	PK



### 802.11g-2412MHz/ Vertical

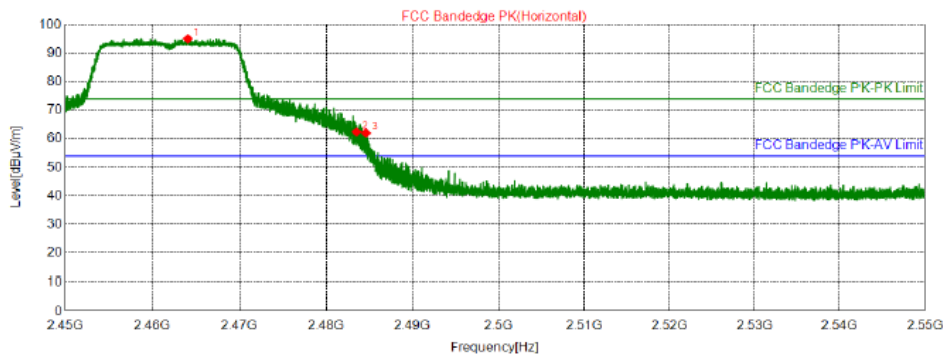


★ AV Detector

NO.	Freq. [MHz]	Reading [dBuV/m]	Level [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2387.7300	59.74	42.01	74.00	31.99	155	257	Vertical	PK
2	2390.0100	57.62	39.90	74.00	34.10	155	155	Vertical	PK
3	2407.3650	107.43	89.76	74.00	-15.76	155	155	Vertical	PK



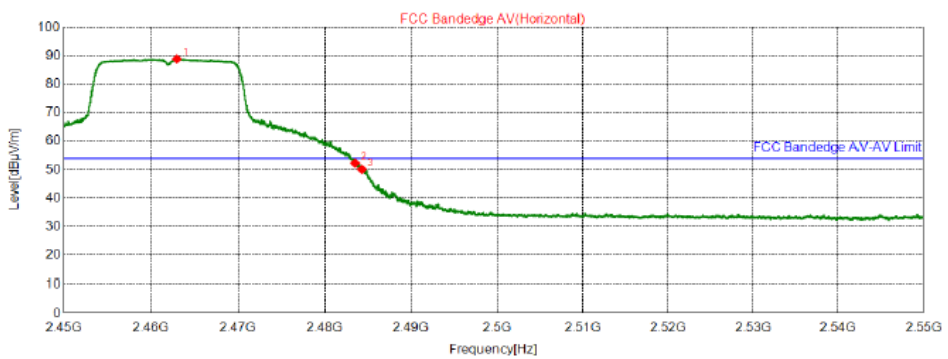
### 802.11g-2462MHz/ Horizontal-PK



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2464.0500	112.56	95.07	74.00	-21.07	155	242	Horizontal	PK
2	2483.5000	79.85	62.41	74.00	11.59	155	254	Horizontal	PK
3	2484.6000	79.40	61.97	74.00	12.03	155	242	Horizontal	PK

### 802.11g-2462MHz/ Horizontal-AV

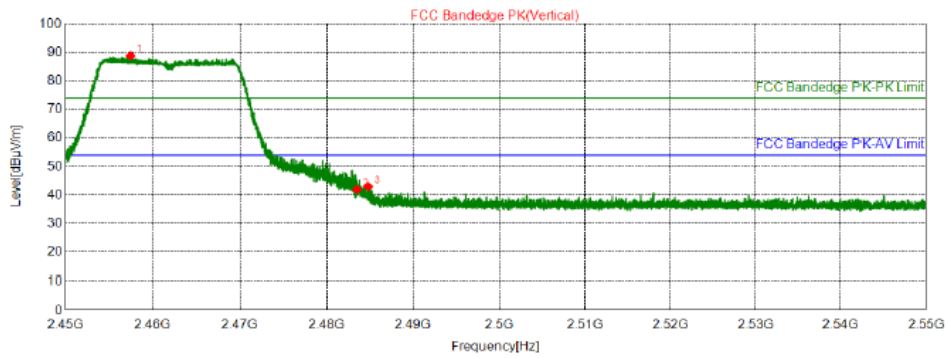


● QP Detector ★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2462.9625	106.04	88.81	54.00	-34.81	150	232	Horizontal	PK
2	2483.5000	69.44	52.28	54.00	1.72	150	232	Horizontal	PK
3	2484.2875	67.28	50.12	54.00	3.88	150	238	Horizontal	PK



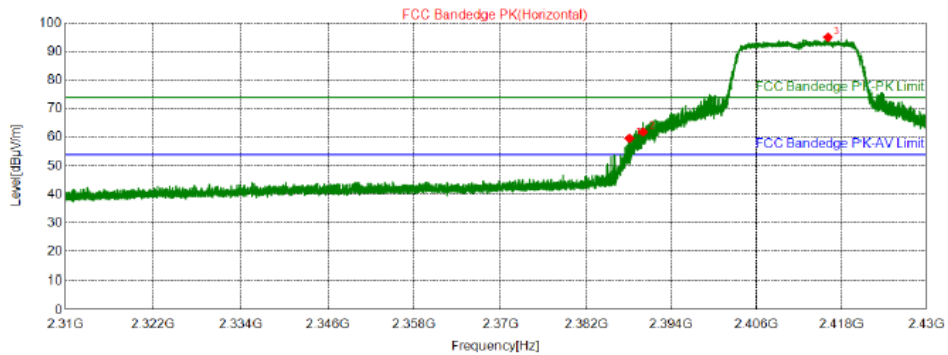
### 802.11g-2462MHz/ Vertical



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2457.4625	106.29	88.78	74.00	-14.78	155	268	Vertical	PK
2	2483.5000	59.34	41.90	74.00	32.10	155	256	Vertical	PK
3	2484.8000	60.35	42.92	74.00	31.08	155	262	Vertical	PK

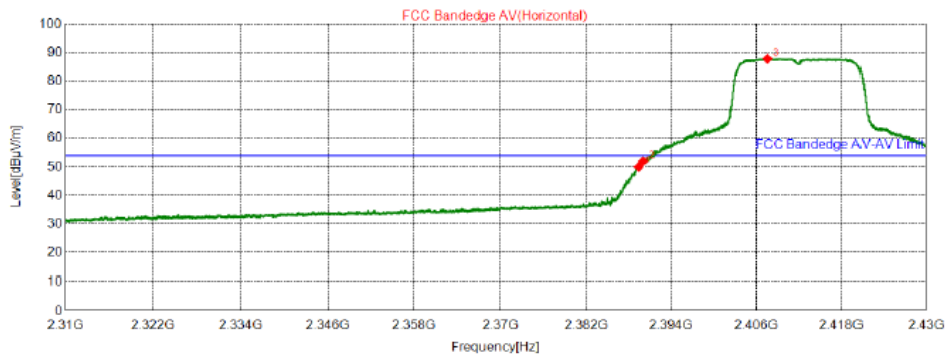
### 802.11n (HT20)-2412MHz/ Horizontal-PK



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2388.0900	77.35	59.62	74.00	14.38	155	242	Horizontal	PK
2	2390.0100	79.56	61.84	74.00	12.16	155	242	Horizontal	PK
3	2416.1850	112.70	95.06	74.00	-21.06	155	242	Horizontal	PK

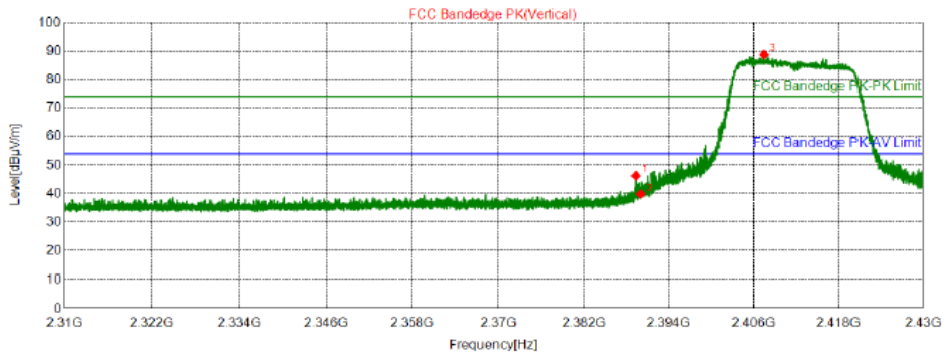
### 802.11n (HT20)-2412MHz/ Horizontal-AV



● QP Detector ★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2389.3950	67.42	49.95	54.00	4.05	150	12	Horizontal	PK
2	2390.0100	69.42	51.95	54.00	2.05	150	7	Horizontal	PK
3	2407.5900	105.28	87.87	54.00	-33.87	150	7	Horizontal	PK

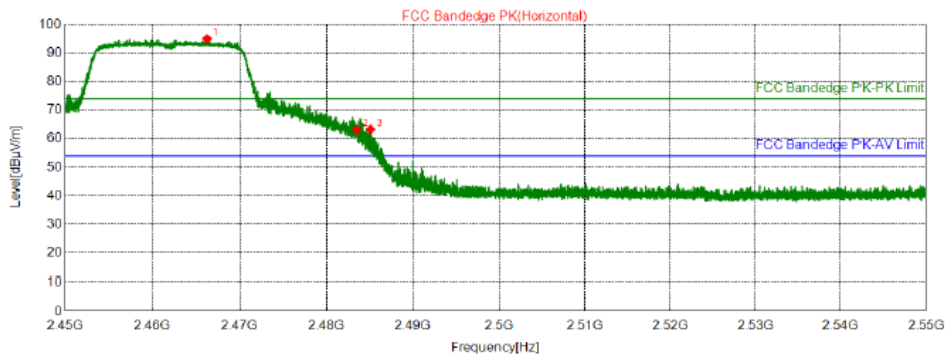
### 802.11n (HT20)-2412MHz/ Vertical



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2389.3350	63.94	46.22	74.00	27.78	155	153	Vertical	PK
2	2390.0100	57.56	39.84	74.00	34.16	155	171	Vertical	PK
3	2407.4700	106.44	88.77	74.00	-14.77	155	153	Vertical	PK

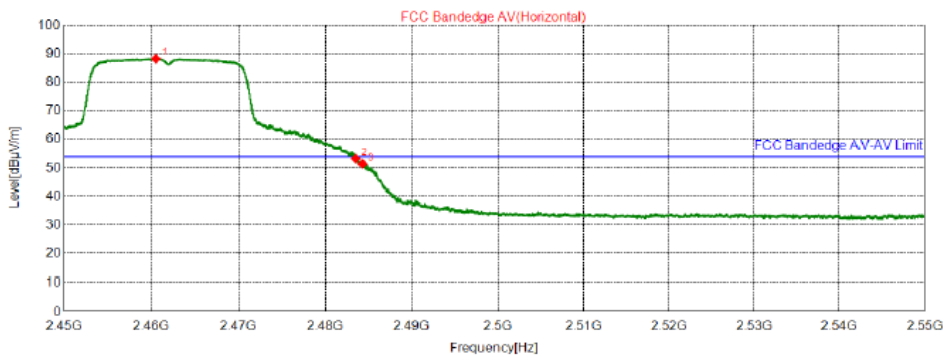
### 802.11n (HT20)-2462MHz/ Horizontal-PK



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2466.2500	112.51	95.02	74.00	-21.02	155	14	Horizontal	PK
2	2483.5000	80.54	63.10	74.00	10.90	155	14	Horizontal	PK
3	2485.0875	80.66	63.23	74.00	10.77	155	242	Horizontal	PK

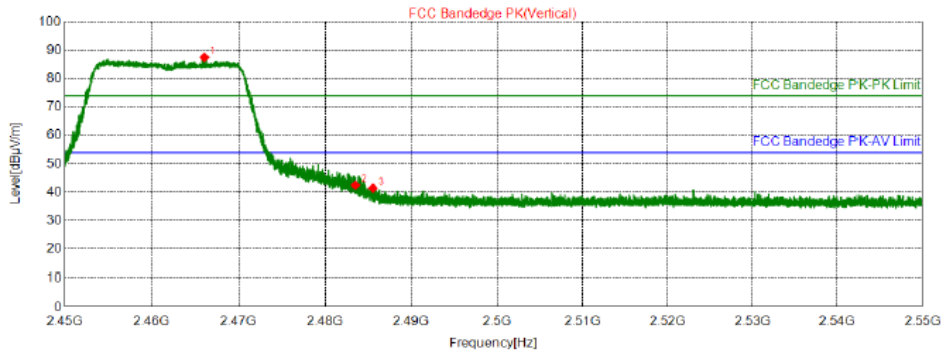
### 802.11n (HT20)-2462MHz/ Horizontal-AV



● QP Detector ★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2460.5125	105.50	88.26	54.00	-34.26	150	232	Horizontal	PK
2	2483.5000	70.44	53.28	54.00	0.72	150	232	Horizontal	PK
3	2484.2875	68.53	51.37	54.00	2.63	150	232	Horizontal	PK

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



★ AV Detector

NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity	Detector
1	2466.0500	105.01	87.52	74.00	-13.52	155	266	Vertical	PK
2	2483.5000	59.89	42.45	74.00	31.55	155	278	Vertical	PK
3	2485.5375	58.79	41.36	74.00	32.64	155	266	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:**

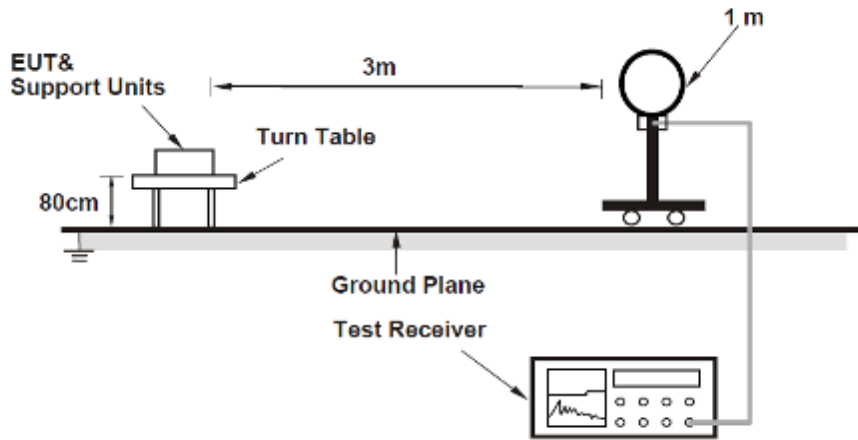
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz & 360 kHz for Quasi-peak detection (QP) at frequency below 1 GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency 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  $\geq$  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**

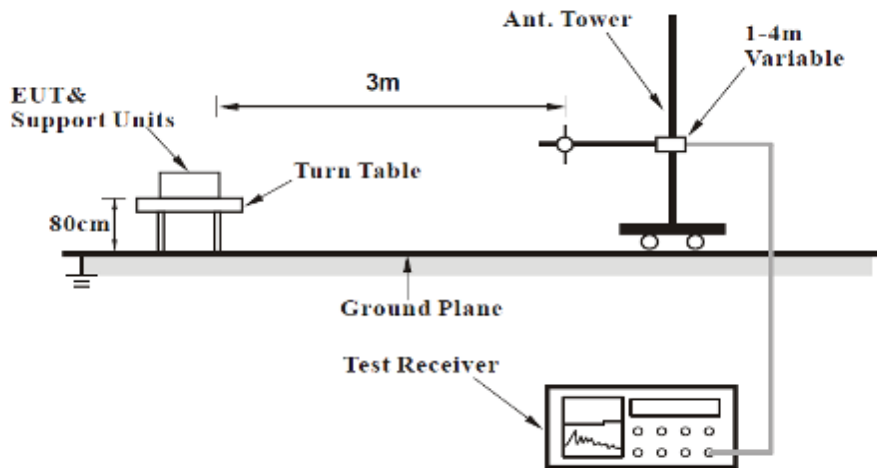
No deviation.

#### 4.8.4 Test Setup

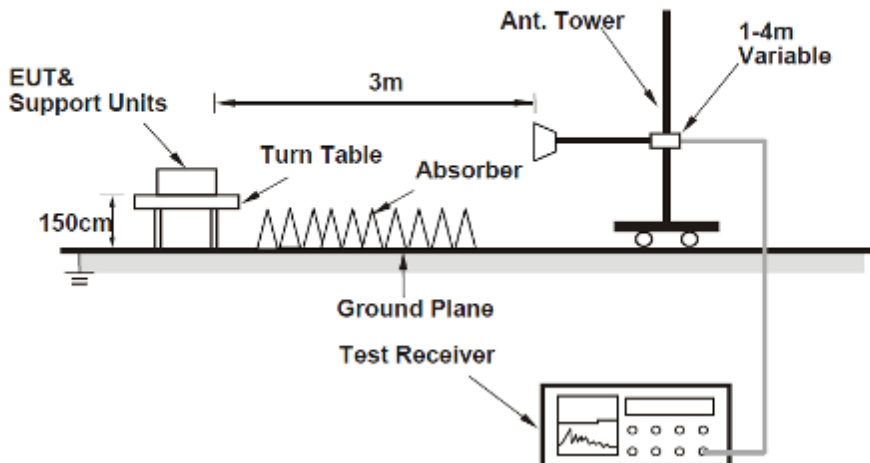
For Radiated emission below 30MHz



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**

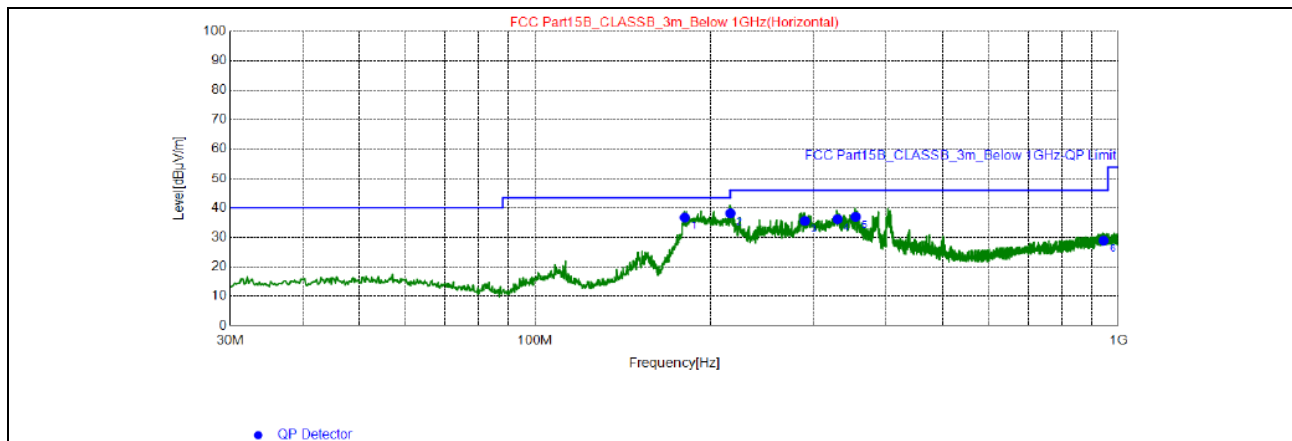
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

## Radiated Emissions Range 30MHz~1GHz

Below is the worst test data

<b>Channel</b>	Channel 1	<b>Detector Function</b>	Quasi-Peak (QP)
<b>Frequency Range</b>	30MHz ~ 1GHz	<b>Antenna Polarity</b>	Horizontal

Test Plot:



### Final Data List

NO.	Freq. [MHz]	QP Reading [dB µV/m]	Factor [dB]	QP Value [dB µV/m]	QP Limit [dB µV/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	180.5	48.05	-11.27	36.78	43.50	6.72	200	84	Horizontal
2	216.2	50.94	-12.77	38.17	46.00	7.83	200	284	Horizontal
3	290.1	44.27	-8.64	35.63	46.00	10.37	100	121	Horizontal
4	329.9	44.09	-7.83	36.26	46.00	9.74	100	100	Horizontal
5	354.5	44.37	-7.34	37.03	46.00	8.97	100	51	Horizontal
6	942.9	25.08	3.88	28.96	46.00	17.04	200	169	Horizontal

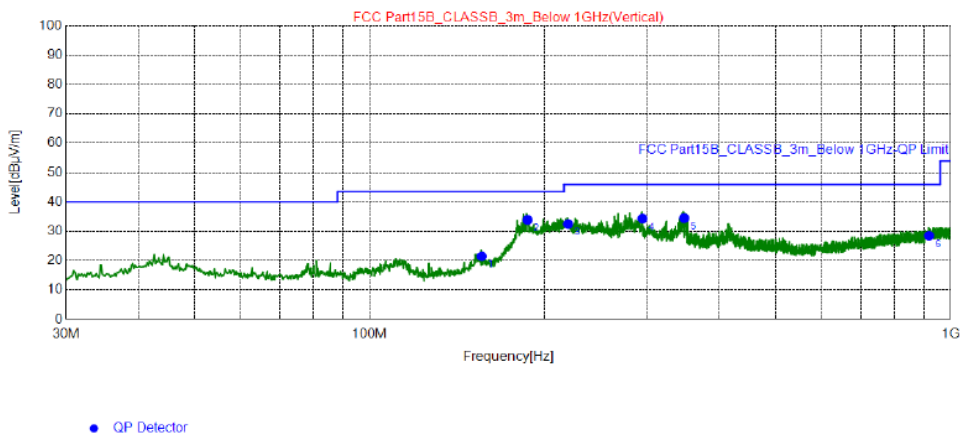
### REMARKS:

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



<b>Channel</b>	Channel 1	<b>Detector Function</b>	Quasi-Peak (QP)
<b>Frequency Range</b>	30MHz ~ 1GHz	<b>Antenna Polarity</b>	Vertical

Test Plot:



**Final Data List**

NO.	Freq. [MHz]	QP Reading [dB $\mu$ V/m]	Factor [dB]	QP Value [dB $\mu$ V/m]	QP Limit [dB $\mu$ V/m]	QP Margin [dB]	Height [cm]	Angle [°]	Polarity
1	155.9	31.47	-10.00	21.47	43.50	22.03	200	38	Vertical
2	186.9	45.69	-11.82	33.87	43.50	9.63	100	220	Vertical
3	219.5	45.3	-12.80	32.50	46.00	13.50	100	185	Vertical
4	294.8	42.82	-8.51	34.31	46.00	11.69	100	176	Vertical
5	347.7	42.01	-7.54	34.47	46.00	11.53	100	222	Vertical
6	917.7	25.05	3.44	28.49	46.00	17.51	100	136	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**

<b>Channel</b>	TX Channel 1	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4823.3000	49.81	74.00	24.19	-12.43	H	PK
2	4825.0000	45.15	54.00	8.85	-12.42	H	AV
3	4823.3000	46.63	74.00	27.37	-12.43	V	PK
4	4825.0000	42.08	54.00	11.92	-12.42	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

<b>Channel</b>	TX Channel 6	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4874.3000	50.26	74.00	23.74	-12.28	H	PK
2	4876.0000	41.88	54.00	12.12	-12.28	H	AV
3	4874.3000	47.82	74.00	26.18	-12.28	V	PK
4	4876.0000	40.01	54.00	13.99	-12.28	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



<b>Channel</b>	TX Channel 11	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4923.6000	50.72	74.00	23.28	-12.15	H	PK
2	4925.3000	45.74	54.00	8.26	-12.14	H	AV
3	4923.6000	48.65	74.00	25.35	-12.15	V	PK
4	4925.3000	43.56	54.00	10.44	-12.14	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

<b>Channel</b>	TX Channel 1	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4823.3000	39.18	74.00	34.82	-12.43	H	PK
2	4823.3000	33.59	54.00	20.41	-12.43	H	AV
3	4825.0000	39.16	74.00	34.84	-12.42	V	PK
4	4825.0000	32.73	54.00	21.27	-12.42	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

<b>Channel</b>	TX Channel 6	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4874.3000	40.33	74.00	33.67	-12.28	H	PK
2	4870.9000	33.67	54.00	20.33	-12.29	H	AV
3	4874.3000	38.09	74.00	35.91	-12.28	V	PK
4	4874.3000	34.77	54.00	19.23	-12.28	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



<b>Channel</b>	TX Channel 11	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4921.9000	41.09	74.00	32.91	-12.15	H	PK
2	4925.3000	35.98	54.00	18.02	-12.14	H	AV
3	4923.6000	40.04	74.00	33.96	-12.15	V	PK
4	4927.0000	35.42	54.00	18.58	-12.14	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)**

<b>Channel</b>	TX Channel 1	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4825.0000	37.86	74.00	36.14	-12.42	H	PK
2	4825.0000	35.36	54.00	18.64	-12.42	H	AV
3	4825.0000	36.25	74.00	37.75	-12.42	V	PK
4	4825.0000	31.71	54.00	22.29	-12.42	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

<b>Channel</b>	TX Channel 6	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4869.2000	41.83	74.00	32.17	-12.30	H	PK
2	4870.9000	35.78	54.00	18.22	-12.29	H	AV
3	4877.7000	38.17	74.00	35.83	-12.27	V	PK
4	4876.0000	35.00	54.00	19.00	-12.28	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



<b>Channel</b>	TX Channel 11	<b>Detector Function</b>	Peak (PK)
<b>Frequency Range</b>	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	4925.3000	39.20	74.00	34.80	-12.14	H	PK
2	4925.3000	33.95	54.00	20.05	-12.14	H	AV
3	4925.3000	39.02	74.00	34.98	-12.14	V	PK
4	4925.3000	33.33	54.00	20.67	-12.14	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).

-----**END**-----