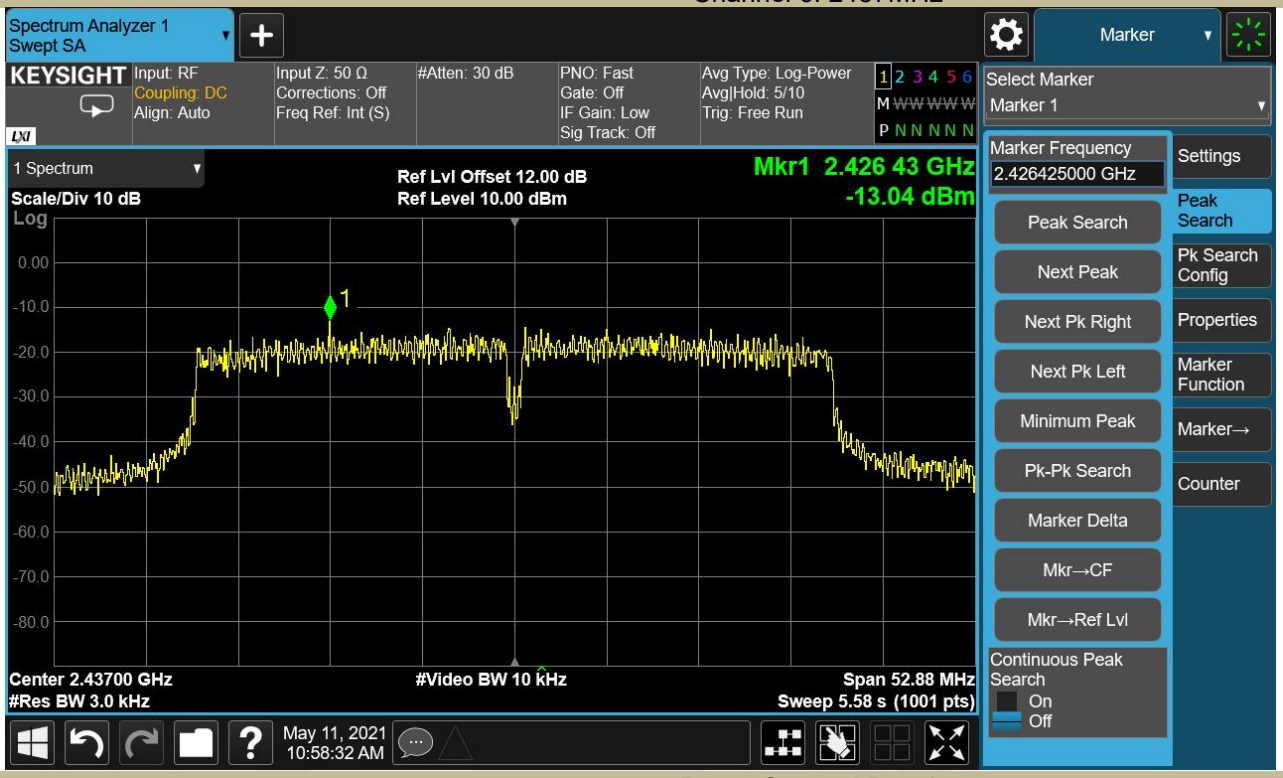
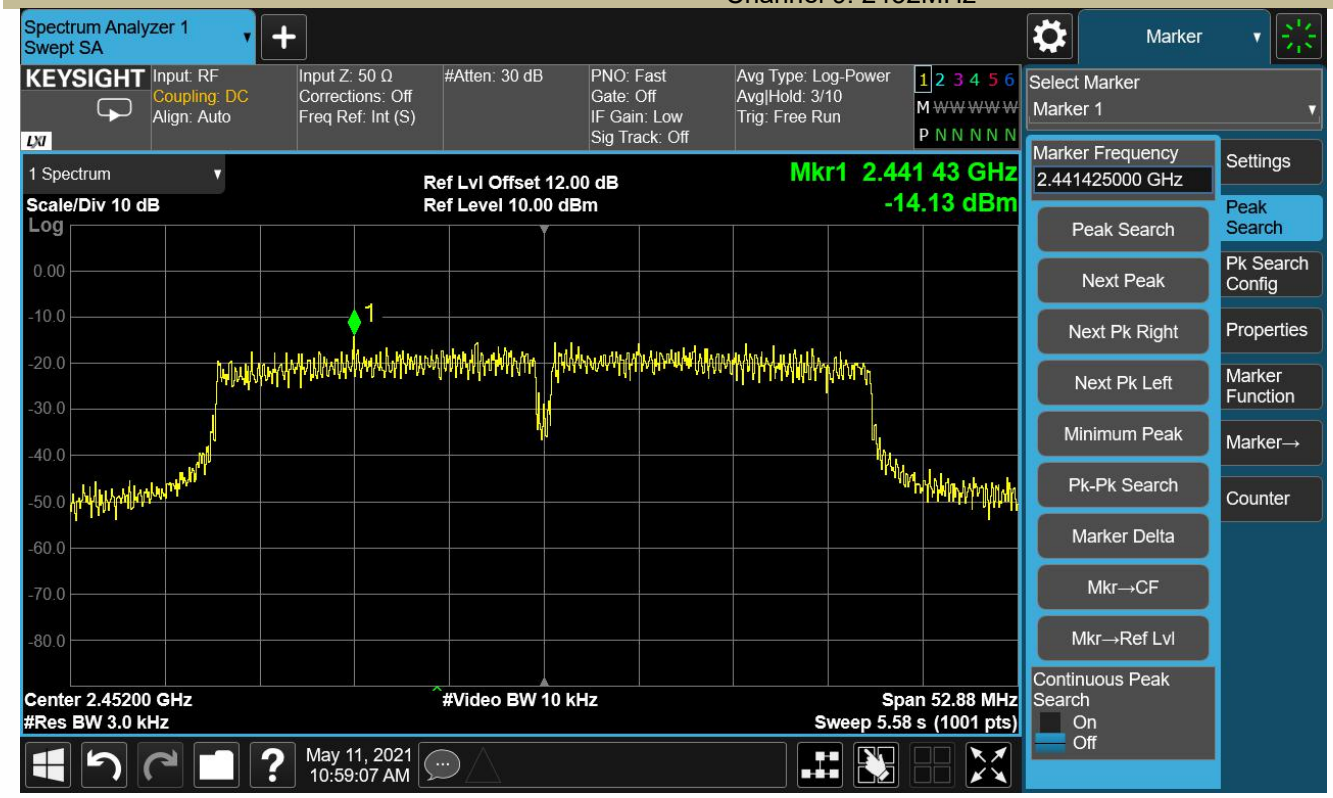
Test Model	Power Spectral Density 802.11n (HT40) Channel 6: 2437MHz



Test Model	Power Spectral Density 802.11n (HT40) Channel 9: 2452MHz



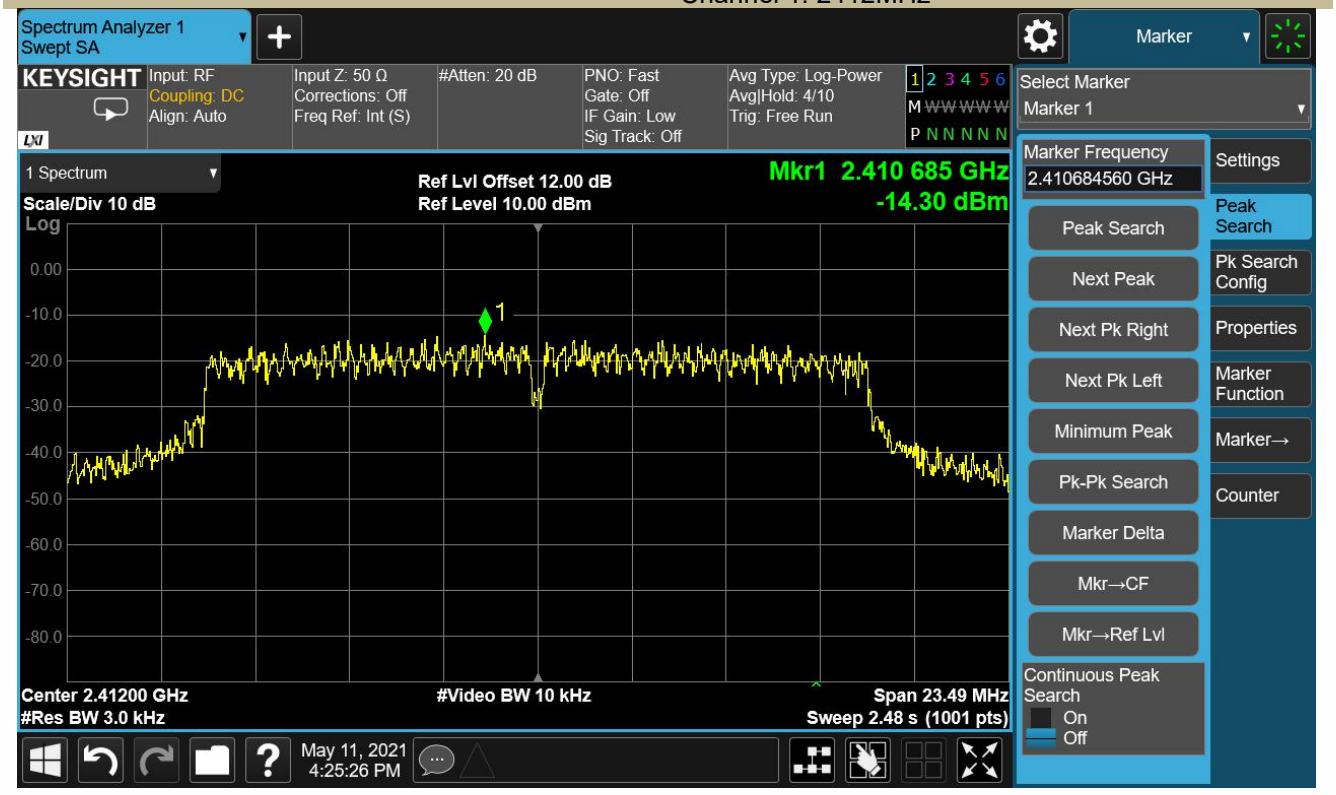
Ant.2

Test Model	Power Spectral Density 802.11b Channel 1: 2412MHz

Test Model	Power Spectral Density 802.11b Channel 6: 2437MHz

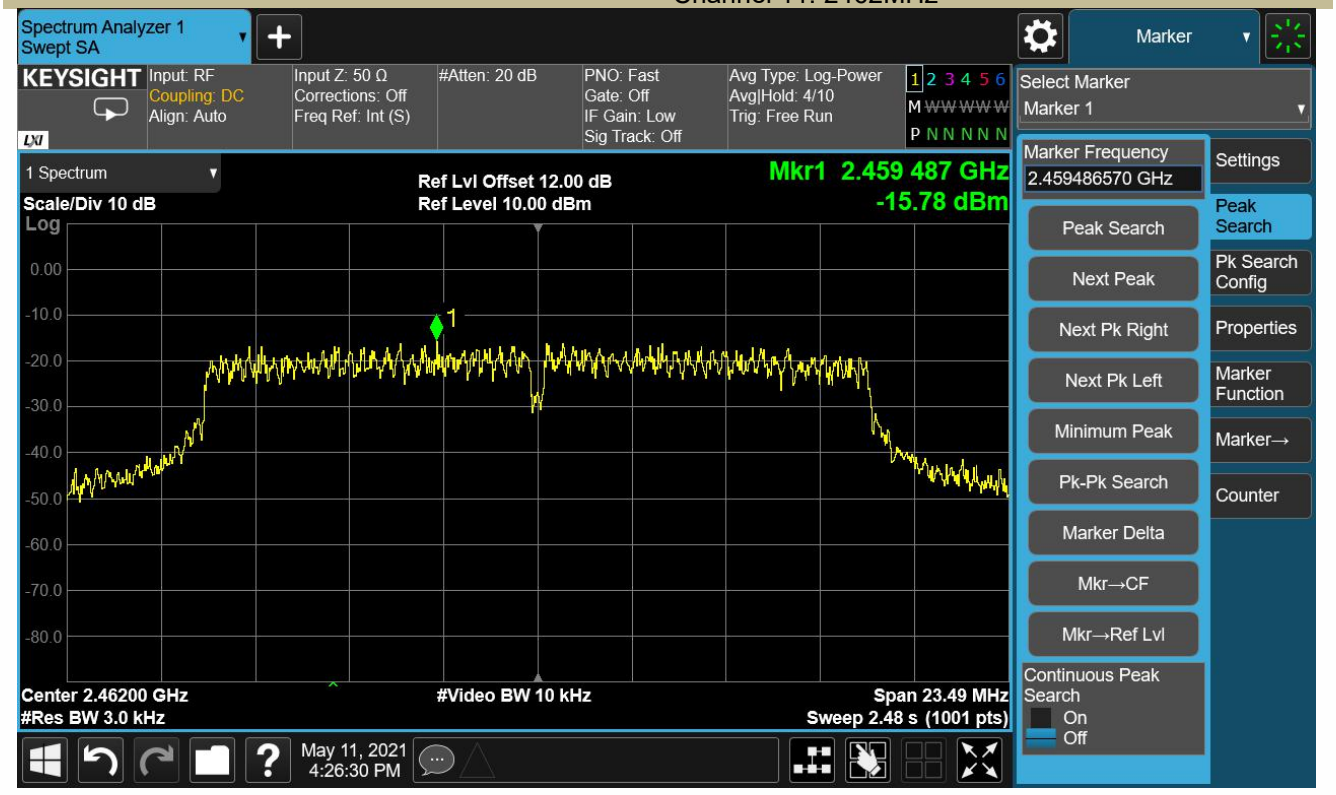
Test Model	Power Spectral Density 802.11b Channel 11: 2462MHz

Test Model	Power Spectral Density 802.11g Channel 1: 2412MHz

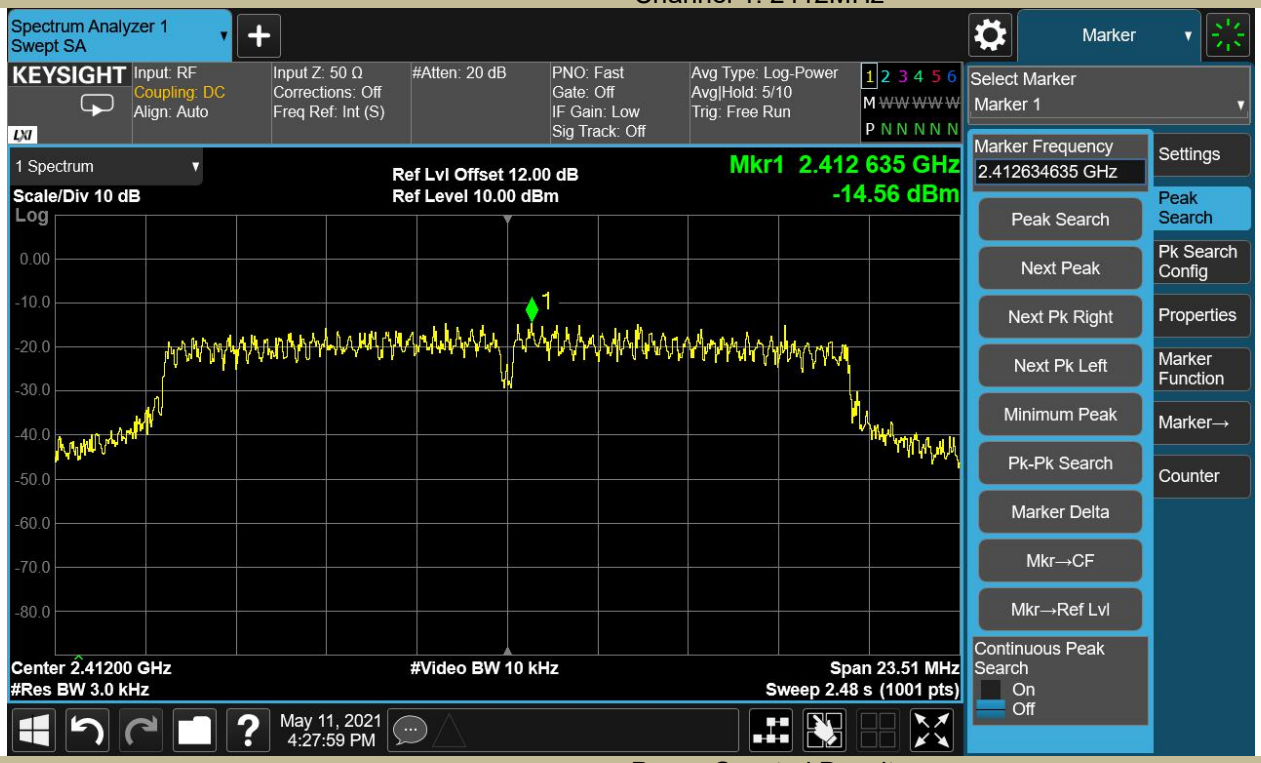


Test Model	Power Spectral Density 802.11g Channel 6: 2437MHz

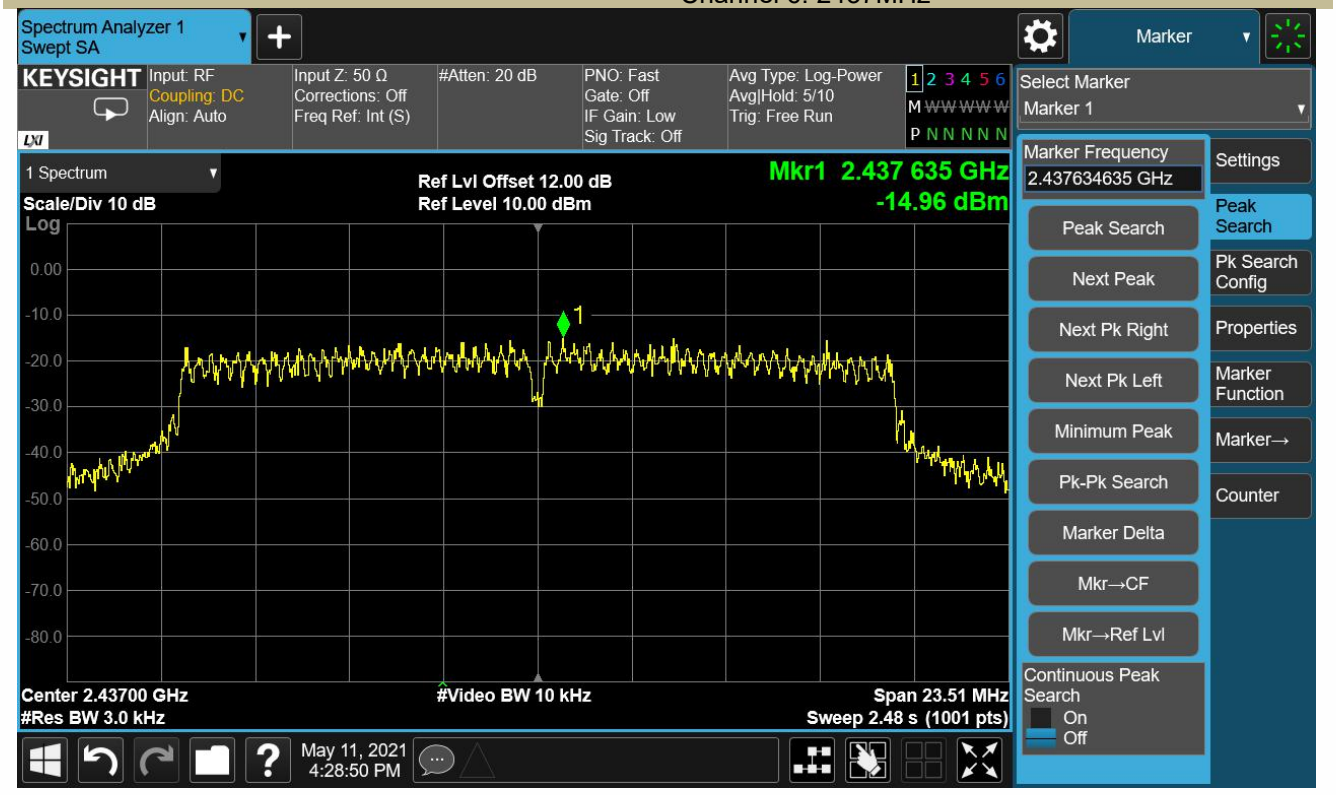
Test Model	Power Spectral Density 802.11g Channel 11: 2462MHz



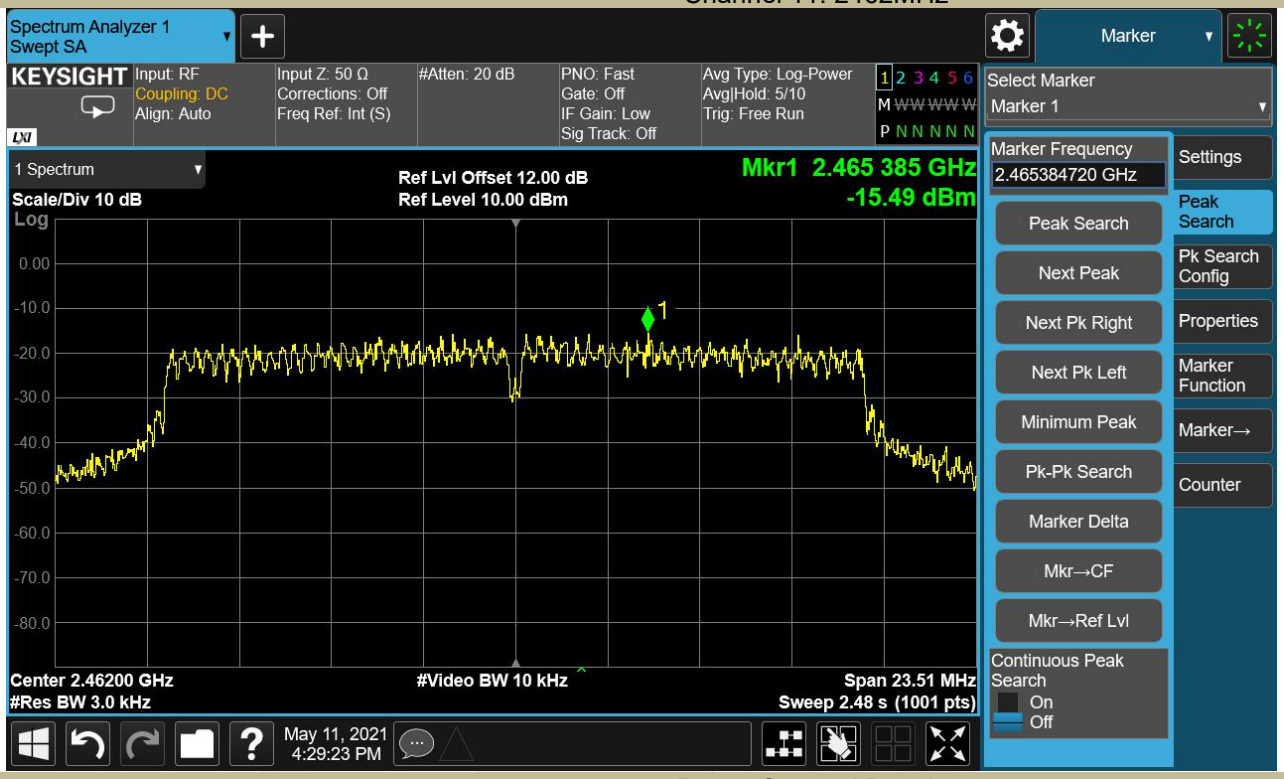
Test Model	Power Spectral Density 802.11n (HT20) Channel 1: 2412MHz



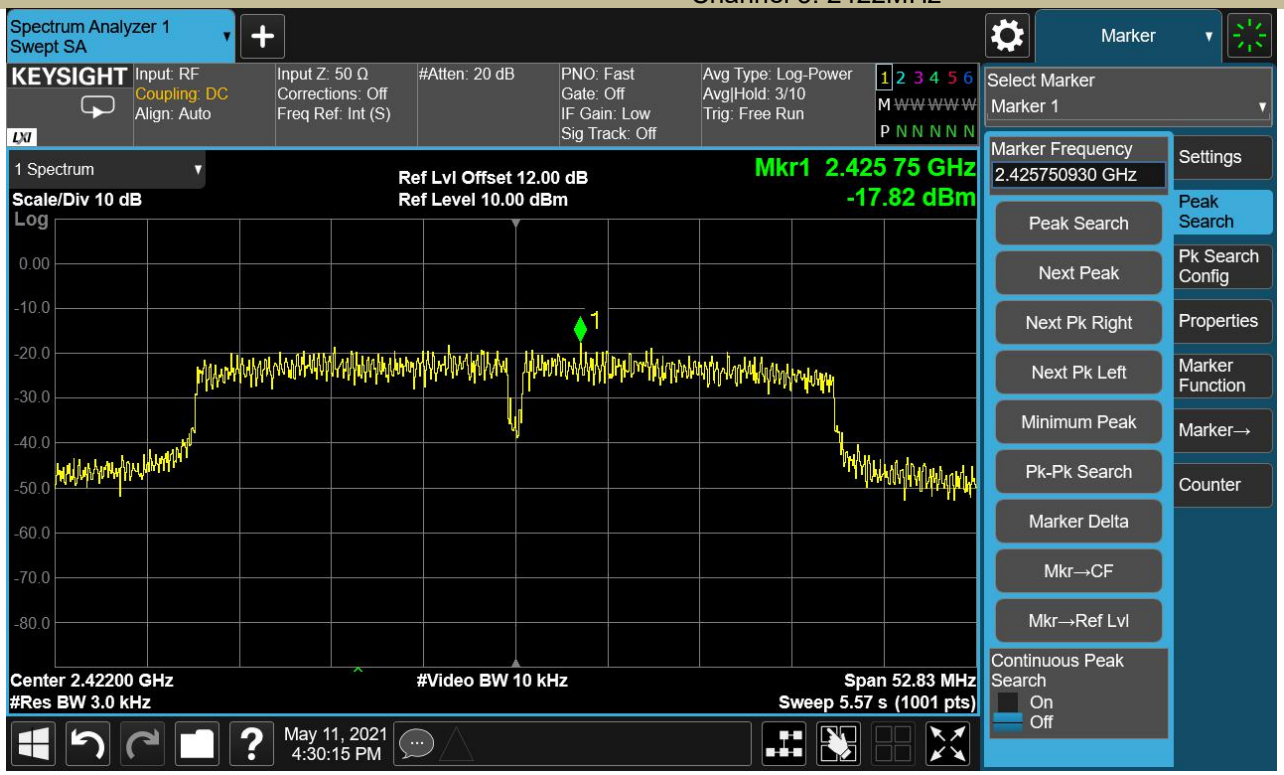
Test Model	Power Spectral Density 802.11n (HT20) Channel 6: 2437MHz



Test Model	Power Spectral Density 802.11n (HT20) Channel 11: 2462MHz



Test Model	Power Spectral Density 802.11n (HT40) Channel 3: 2422MHz



Test Model	Power Spectral Density 802.11n (HT40) Channel 6: 2437MHz

Test Model	Power Spectral Density 802.11n (HT40) Channel 9: 2452MHz

8.4 UNWANTED EMISSIONS IN NON-RESTRICTED FREQUENCY BANDS

8.4.1 Applicable Standard

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

8.4.2 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 intentional radiator is operating, the radio frequency power that is produced by the intentional radiator 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 the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

8.4.3 Test Configuration

Test according to clause 7.1 radio frequency test setup 1

8.4.4 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.

■ **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.

8.4.5 Test Results

1T1R- Antenna 1

All modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11g recorded was report as below:

PSD(Power Spectral Density) RBW=100kHz

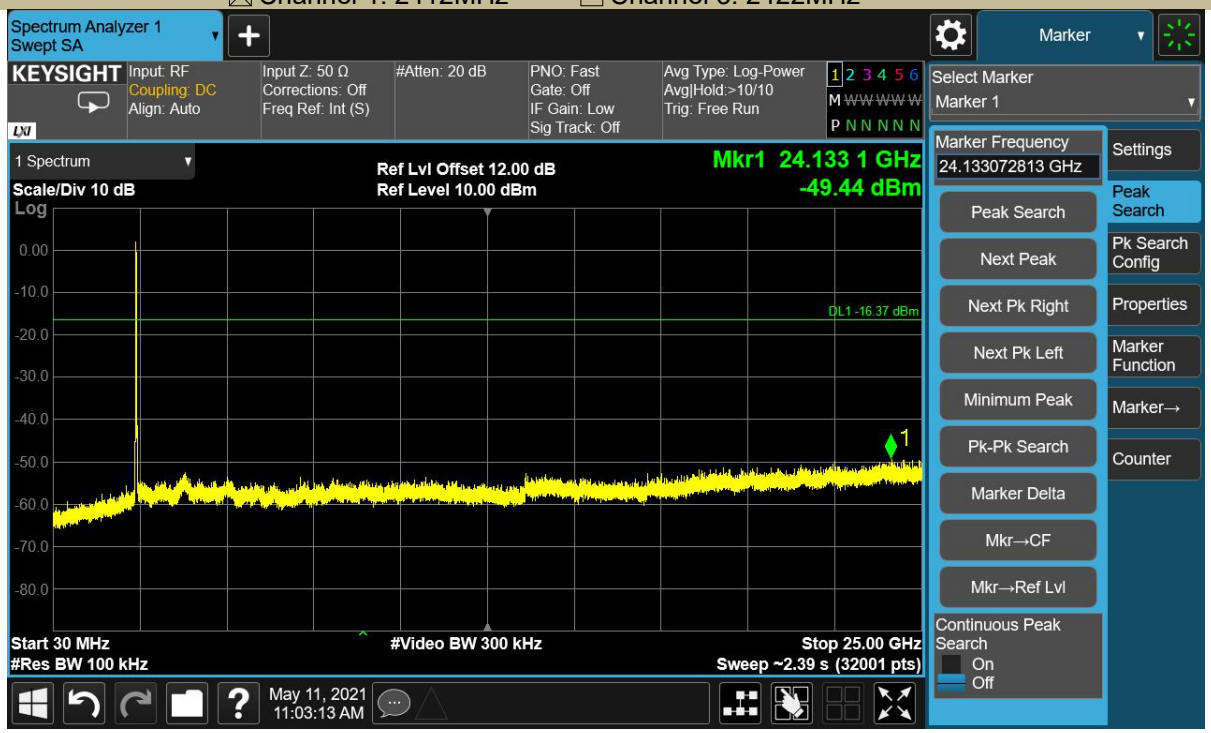
Test Model ☐ 802.11b ☒ 802.11g ☐ 802.11n(HT20) ☐ 802.11n(HT40)

☒ Channel 1: 2412MHz ☐ Channel 3: 2422MHz

Unwanted Emissions in non-restricted frequency bands

Test Model ☐ 802.11b ☒ 802.11g ☐ 802.11n(HT20) ☐ 802.11n(HT40)

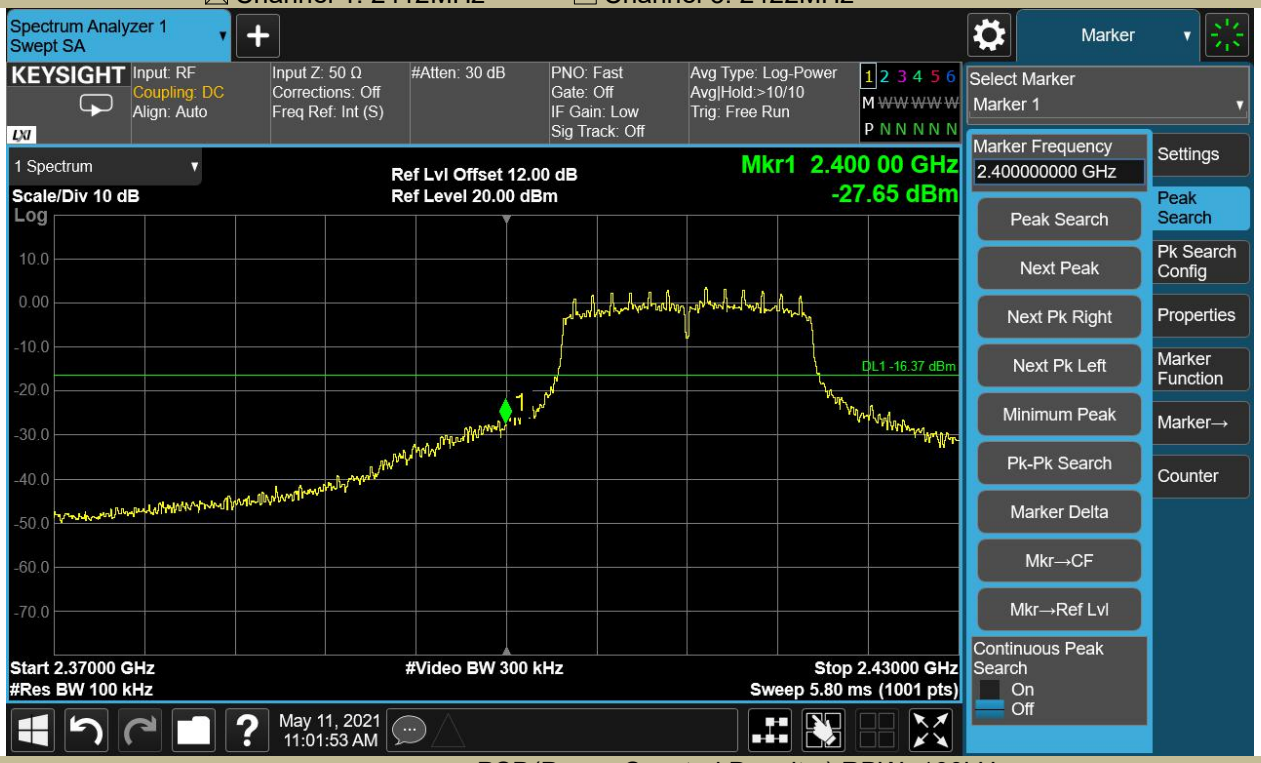
☒ Channel 1: 2412MHz ☐ Channel 3: 2422MHz



Band edge

Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

☒Channel 1: 2412MHz ☐Channel 3: 2422MHz



PSD(Power Spectral Density) RBW=100kHz

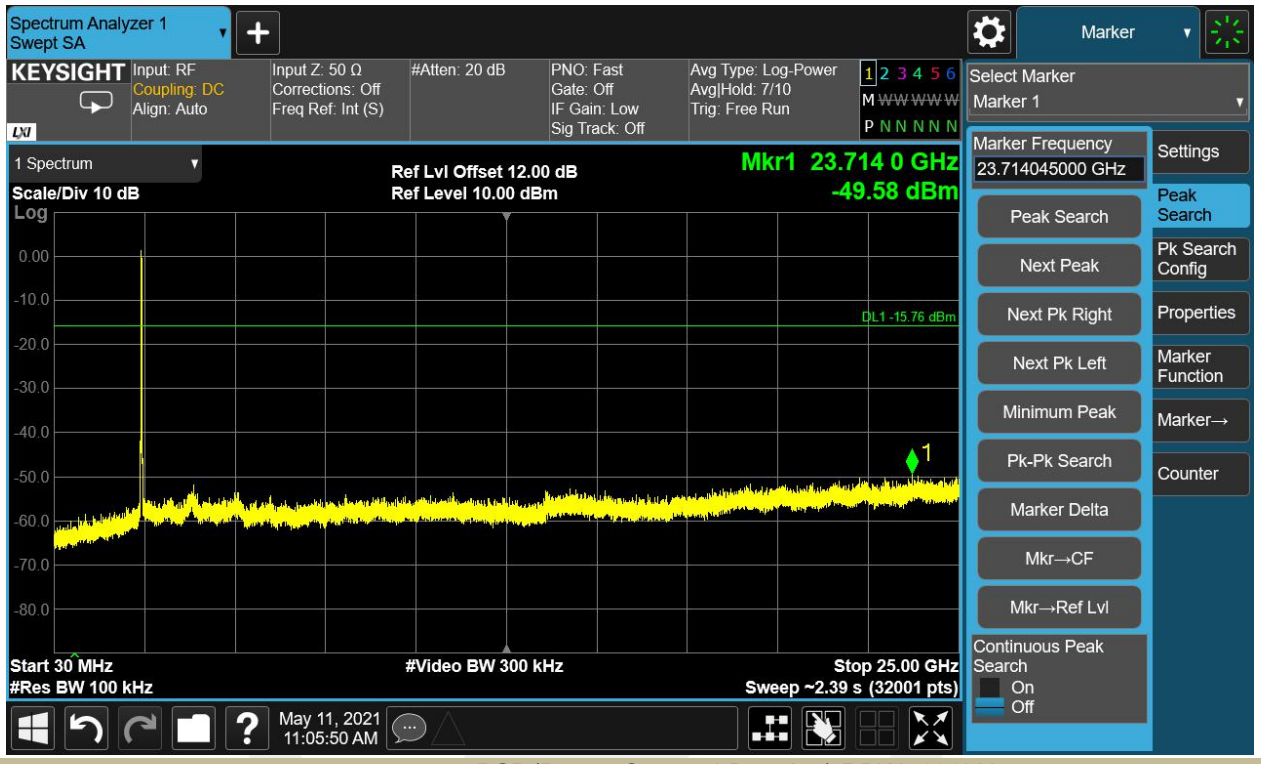
Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

Channel 6: 2437MHz

Unwanted Emissions In Non-Restricted Frequency Bands

Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

Channel 6: 2437MHz



PSD(Power Spectral Density) RBW=100kHz

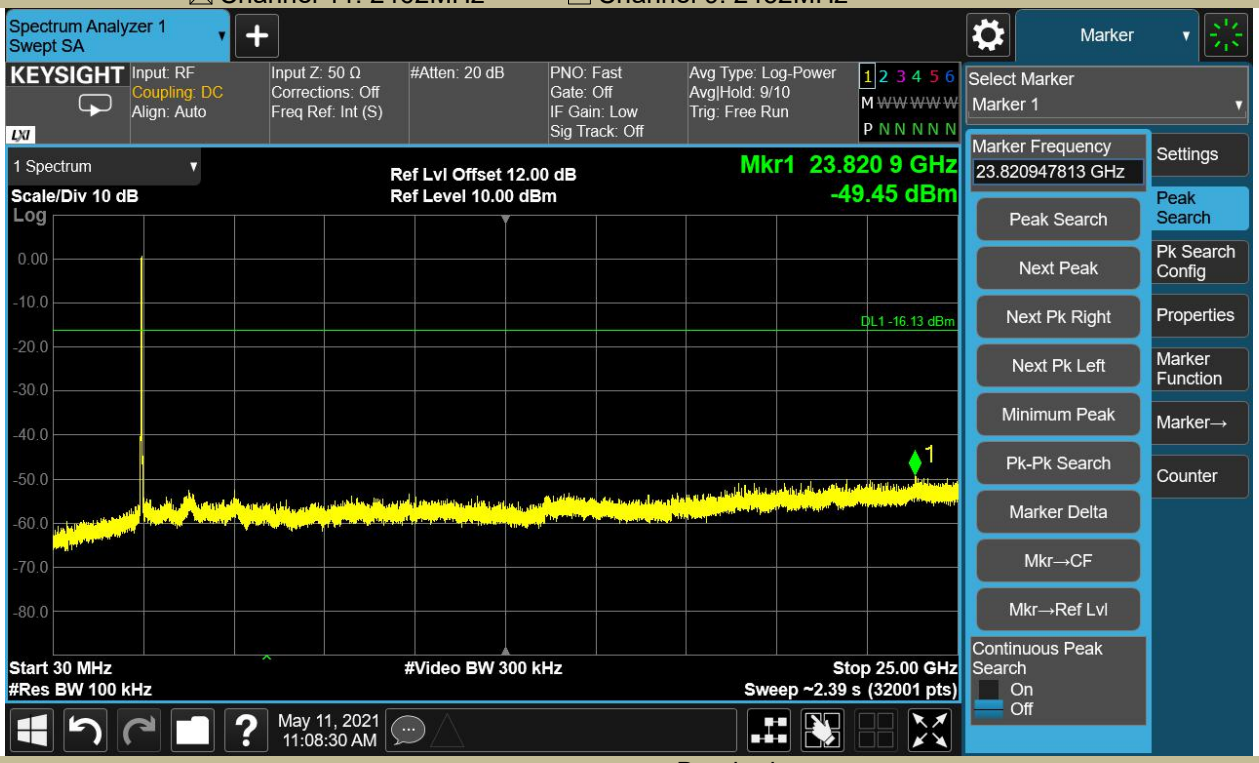
Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

☒Channel 11: 2462MHz ☐Channel 9: 2452MHz

Unwanted Emissions In Non-Restricted Frequency Bands

Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

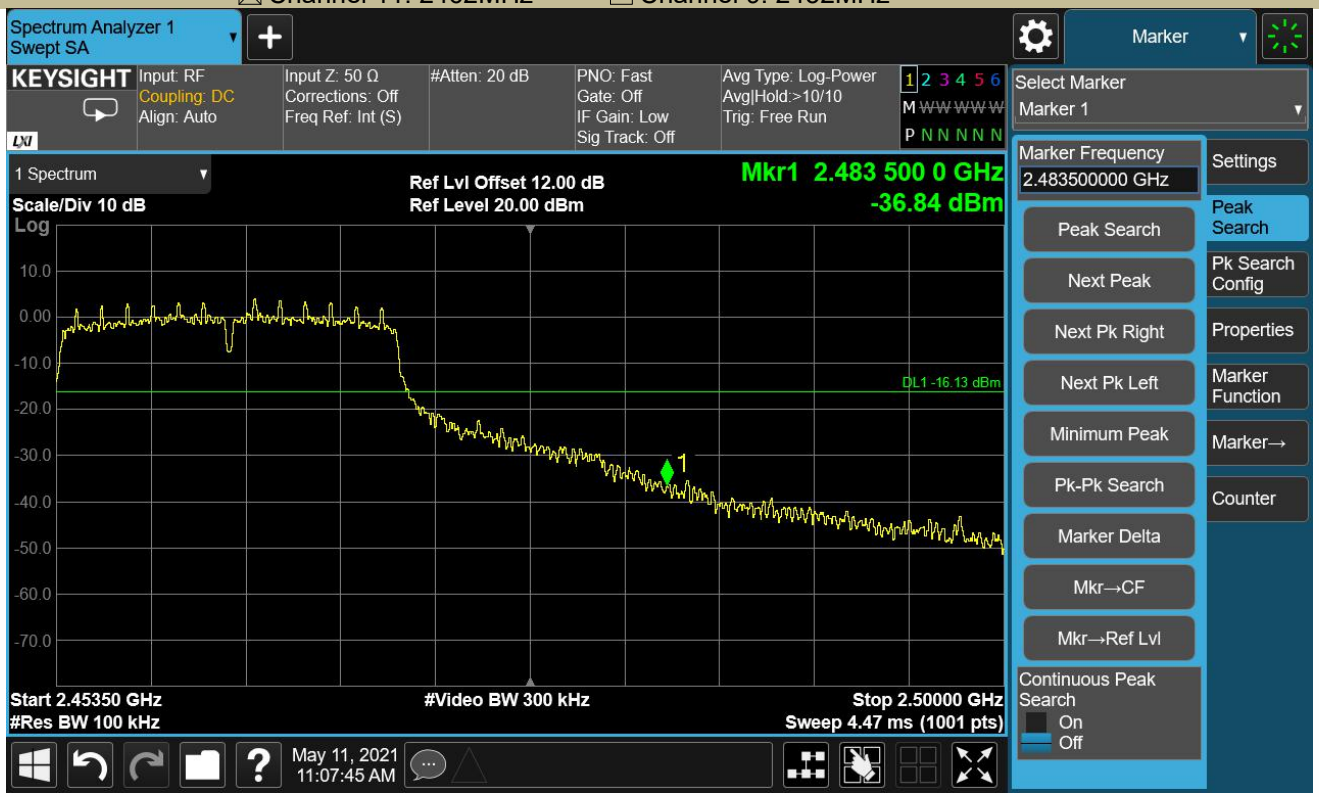
☒Channel 11: 2462MHz ☐Channel 9: 2452MHz



Band edge

Test Model ☐802.11b ☒802.11g ☐802.11n(HT20) ☐802.11n(HT40)

☒Channel 11: 2462MHz ☐Channel 9: 2452MHz



8.5 RADIATED SPURIOUS EMISSION

8.5.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and KDB 558074 D01 15.247 Meas Guidance v05r02

8.5.2 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 to FCC Part15.205,the 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

8.5.3 Test Configuration

Test according to clause 7.2 radio frequency test setup 2

8.5.4 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:
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 = 1 MHz for f ≥ 1 GHz(1GHz to 25GHz), 100 kHz for f < 1 GHz(30MHz to 1GHz), 200Hz for f<150KHz(9KHz to 150KHz), 9KHz for f<30MHz(150KHz to 30KHz)
VBW ≥ RBW
Sweep = auto
Detector function = peak
Trace = max hold
Follow the guidelines in ANSI C63.10-2013 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 specified in Section 15.35(b). 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 specified in Section 15.209. 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 15.209 limit. Submit this data.
Repeat above procedures until all frequency measured was complete.

8.5.5 Test Results

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

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

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		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 modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11b was recorded as below:

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

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
11776.01	V	56.59	43.48	74	54	-17.41	-10.52
13357.59	V	57.32	44.17	74	54	-16.68	-9.83
14947.15	V	58.40	45.15	74	54	-15.60	-8.85
10372.7	H	55.69	42.46	74	54	-18.31	-11.54
11752.21	H	56.79	43.57	74	54	-17.21	-10.43
13977.71	H	57.48	44.39	74	54	-16.52	-9.61

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

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
10975.71	V	55.71	42.59	74	54	-18.29	-11.41
12392.36	V	56.76	43.55	74	54	-17.24	-10.45
14508.72	V	57.80	44.68	74	54	-16.20	-9.32
11191.94	H	56.04	42.89	74	54	-17.96	-11.11
12287.14	H	56.79	43.55	74	54	-17.21	-10.45
14652	H	57.63	44.48	74	54	-16.37	-9.52

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

Freq. (MHz)	Ant.Pol. H/V	Emission Level(dBuV/m)		Limit 3m(dBuV/m)		Over(dB)	
		PK	AV	PK	AV	PK	AV
11148.36	V	56.23	43.08	74	54	-17.77	-10.92
11935.36	V	56.80	43.54	74	54	-17.20	-10.46
14569.65	V	57.65	44.38	74	54	-16.35	-9.62
10490.29	H	55.39	42.41	74	54	-18.61	-11.59
11748.82	H	56.02	43.10	74	54	-17.98	-10.90
14218.12	H	57.98	44.87	74	54	-16.02	-9.13

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 modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11b was recorded as below:

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

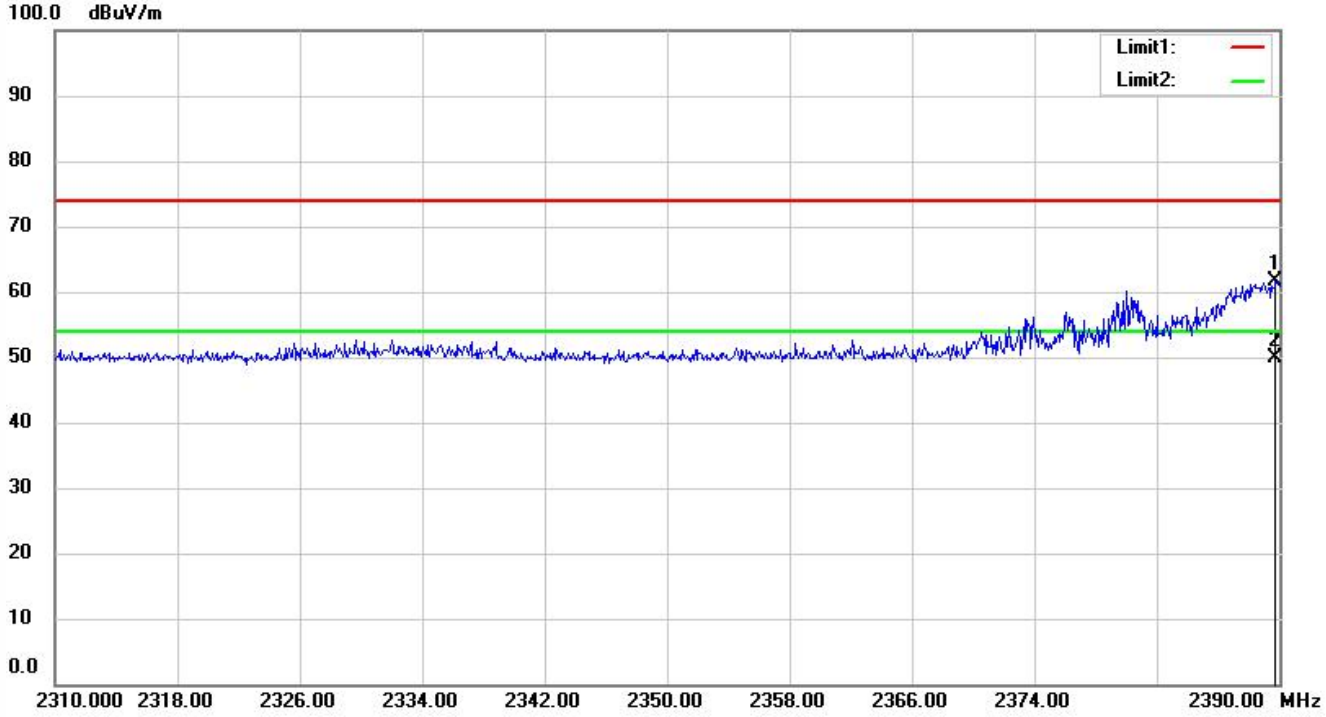
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)	Over(dB)
2389.804	H	61.69	74	-12.31	49.87	54	-4.13
2387.468	V	53.44	74	-20.56	41.76	54	-12.24

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

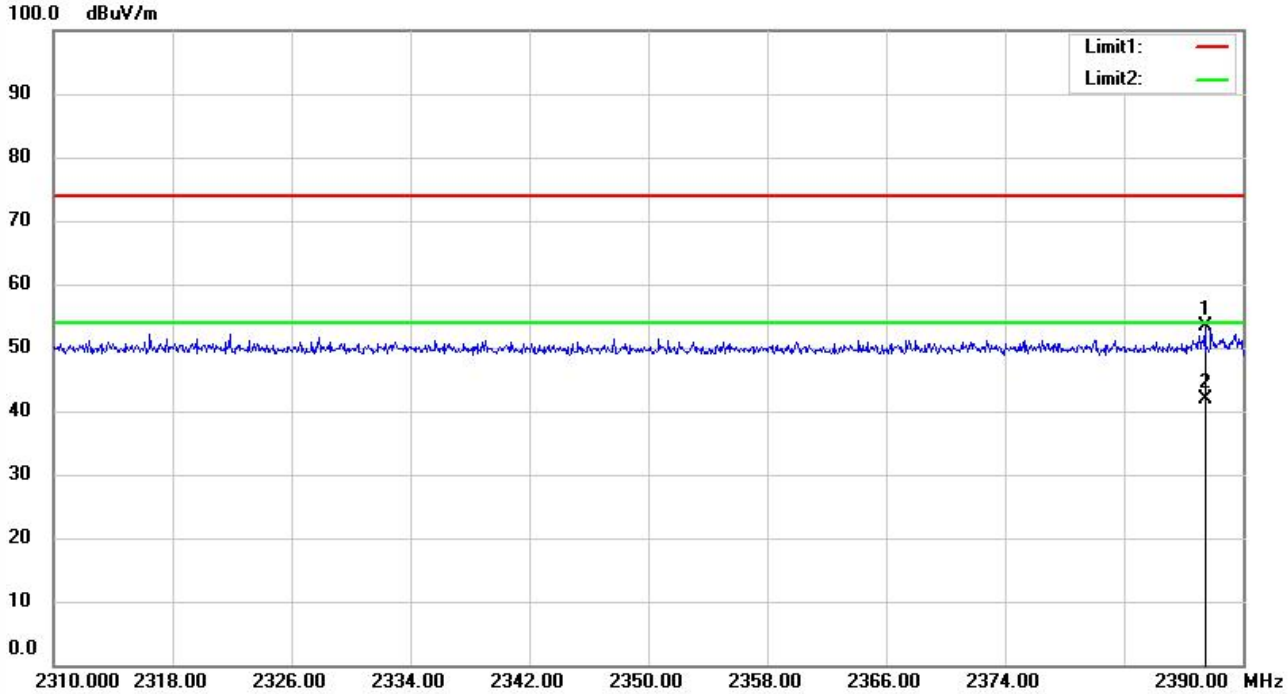
Frequency (MHz)	Polarity	PK(dBuV/m) (VBW=3MHz)	Limit 3m (dBuV/m)	Over(dB)	AV(dBuV/m) (VBW=10Hz)	Limit 3m (dBuV/m)	Over(dB)
2485.426	H	62.37	74	-11.63	50.46	54	-3.54
2485.124	V	53.23	74	-20.77	41.48	54	-12.52

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.

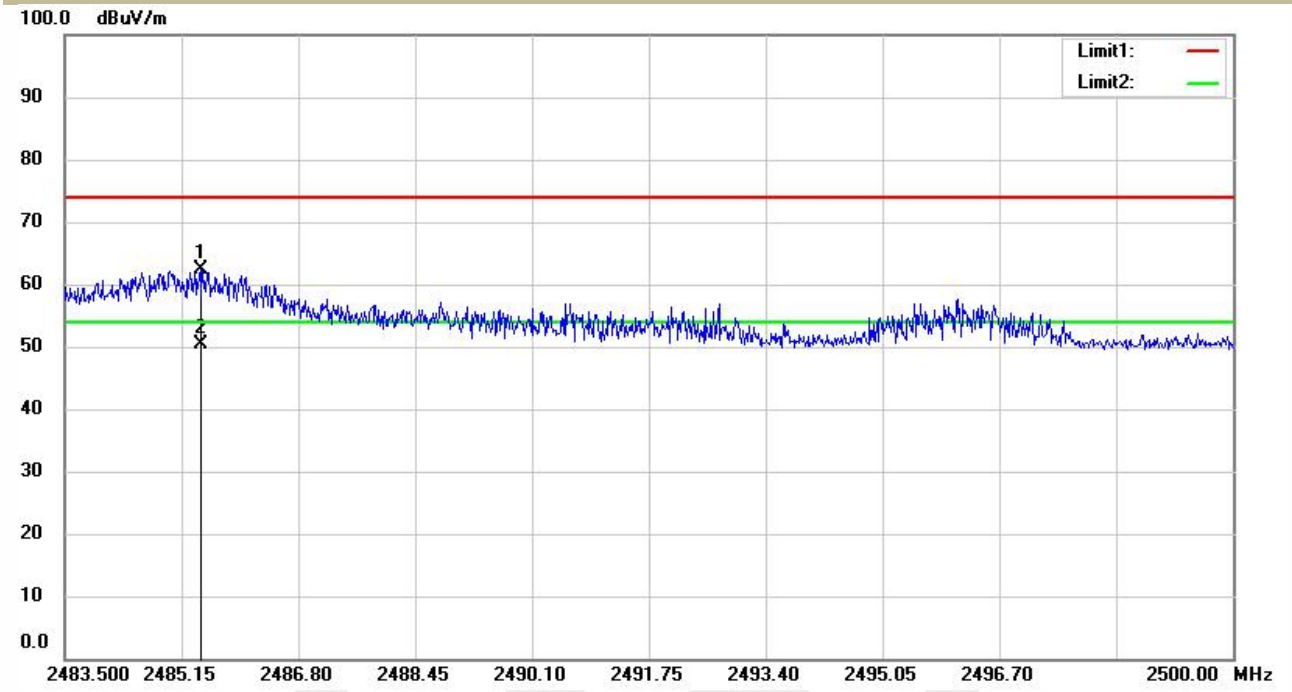
Test Model	Spurious Emission in Restricted Band 2310-2390MHz ☒802.11b ☐802.11g ☐802.11n(HT20) ☐802.11n(HT40) ☒Channel 1: 2412MHz ☐Channel 3: 2422MHz Polarity: H VBW=3MHz



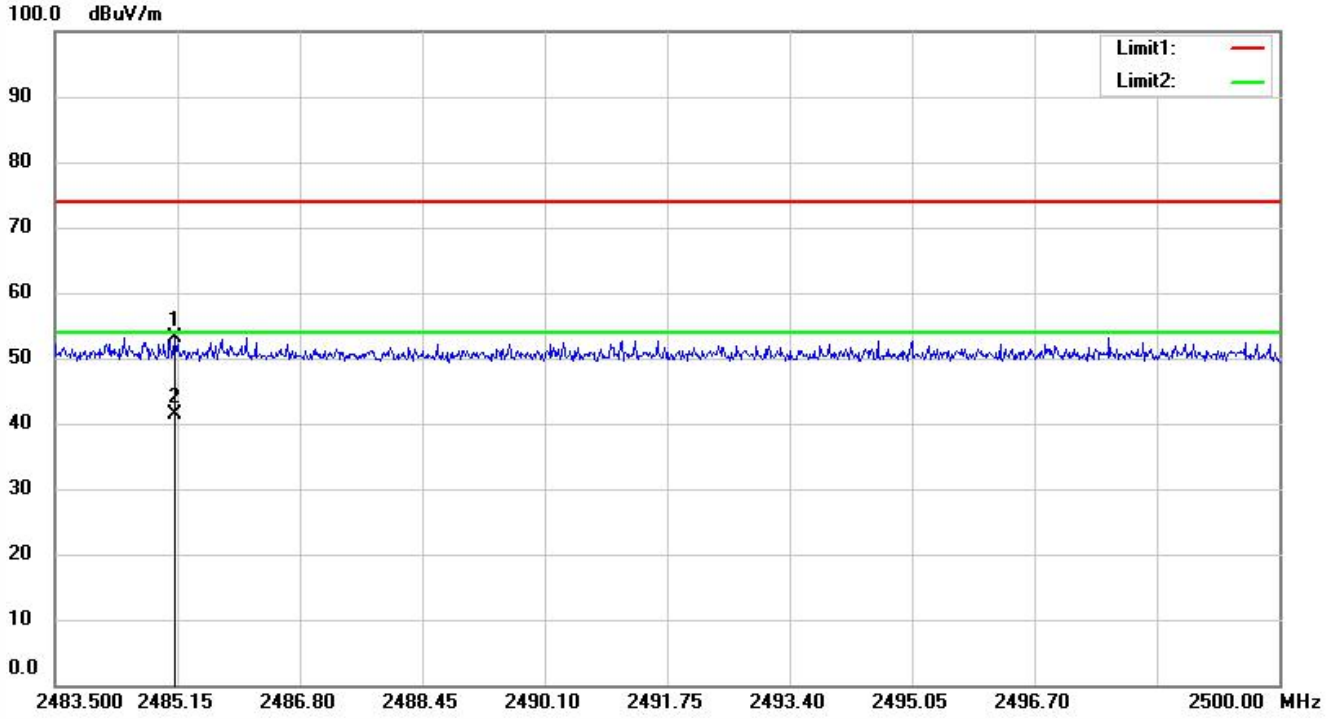
Test Model	Spurious Emission in Restricted Band 2310-2390MHz ☒802.11b ☐802.11g ☐802.11n(HT20) ☐802.11n(HT40) ☒Channel 1: 2412MHz ☐Channel 3: 2422MHz Polarity:V VBW=3MHz



Test Model	Spurious Emission in Restricted Band 2483.5-2500MHz ☒802.11b ☐802.11g ☐802.11n(HT20) ☐802.11n(HT40) ☒Channel 11: 2462MHz ☐Channel 9: 2452MHz Polarity: H VBW=3MHz

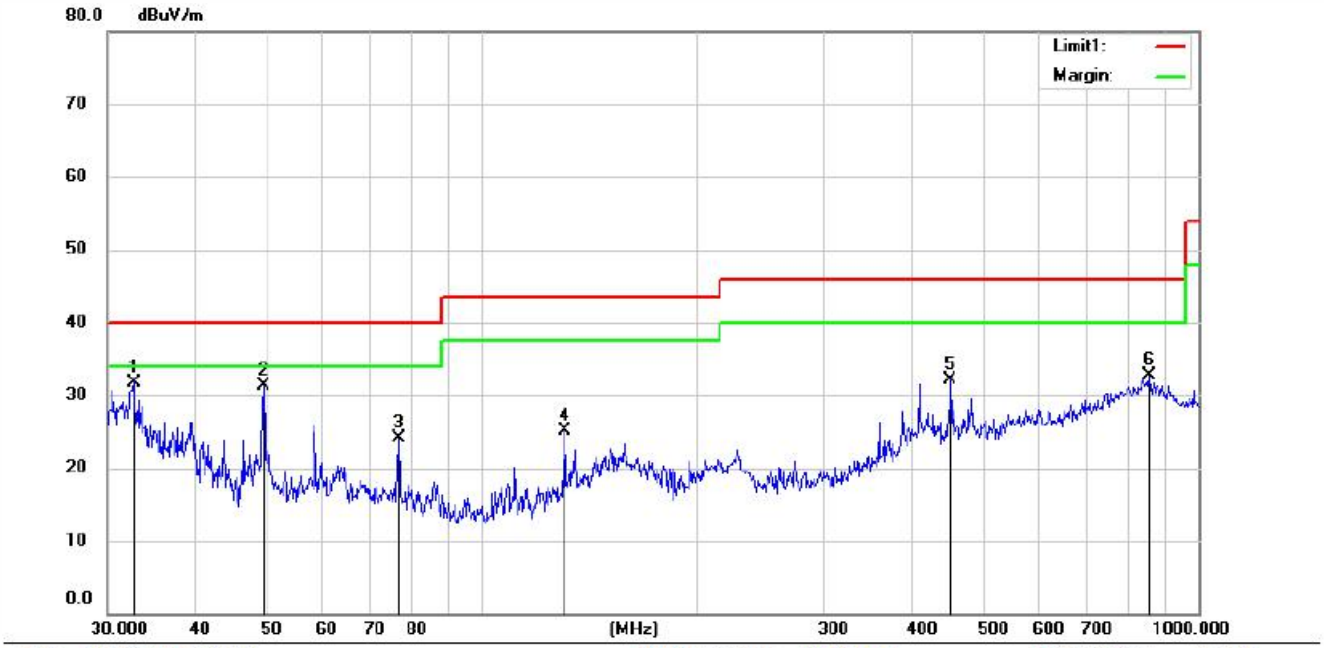


Test Model	Spurious Emission in Restricted Band2483.5-2500MHz ☒802.11b ☐802.11g ☐802.11n(HT20) ☐802.11n(HT40) ☒Channel 11: 2462MHz ☐Channel 9: 2452MHz Polarity: V VBW=3MHz



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

All modes 2.4G 802.11b/g/n have been tested, and the worst result 802.11b was recorded as below:



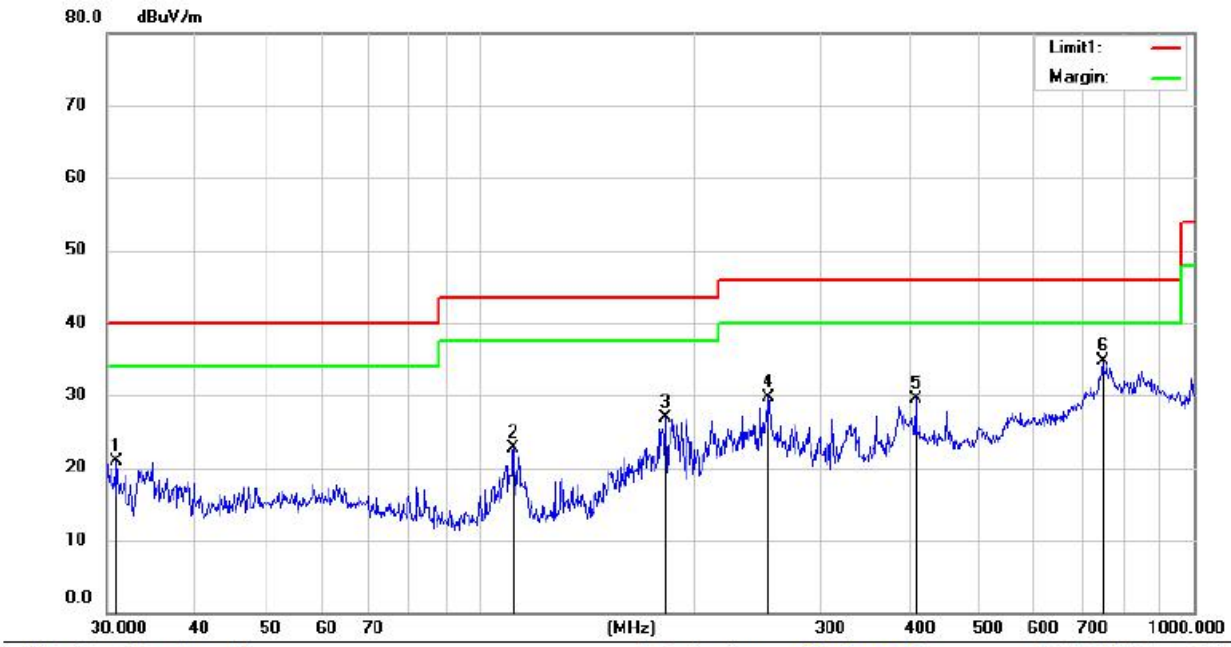
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: PC Humidity: 48 %

Mode:802.11B 2412Mhz

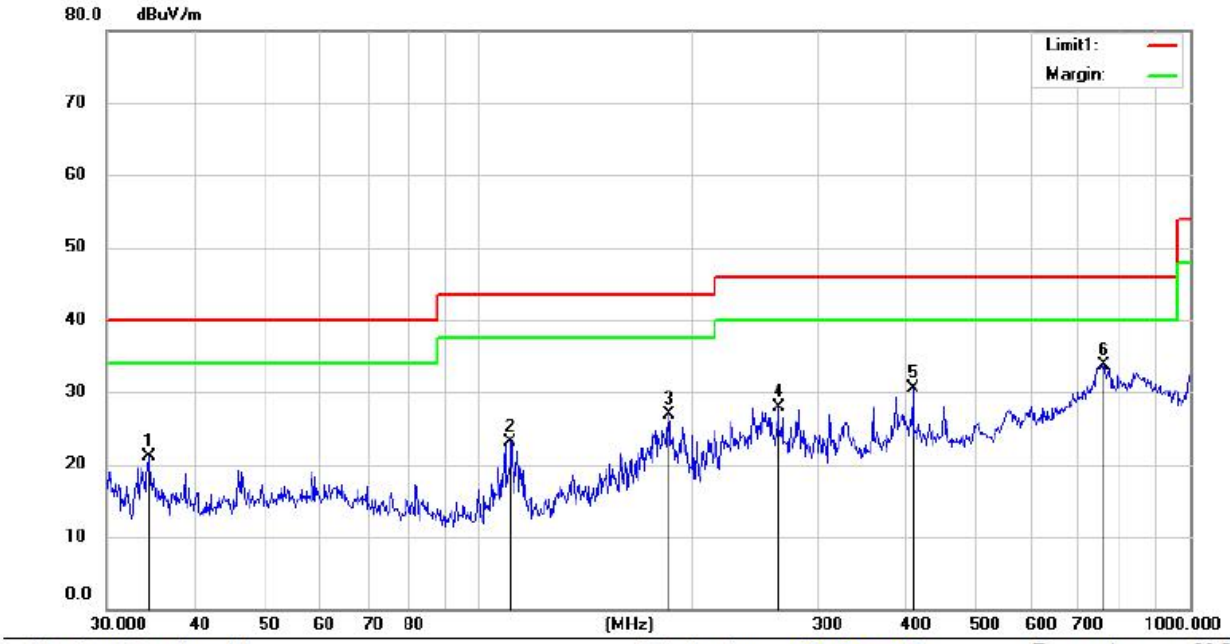
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	32.6770	46.16	-14.36	31.80	40.00	-8.20	QP			
2		49.5545	43.49	-12.11	31.38	40.00	-8.62	QP			
3		76.5792	38.46	-14.42	24.04	40.00	-15.96	QP			
4		130.5505	39.40	-14.24	25.16	43.50	-18.34	QP			
5		451.3328	37.86	-5.77	32.09	46.00	-13.91	QP			
6		856.2737	30.29	2.47	32.76	46.00	-13.24	QP			



Site 3m Chamber #1
Polarization: *Horizontal*
Temperature: 29.5 C
Limit: (RE)FCC PART 15 CLASS B
Power: PC
Humidity: 48 %
Mode:802.11B 2412Mhz
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		31.0026	35.52	-14.52	21.00	40.00	-19.00	AVG			
2		111.3468	37.16	-14.53	22.63	43.50	-20.87	QP			
3		182.3193	40.74	-13.86	26.88	43.50	-16.62	QP			
4		254.6167	40.78	-11.13	29.65	46.00	-16.35	QP			
5		408.0507	35.65	-6.24	29.41	46.00	-16.59	QP			
6	*	745.1926	34.74	0.03	34.77	46.00	-11.23	QP			



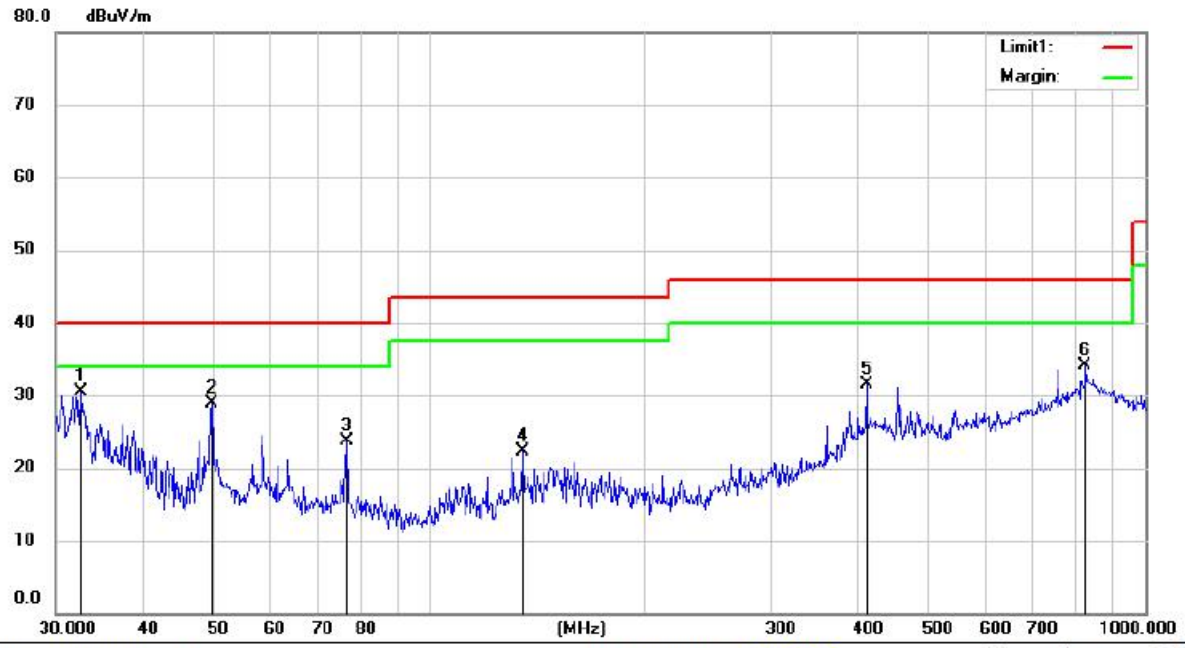
Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: PC Humidity: 48 %

Mode:802.11B 2437Mhz

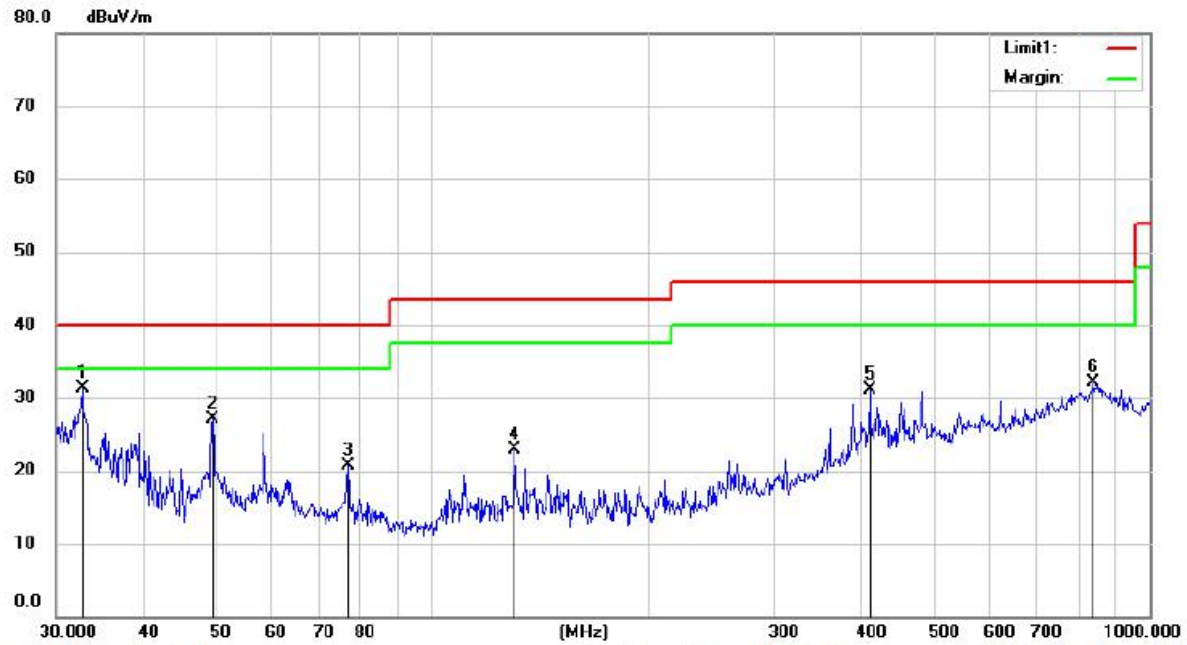
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		34.3964	35.15	-14.02	21.13	40.00	-18.87	QP			
2		111.2980	37.73	-14.55	23.18	43.50	-20.32	QP			
3		185.7068	40.51	-13.67	26.84	43.50	-16.66	QP			
4		264.0504	38.65	-10.82	27.83	46.00	-18.17	QP			
5		408.0507	36.70	-6.24	30.46	46.00	-15.54	QP			
6	*	756.3812	33.24	0.37	33.61	46.00	-12.39	QP			



Site 3m Chamber #1
Polarization: *Vertical*
Temperature: 29.5 C
Limit: (RE)FCC PART 15 CLASS B
Power: PC
Humidity: 48 %
Mode:802.11B 2437Mhz
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	32.5197	44.80	-14.38	30.42	40.00	-9.58	QP			
2		49.5762	40.92	-12.11	28.81	40.00	-11.19	QP			
3		76.6127	38.04	-14.43	23.61	40.00	-16.39	QP			
4		134.9726	36.44	-14.20	22.24	43.50	-21.26	QP			
5		408.0506	37.74	-6.24	31.50	46.00	-14.50	QP			
6		825.3200	31.79	2.22	34.01	46.00	-11.99	QP			



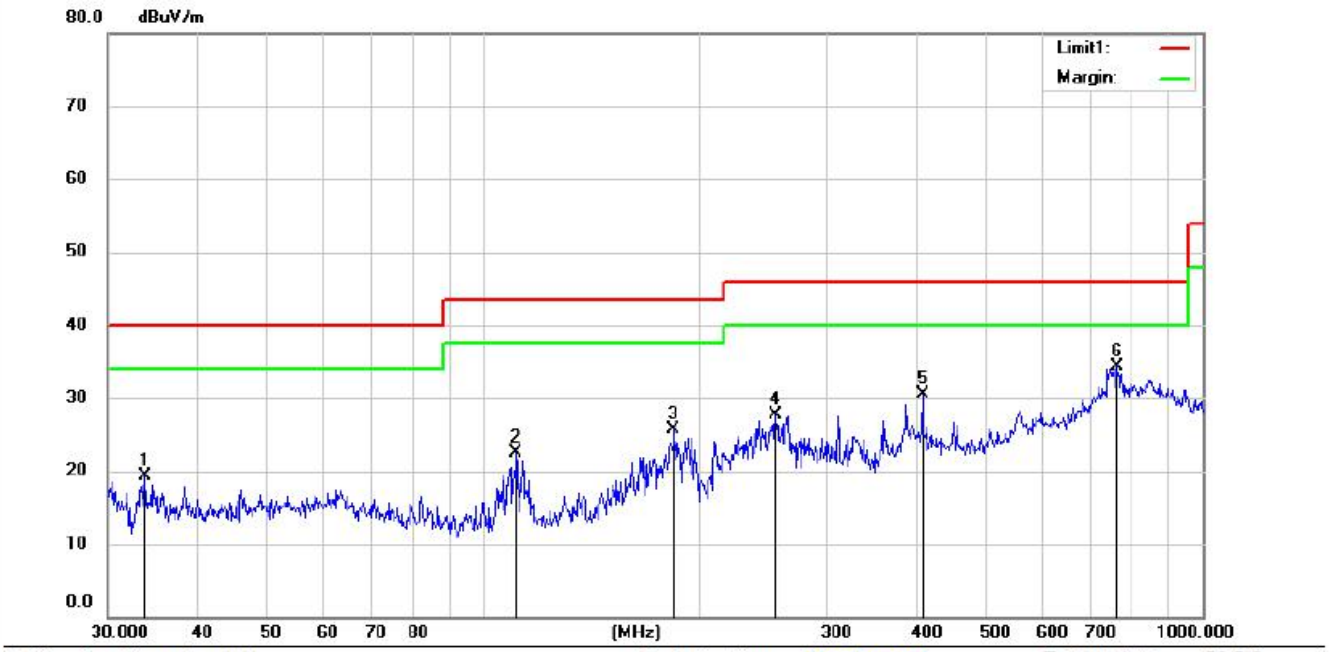
Site 3m Chamber #1 Polarization: *Vertical* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: PC Humidity: 48 %

Mode:802.11B 2462Mhz

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	32.6913	45.64	-14.36	31.28	40.00	-8.72	QP			
2		49.6415	39.19	-12.09	27.10	40.00	-12.90	QP			
3		76.5792	35.10	-14.42	20.68	40.00	-19.32	QP			
4		130.6077	37.14	-14.24	22.90	43.50	-20.60	QP			
5		408.0507	37.30	-6.24	31.06	46.00	-14.94	QP			
6		836.2443	29.46	2.70	32.16	46.00	-13.84	QP			



Site 3m Chamber #1 Polarization: *Horizontal* Temperature: 29.5 C

Limit: (RE)FCC PART 15 CLASS B Power: PC Humidity: 48 %

Mode:802.11B 2462Mhz

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		33.8431	33.45	-14.17	19.28	40.00	-20.72	QP			
2		111.2493	37.12	-14.55	22.57	43.50	-20.93	QP			
3		184.2474	39.37	-13.71	25.66	43.50	-17.84	QP			
4		255.3992	38.87	-11.11	27.76	46.00	-18.24	QP			
5		408.0507	36.76	-6.24	30.52	46.00	-15.48	QP			
6	*	762.3726	33.75	0.62	34.37	46.00	-11.63	QP			

8.6 CONDUCTED EMISSIONS TEST

8.6.1 Applicable Standard

According to FCC Part 15.207(a)

8.6.2 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.

8.6.3 Test Configuration

Test according to clause 7.3conducted emission test setup

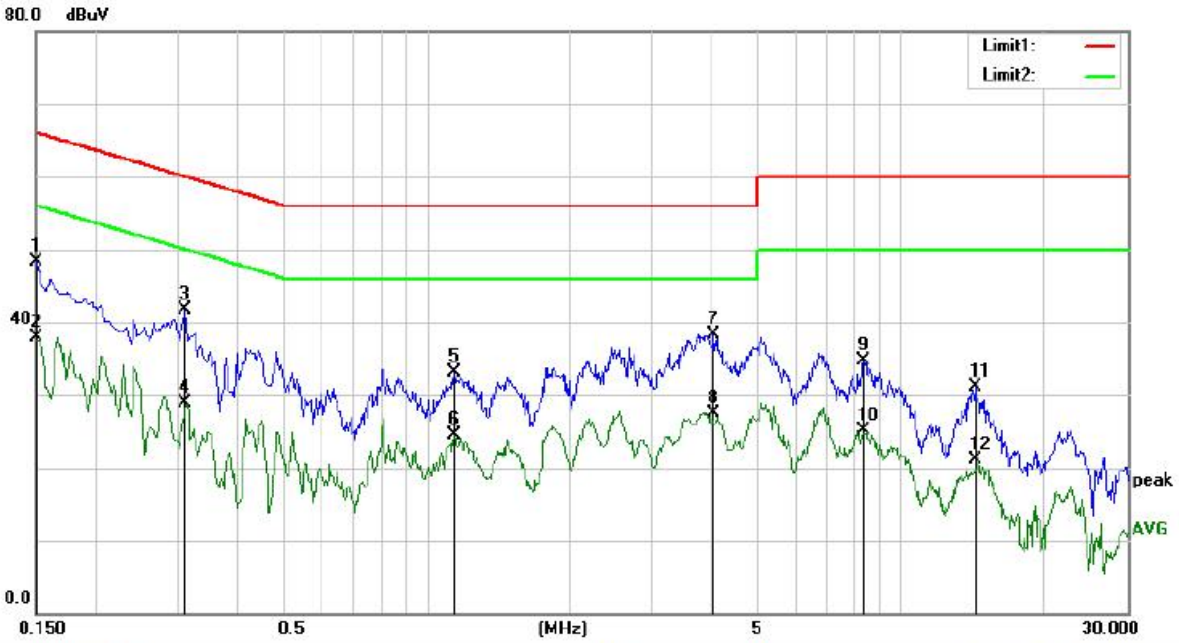
8.6.4 Test Procedure

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.

8.6.5 Test Results

Pass

The 120V &240V voltagehave been tested, and the worst result recorded was report as below:



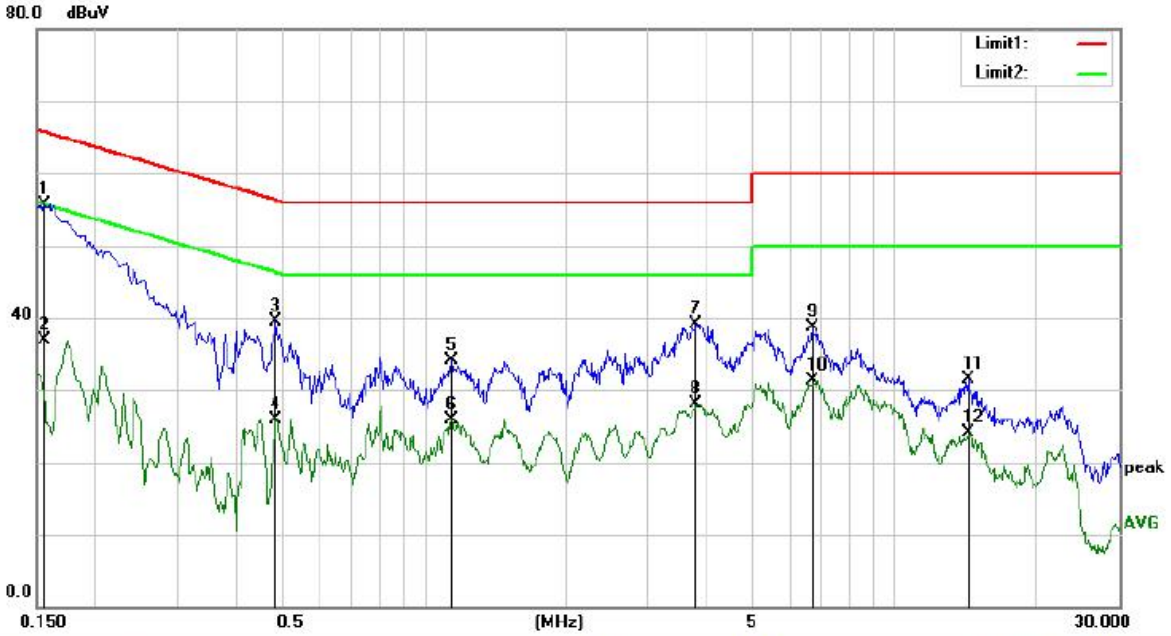
Site Conduction #2 Phase: N Temperature: 24.4

Limit: (CE)FCC PART 15 class B_QP Power: AC 230V/50Hz Humidity: 52 %

Mode: WIFI mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1507	37.77	10.48	48.25	65.96	-17.71	QP	
2		0.1507	27.42	10.48	37.90	55.96	-18.06	AVG	
3		0.3100	31.31	10.39	41.70	59.97	-18.27	QP	
4		0.3100	18.46	10.39	28.85	49.97	-21.12	AVG	
5		1.1411	22.69	10.40	33.09	56.00	-22.91	QP	
6		1.1411	14.04	10.40	24.44	46.00	-21.56	AVG	
7	*	4.0274	27.95	10.44	38.39	56.00	-17.61	QP	
8		4.0274	17.09	10.44	27.53	46.00	-18.47	AVG	
9		8.3228	24.01	10.69	34.70	60.00	-25.30	QP	
10		8.3228	14.49	10.69	25.18	50.00	-24.82	AVG	
11		14.2881	20.39	10.71	31.10	60.00	-28.90	QP	
12		14.2881	10.41	10.71	21.12	50.00	-28.88	AVG	



Site Conduction #2 Phase: L1 Temperature: 24.4

Limit: (CE)FCC PART 15 class B_QP Power: AC 230V/50Hz Humidity: 52 %

Mode: WIFI mode

Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1554	45.26	10.48	55.74	65.71	-9.97	QP	
2		0.1554	26.41	10.48	36.89	55.71	-18.82	AVG	
3		0.4837	29.08	10.35	39.43	56.28	-16.85	QP	
4		0.4837	15.64	10.35	25.99	46.28	-20.29	AVG	
5		1.1411	23.69	10.40	34.09	56.00	-21.91	QP	
6		1.1411	15.54	10.40	25.94	46.00	-20.06	AVG	
7		3.7793	28.60	10.44	39.04	56.00	-16.96	QP	
8		3.7793	17.59	10.44	28.03	46.00	-17.97	AVG	
9		6.6623	28.20	10.59	38.79	60.00	-21.21	QP	
10		6.6623	20.78	10.59	31.37	50.00	-18.63	AVG	
11		14.2881	20.89	10.71	31.60	60.00	-28.40	QP	
12		14.2881	13.41	10.71	24.12	50.00	-25.88	AVG	

8.7 ANTENNA APPLICATION

8.7.1 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. This requirement does not apply to carrier current devices or to devices operated under the provisions of §15.211, §15.213, §15.217,§15.219, or §15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with §15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

For intentional device, according to FCC 47 CFR Section 15.203, 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. And according to FCC 47 CFR Section 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.

8.7.2 Result

PASS.

- The EUT has 2 PCB Antennas for WIFI 2.4G, antenna1: 2.7dBi, Antenna2: 2.7dBi

Note: ☒ Antenna uses 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)

Which in accordance to section 15.203, please refer to the internal photos

Detail of factor for radiated emission

Frequency(MHz)	Ant_F(dB)	Cab_L(dB)	Preamp(dB)	Correct Factor(dB)
0.009	20.6	0.03	\	20.63
0.15	20.7	0.1	\	20.8
1	20.9	0.15	\	21.05
10	20.1	0.28	\	20.38
30	18.8	0.45	\	19.25
30	11.7	0.62	27.9	-15.58
100	12.5	1.02	27.8	-14.28
300	12.9	1.91	27.5	-12.69
600	19.2	2.92	27	-4.88
800	21.1	3.54	26.6	-1.96
1000	22.3	4.17	26.2	0.27
1000	25.6	1.76	41.4	-14.04
3000	28.9	3.27	43.2	-11.03
5000	31.1	4.2	44.6	-9.3
8000	36.2	5.95	44.7	-2.55
10000	38.4	6.3	43.9	0.8
12000	38.5	7.14	42.3	3.34
15000	40.2	8.15	41.4	6.95
18000	45.4	9.02	41.3	13.12
18000	37.9	1.81	47.9	-8.19
21000	37.9	1.95	48.7	-8.85
25000	39.3	2.01	42.8	-1.49
28000	39.6	2.16	46.0	-4.24
31000	41.2	2.24	44.5	-1.06
34000	41.5	2.29	46.6	-2.81
37000	43.8	2.30	46.4	-0.3
40000	43.2	2.50	42.2	3.5

*** End of Report ***