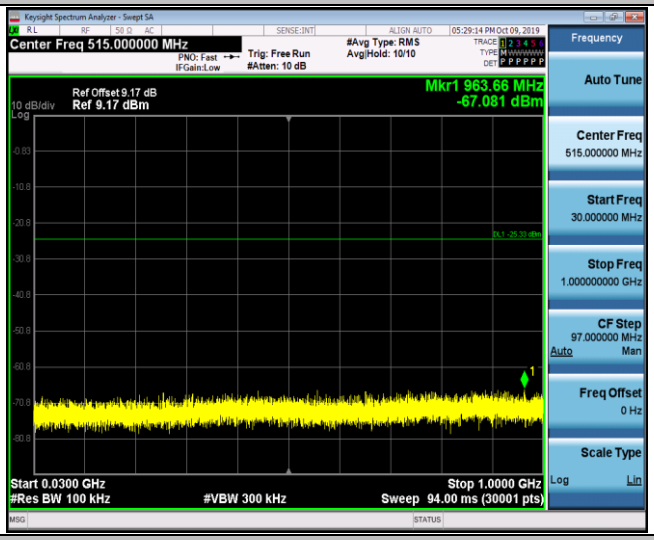
4.4.4 Test Result of Conducted Spurious Emission

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	4.67	4.67	---	PASS
			30~1000	30~1000	-67.081	<=-25.331	PASS
			1000~26500	1000~26500	-47.017	<=-25.331	PASS
		2437	Reference	3.77	3.77	---	PASS
			30~1000	30~1000	-66.802	<=-26.231	PASS
			1000~26500	1000~26500	-47.319	<=-26.231	PASS
		2462	Reference	3.19	3.19	---	PASS
			30~1000	30~1000	-66.899	<=-26.806	PASS
			1000~26500	1000~26500	-47.693	<=-26.806	PASS
11G	Ant1	2412	Reference	0.70	0.70	---	PASS
			30~1000	30~1000	-66.491	<=-29.297	PASS
			1000~26500	1000~26500	-47.396	<=-29.297	PASS
		2437	Reference	0.27	0.27	---	PASS
			30~1000	30~1000	-65.528	<=-29.731	PASS
			1000~26500	1000~26500	-47.87	<=-29.731	PASS
		2462	Reference	-0.98	-0.98	---	PASS
			30~1000	30~1000	-66.43	<=-30.975	PASS
			1000~26500	1000~26500	-47.372	<=-30.975	PASS
11N20SISO	Ant1	2412	Reference	0.67	0.67	---	PASS
			30~1000	30~1000	-66.377	<=-29.326	PASS
			1000~26500	1000~26500	-47.316	<=-29.326	PASS
		2437	Reference	0.18	0.18	---	PASS
			30~1000	30~1000	-66.182	<=-29.816	PASS
			1000~26500	1000~26500	-47.003	<=-29.816	PASS
		2462	Reference	-0.80	-0.80	---	PASS
			30~1000	30~1000	-66.718	<=-30.796	PASS
			1000~26500	1000~26500	-46.036	<=-30.796	PASS

Spurious Emission Plot

11B_Ant1_2412_0~Reference

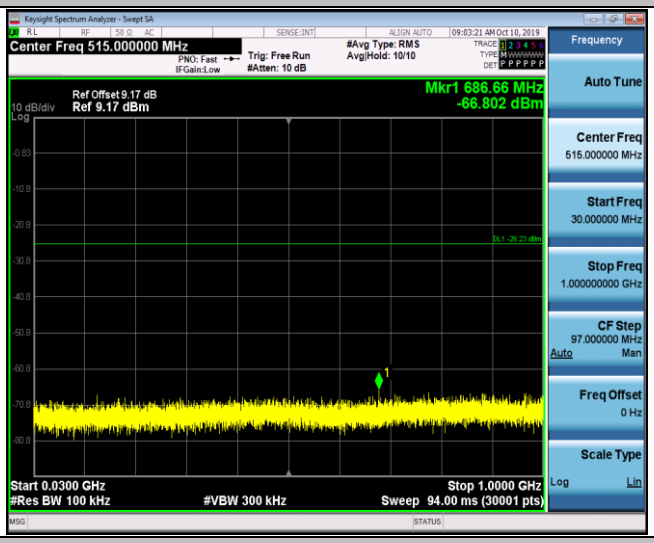
11B_Ant1_2412_30~1000



11B_Ant1_2412_1000~26500

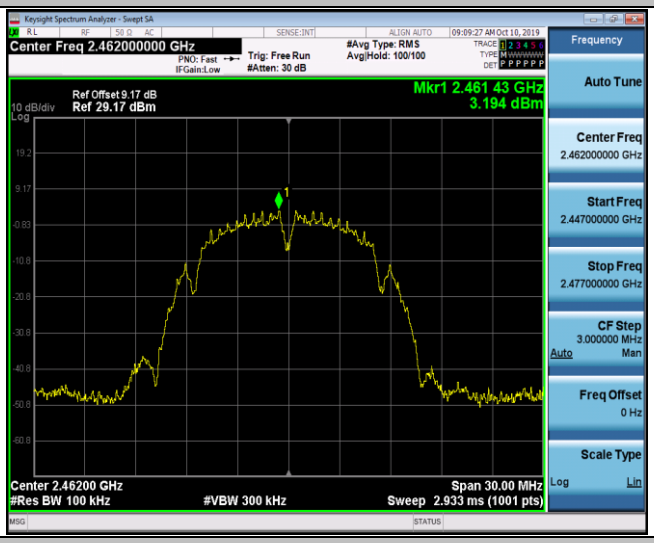
11B_Ant1_2437_0~Reference

11B_Ant1_2437_30~1000

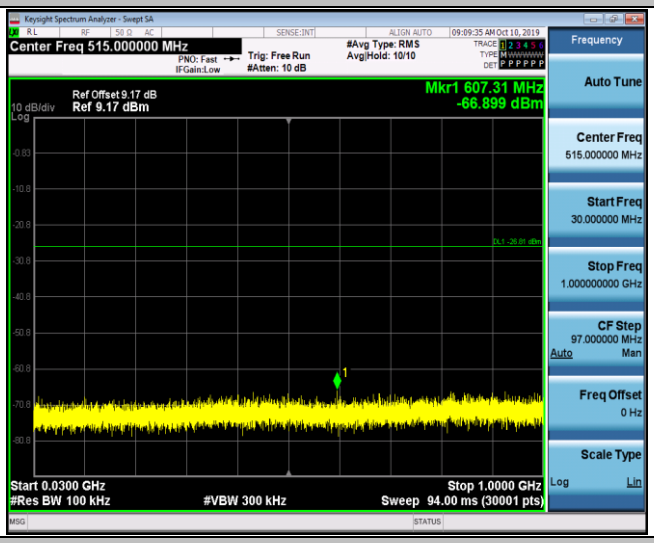


11B_Ant1_2437_1000~26500

11B_Ant1_2462_0~Reference



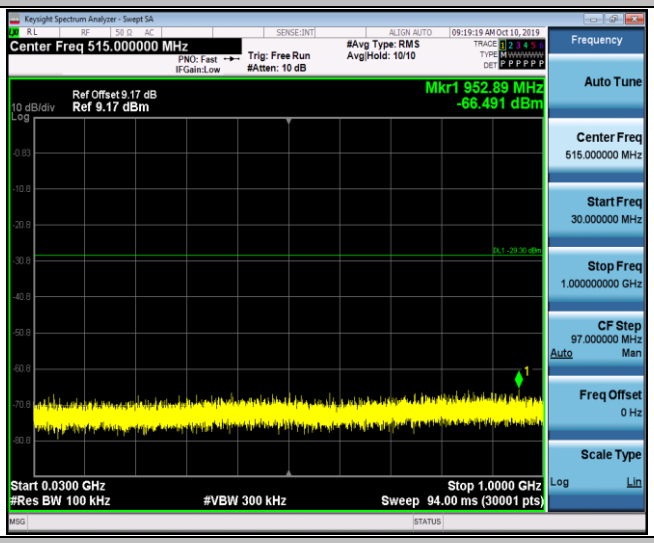
11B_Ant1_2462_30~1000



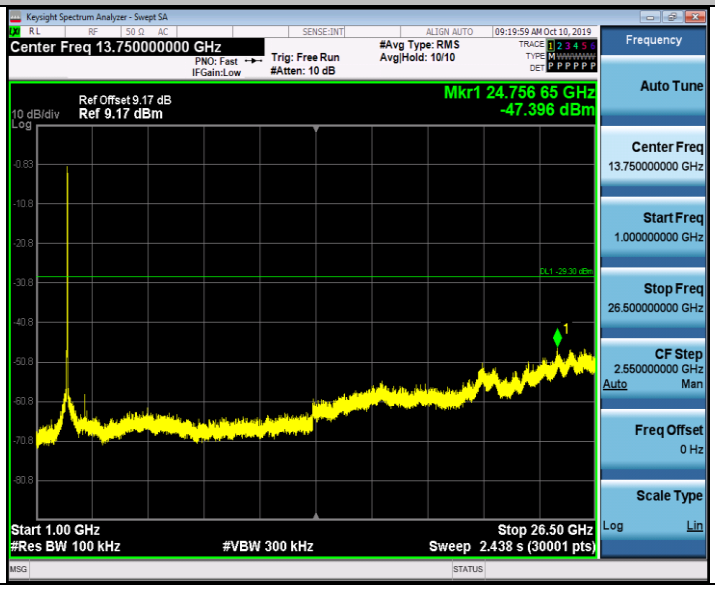
11B_Ant1_2462_1000~26500

11G_Ant1_2412_0~Reference

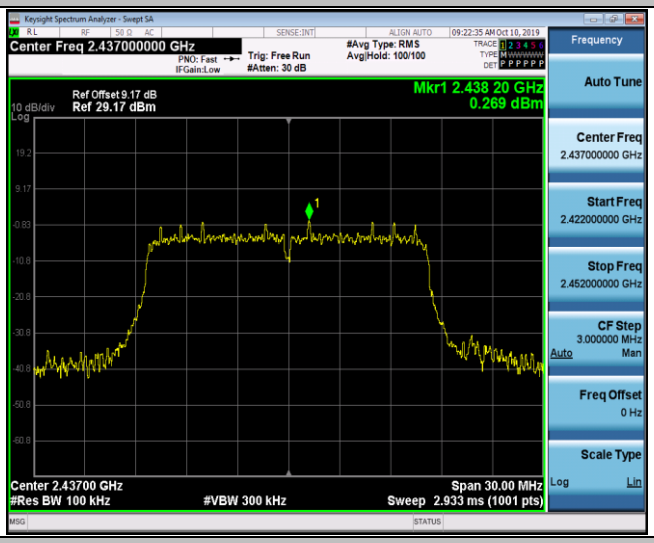
11G_Ant1_2412_30~1000



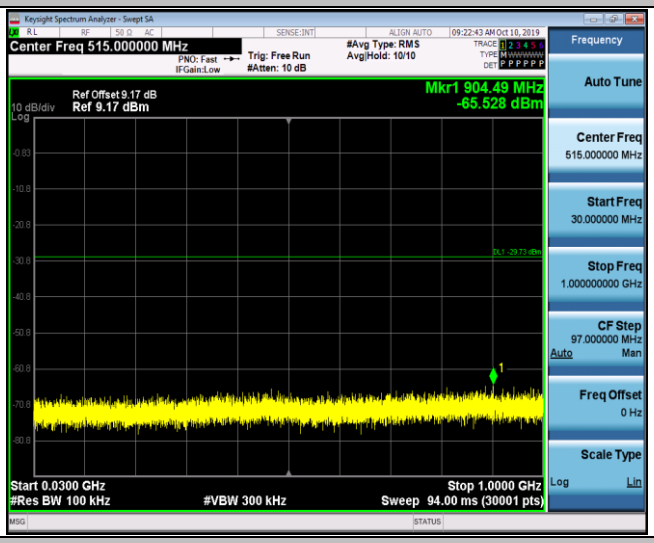
11G_Ant1_2412_1000~26500



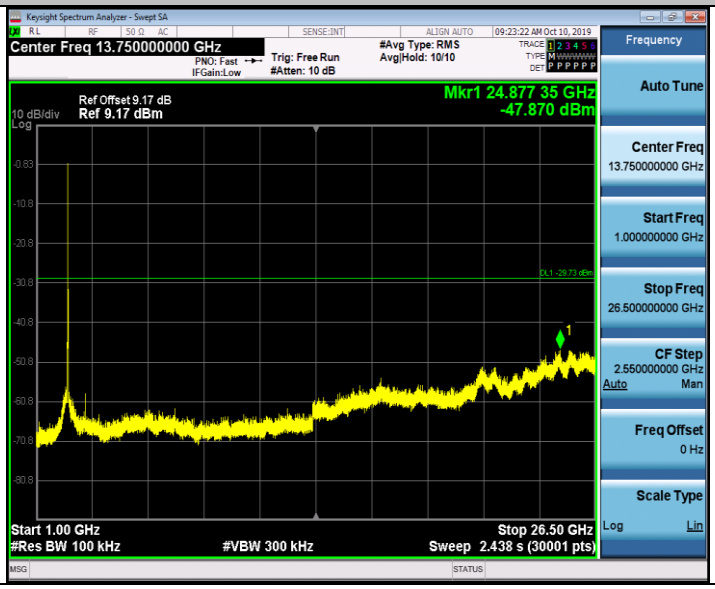
11G_Ant1_2437_0~Reference



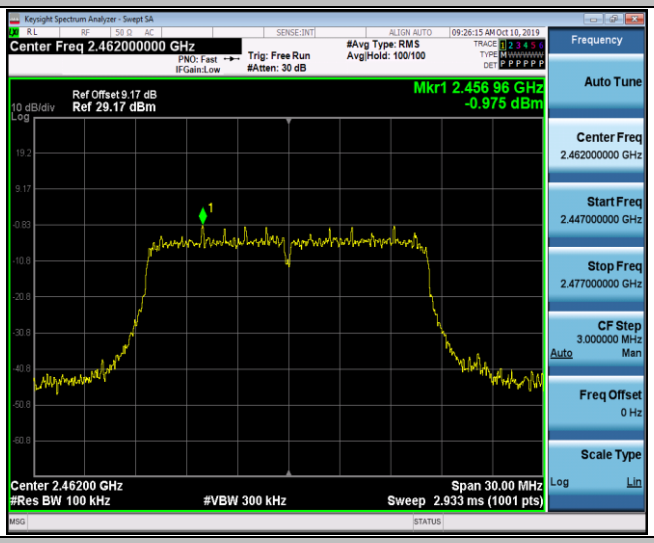
11G_Ant1_2437_30~1000



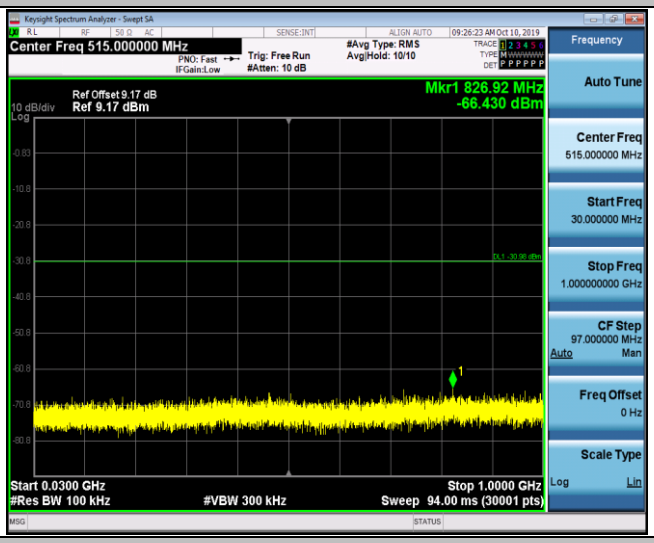
11G_Ant1_2437_1000~26500



11G_Ant1_2462_0~Reference

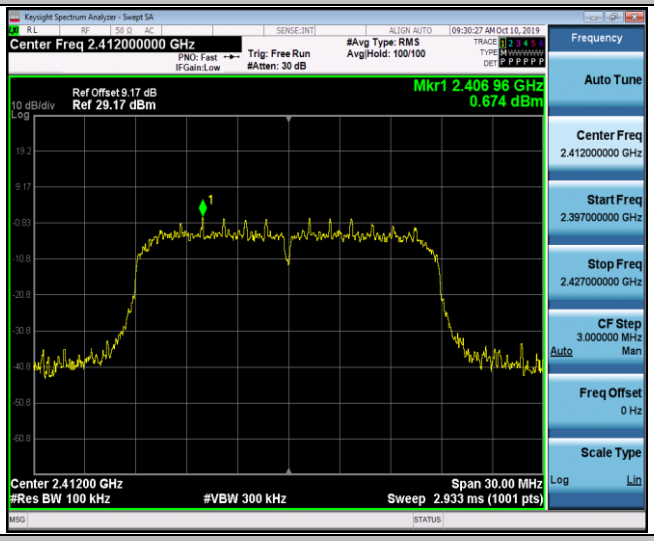


11G_Ant1_2462_30~1000

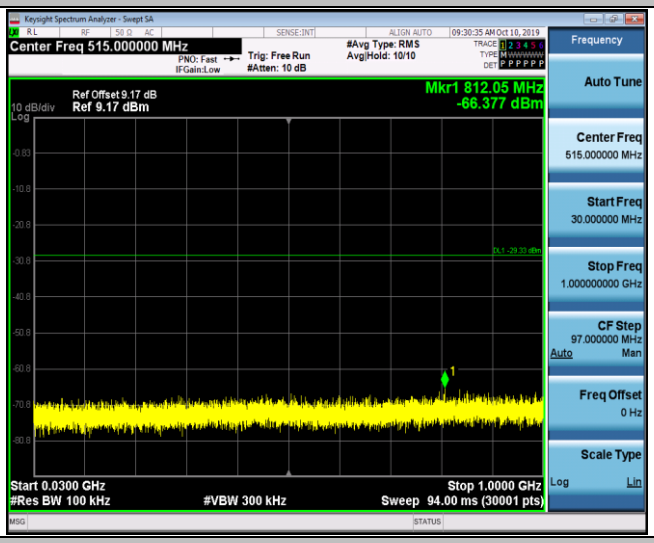


11G_Ant1_2462_1000~26500

11N20SISO_Ant1_2412_0~Reference

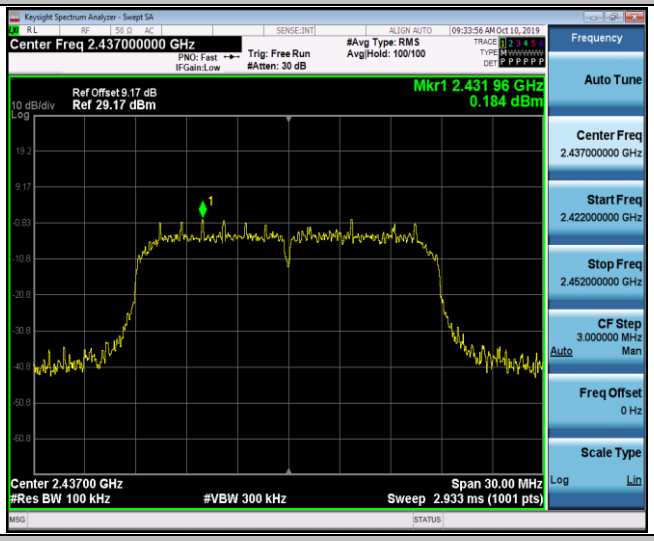


11N20SISO_Ant1_2412_30~1000

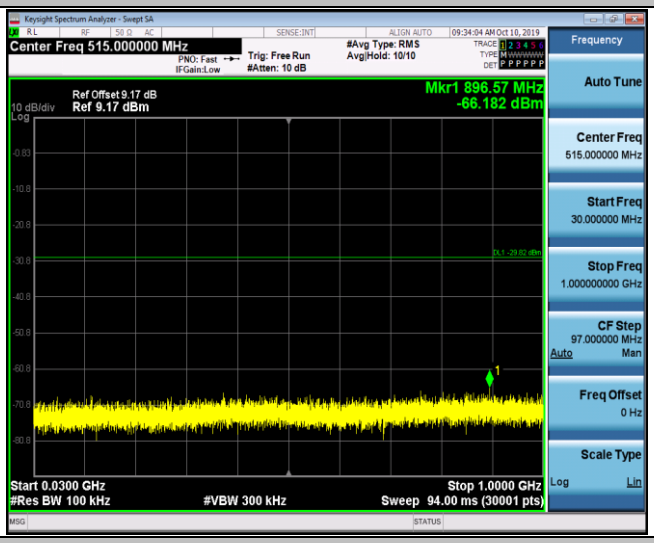


11N20SISO_Ant1_2412_1000~26500

11N20SISO_Ant1_2437_0~Reference

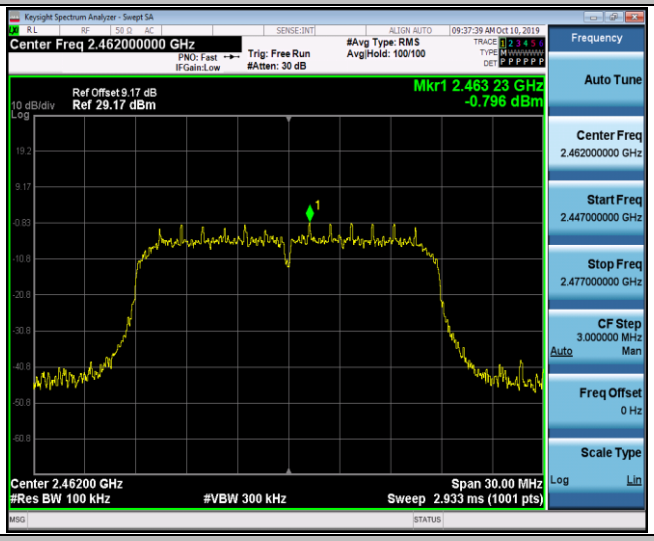


11N20SISO_Ant1_2437_30~1000

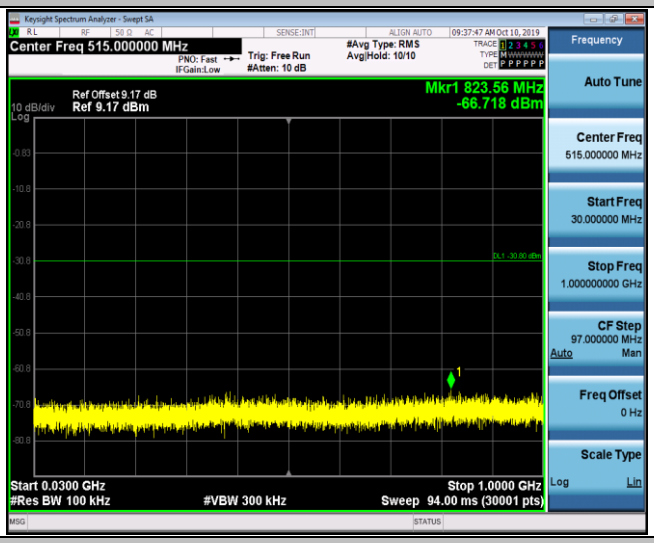


11N20SISO_Ant1_2437_1000~26500

11N20SISO_Ant1_2462_0~Reference



11N20SISO_Ant1_2462_30~1000



11N20SISO_Ant1_2462_1000~26500

4.5 Radiated Band Edges and Spurious Emission Measurement

4.5.1 Limit of Radiated Band Edges and Spurious Emission

FCC §15.247 (d)

IC RSS-247 5.5

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (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

4.5.2 Test Procedures

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The measurement distance is 3 meter.
3. For each suspected emission, the EUT was arranged to its worst case and then tune the Antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level to comply with the guidelines.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz, RBW=1MHz for f>1GHz ; VBW RBW; Sweep = auto; Detector function = peak; Trace = max hold for peak
   (3) For average measurement:
   VBW = 10 Hz, when duty cycle is no less than 98 percent.
   VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	88.87	4.71	0.21	1KHz
802.11g	86.76	0.79	1.27	3KHz
2.4GHz 802.11n HT20	86.14	0.76	1.32	3KHz

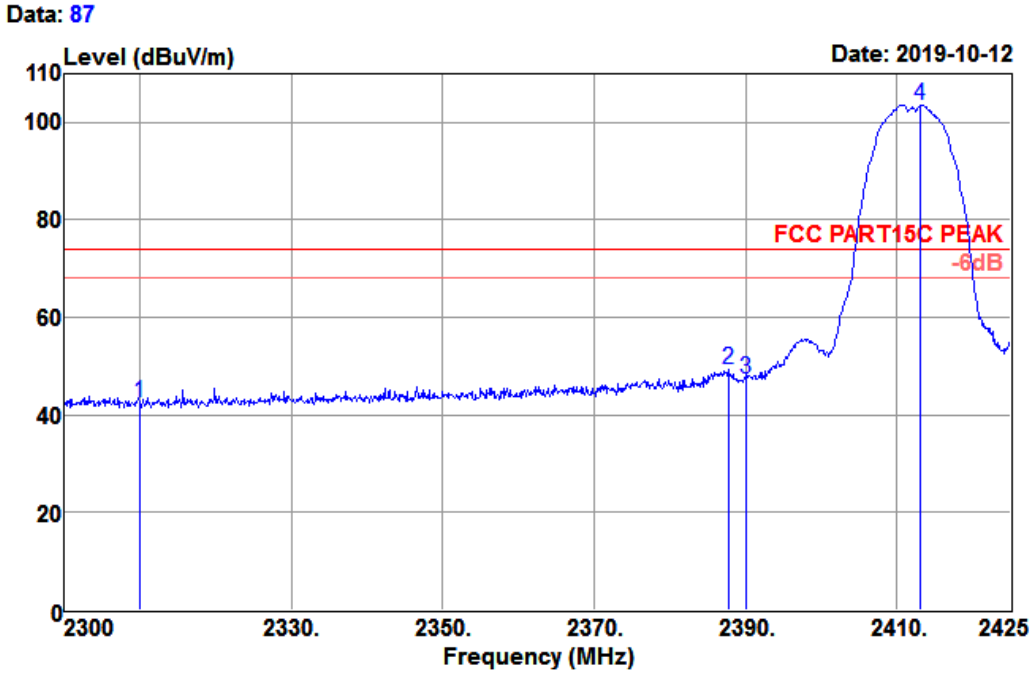
6. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.5.3 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

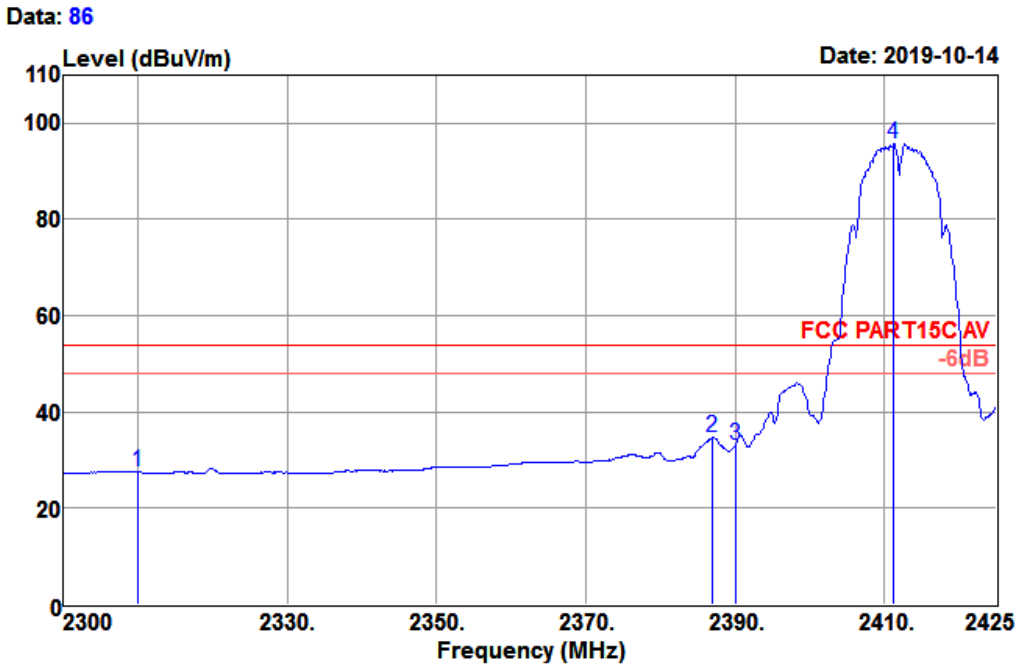
4.5.4 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11b CH01 (2412 MHz)	**Temperature :**	21~23℃
Test Engineer :	Julie Deng	**Relative Humidity :**	63~65%
Frequencey Range	2.3GHz~2.425GHz	**Polarization :**	Horizontal



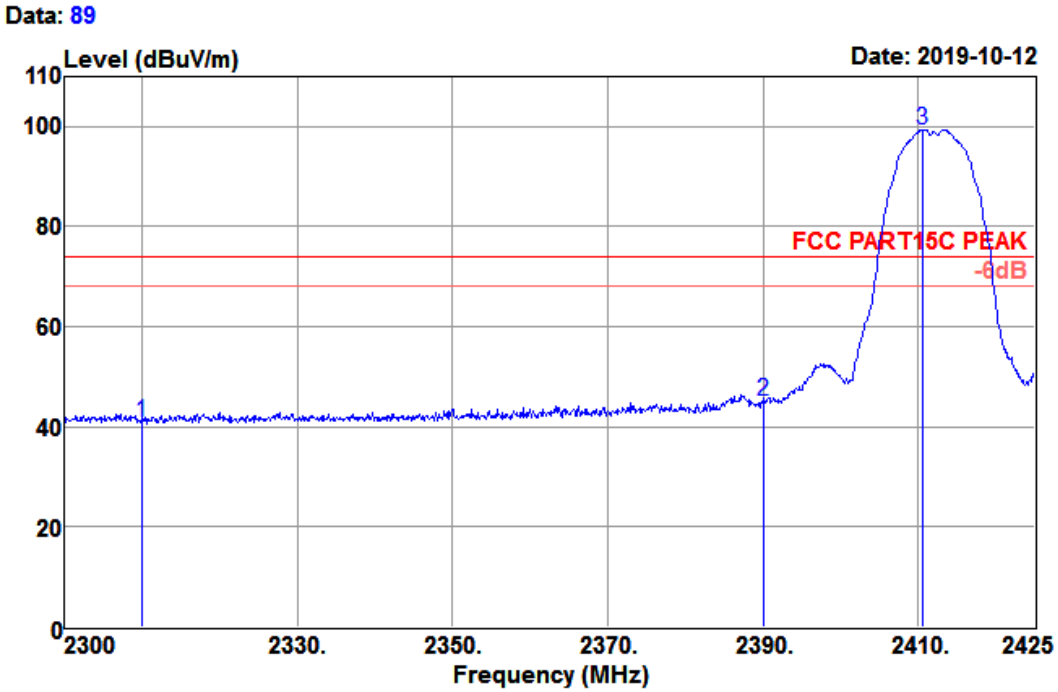
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	47.46	26.91	3.48	35.43	42.42	74.00	-31.58	Peak
2387.875	54.08	27.11	3.53	35.54	49.18	74.00	-24.82	Peak
2390.000	52.36	27.11	3.53	35.55	47.45	74.00	-26.55	Peak
2413.125	108.36	27.17	3.55	35.58	103.50	74.00	29.50	Peak

Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Horizontal



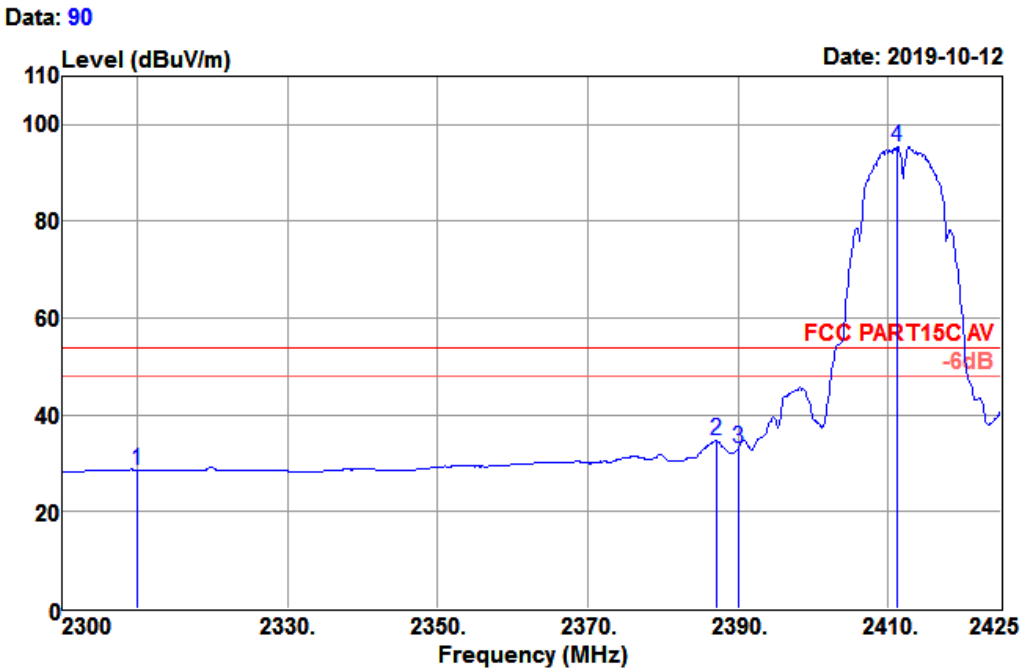
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	32.48	26.91	3.48	35.43	27.44	54.00	-26.56	Average
2387.000	39.59	27.11	3.53	35.54	34.69	54.00	-19.31	Average
2390.000	37.98	27.11	3.53	35.55	33.07	54.00	-20.93	Average
2411.250	100.60	27.17	3.55	35.58	95.74	54.00	41.74	Average

Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



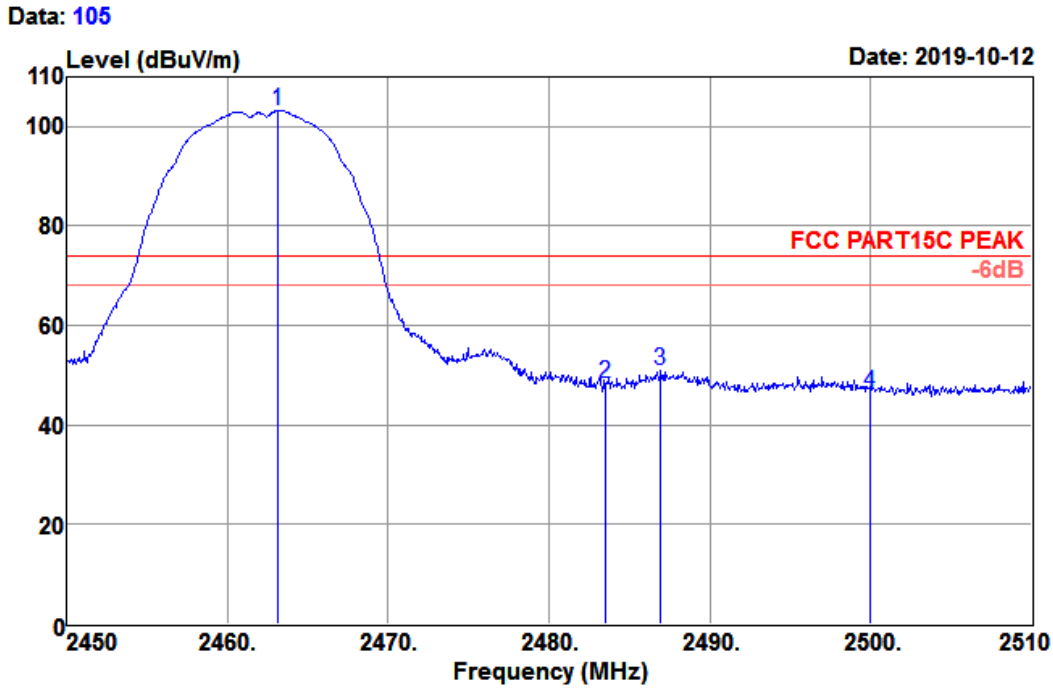
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	46.07	26.91	3.48	35.43	41.03	74.00	-32.97	Peak
2390.000	49.93	27.11	3.53	35.55	45.02	74.00	-28.98	Peak
2410.625	104.32	27.17	3.55	35.57	99.47	74.00	25.47	Peak

Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



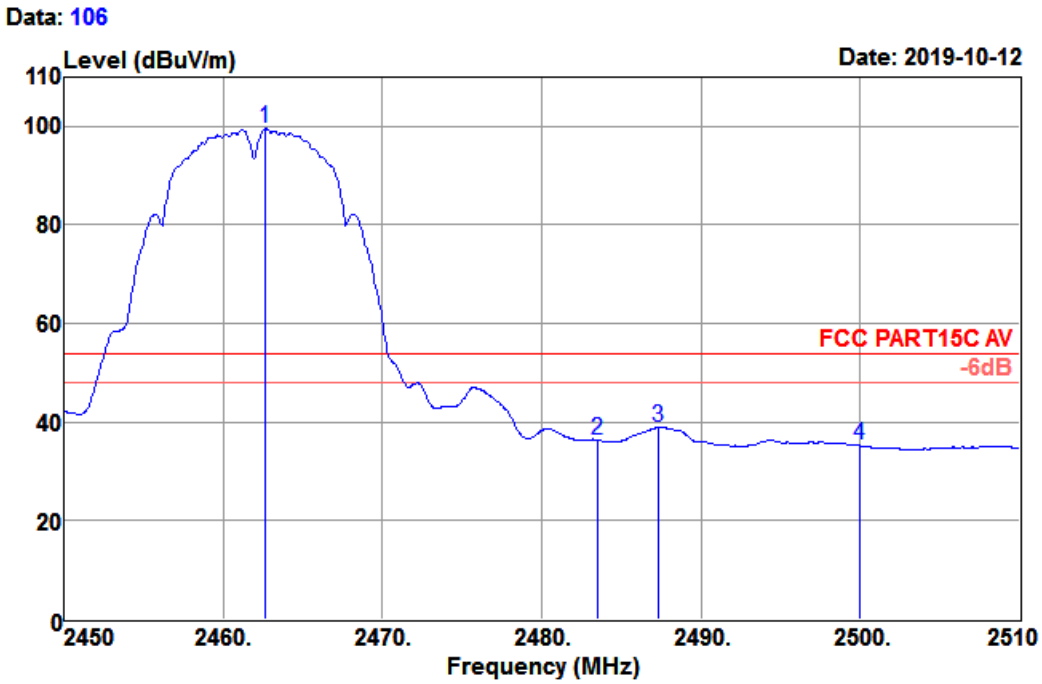
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	33.69	26.91	3.48	35.43	28.65	54.00	-25.35	Average
2387.125	39.69	27.11	3.53	35.54	34.79	54.00	-19.21	Average
2390.000	37.98	27.11	3.53	35.55	33.07	54.00	-20.93	Average
2411.250	100.35	27.17	3.55	35.58	95.49	54.00	41.49	Average

Test Mode :	802.11b CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



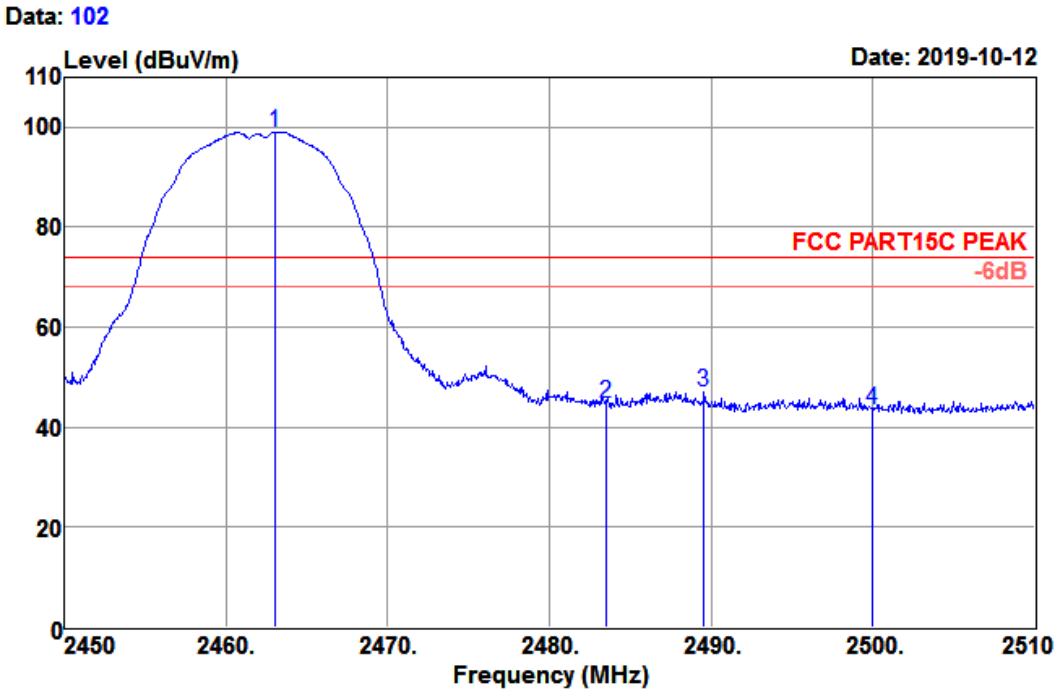
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2463.140	108.01	27.30	3.58	35.65	103.24	74.00	29.24	Peak
2483.480	53.19	27.36	3.59	35.68	48.46	74.00	-25.54	Peak
2486.960	55.55	27.37	3.59	35.68	50.83	74.00	-23.17	Peak
2500.000	51.16	27.40	3.60	35.70	46.46	74.00	-27.54	Peak

Test Mode :	802.11b CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



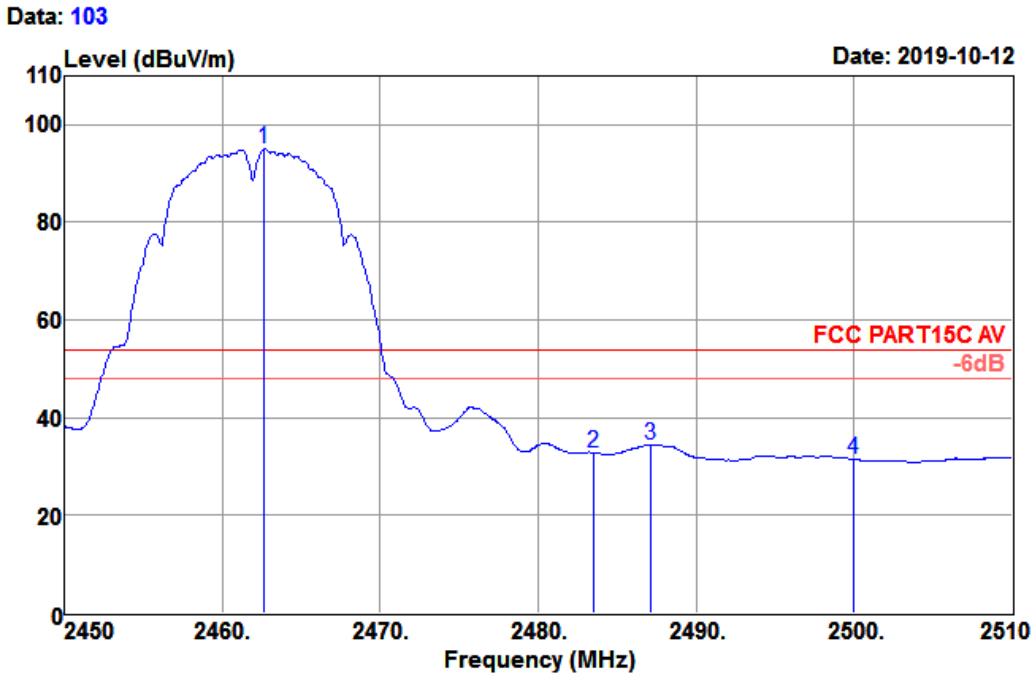
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2462.660	104.29	27.30	3.58	35.65	99.52	54.00	45.52	Average
2483.500	41.20	27.36	3.59	35.68	36.47	54.00	-17.53	Average
2487.320	43.70	27.37	3.59	35.68	38.98	54.00	-15.02	Average
2500.000	39.97	27.40	3.60	35.70	35.27	54.00	-18.73	Average

Test Mode :	802.11b CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



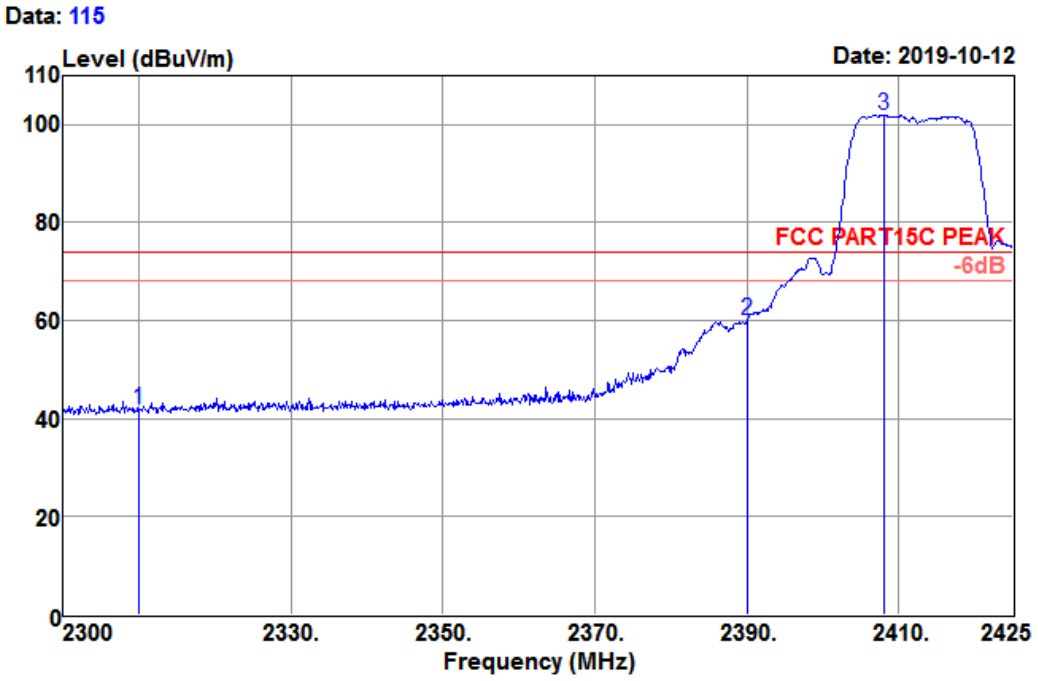
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2463.080	103.87	27.30	3.58	35.65	99.10	74.00	25.10	Peak
2483.500	49.57	27.36	3.59	35.68	44.84	74.00	-29.16	Peak
2489.540	51.76	27.37	3.59	35.69	47.03	74.00	-26.97	Peak
2500.000	48.12	27.40	3.60	35.70	43.42	74.00	-30.58	Peak

Test Mode :	802.11b CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



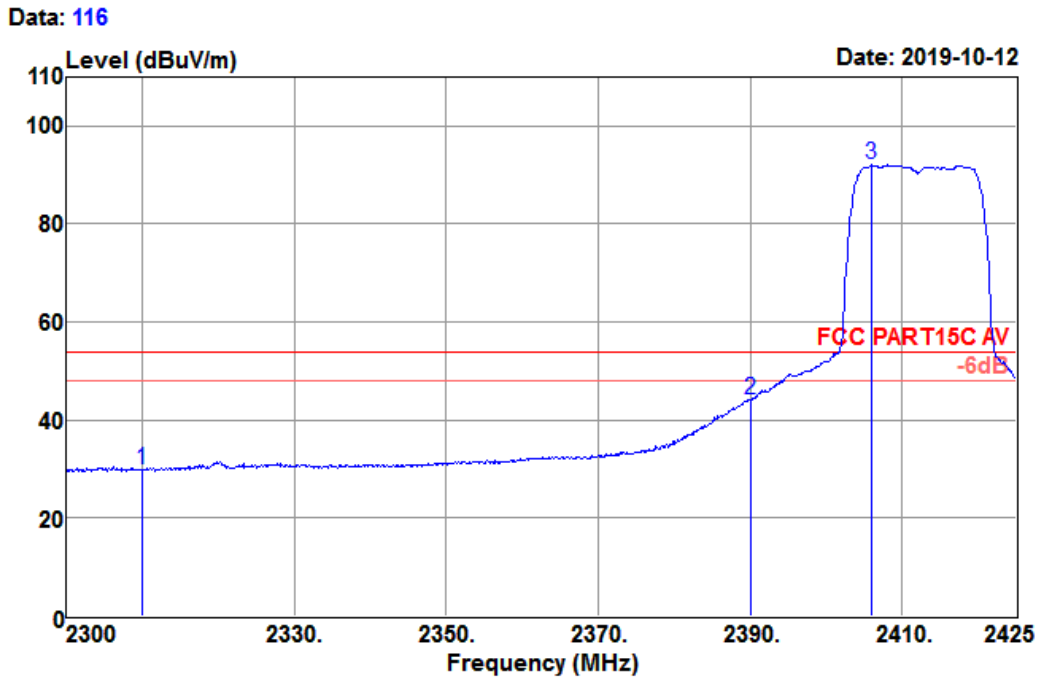
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2462.660	99.81	27.30	3.58	35.65	95.04	54.00	41.04	Average
2483.500	37.58	27.36	3.59	35.68	32.85	54.00	-21.15	Average
2487.080	39.15	27.37	3.59	35.68	34.43	54.00	-19.57	Average
2500.000	36.19	27.40	3.60	35.70	31.49	54.00	-22.51	Average

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Horizontal



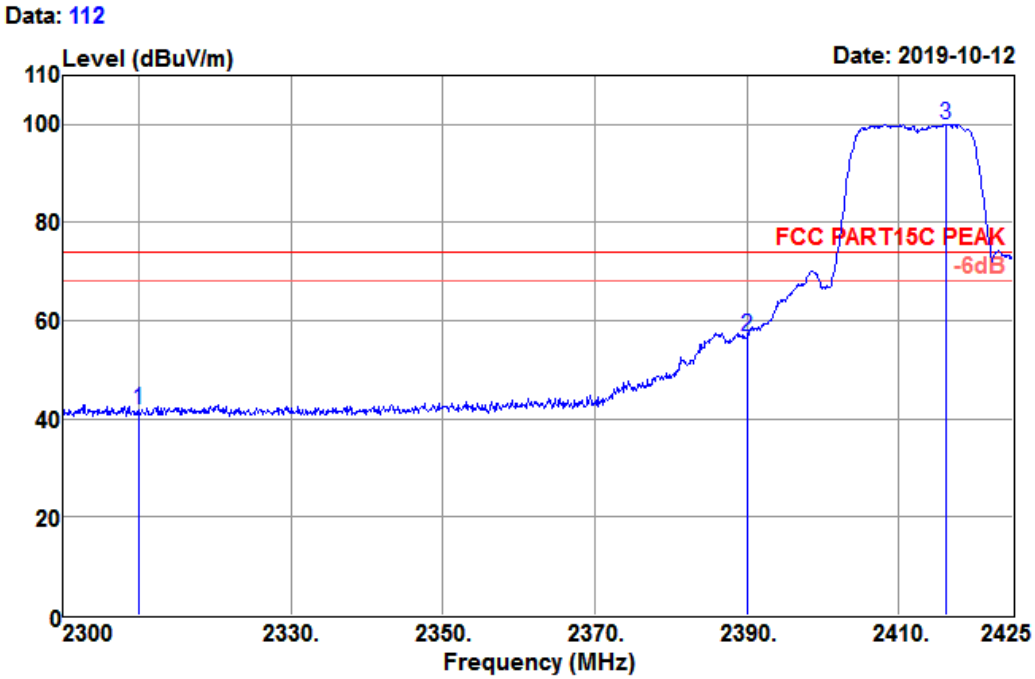
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	46.85	26.91	3.48	35.43	41.81	74.00	-32.19	Peak
2390.000	64.90	27.11	3.53	35.55	59.99	74.00	-14.01	Peak
2408.000	106.84	27.16	3.54	35.57	101.97	74.00	27.97	Peak

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Horizontal



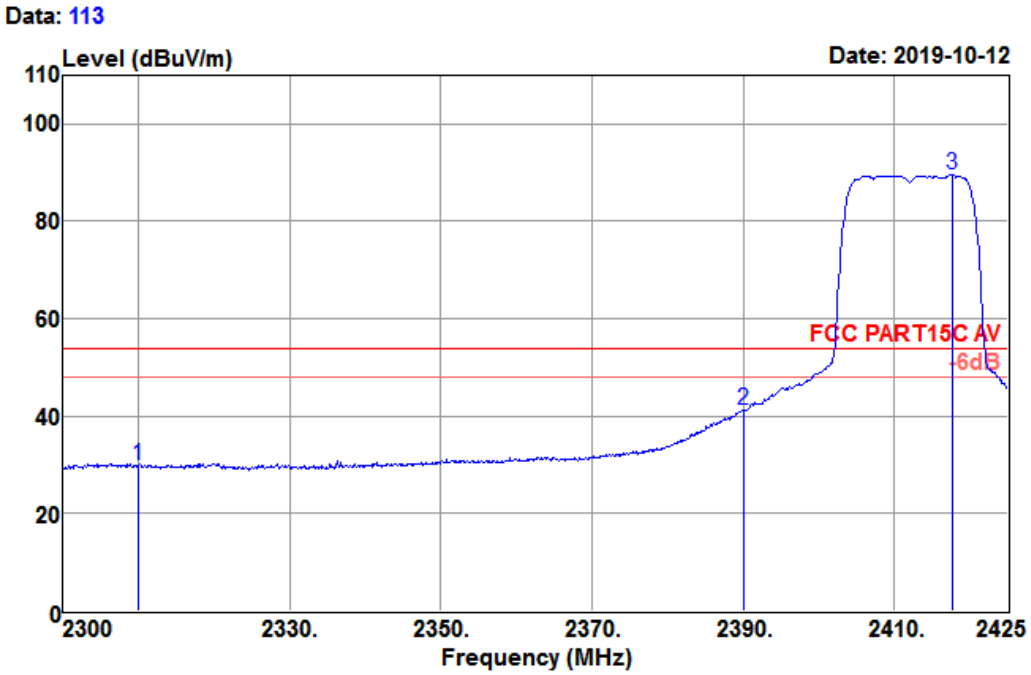
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	35.06	26.91	3.48	35.43	30.02	54.00	-23.98	Average
2390.000	49.19	27.11	3.53	35.55	44.28	54.00	-9.72	Average
2406.000	96.92	27.16	3.54	35.57	92.05	54.00	38.05	Average

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



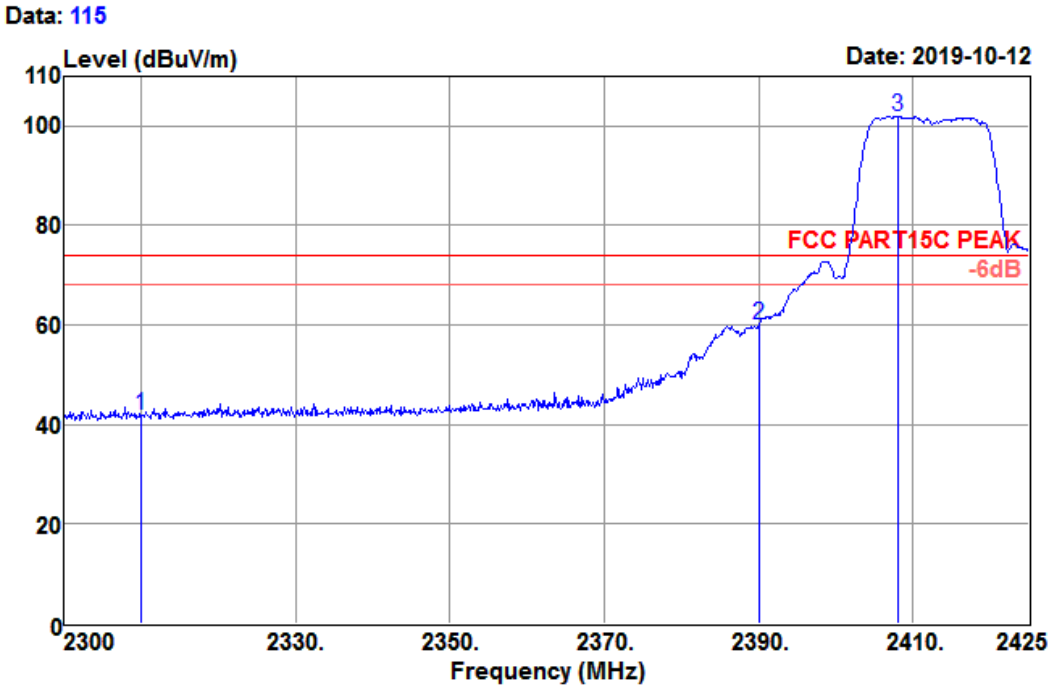
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	46.79	26.91	3.48	35.43	41.75	74.00	-32.25	Peak
2390.000	61.75	27.11	3.53	35.55	56.84	74.00	-17.16	Peak
2416.125	104.76	27.18	3.55	35.58	99.91	74.00	25.91	Peak

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



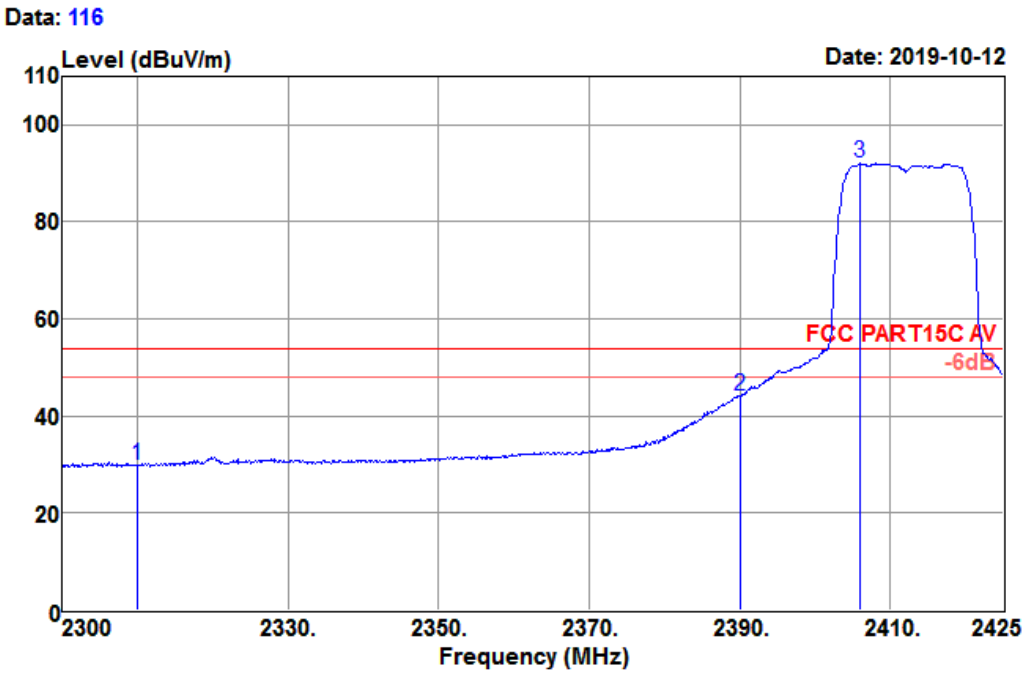
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	34.86	26.91	3.48	35.43	29.82	54.00	-24.18	Average
2390.000	46.26	27.11	3.53	35.55	41.35	54.00	-12.65	Average
2417.625	94.39	27.19	3.55	35.58	89.55	54.00	35.55	Average

Test Mode :	802.11g CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



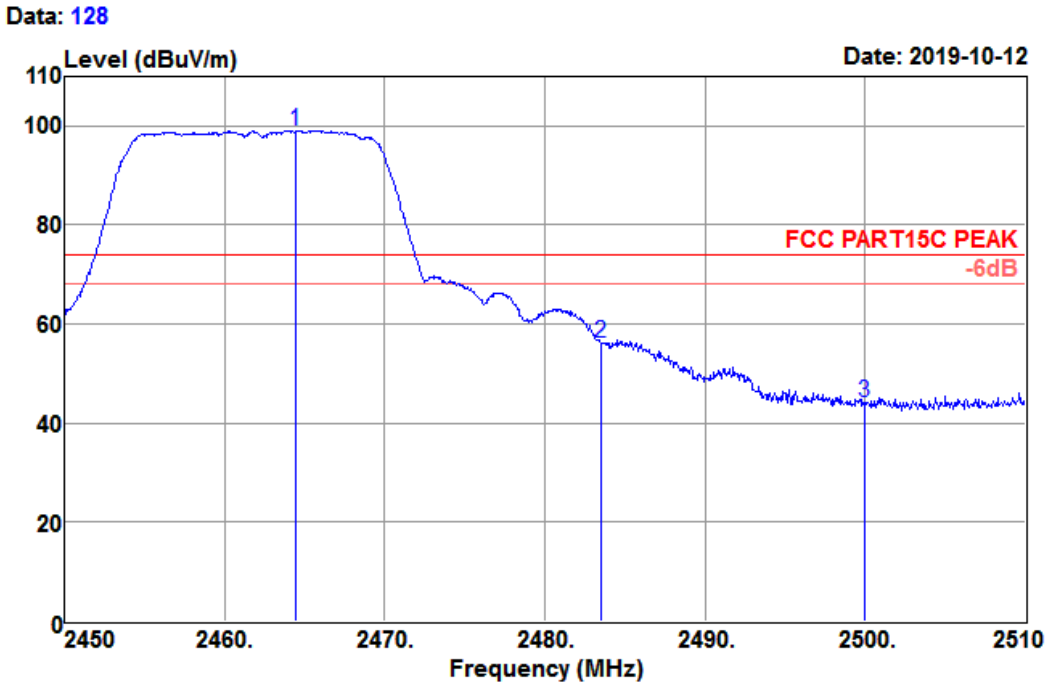
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	46.85	26.91	3.48	35.43	41.81	74.00	-32.19	Peak
2390.000	64.90	27.11	3.53	35.55	59.99	74.00	-14.01	Peak
2408.000	106.84	27.16	3.54	35.57	101.97	74.00	27.97	Peak

Test Mode :	802.11g CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



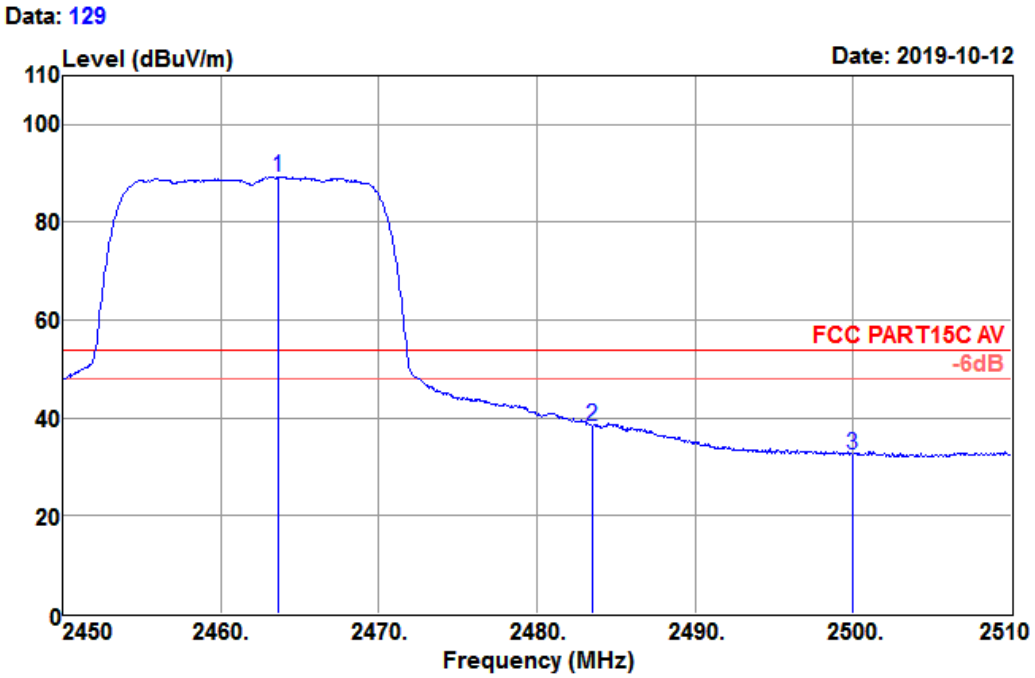
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	35.06	26.91	3.48	35.43	30.02	54.00	-23.98	Average
2390.000	49.19	27.11	3.53	35.55	44.28	54.00	-9.72	Average
2406.000	96.92	27.16	3.54	35.57	92.05	54.00	38.05	Average

Test Mode :	802.11g CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



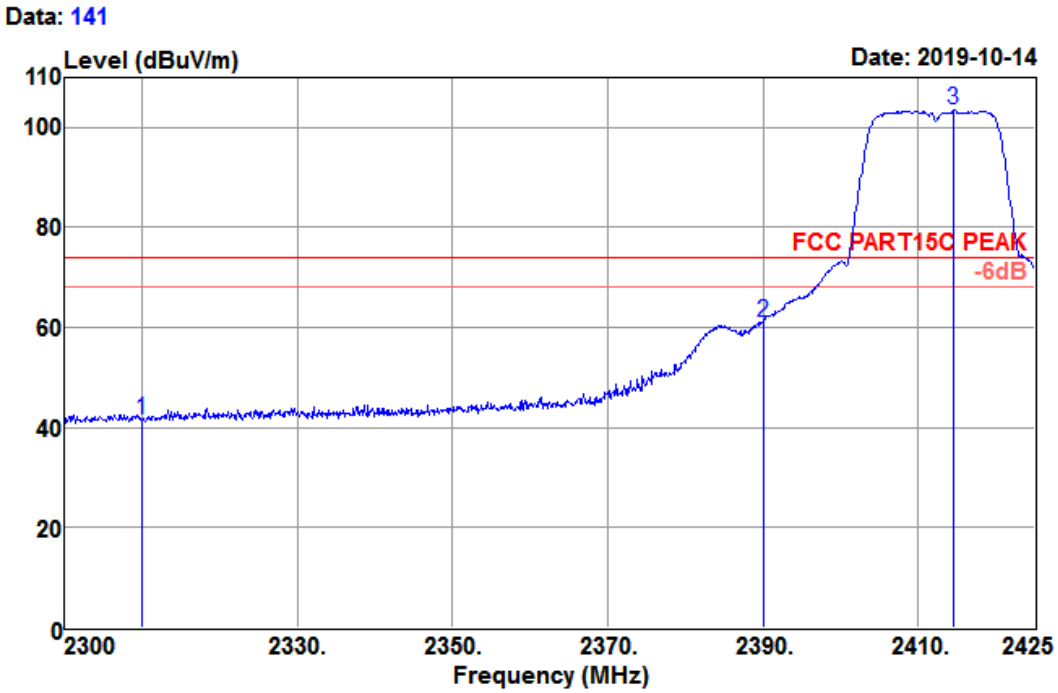
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2464.400	103.81	27.31	3.58	35.65	99.05	74.00	25.05	Peak
2483.500	60.76	27.36	3.59	35.68	56.03	74.00	-17.97	Peak
2500.000	48.86	27.40	3.60	35.70	44.16	74.00	-29.84	Peak

Test Mode :	802.11g CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



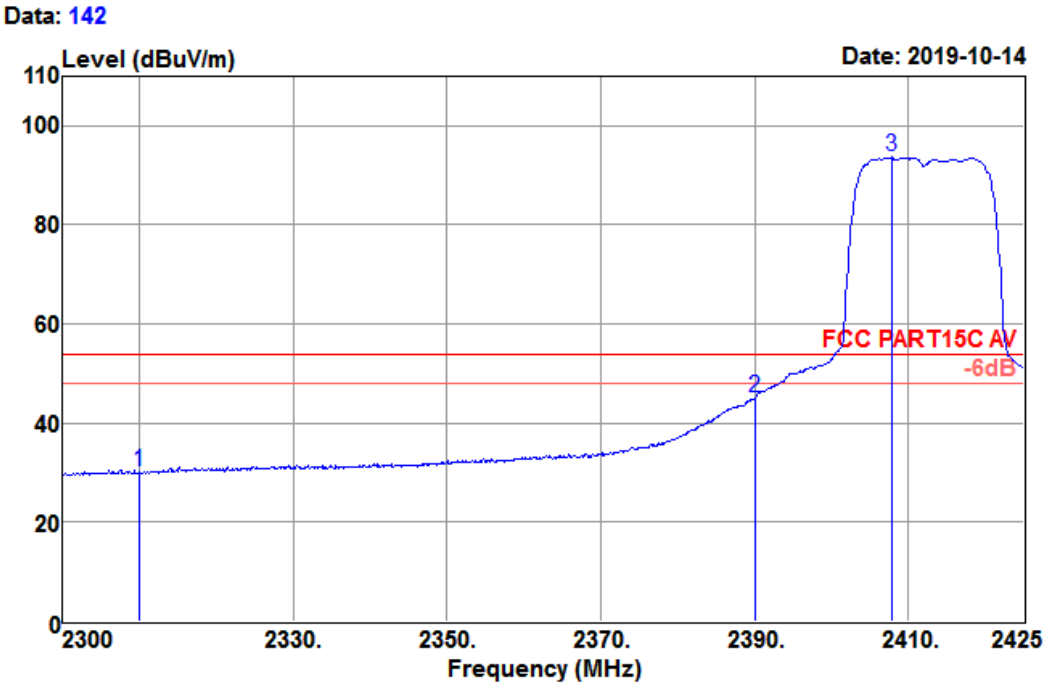
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2463.620	93.95	27.31	3.58	35.65	89.19	54.00	35.19	Average
2483.500	43.06	27.36	3.59	35.68	38.33	54.00	-15.67	Average
2500.000	37.19	27.40	3.60	35.70	32.49	54.00	-21.51	Average

Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Horizontal



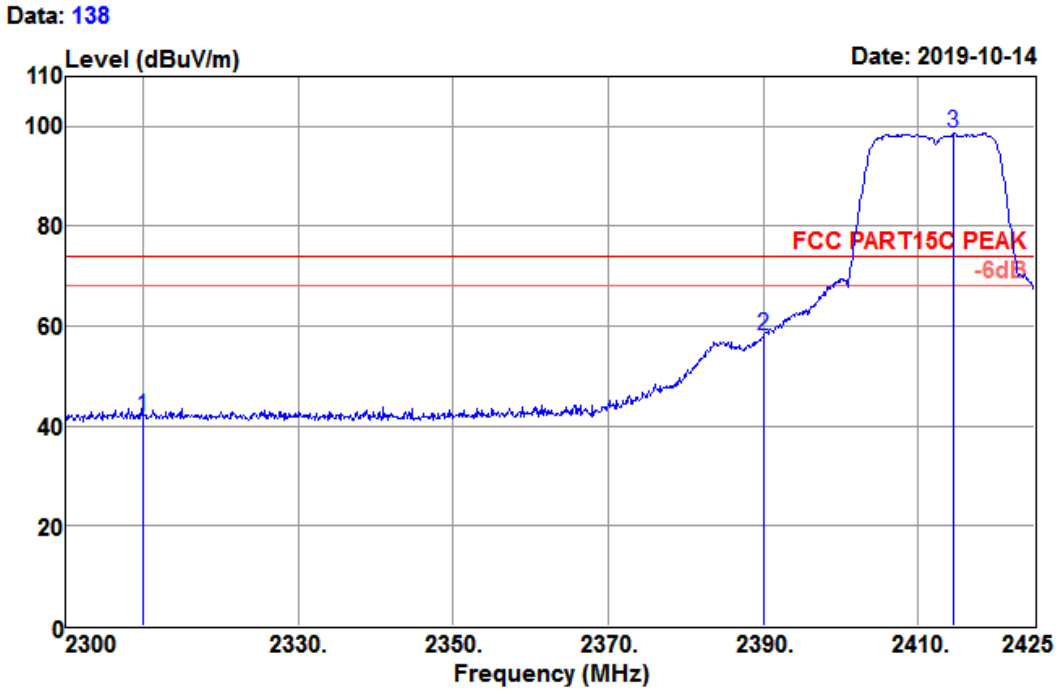
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	46.62	26.91	3.48	35.43	41.58	74.00	-32.42	Peak
2390.000	65.94	27.11	3.53	35.55	61.03	74.00	-12.97	Peak
2414.625	108.36	27.18	3.55	35.58	103.51	74.00	29.51	Peak

Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Horizontal



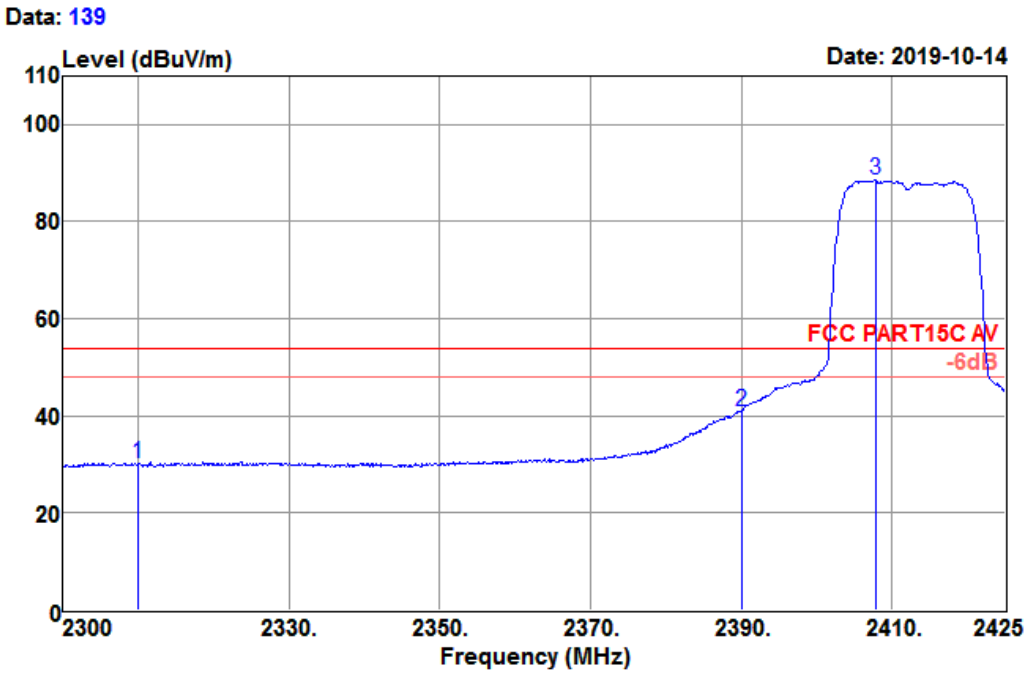
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	35.32	26.91	3.48	35.43	30.28	54.00	-23.72	Average
2390.000	50.04	27.11	3.53	35.55	45.13	54.00	-8.87	Average
2407.750	98.51	27.16	3.54	35.57	93.64	54.00	39.64	Average

Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



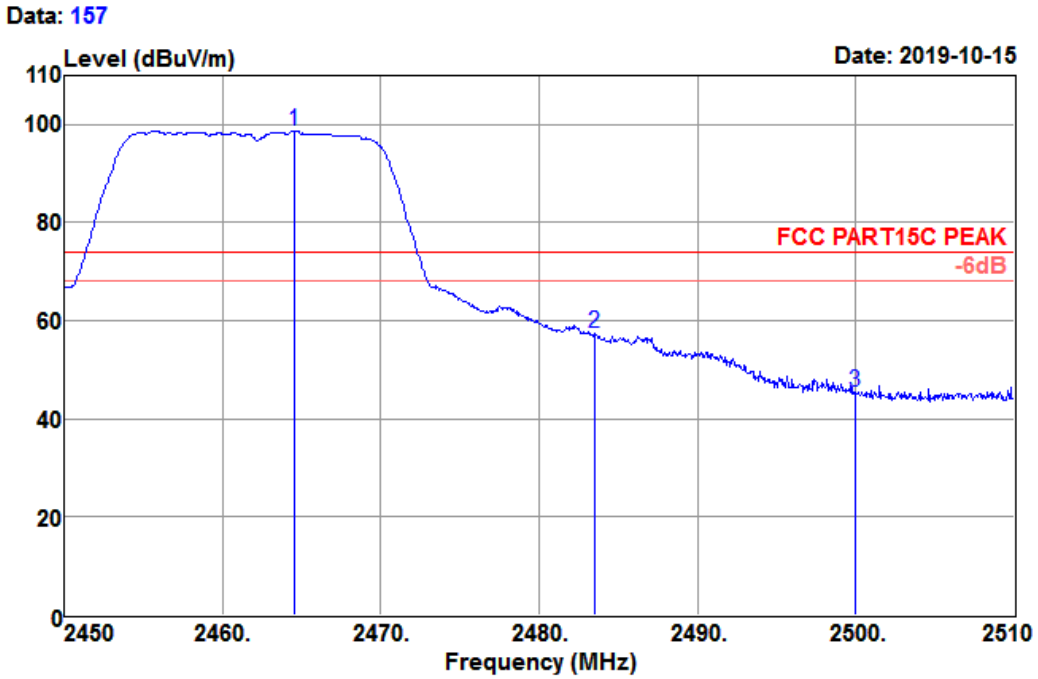
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2310.000	46.96	26.91	3.48	35.43	41.92	74.00	-32.08	Peak
2390.000	62.98	27.11	3.53	35.55	58.07	74.00	-15.93	Peak
2414.625	103.47	27.18	3.55	35.58	98.62	74.00	24.62	Peak

Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.3GHz~2.425GHz	Polarization :	Vertical



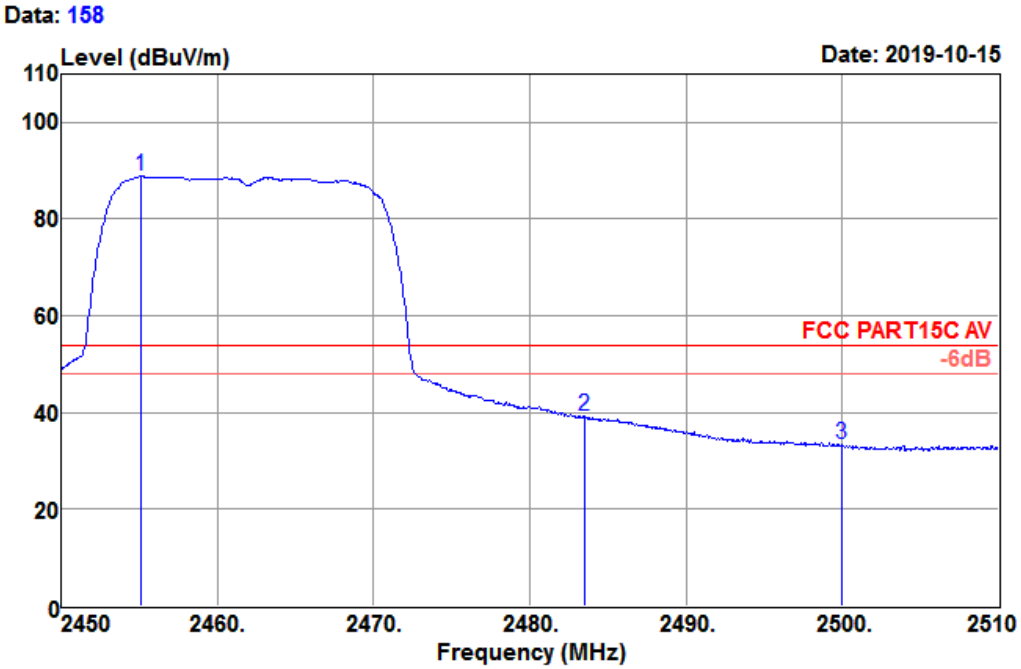
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2310.000	35.09	26.91	3.48	35.43	30.05	54.00	-23.95	Average
2390.000	45.92	27.11	3.53	35.55	41.01	54.00	-12.99	Average
2407.750	93.39	27.16	3.54	35.57	88.52	54.00	34.52	Average

Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



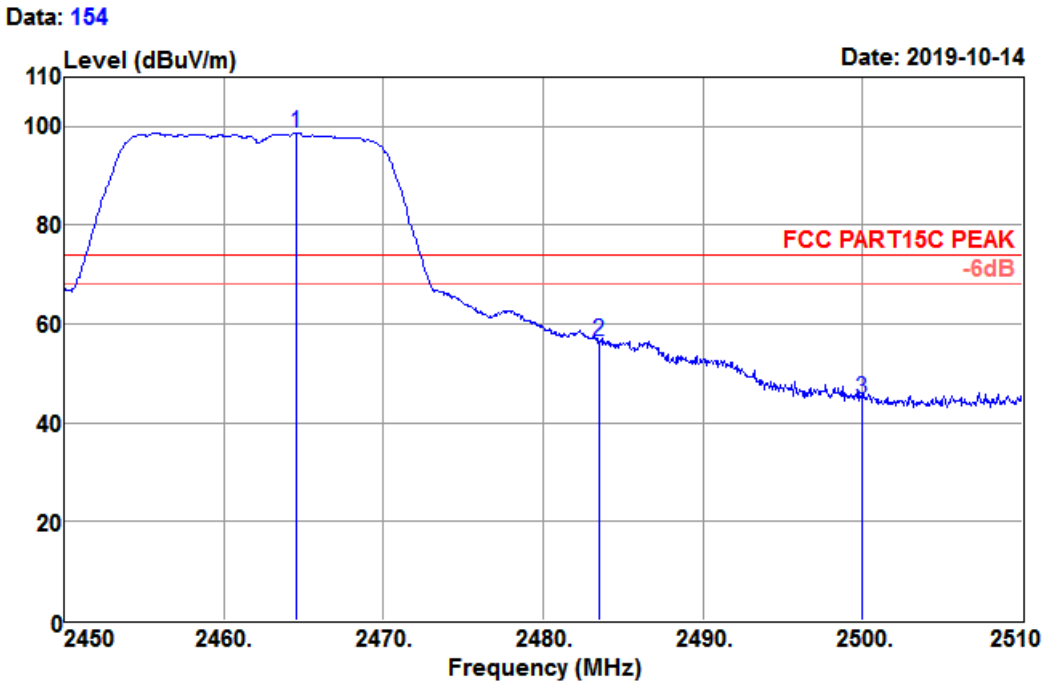
Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2464.520	103.55	27.31	3.58	35.65	98.79	74.00	24.79	Peak
2483.500	62.26	27.36	3.59	35.68	57.53	74.00	-16.47	Peak
2500.000	50.08	27.40	3.60	35.70	45.38	74.00	-28.62	Peak

Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Horizontal



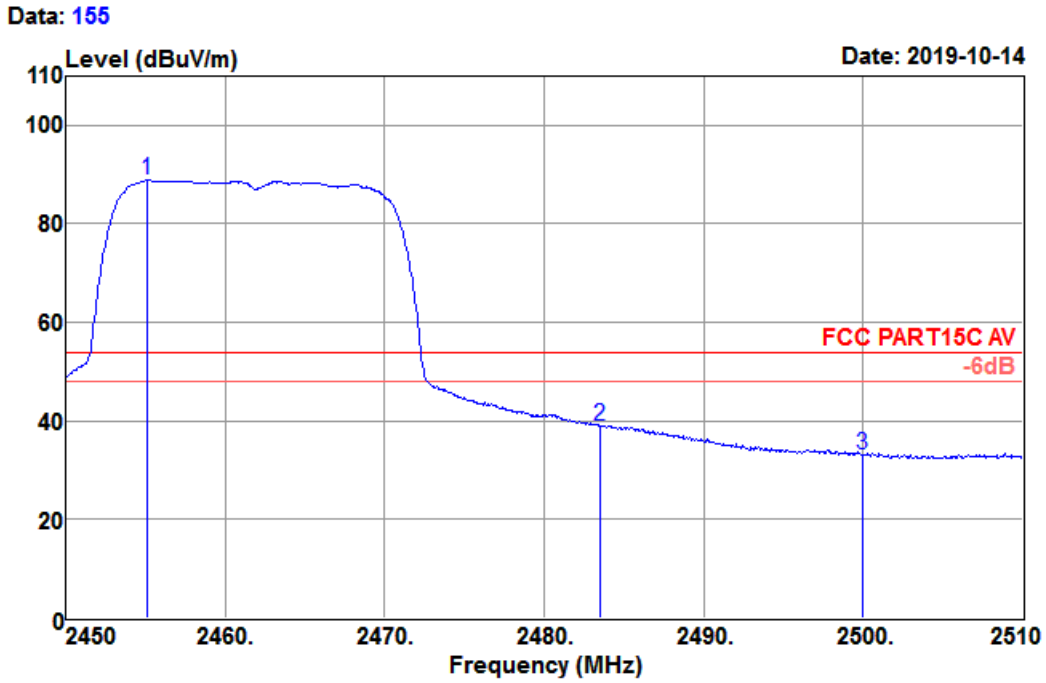
Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2455.160	93.66	27.28	3.57	35.64	88.87	54.00	34.87	Average
2483.500	43.88	27.36	3.59	35.68	39.15	54.00	-14.85	Average
2500.000	38.04	27.40	3.60	35.70	33.34	54.00	-20.66	Average

Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2464.580	103.57	27.31	3.58	35.65	98.81	74.00	24.81	Peak
2483.500	61.28	27.36	3.59	35.68	56.55	74.00	-17.45	Peak
2500.000	49.65	27.40	3.60	35.70	44.95	74.00	-29.05	Peak

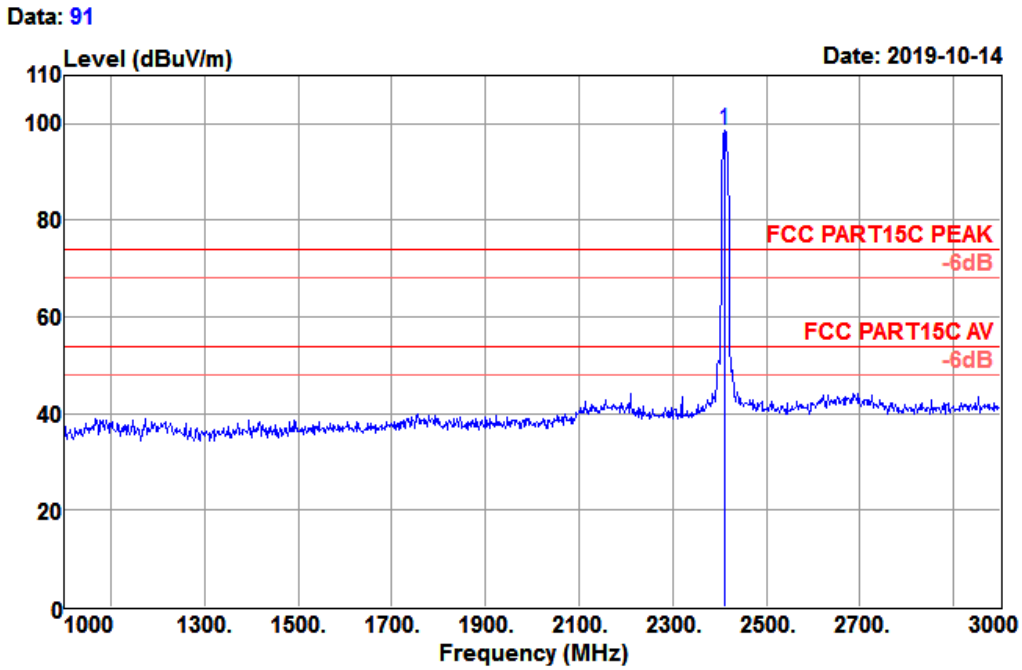
Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	2.45GHz~2.51GHz	Polarization :	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2455.160	93.67	27.28	3.57	35.64	88.88	54.00	34.88	Average
2483.500	43.66	27.36	3.59	35.68	38.93	54.00	-15.07	Average
2500.000	37.88	27.40	3.60	35.70	33.18	54.00	-20.82	Average

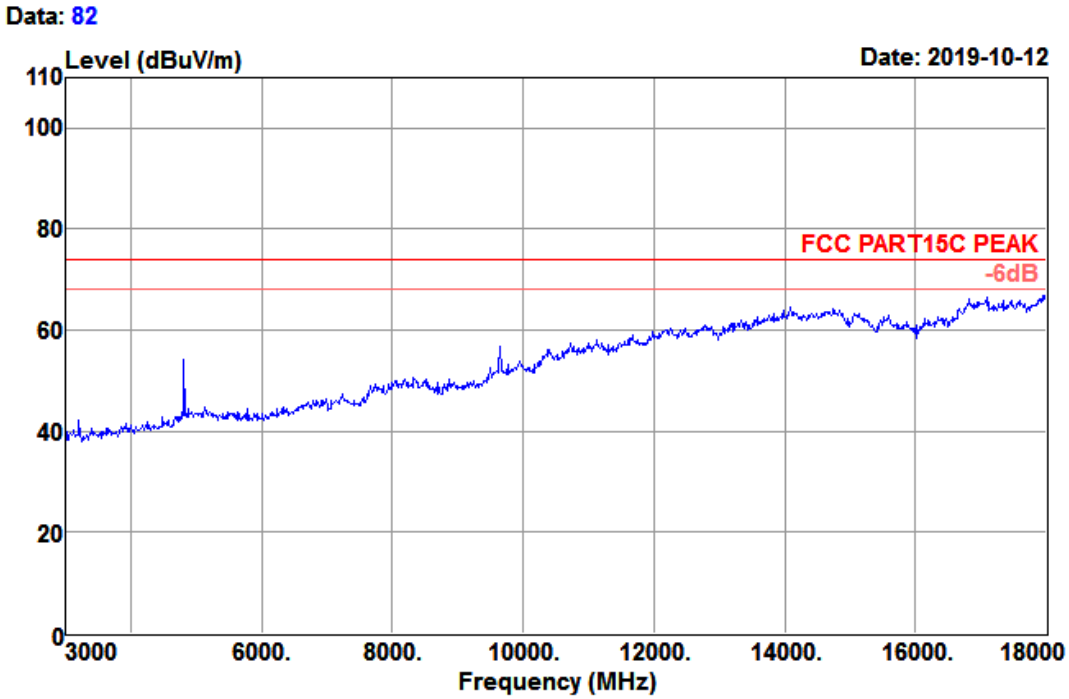
4.5.5 Test Result of Radiated Spurious Emission (1GHz ~ 10th Harmonic)

Test Mode :	802.11b CH01 (2412 MHz)	**Temperature :**	21~23℃
Test Engineer :	Julie Deng	**Relative Humidity :**	63~65%
Frequencey Range	1GHz~3GHz	**Polarization :**	Horizontal

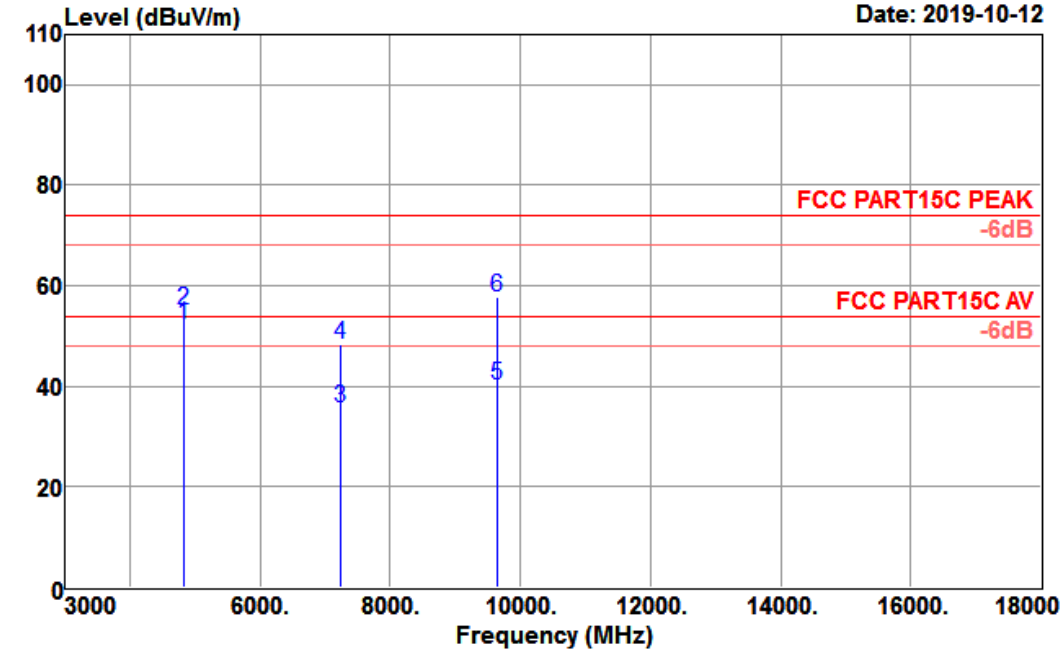


Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2412.000	103.54	27.17	3.55	35.58	98.68	74.00	24.68	Peak

Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal



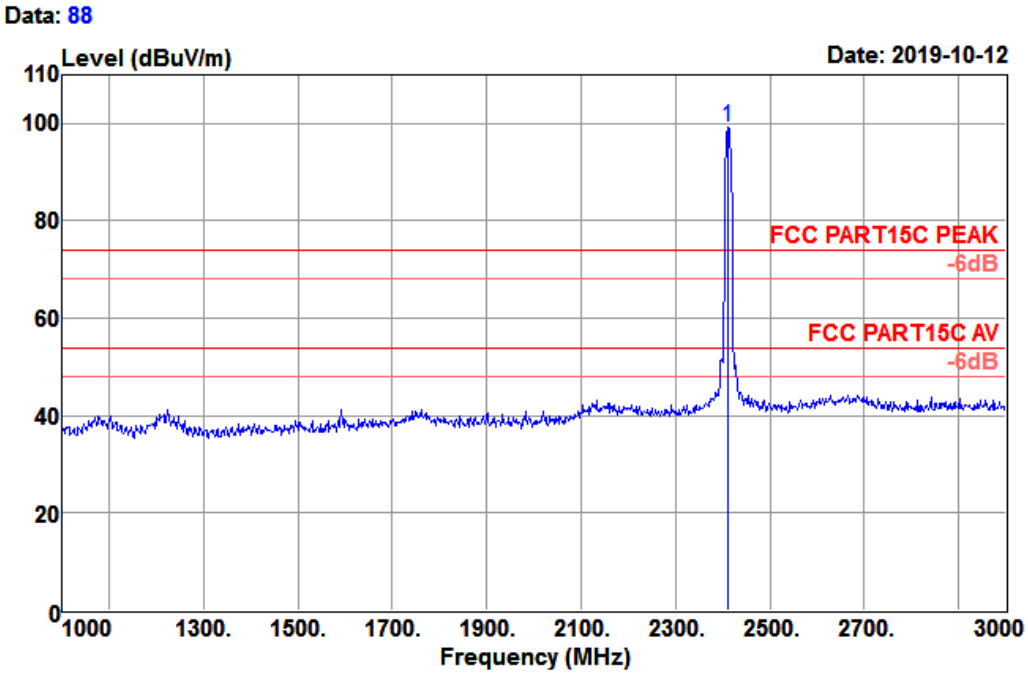
Data: 83



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4824.000	50.22	31.28	5.56	34.84	52.22	54.00	-1.78	Average
4824.000	53.26	31.28	5.56	34.84	55.26	74.00	-18.74	Peak
7236.000	28.45	35.94	7.61	36.40	35.60	54.00	-18.40	Average
7236.000	41.27	35.94	7.61	36.40	48.42	74.00	-25.58	Peak
9648.000	28.27	37.87	10.41	36.40	40.15	54.00	-13.85	Average
9648.000	45.77	37.87	10.41	36.40	57.65	74.00	-16.35	Peak

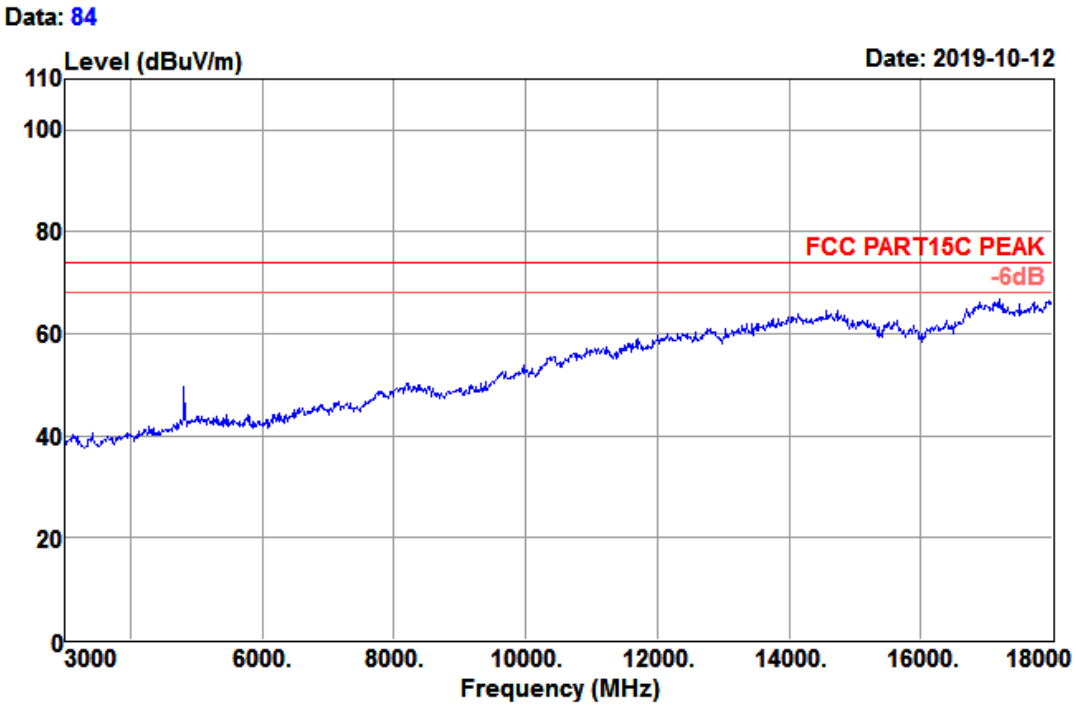
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

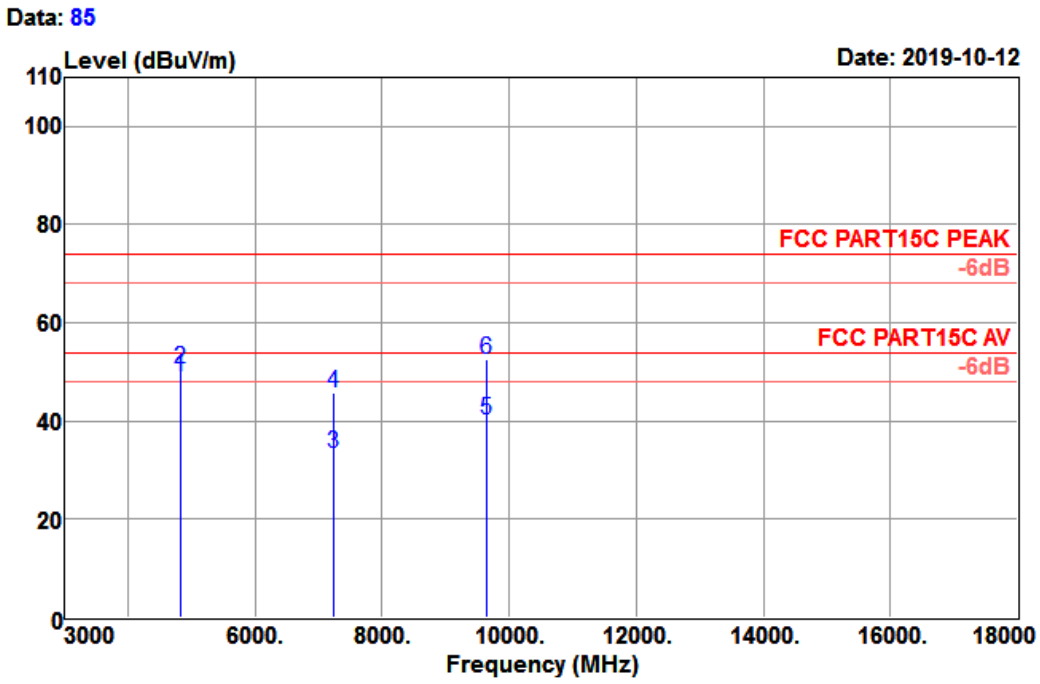
Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2412.000	104.07	27.17	3.55	35.58	99.21	74.00	25.21	Peak

Test Mode :	802.11b CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

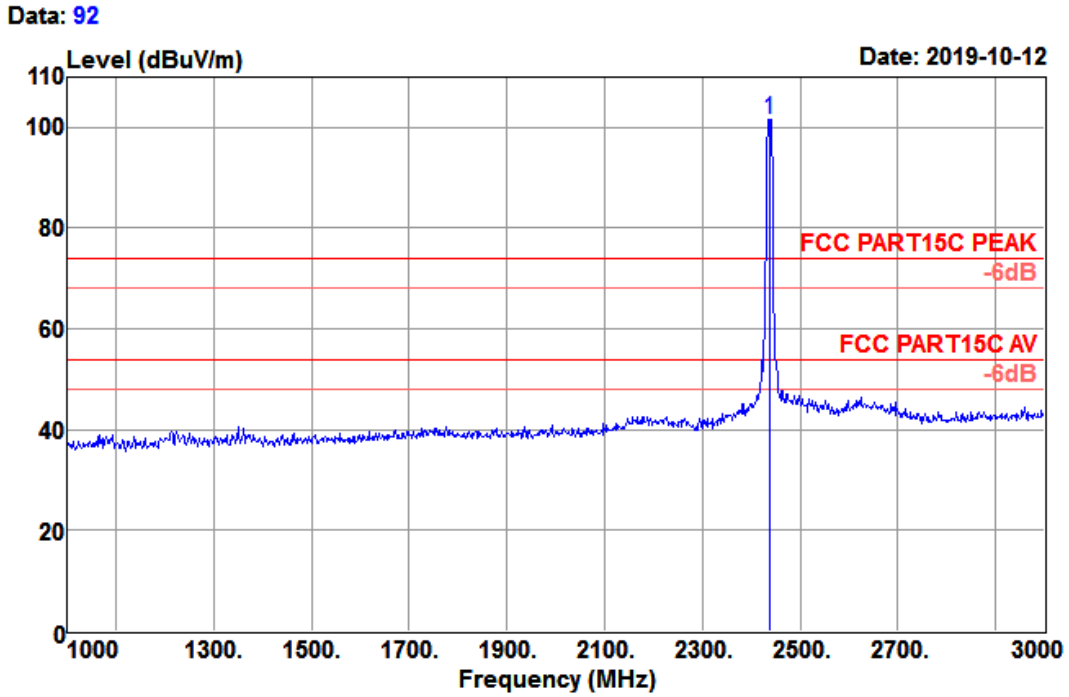




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4824.000	47.11	31.28	5.56	34.84	49.11	54.00	-4.89	Average
4824.000	48.78	31.28	5.56	34.84	50.78	74.00	-23.22	Peak
7236.000	26.15	35.94	7.61	36.40	33.30	54.00	-20.70	Average
7236.000	38.59	35.94	7.61	36.40	45.74	74.00	-28.26	Peak
9648.000	28.29	37.87	10.41	36.40	40.17	54.00	-13.83	Average
9648.000	40.74	37.87	10.41	36.40	52.62	74.00	-21.38	Peak

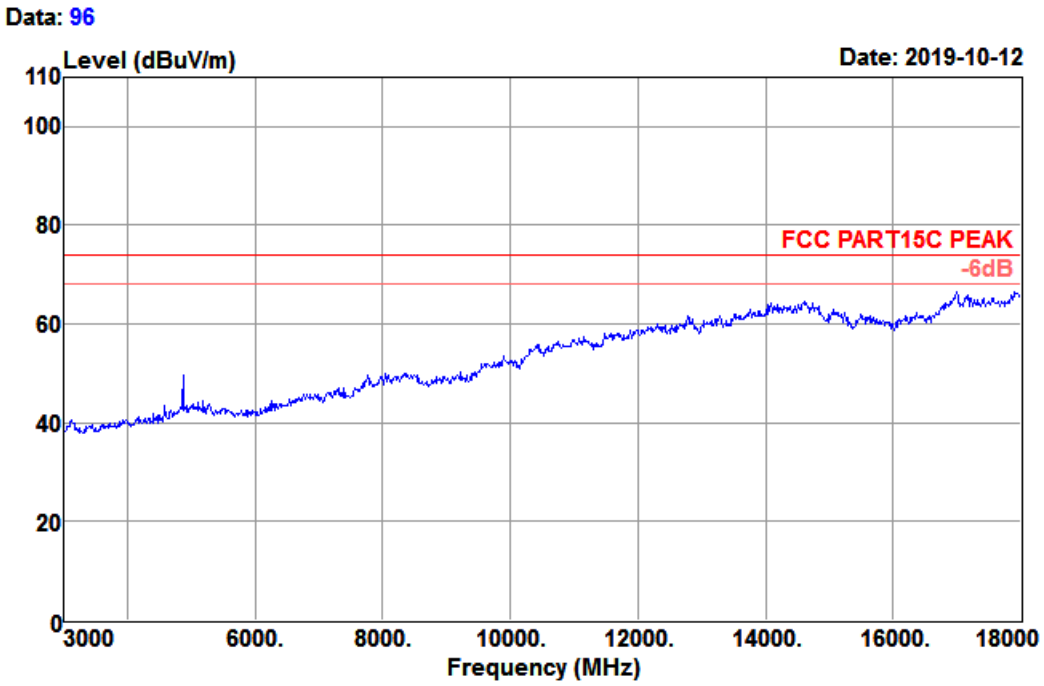
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

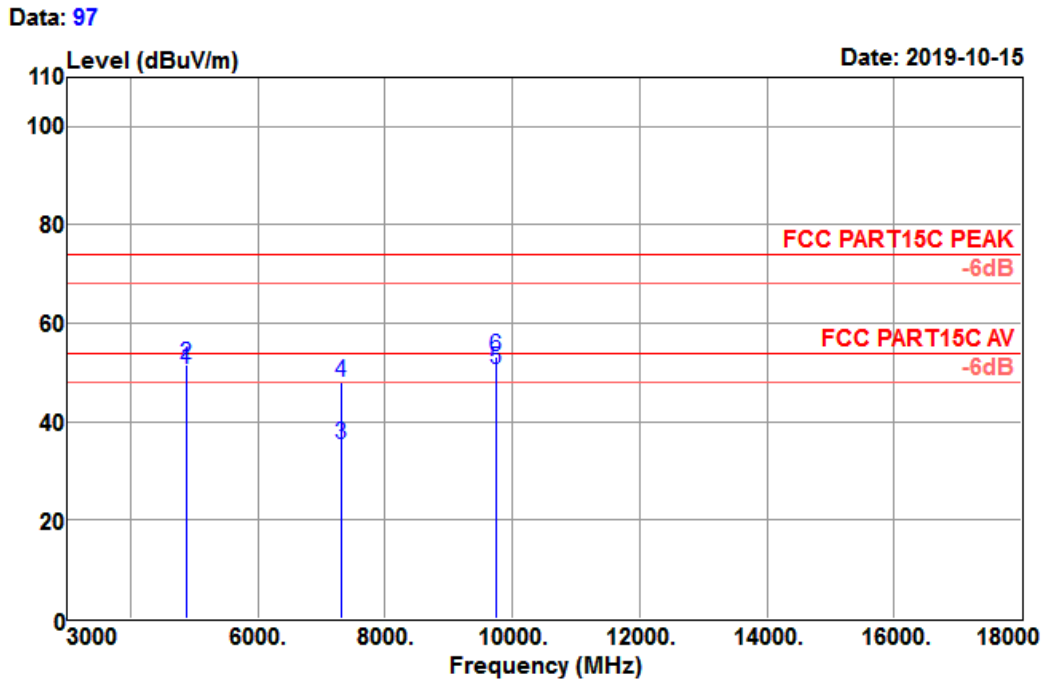
Test Mode :	802.11b CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2437.000	106.36	27.24	3.56	35.61	101.55	74.00	27.55	Peak

Test Mode :	802.11b CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

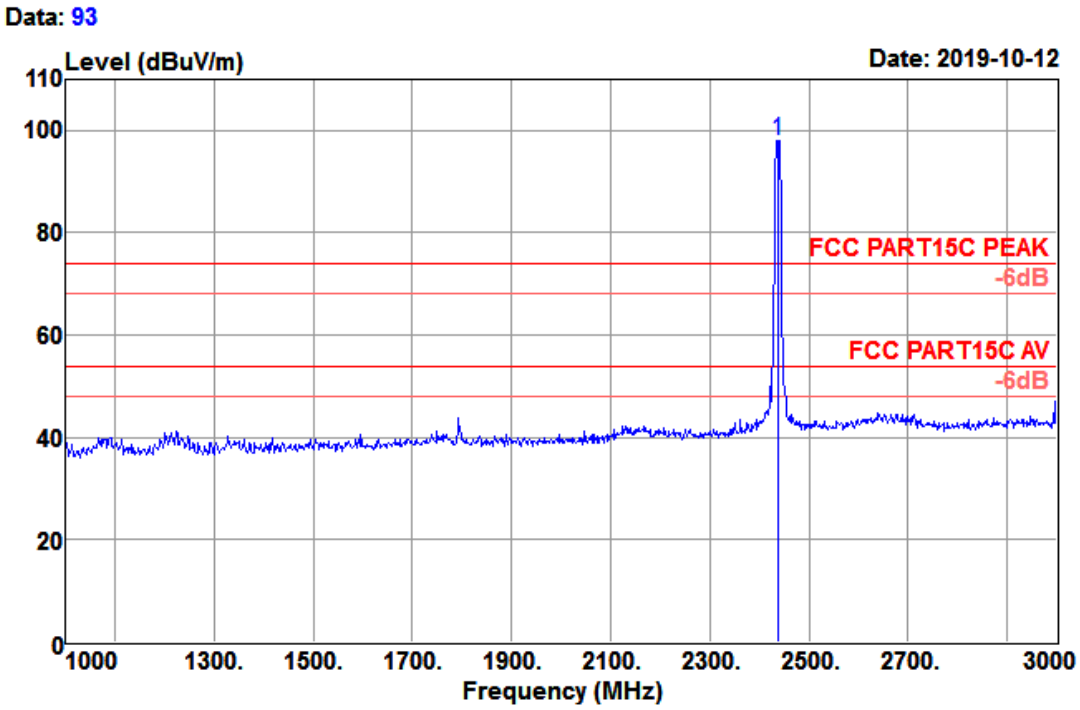




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4874.000	48.59	31.40	5.55	34.80	50.74	54.00	-3.26	Average
4874.000	49.43	31.40	5.55	34.80	51.58	74.00	-22.42	Peak
7311.000	28.06	36.12	7.53	36.40	35.31	54.00	-18.69	Average
7311.000	40.79	36.12	7.53	36.40	48.04	74.00	-25.96	Peak
9748.000	38.19	38.05	10.70	36.40	50.54	54.00	-3.46	Average
9748.000	40.88	38.05	10.70	36.40	53.23	74.00	-20.77	Peak

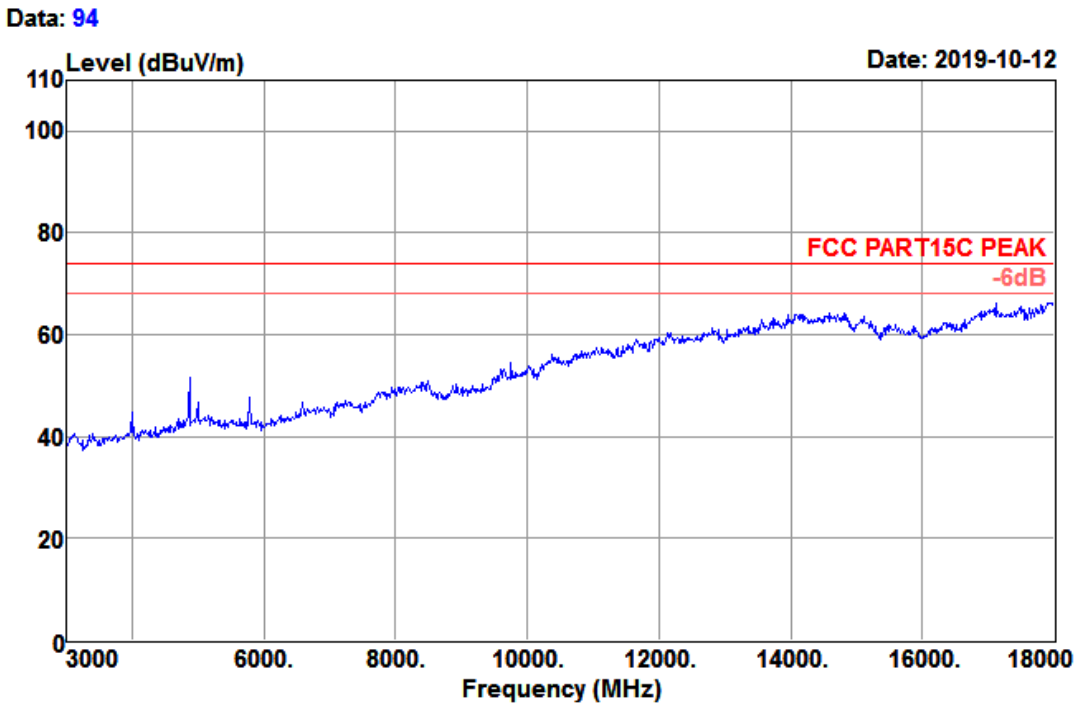
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

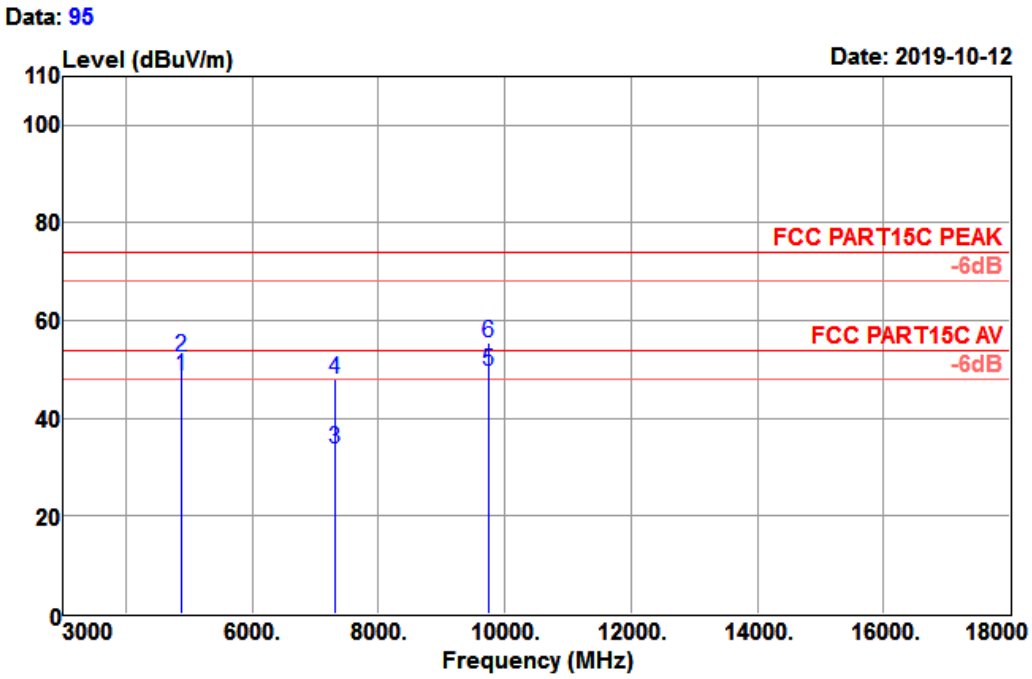
Test Mode :	802.11b CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2437.000	102.72	27.24	3.56	35.61	97.91	74.00	23.91	Peak

Test Mode :	802.11b CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

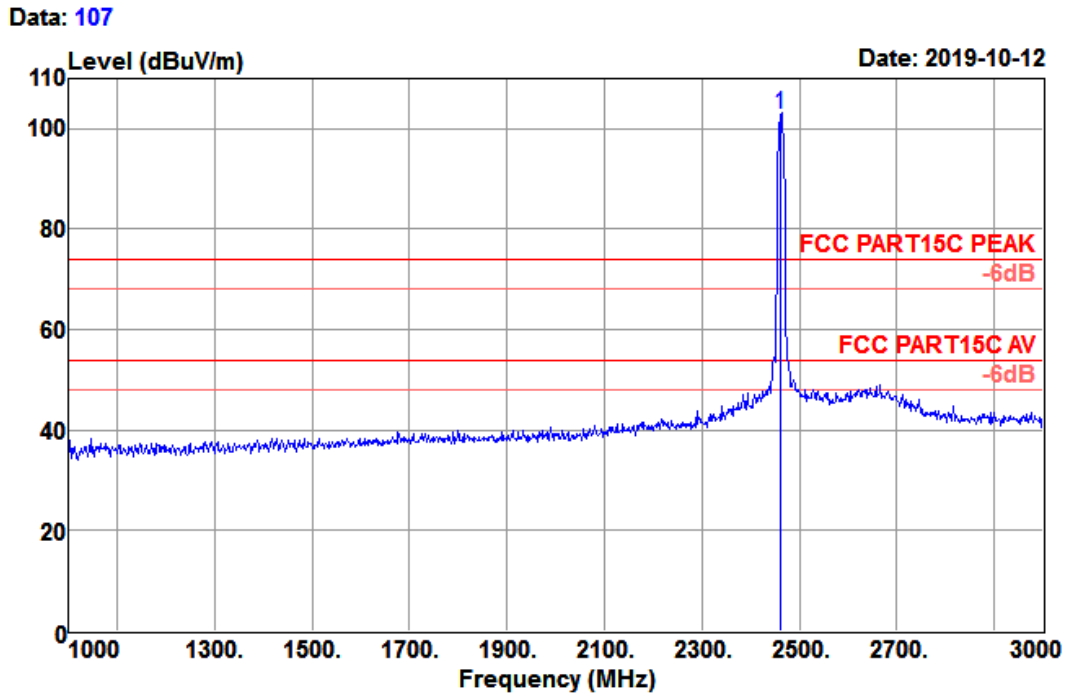




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4874.000	46.41	31.40	5.55	34.80	48.56	54.00	-5.44	Average
4874.000	50.51	31.40	5.55	34.80	52.66	74.00	-21.34	Peak
7311.000	26.49	36.12	7.53	36.40	33.74	54.00	-20.26	Average
7311.000	40.64	36.12	7.53	36.40	47.89	74.00	-26.11	Peak
9748.000	37.44	38.05	10.70	36.40	49.79	54.00	-4.21	Average
9748.000	43.15	38.05	10.70	36.40	55.50	74.00	-18.50	Peak

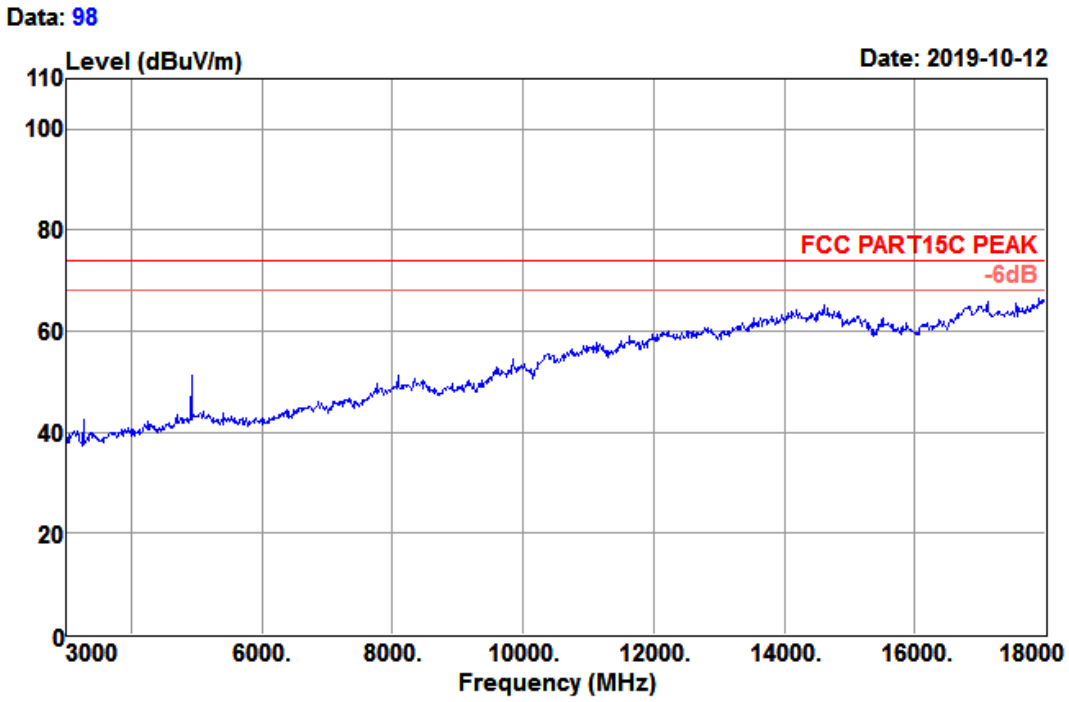
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

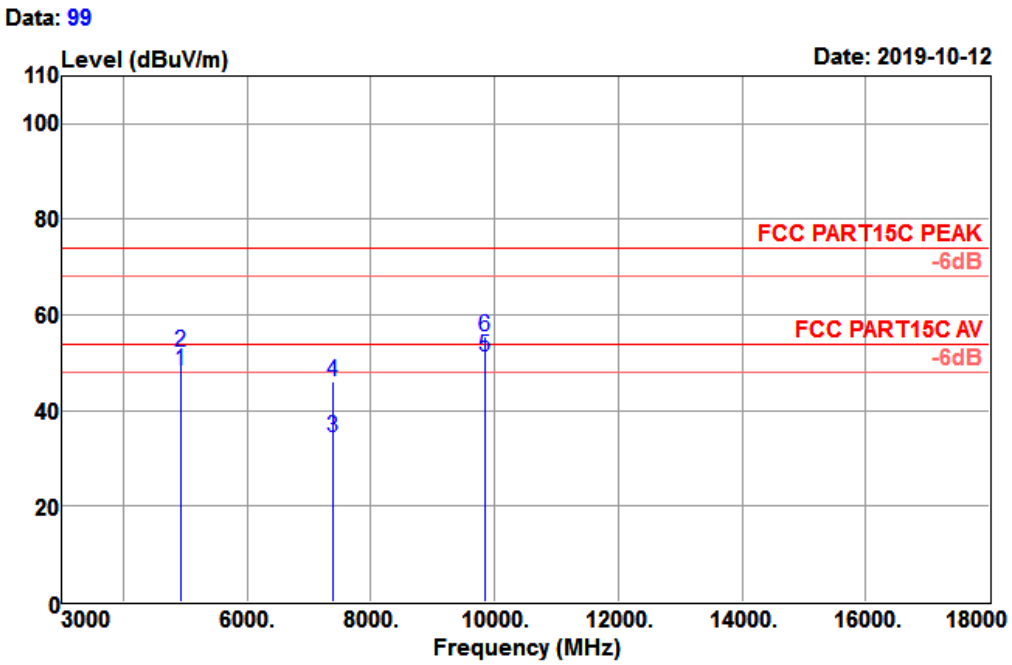
Test Mode :	802.11b CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	107.61	27.30	3.58	35.65	102.84	74.00	28.84	Peak

Test Mode :	802.11b CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

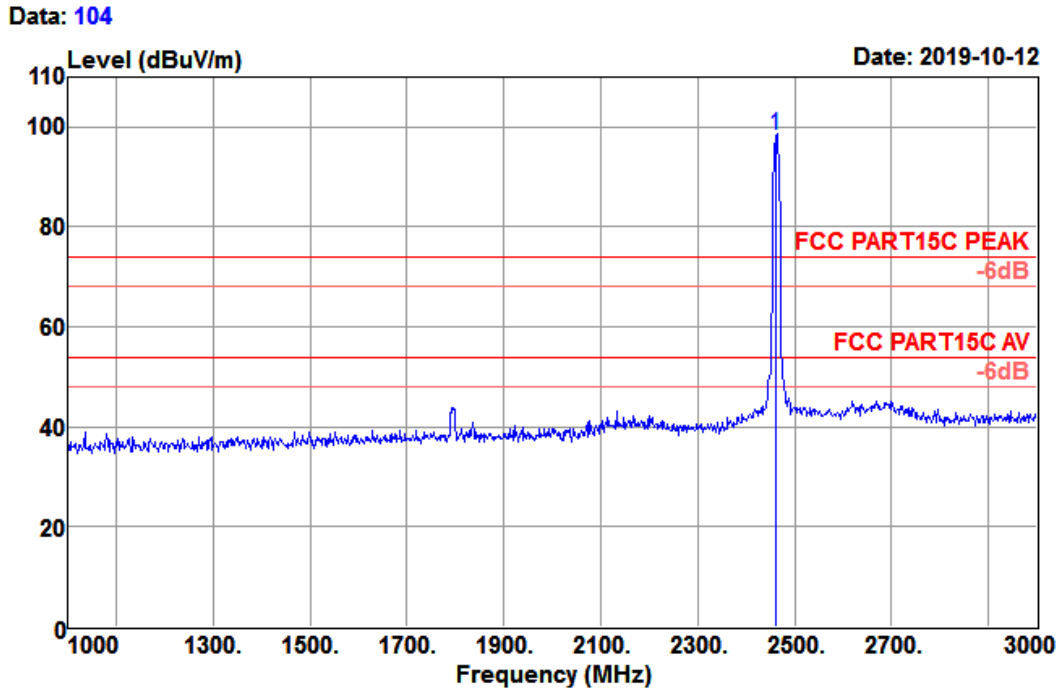




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4924.000	46.13	31.52	5.53	34.76	48.42	54.00	-5.58	Average
4924.000	49.99	31.52	5.53	34.76	52.28	74.00	-21.72	Peak
7386.000	27.08	36.29	7.46	36.40	34.43	54.00	-19.57	Average
7386.000	38.85	36.29	7.46	36.40	46.20	74.00	-27.80	Peak
9848.000	38.32	38.23	10.98	36.40	51.13	54.00	-2.87	Average
9848.000	42.73	38.23	10.98	36.40	55.54	74.00	-18.46	Peak

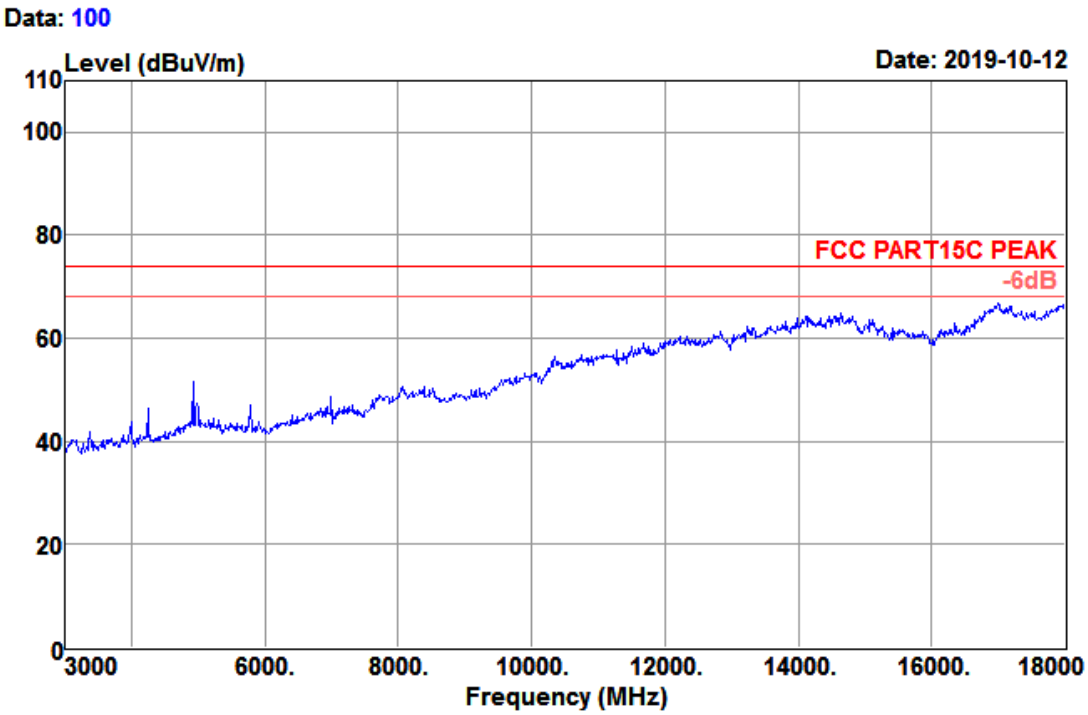
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

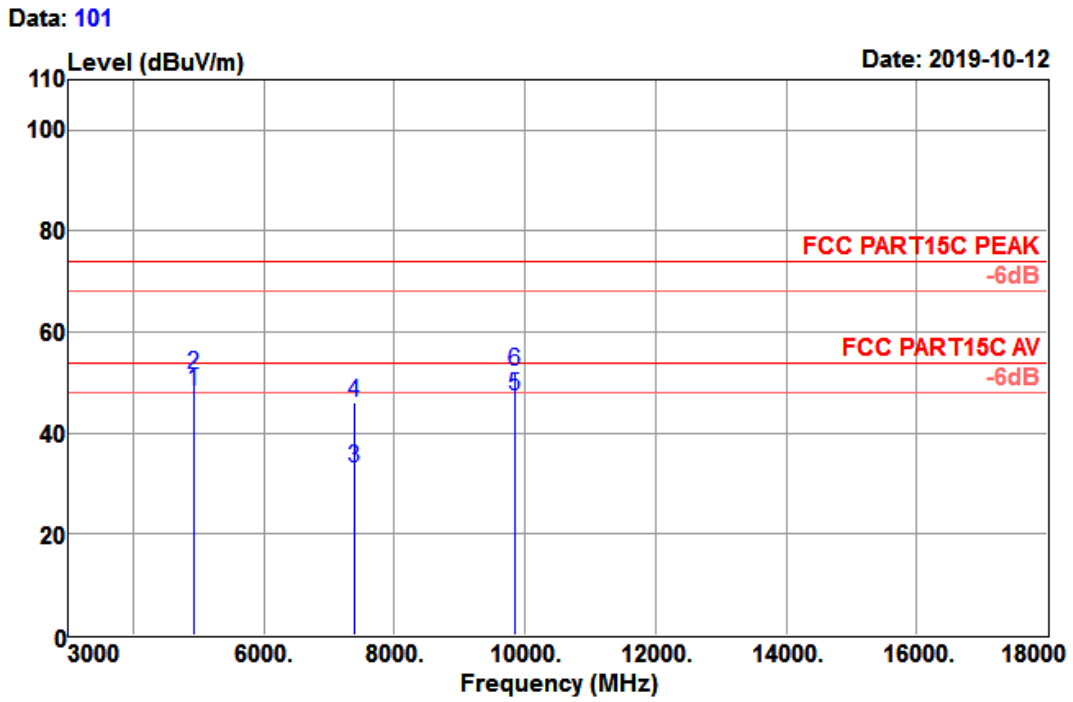
Test Mode :	802.11b CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	103.16	27.30	3.58	35.65	98.39	74.00	24.39	Peak

Test Mode :	802.11b CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

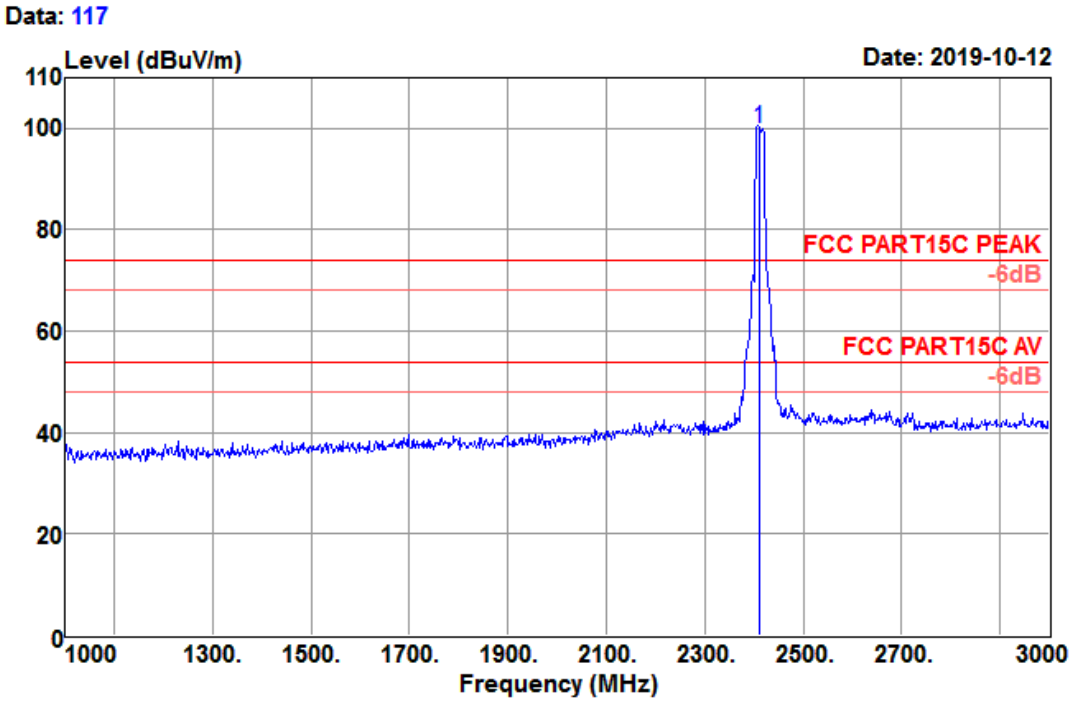




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4924.000	46.14	31.52	5.53	34.76	48.43	54.00	-5.57	Average
4924.000	49.37	31.52	5.53	34.76	51.66	74.00	-22.34	Peak
7386.000	25.81	36.29	7.46	36.40	33.16	54.00	-20.84	Average
7386.000	38.86	36.29	7.46	36.40	46.21	74.00	-27.79	Peak
9848.000	34.60	38.23	10.98	36.40	47.41	54.00	-6.59	Average
9848.000	39.60	38.23	10.98	36.40	52.41	74.00	-21.59	Peak

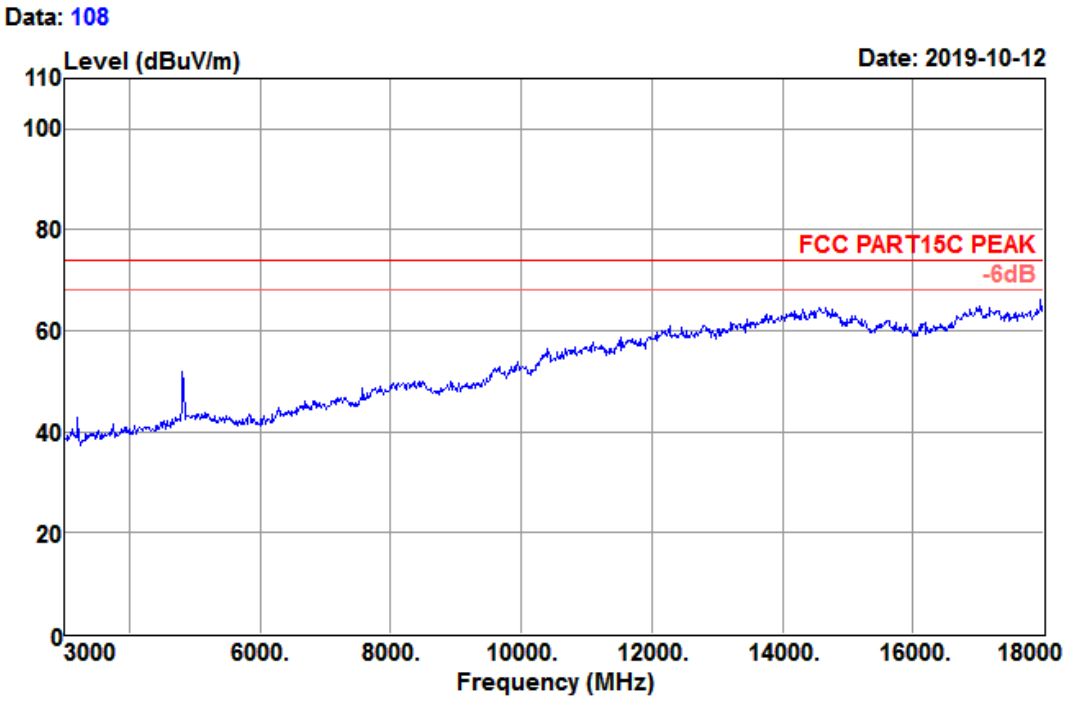
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

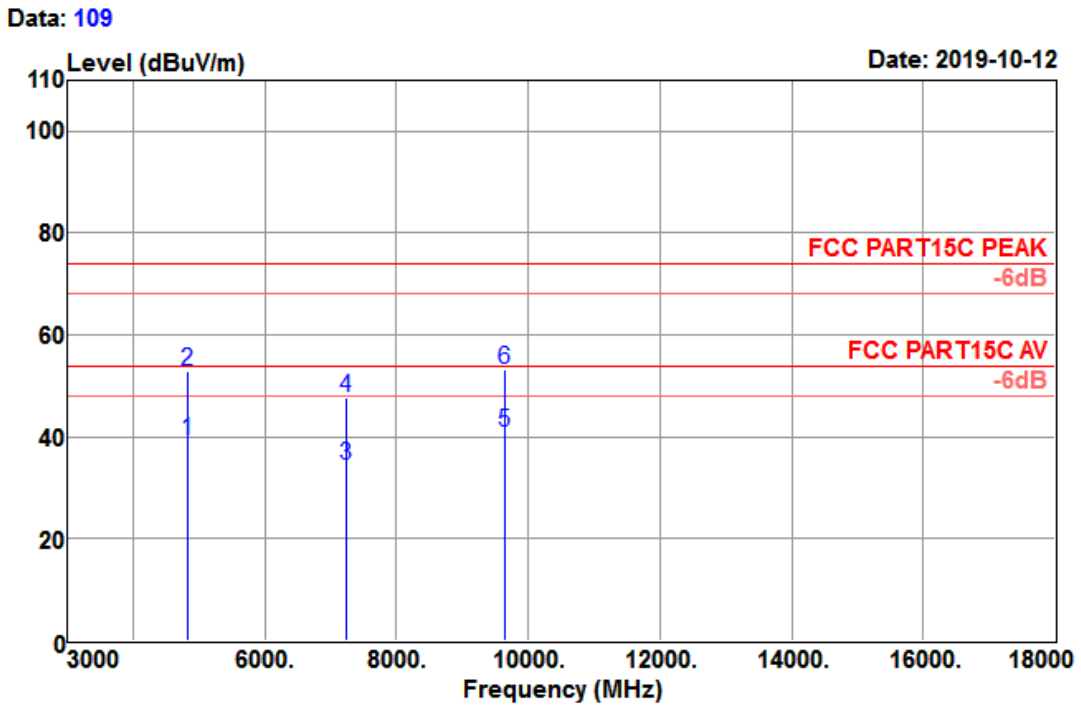
Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2412.000	104.72	27.17	3.55	35.58	99.86	74.00	25.86	Peak

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

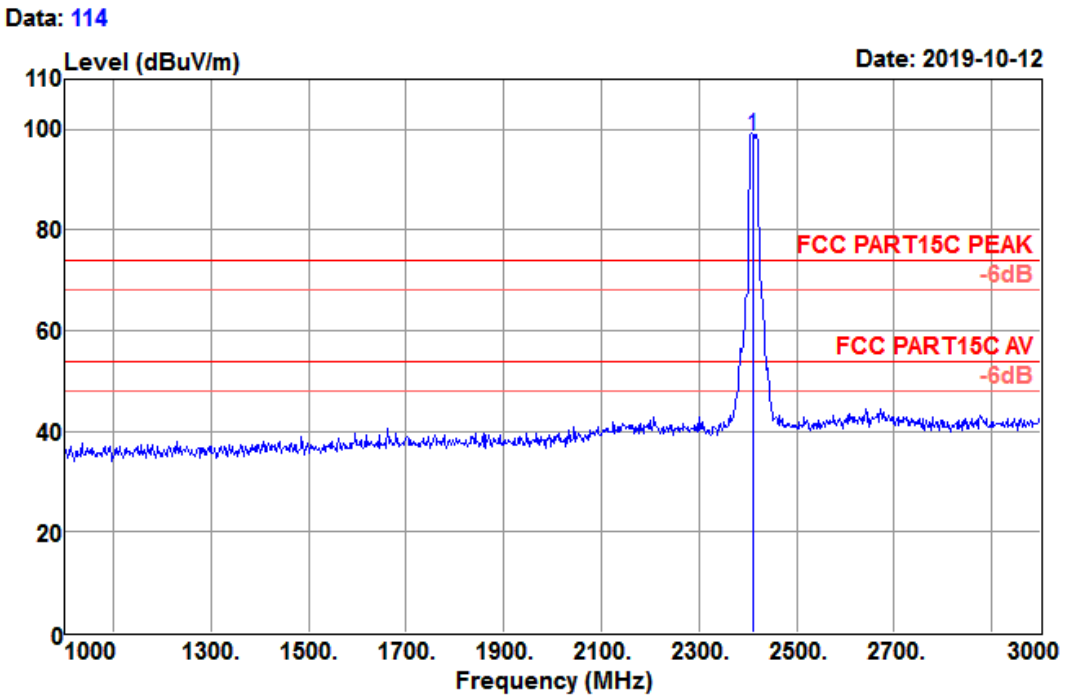




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4824.000	37.15	31.28	5.56	34.84	39.15	54.00	-14.85	Average
4824.000	50.95	31.28	5.56	34.84	52.95	74.00	-21.05	Peak
7236.000	27.41	35.94	7.61	36.40	34.56	54.00	-19.44	Average
7236.000	40.52	35.94	7.61	36.40	47.67	74.00	-26.33	Peak
9648.000	28.96	37.87	10.41	36.40	40.84	54.00	-13.16	Average
9648.000	41.47	37.87	10.41	36.40	53.35	74.00	-20.65	Peak

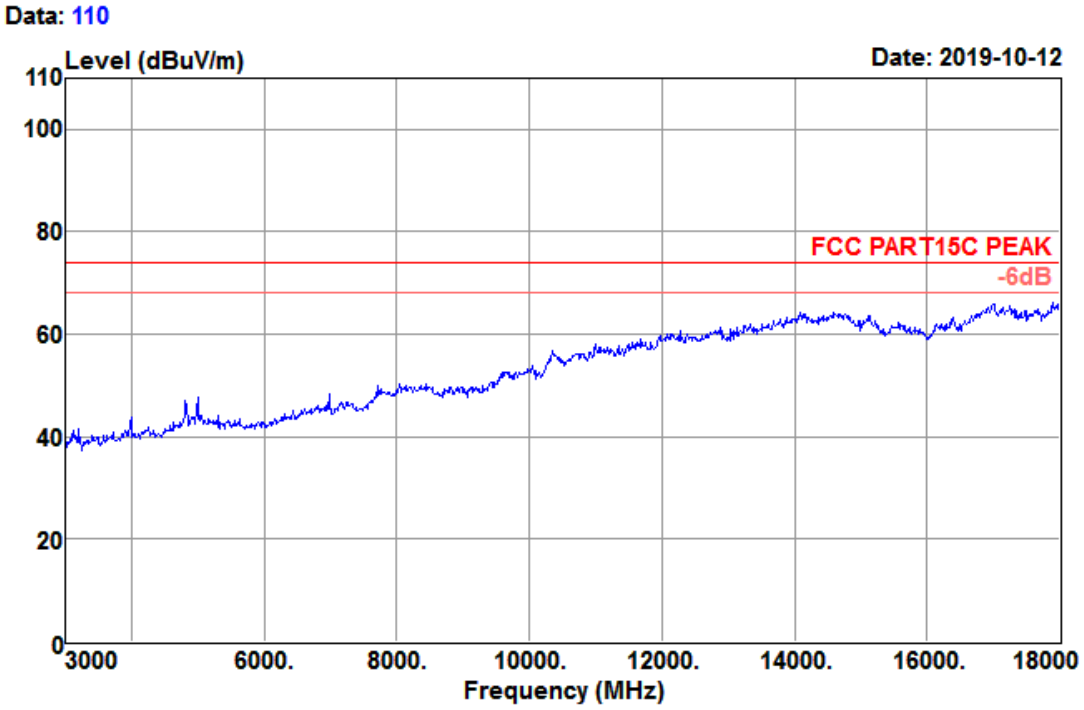
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

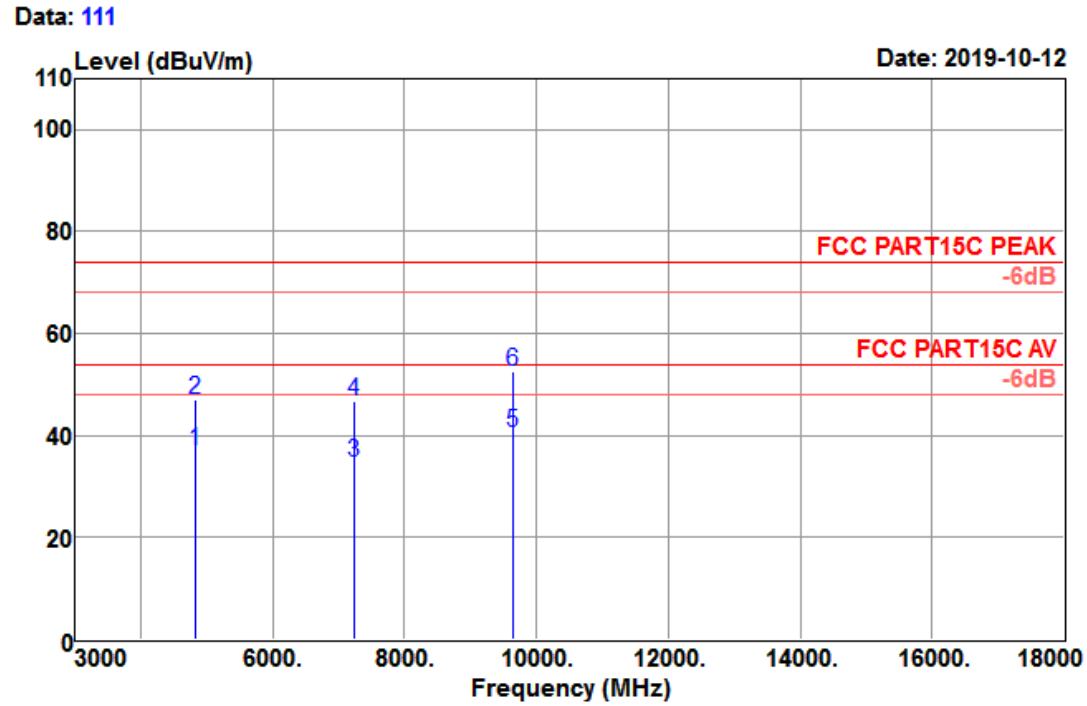
Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2412.000	103.38	27.17	3.55	35.58	98.52	74.00	24.52	Peak

Test Mode :	802.11g CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

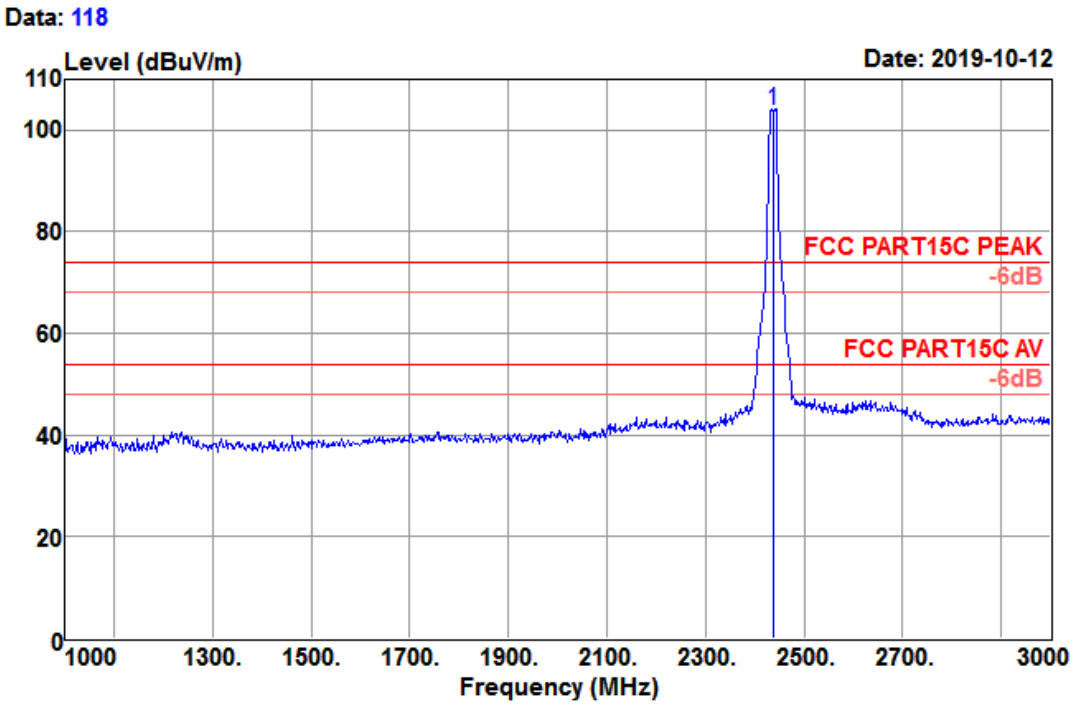




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4824.000	34.96	31.28	5.56	34.84	36.96	54.00	-17.04	Average
4824.000	45.12	31.28	5.56	34.84	47.12	74.00	-26.88	Peak
7236.000	27.46	35.94	7.61	36.40	34.61	54.00	-19.39	Average
7236.000	39.49	35.94	7.61	36.40	46.64	74.00	-27.36	Peak
9648.000	28.84	37.87	10.41	36.40	40.72	54.00	-13.28	Average
9648.000	40.69	37.87	10.41	36.40	52.57	74.00	-21.43	Peak

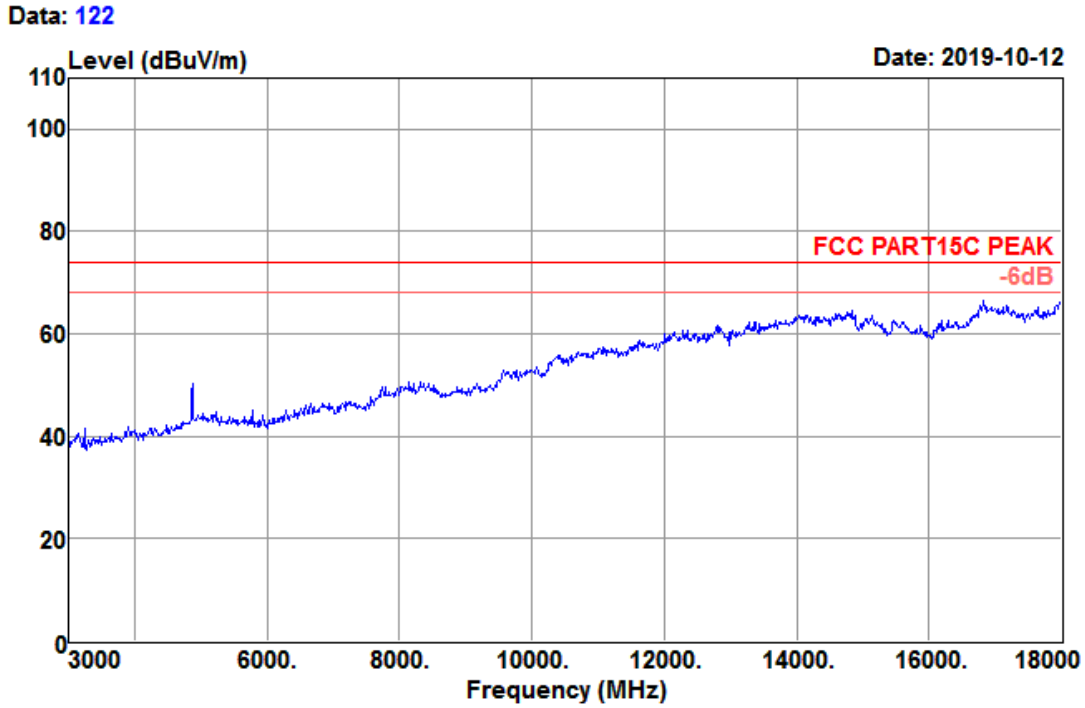
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

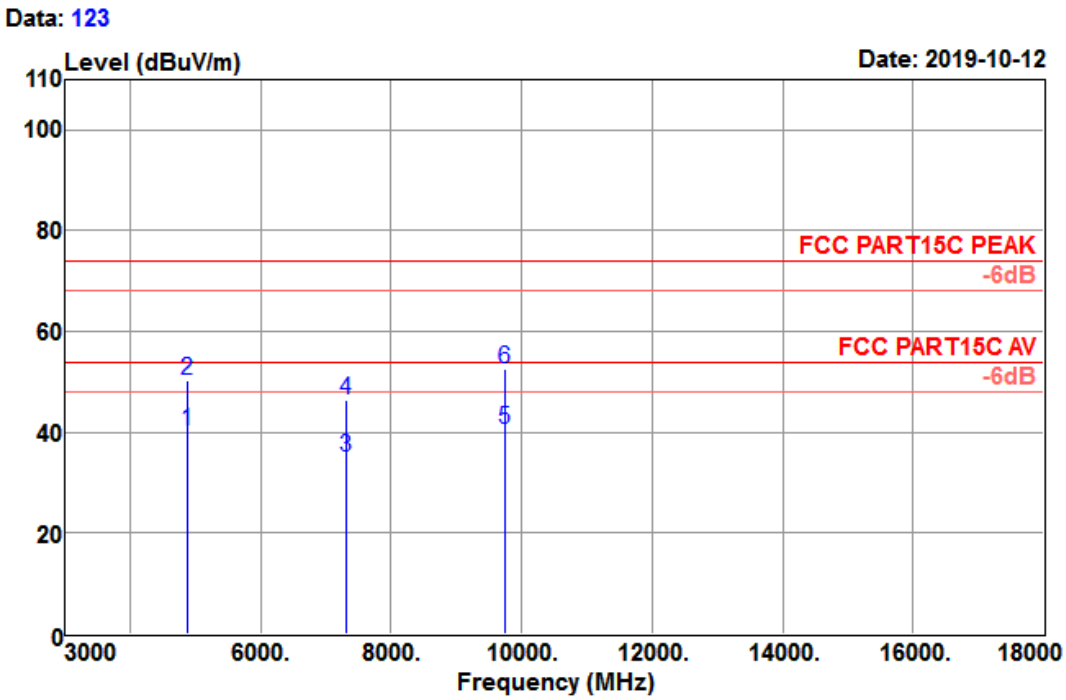
Test Mode :	802.11g CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2437.000	108.68	27.24	3.56	35.61	103.87	74.00	29.87	Peak

Test Mode :	802.11g CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

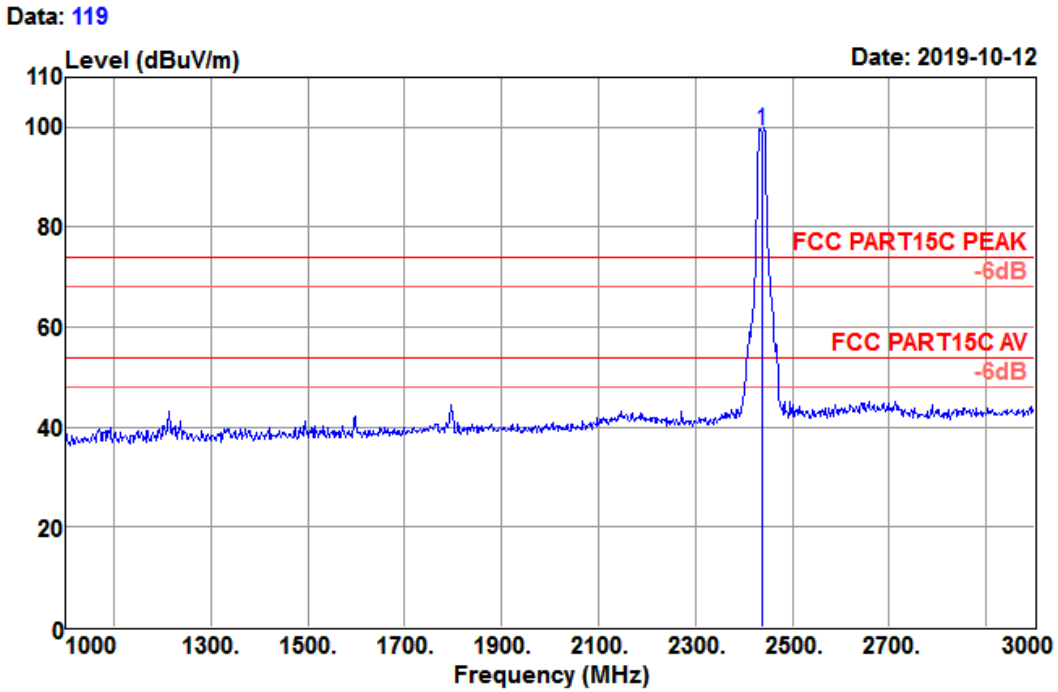




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4874.000	38.03	31.40	5.55	34.80	40.18	54.00	-13.82	Average
4874.000	48.26	31.40	5.55	34.80	50.41	74.00	-23.59	Peak
7311.000	27.74	36.12	7.53	36.40	34.99	54.00	-19.01	Average
7311.000	39.25	36.12	7.53	36.40	46.50	74.00	-27.50	Peak
9748.000	28.27	38.05	10.70	36.40	40.62	54.00	-13.38	Average
9748.000	40.14	38.05	10.70	36.40	52.49	74.00	-21.51	Peak

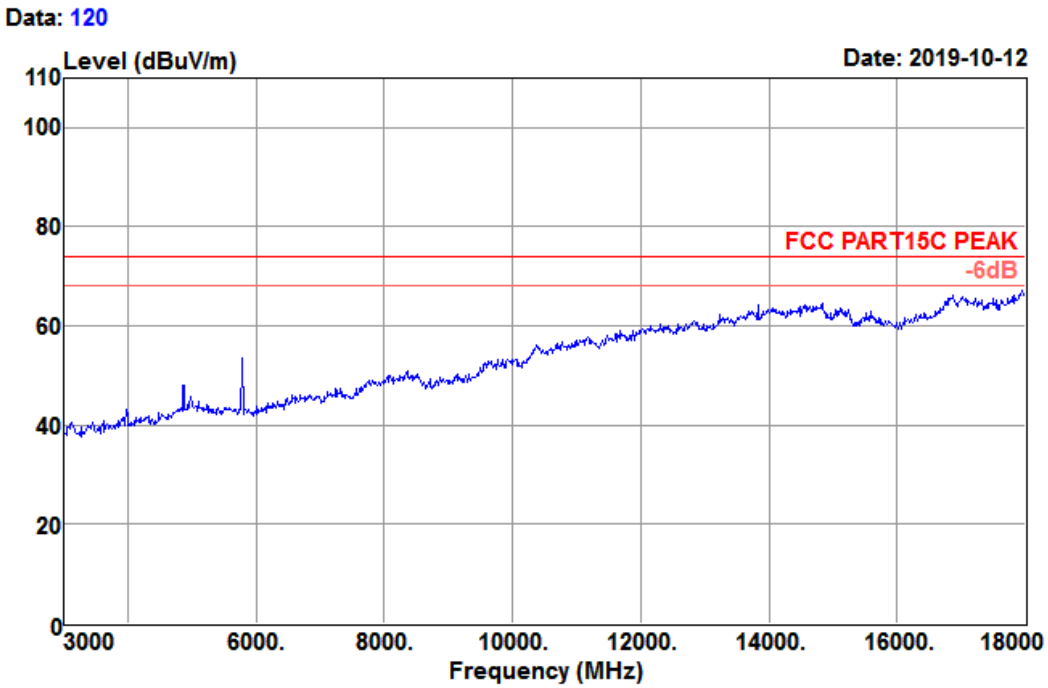
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

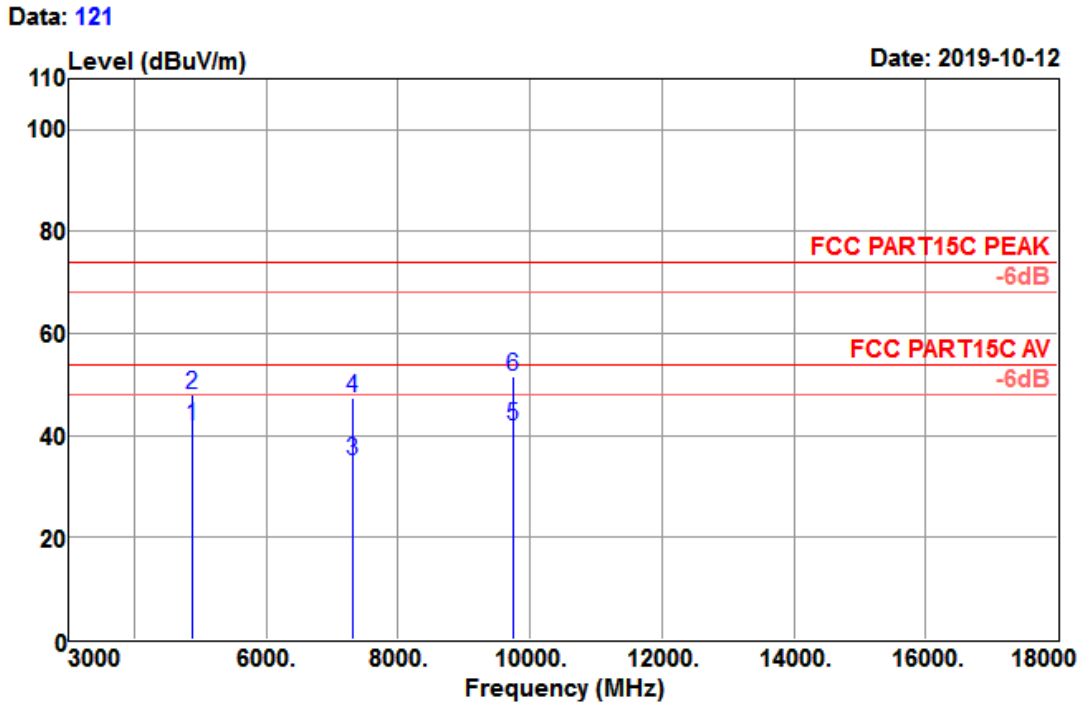
Test Mode :	802.11g CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
2437.000	103.96	27.24	3.56	35.61	99.15	74.00	25.15	Peak

Test Mode :	802.11g CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

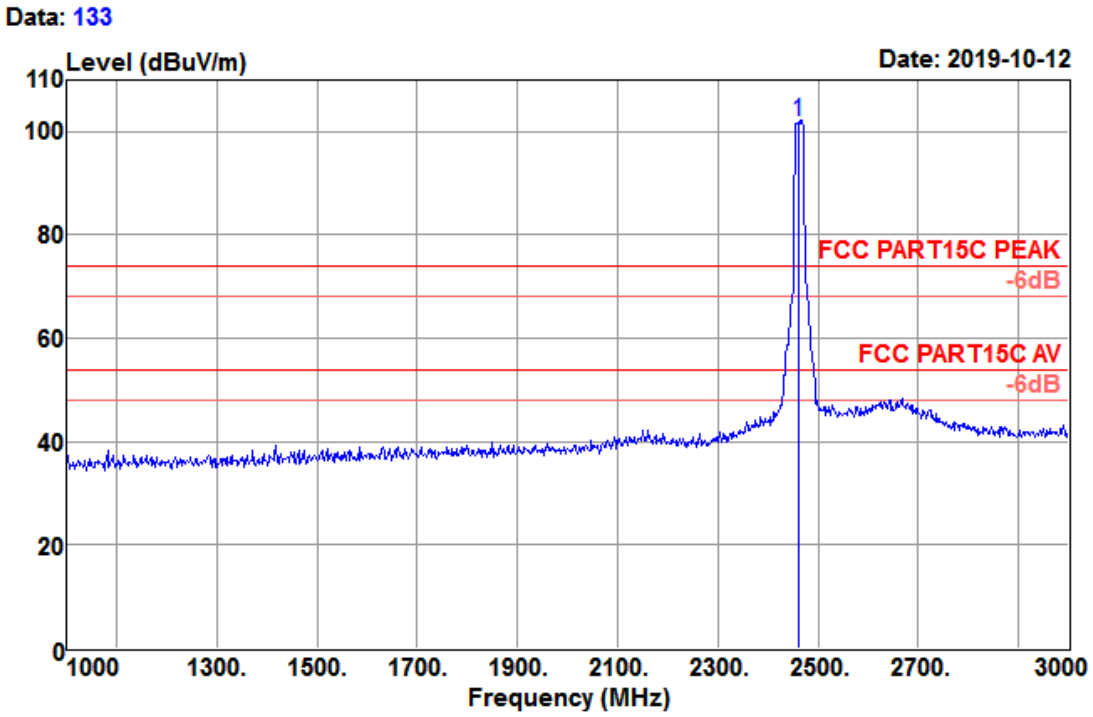




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4874.000	39.62	31.40	5.55	34.80	41.77	54.00	-12.23	Average
4874.000	45.89	31.40	5.55	34.80	48.04	74.00	-25.96	Peak
7311.000	27.78	36.12	7.53	36.40	35.03	54.00	-18.97	Average
7311.000	40.17	36.12	7.53	36.40	47.42	74.00	-26.58	Peak
9748.000	29.67	38.05	10.70	36.40	42.02	54.00	-11.98	Average
9748.000	39.17	38.05	10.70	36.40	51.52	74.00	-22.48	Peak

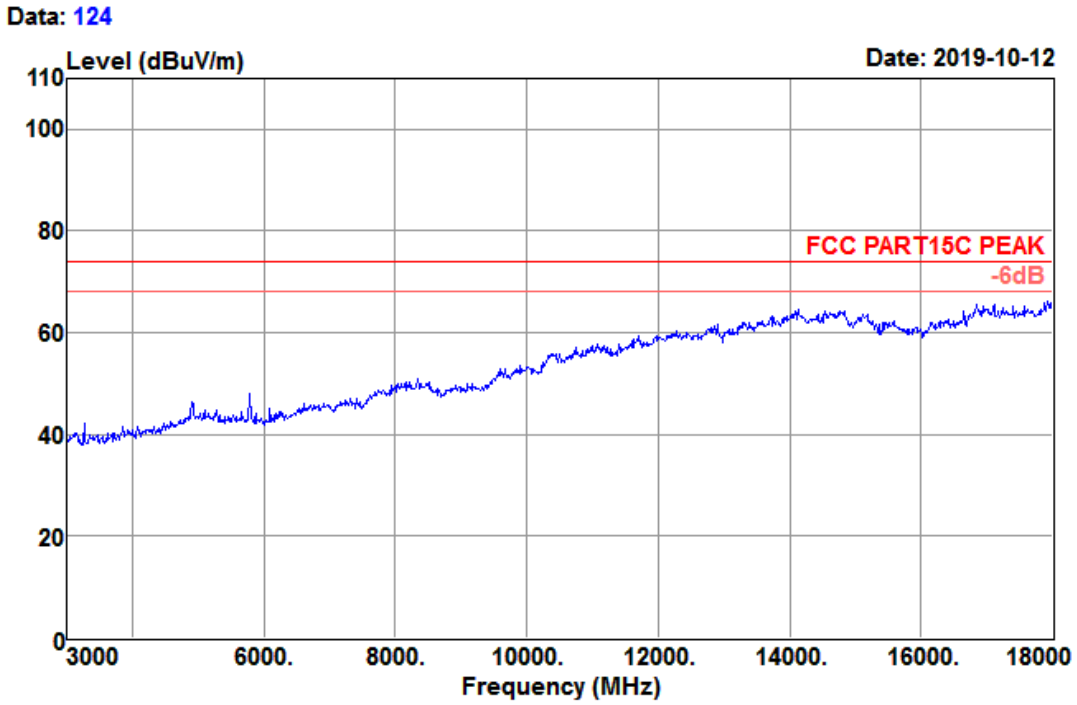
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

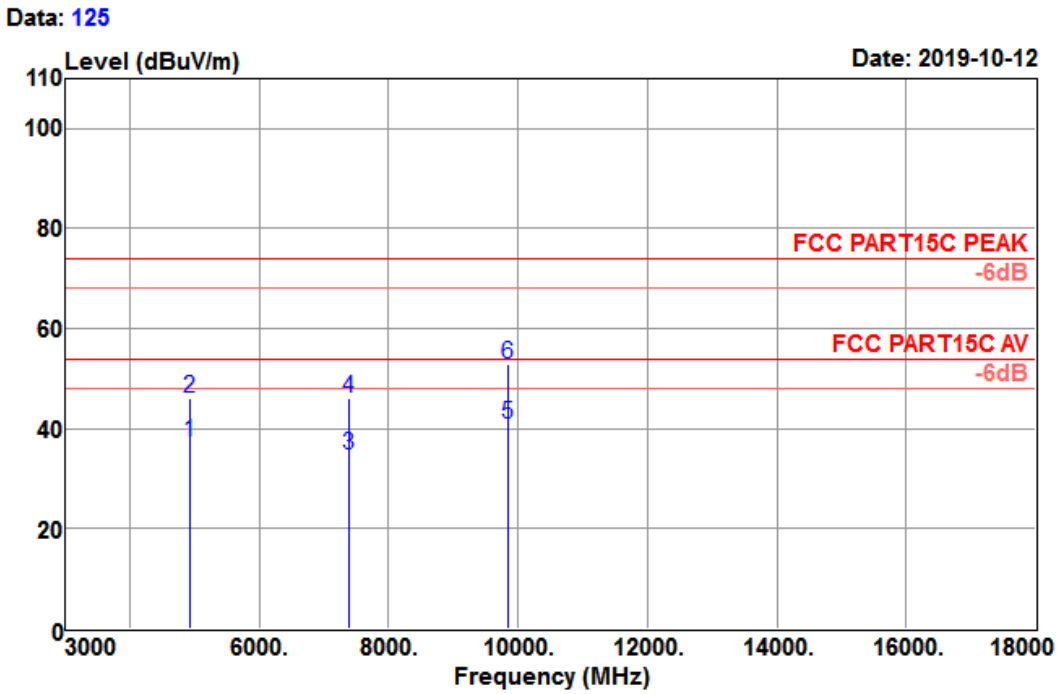
Test Mode :	802.11g CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	106.64	27.30	3.58	35.65	101.87	74.00	27.87	Peak

Test Mode :	802.11g CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

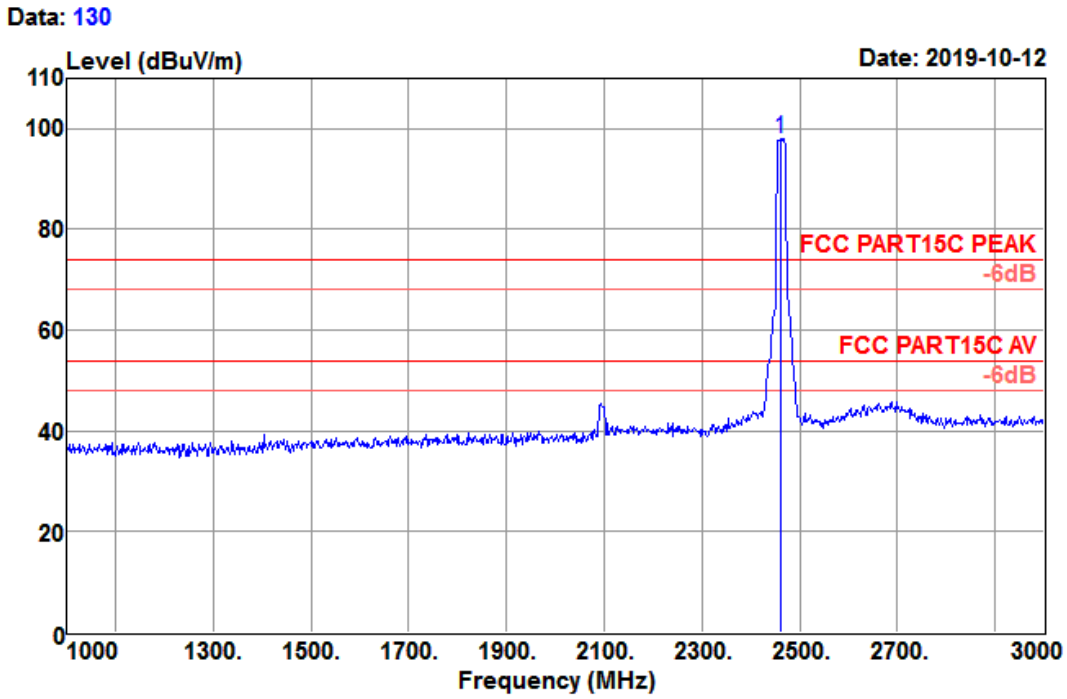




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4924.000	35.04	31.52	5.53	34.76	37.33	54.00	-16.67	Average
4924.000	43.96	31.52	5.53	34.76	46.25	74.00	-27.75	Peak
7386.000	27.39	36.29	7.46	36.40	34.74	54.00	-19.26	Average
7386.000	38.60	36.29	7.46	36.40	45.95	74.00	-28.05	Peak
9848.000	28.23	38.23	10.98	36.40	41.04	54.00	-12.96	Average
9848.000	40.11	38.23	10.98	36.40	52.92	74.00	-21.08	Peak

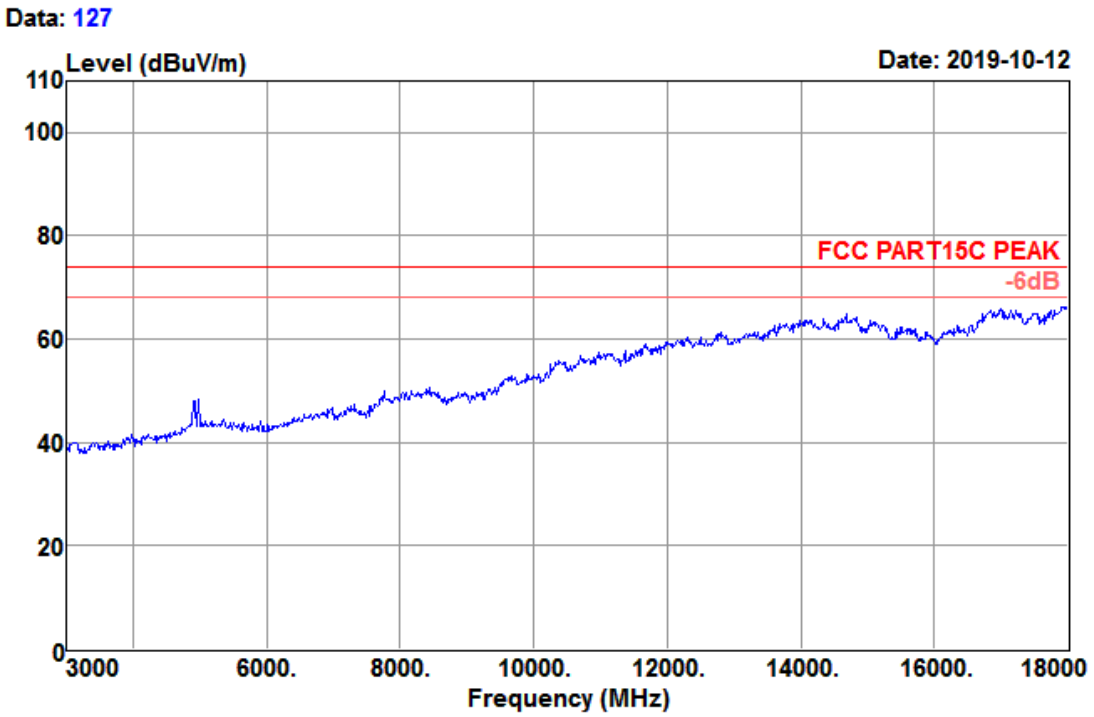
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

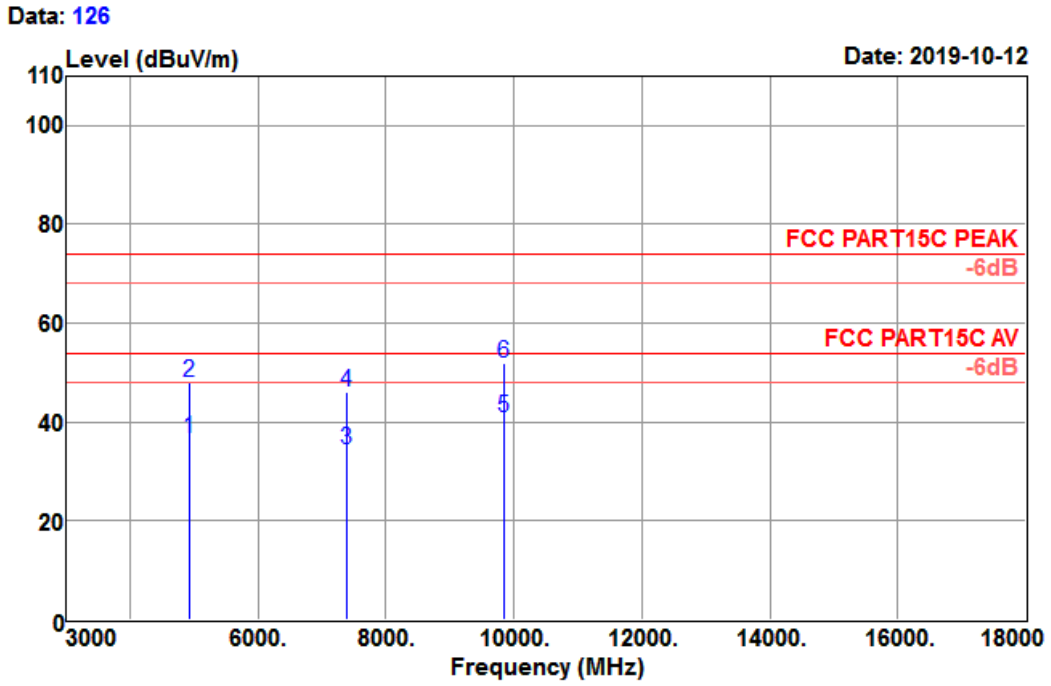
Test Mode :	802.11g CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	102.77	27.30	3.58	35.65	98.00	74.00	24.00	Peak

Test Mode :	802.11g CH11 (2462MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

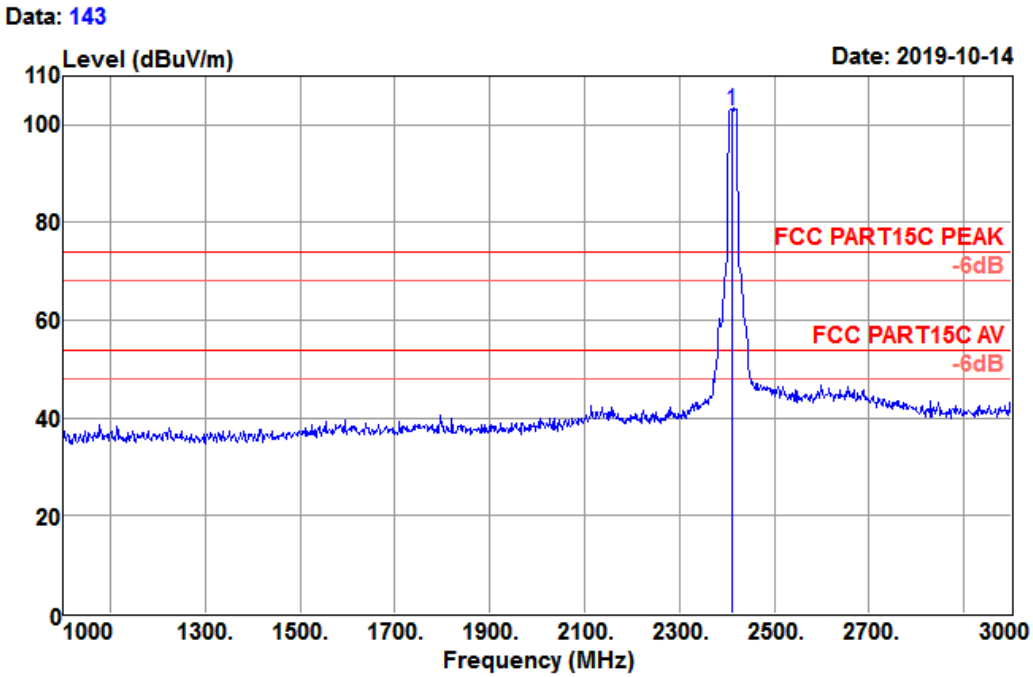




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4924.000	34.26	31.52	5.53	34.76	36.55	54.00	-17.45	Average
4924.000	45.77	31.52	5.53	34.76	48.06	74.00	-25.94	Peak
7386.000	27.19	36.29	7.46	36.40	34.54	54.00	-19.46	Average
7386.000	38.71	36.29	7.46	36.40	46.06	74.00	-27.94	Peak
9848.000	28.09	38.23	10.98	36.40	40.90	54.00	-13.10	Average
9848.000	39.28	38.23	10.98	36.40	52.09	74.00	-21.91	Peak

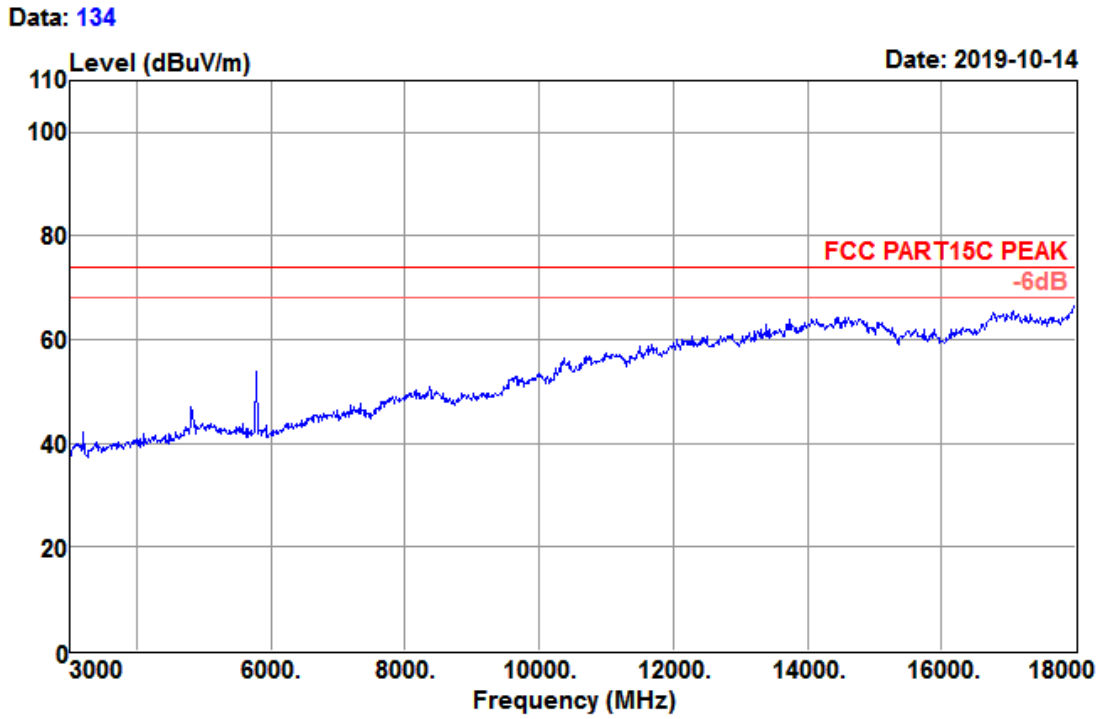
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

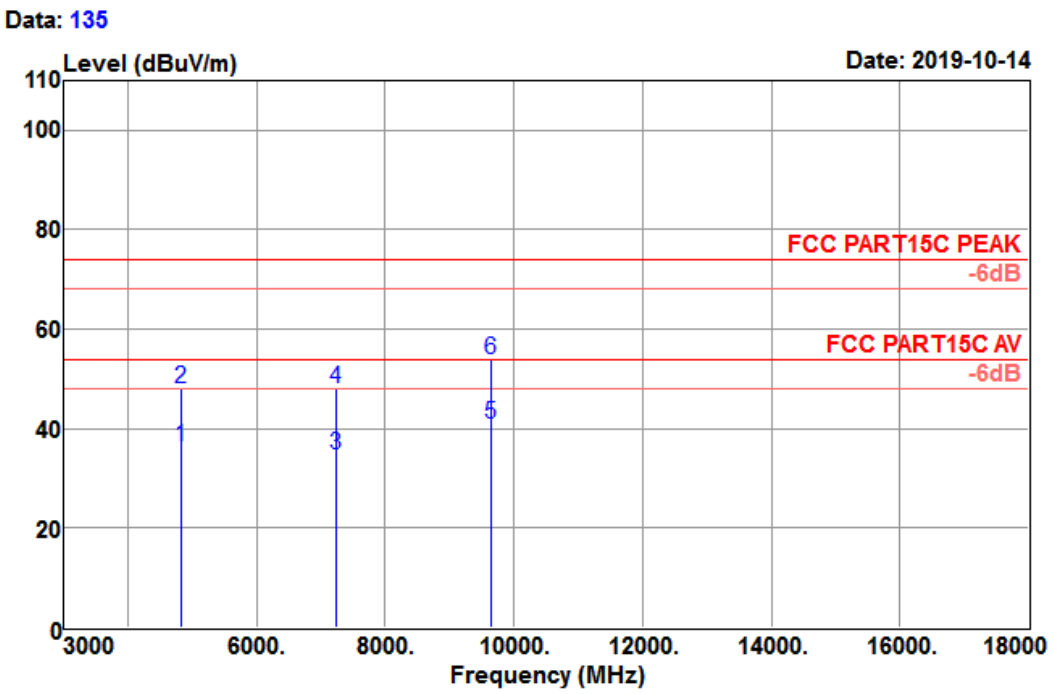
Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2412.000	107.66	27.17	3.55	35.58	102.80	74.00	28.80	Peak

Test Mode :	802.11n HT20 CH01 (2412 MHz)	**Temperature :**	21~23℃
Test Engineer :	Julie Deng	**Relative Humidity :**	63~65%
Frequencey Range	3GHz~18GHz	**Polarization :**	Horizontal

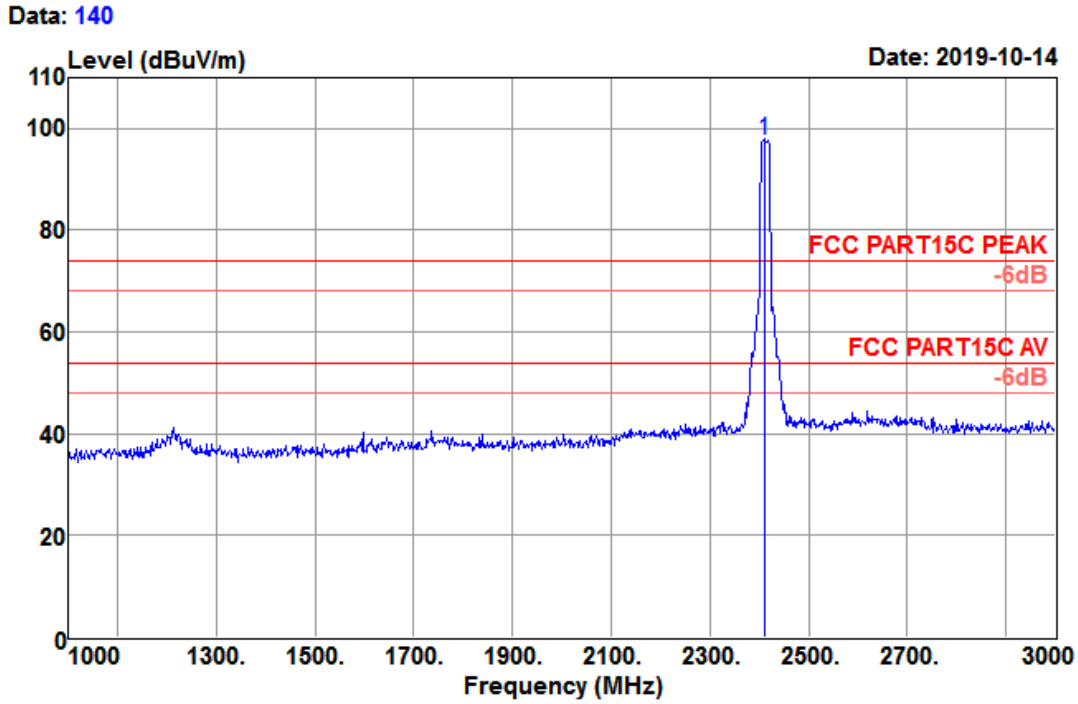




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4824.000	34.25	31.28	5.56	34.84	36.25	54.00	-17.75	Average
4824.000	46.14	31.28	5.56	34.84	48.14	74.00	-25.86	Peak
7236.000	27.57	35.94	7.61	36.40	34.72	54.00	-19.28	Average
7236.000	40.79	35.94	7.61	36.40	47.94	74.00	-26.06	Peak
9648.000	29.16	37.87	10.41	36.40	41.04	54.00	-12.96	Average
9648.000	41.88	37.87	10.41	36.40	53.76	74.00	-20.24	Peak

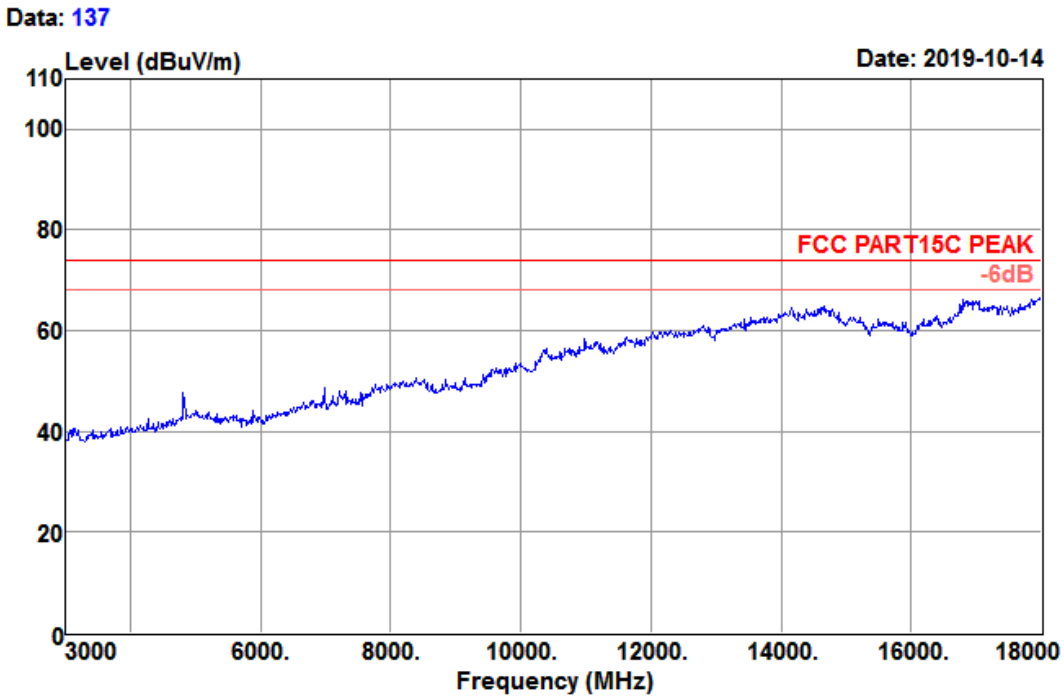
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

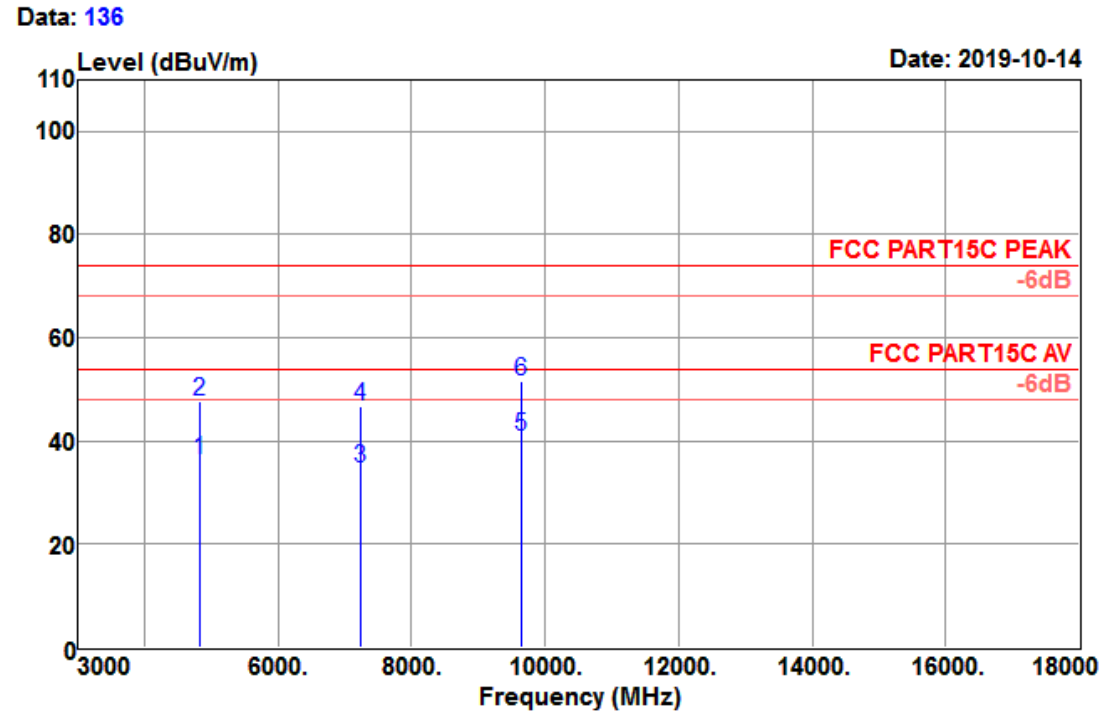
Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2412.000	102.55	27.17	3.55	35.58	97.69	74.00	23.69	Peak

Test Mode :	802.11n HT20 CH01 (2412 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

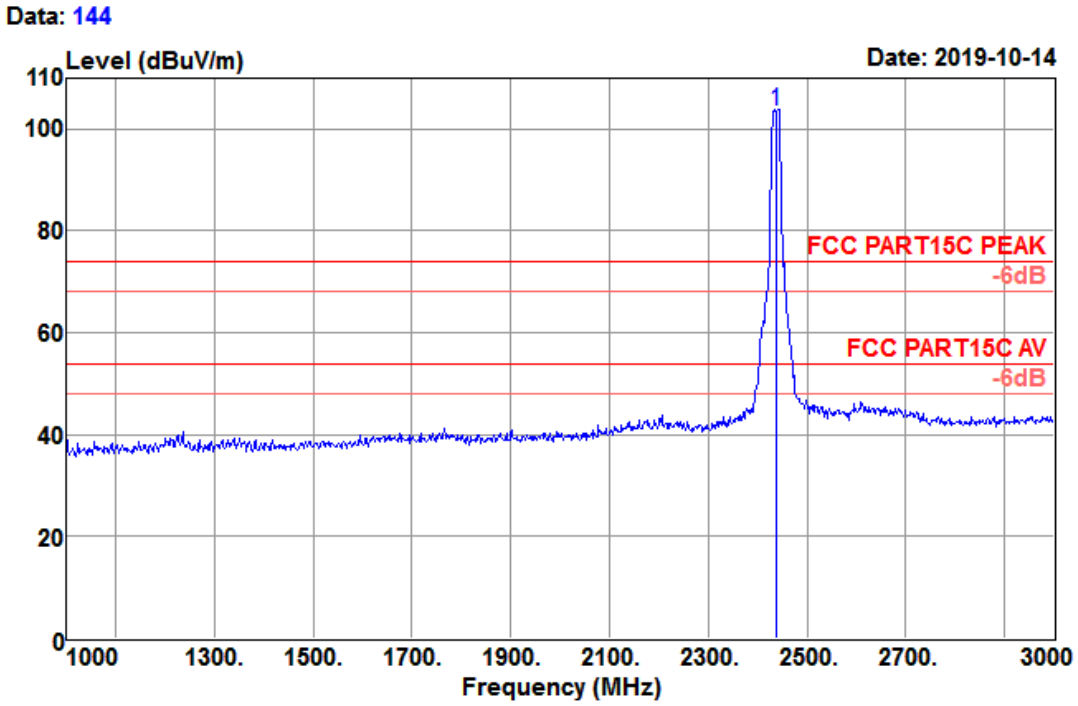




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4824.000	34.46	31.28	5.56	34.84	36.46	54.00	-17.54	Average
4824.000	45.69	31.28	5.56	34.84	47.69	74.00	-26.31	Peak
7236.000	27.74	35.94	7.61	36.40	34.89	54.00	-19.11	Average
7236.000	39.66	35.94	7.61	36.40	46.81	74.00	-27.19	Peak
9648.000	28.99	37.87	10.41	36.40	40.87	54.00	-13.13	Average
9648.000	39.64	37.87	10.41	36.40	51.52	74.00	-22.48	Peak

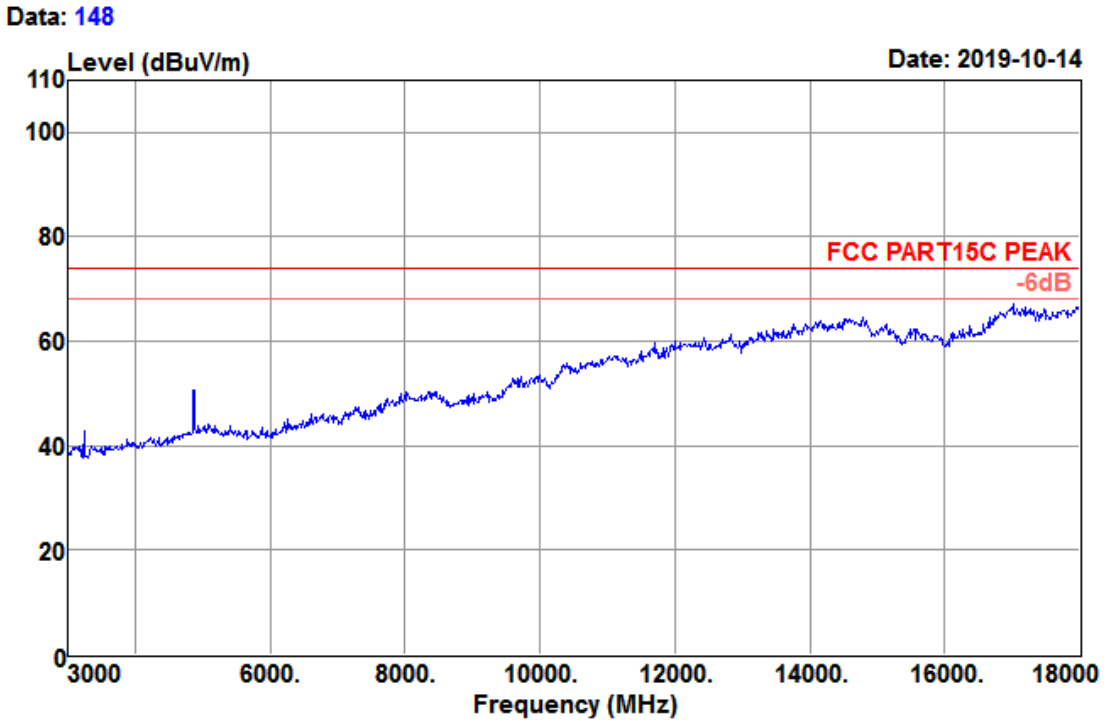
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

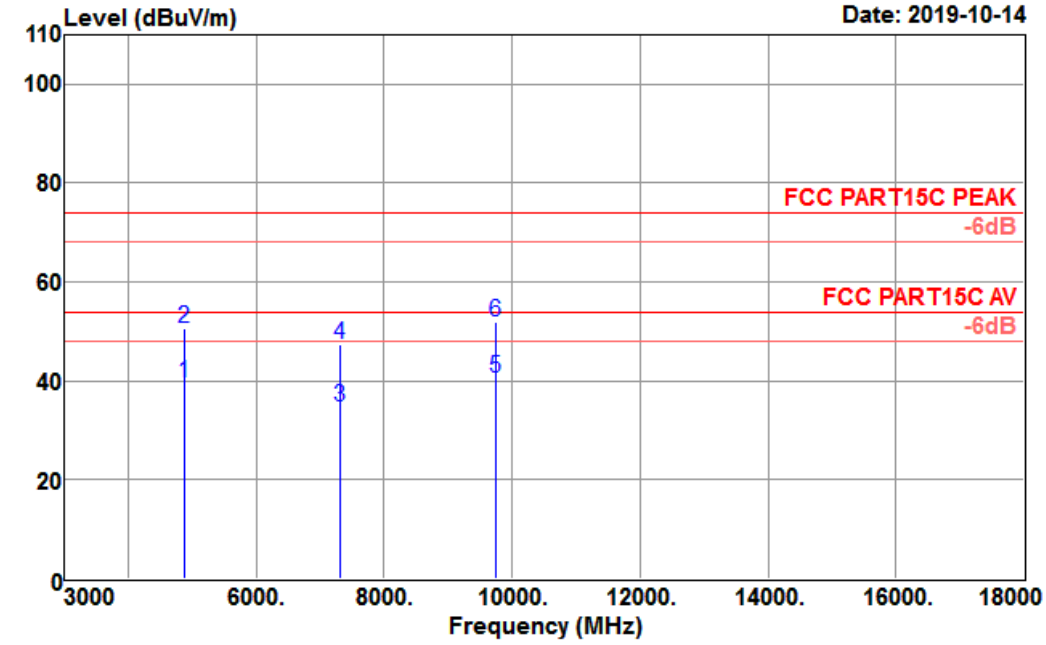
Test Mode :	802.11n HT20 CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2437.000	108.26	27.24	3.56	35.61	103.45	74.00	29.45	Peak

Test Mode :	802.11n HT20 CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

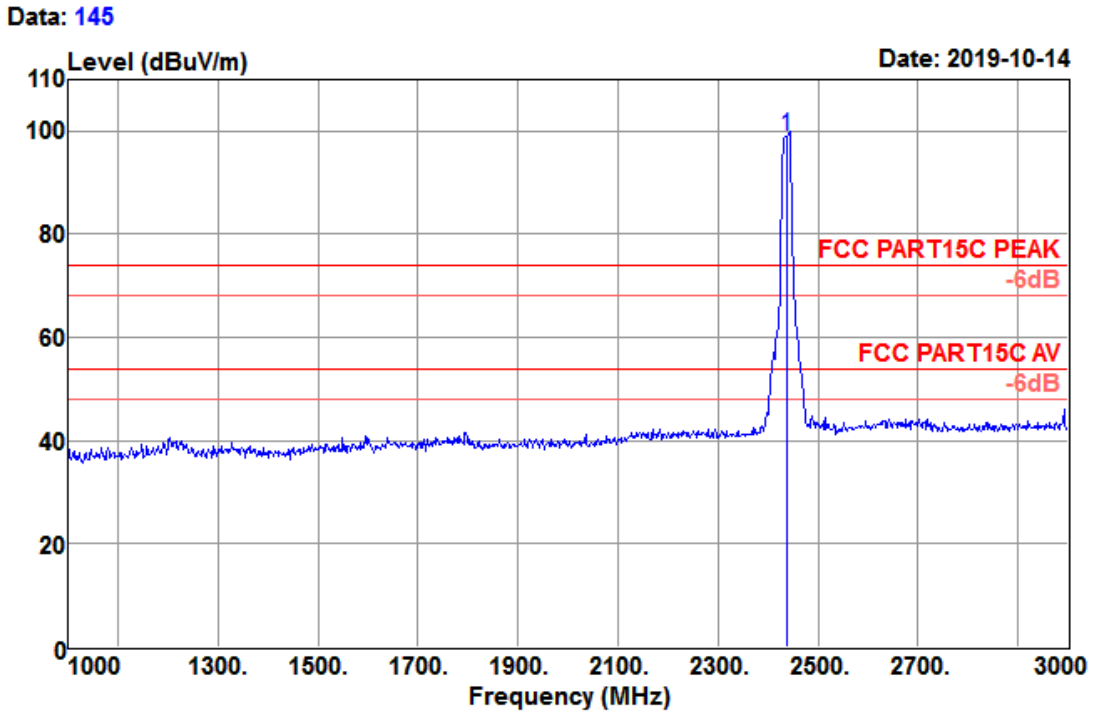




Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4874.000	37.60	31.40	5.55	34.80	39.75	54.00	-14.25	Average
4874.000	48.55	31.40	5.55	34.80	50.70	74.00	-23.30	Peak
7311.000	27.63	36.12	7.53	36.40	34.88	54.00	-19.12	Average
7311.000	40.01	36.12	7.53	36.40	47.26	74.00	-26.74	Peak
9748.000	28.07	38.05	10.70	36.40	40.42	54.00	-13.58	Average
9748.000	39.70	38.05	10.70	36.40	52.05	74.00	-21.95	Peak

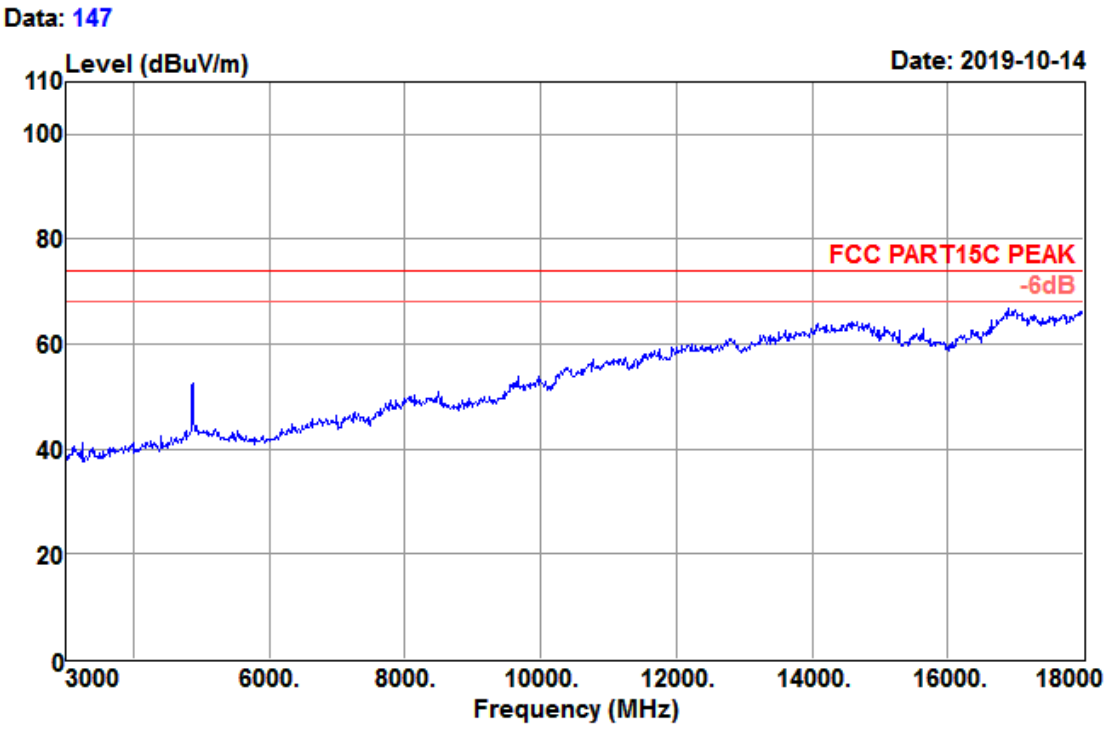
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

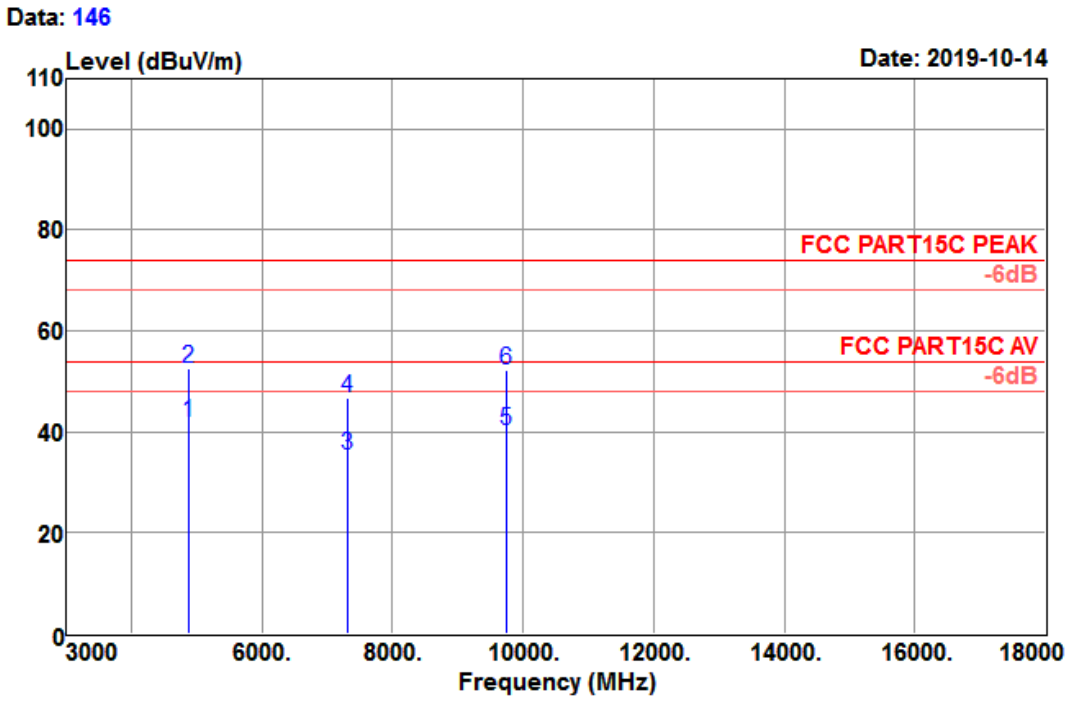
Test Mode :	802.11n HT20 CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2437.000	103.76	27.24	3.56	35.61	98.95	74.00	24.95	Peak

Test Mode :	802.11n HT20 CH06 (2437MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical

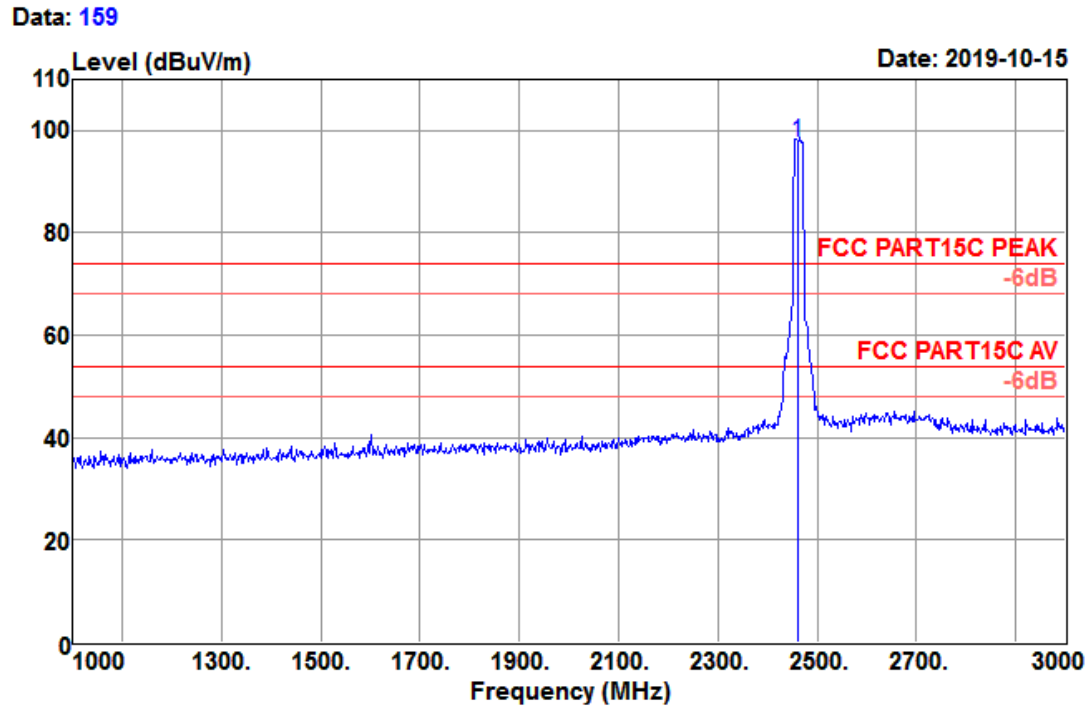




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4874.000	39.62	31.40	5.55	34.80	41.77	54.00	-12.23	Average
4874.000	50.47	31.40	5.55	34.80	52.62	74.00	-21.38	Peak
7311.000	28.05	36.12	7.53	36.40	35.30	54.00	-18.70	Average
7311.000	39.33	36.12	7.53	36.40	46.58	74.00	-27.42	Peak
9748.000	27.86	38.05	10.70	36.40	40.21	54.00	-13.79	Average
9748.000	39.76	38.05	10.70	36.40	52.11	74.00	-21.89	Peak

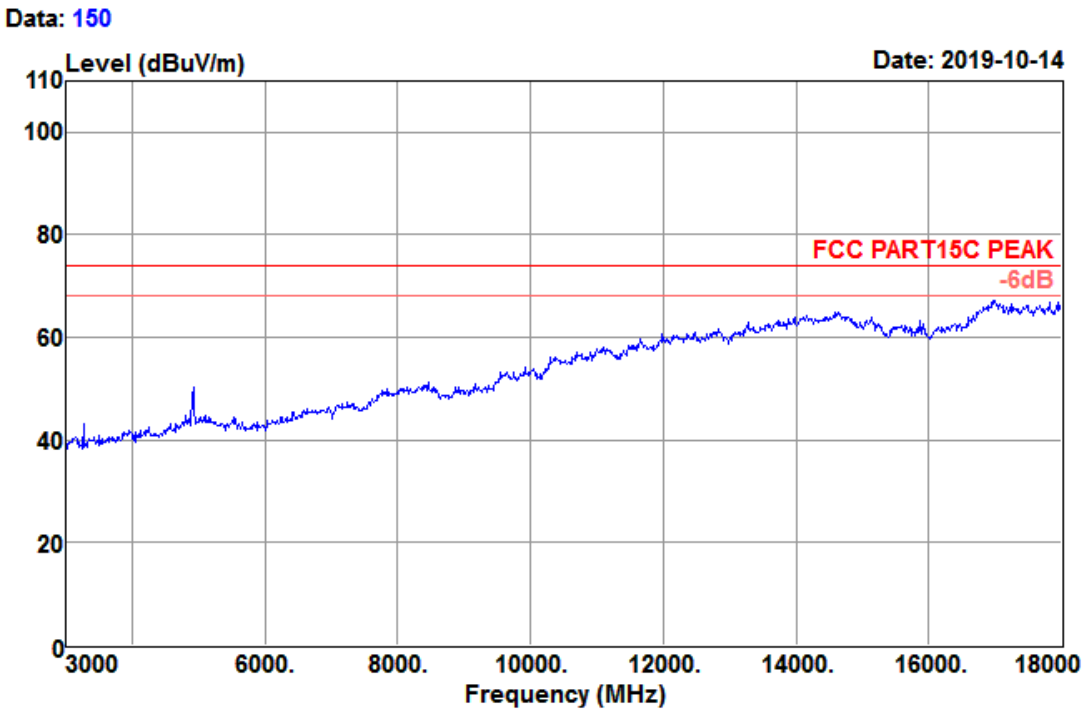
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

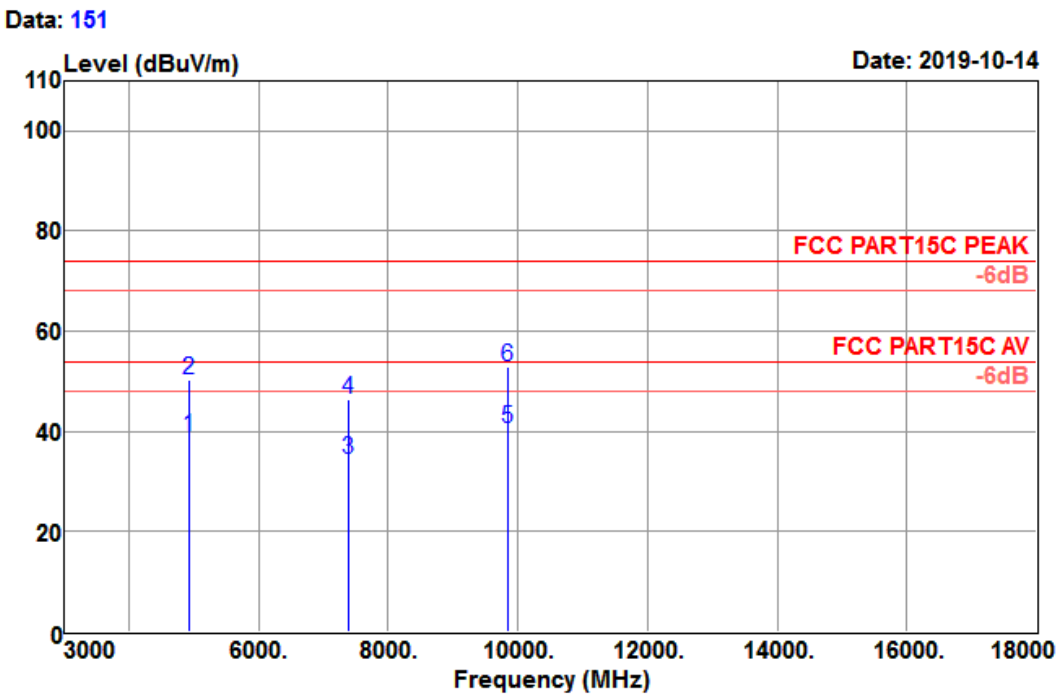
Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	102.46	27.30	3.58	35.65	97.69	74.00	23.69	Peak

Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Horizontal

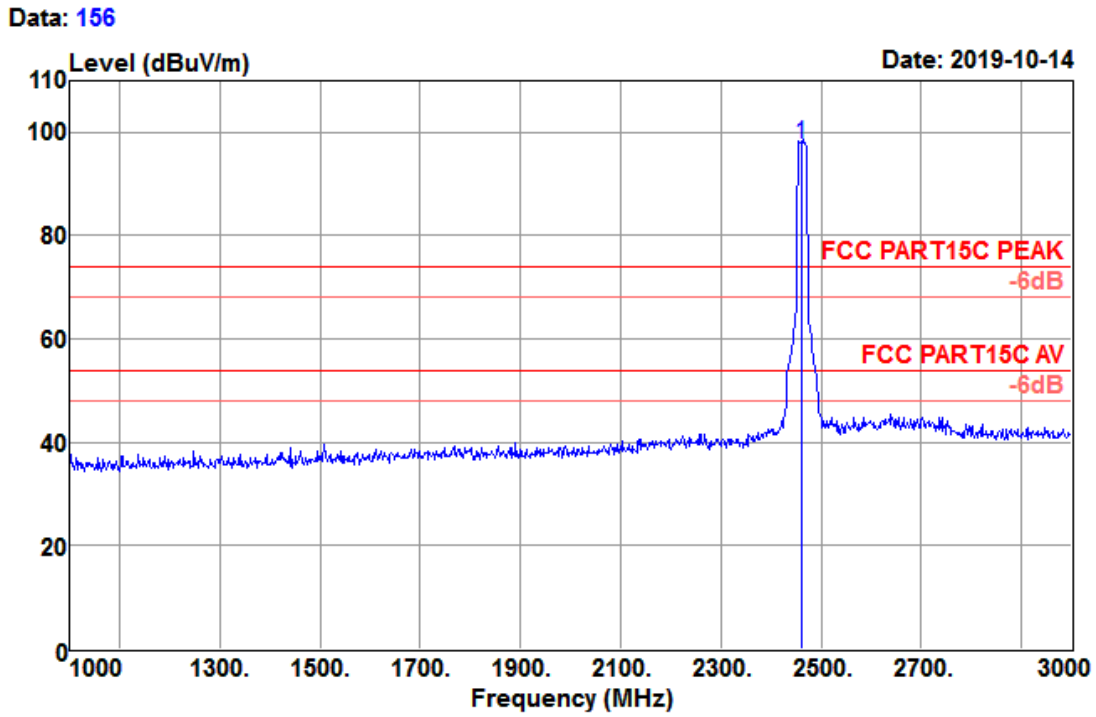




Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
4924.000	36.69	31.52	5.53	34.76	38.98	54.00	-15.02	Average
4924.000	48.08	31.52	5.53	34.76	50.37	74.00	-23.63	Peak
7386.000	27.05	36.29	7.46	36.40	34.40	54.00	-19.60	Average
7386.000	39.02	36.29	7.46	36.40	46.37	74.00	-27.63	Peak
9848.000	27.85	38.23	10.98	36.40	40.66	54.00	-13.34	Average
9848.000	40.20	38.23	10.98	36.40	53.01	74.00	-20.99	Peak

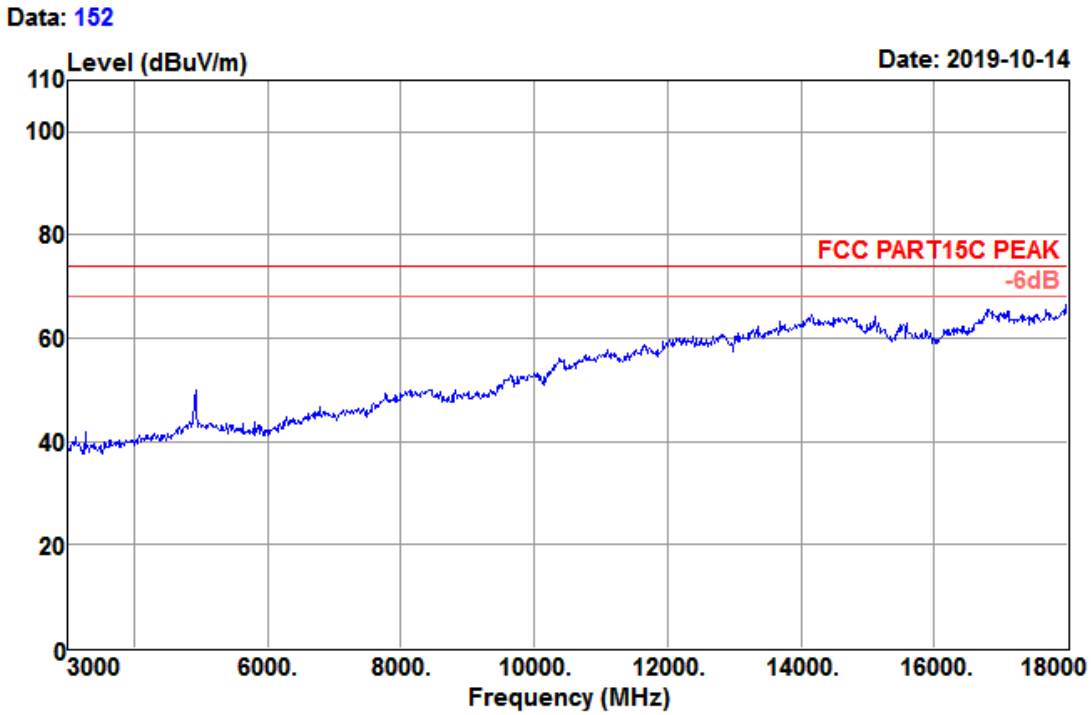
Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

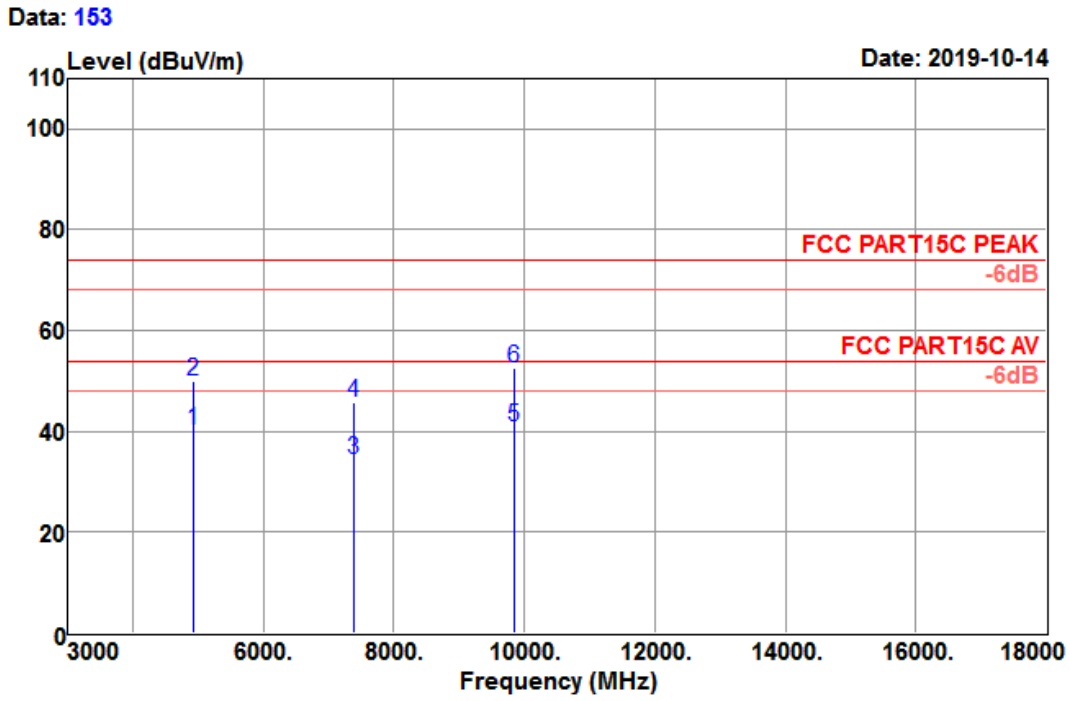
Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	1GHz~3GHz	Polarization :	Vertical



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
2462.000	102.40	27.30	3.58	35.65	97.63	74.00	23.63	Peak

Test Mode :	802.11n HT20 CH11 (2462 MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	3GHz~18GHz	Polarization :	Vertical



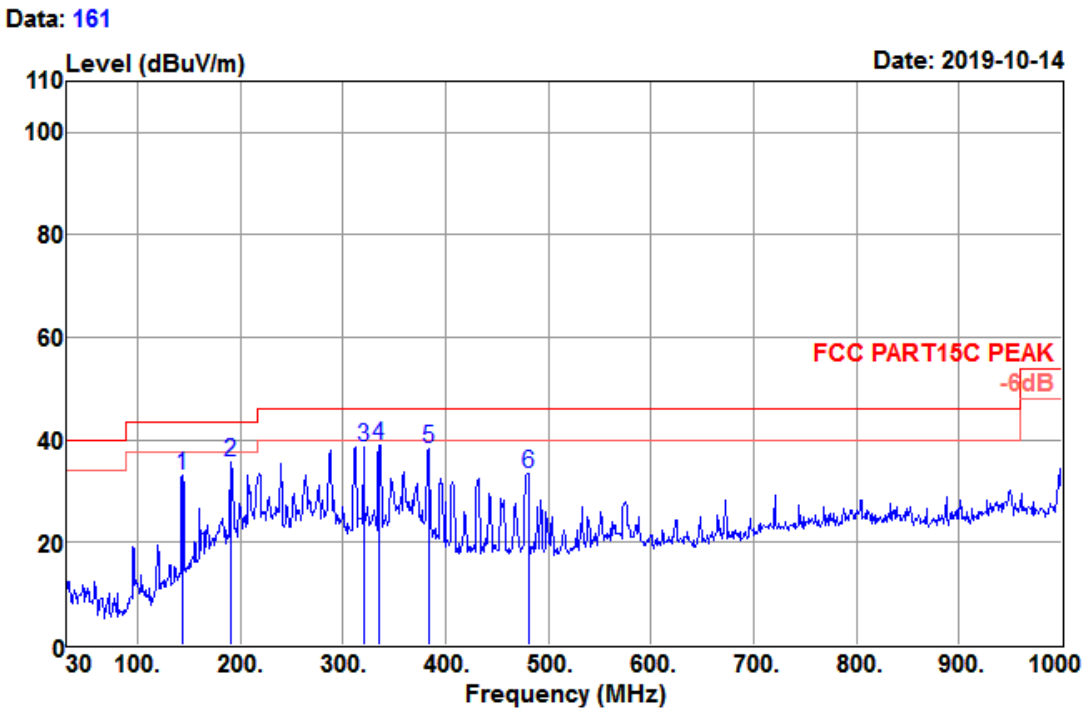


Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
4924.000	37.90	31.52	5.53	34.76	40.19	54.00	-13.81	Average
4924.000	47.53	31.52	5.53	34.76	49.82	74.00	-24.18	Peak
7386.000	27.17	36.29	7.46	36.40	34.52	54.00	-19.48	Average
7386.000	38.38	36.29	7.46	36.40	45.73	74.00	-28.27	Peak
9848.000	27.99	38.23	10.98	36.40	40.80	54.00	-13.20	Average
9848.000	39.74	38.23	10.98	36.40	52.55	74.00	-21.45	Peak

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

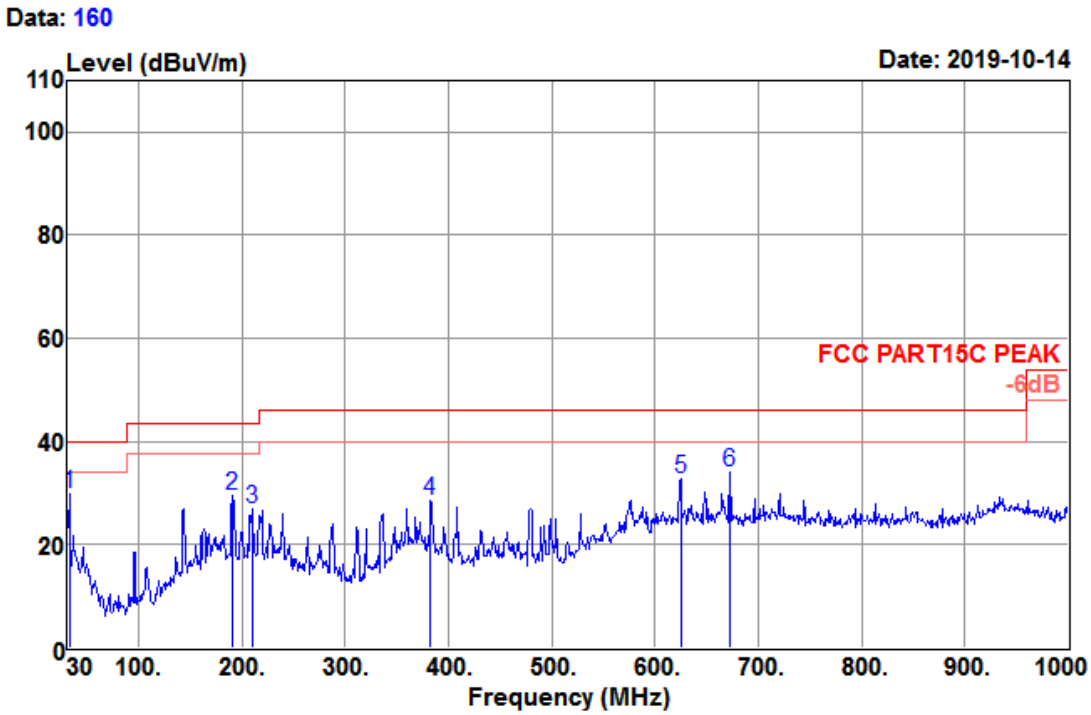
4.5.6 Test Result of Radiated Spurious Emission (30MHz ~ 1GHz)

Test Mode :	802.11b CH01(2412MHz)	**Temperature :**	21~23℃
Test Engineer :	Julie Deng	**Relative Humidity :**	63~65%
Frequencey Range	30MHz~1GHz	**Polarization :**	Horizontal



Freq	Reading level	Antenna factor	Cable loss	Preamp factor	level	Limit level	Over limit	Remark
MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
143.490	49.55	14.17	2.13	32.62	33.23	43.50	-10.27	Peak
191.020	55.11	11.05	2.30	32.65	35.81	43.50	-7.69	Peak
320.030	54.01	14.44	2.85	32.72	38.58	46.00	-7.42	Peak
335.550	54.20	14.63	2.94	32.74	39.03	46.00	-6.97	Peak
383.080	52.55	15.46	3.19	32.78	38.42	46.00	-7.58	Peak
480.080	45.29	17.66	3.53	32.88	33.60	46.00	-12.40	Peak

Test Mode :	802.11b CH01(2412MHz)	Temperature :	21~23℃
Test Engineer :	Julie Deng	Relative Humidity :	63~65%
Frequencey Range	30MHz~1GHz	Polarization :	Vertical



Freq MHz	Reading level dBuV	Antenna factor dB/m	Cable loss dB	Preamp factor dB	level dBuV/m	Limit level dBuV/m	Over limit dB	Remark
32.910	49.03	11.78	1.55	32.59	29.77	40.00	-10.23	Peak
191.020	48.88	11.05	2.30	32.65	29.58	43.50	-13.92	Peak
209.450	46.23	11.07	2.40	32.65	27.05	43.50	-16.45	Peak
382.110	42.76	15.44	3.19	32.78	28.61	46.00	-17.39	Peak
624.610	41.06	20.34	3.99	32.53	32.86	46.00	-13.14	Peak
672.140	41.26	20.92	4.25	32.38	34.05	46.00	-11.95	Peak

4.6 AC Conducted Emission Measurement

4.6.1 Limit of AC Conducted Emission

FCC §15.207

IC RSS-GEN 8.8

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

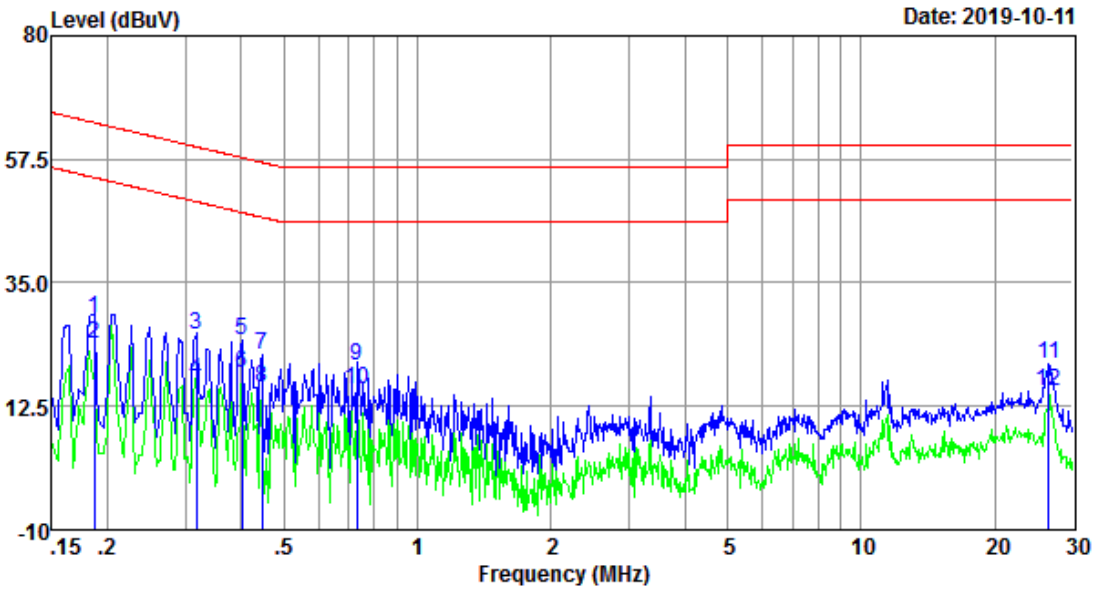
*Decreases with the logarithm of the frequency.

4.6.2 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

4.6.3 Test Result of AC Conducted Emission

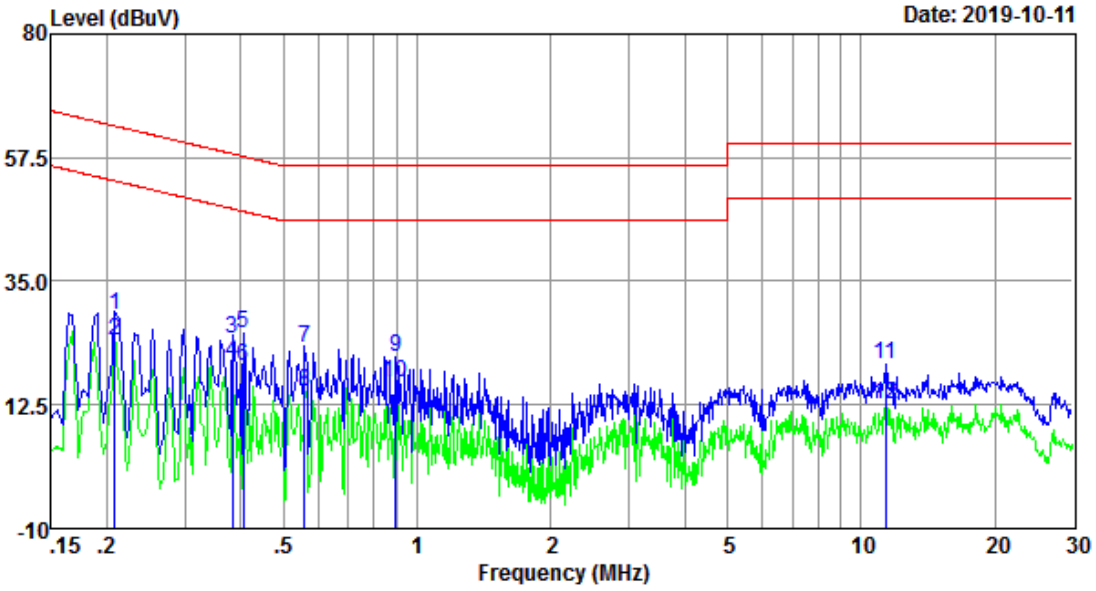
Test Mode :	Mode 1	Temperature :	20℃
Test Engineer :	Tiny Yang	Relative Humidity :	64%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link		



Freq	Reading level	LISN/ISN factor	Cable loss	Result level	Limit level	Over limit	Remark
MHz	dBuV	dB	dB	dBuV	dBuV	dB	
0.186	18.79	9.65	0.04	28.48	64.20	-35.72	QP
0.186	14.21	9.65	0.04	23.90	64.20	-40.30	Average
0.317	15.78	9.66	0.04	25.48	59.80	-34.32	QP
0.317	7.59	9.66	0.04	17.29	59.80	-42.51	Average
0.402	14.88	9.70	0.04	24.62	57.81	-33.19	QP
0.402	8.79	9.70	0.04	18.53	57.81	-39.28	Average
0.447	12.19	9.71	0.04	21.94	56.93	-34.99	QP
0.447	6.02	9.71	0.04	15.77	56.93	-41.16	Average
0.731	10.13	9.76	0.04	19.93	56.00	-36.07	QP
0.731	5.79	9.76	0.04	15.59	56.00	-40.41	Average
26.418	10.03	10.04	0.13	20.20	60.00	-39.80	QP
26.418	5.17	10.04	0.13	15.34	60.00	-44.66	Average

Result Level= Reading Level + LISN Factor + Cable Loss

Test Mode :	Mode 1	Temperature :	20℃
Test Engineer :	Tiny Yang	Relative Humidity :	64%
Test Voltage :	120Vac / 60Hz	Phase :	NEUTRAL
Function Type :	WLAN Link		



Freq MHz	Reading level dBuV	LISN/ISN factor dB	Cable loss dB	Result level dBuV	Limit level dBuV	Over limit dB	Remark
0.208	19.05	9.61	0.04	28.70	63.27	-34.57	QP
0.208	14.51	9.61	0.04	24.16	63.27	-39.11	Average
0.383	14.84	9.62	0.04	24.50	58.21	-33.71	QP
0.383	10.54	9.62	0.04	20.20	58.21	-38.01	Average
0.406	15.72	9.62	0.04	25.38	57.73	-32.35	QP
0.406	9.82	9.62	0.04	19.48	57.73	-38.25	Average
0.558	13.29	9.65	0.04	22.98	56.00	-33.02	QP
0.558	5.29	9.65	0.04	14.98	56.00	-41.02	Average
0.894	11.49	9.65	0.05	21.19	56.00	-34.81	QP
0.894	7.02	9.65	0.05	16.72	56.00	-39.28	Average
11.377	9.81	9.88	0.11	19.80	60.00	-40.20	QP
11.377	2.58	9.88	0.11	12.57	60.00	-47.43	Average

Result Level= Reading Level + LISN Factor + Cable Loss

4.7 Antenna Requirements

4.7.1 Standard Applicable

According to antenna requirement of §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. 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 re-placed 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 Sections 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 Section 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..

And according to §15.247(4)(1), system operating in the 2400-2483.5MHz bands that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

4.7.2 Antenna Connected Construction

An embedded-in antenna design is used.

4.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	Keysight	N9010A	MY56070788	2019/1/23	2020/1/22	Conducted
Power Sensor	Keysight	U2021XA	MY56510025	2019/1/23	2020/1/22	Conducted
Power Sensor	Keysight	U2021XA	MY57030005	2019/1/23	2020/1/22	Conducted
Power Sensor	Keysight	U2021XA	MY56510018	2019/1/23	2020/1/22	Conducted
Power Sensor	Keysight	U2021XA	MY56480002	2019/1/23	2020/1/22	Conducted
Thermal Chamber	Sanmtest	SMC-408-CD	2435	2019/05/09	2020/05/08	Conducted
Base Station	R&S	CMW 270	101231	2019/1/23	2020/1/22	Conducted
Signal Generator (Blocker)	Keysight	N5171B	MY56200661	2019/1/23	2020/1/22	Conducted

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV 40	101433	2019/2/18	2020/2/17	Radiation
Amplifier	Sonoma	310	363917	2019/1/22	2020/1/21	Radiation
Amplifier	Schwarzbeck	BBV 9718	327	2019/1/22	2020/1/21	Radiation
Amplifier	Narda	TTA1840-35-HG	2034380	2019/05/15	2020/05/14	Radiation
Broadband Antenna	Schwarzbeck	VULB 9168	9168-757	2017-03-03	2020-03-02	Radiation
Horn Antenna	Schwarzbeck	BBHA 9120 D	1677	2017-03-03	2020-03-02	Radiation
Horn Antenna	COM-POWER	AH-1840	101117	2018-06-20	2021-06-19	Radiation
Test Software	Auidx	E3	6.111221a	N/A	N/A	Radiation
Filter	Micro-Tronics	BRM 50702	G266	N/A	N/A	Radiation

N/A: No Calibration Required

6 Uncertainty of Evaluation

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.67dB
Radiated emissions	30MHz ~ 1GMHz	5.05dB
	1GHz ~ 18GHz	5.06 dB
	18GHz ~ 40GHz	3.65dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.