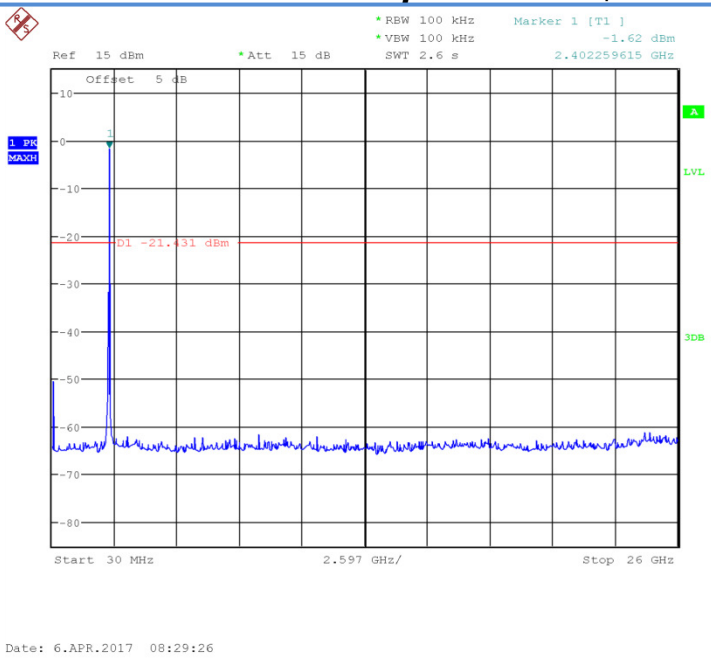


Fig.54 Conducted Spurious Emission (802.11g, Ch1, 30MHz~26GHz)

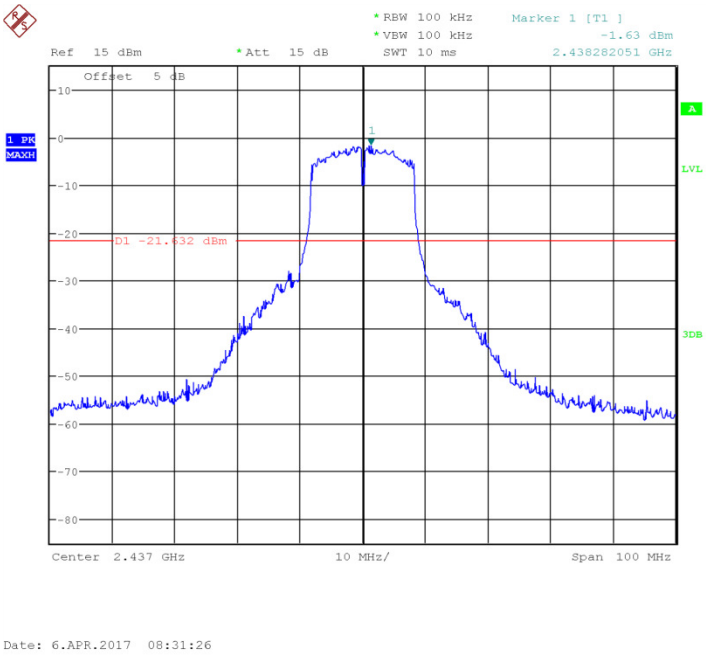


Fig.55 Conducted Spurious Emission (802.11g, Ch6)

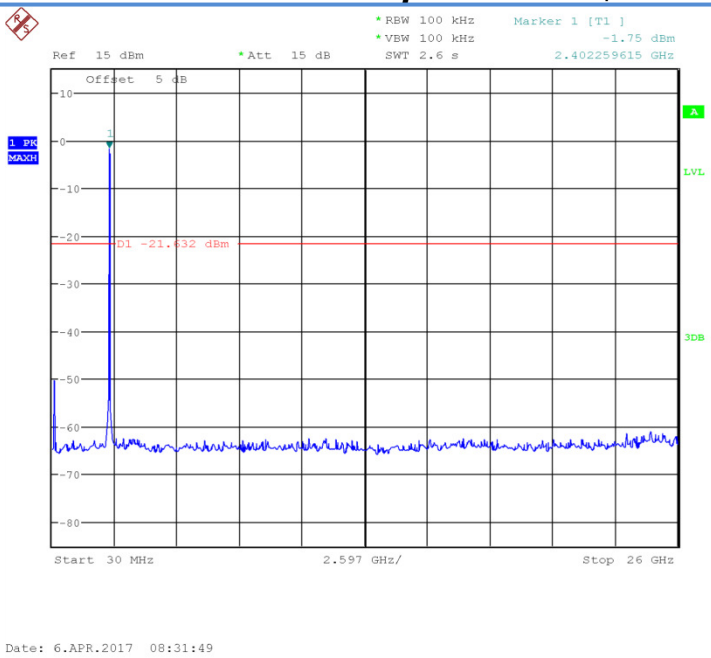


Fig.56 Conducted Spurious Emission (802.11g, Ch6, 30MHz~26GHz)

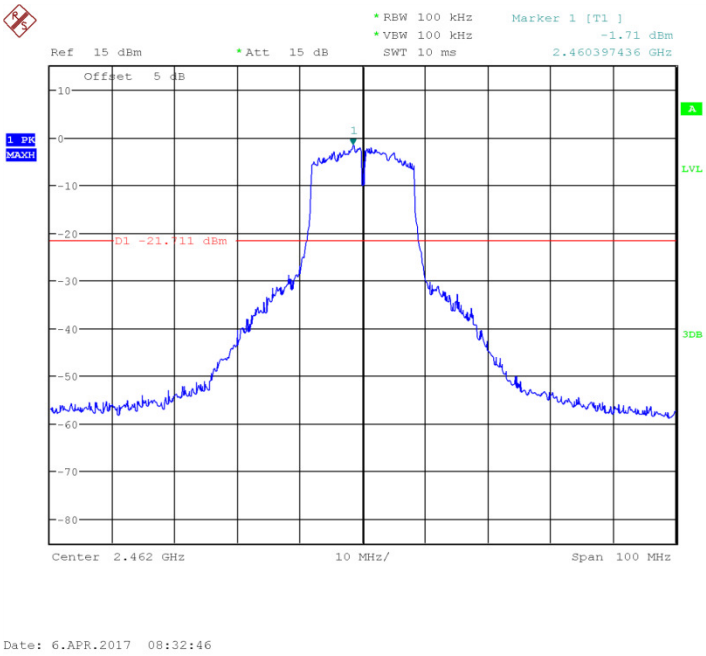


Fig.57 Conducted Spurious Emission (802.11g, Ch11)

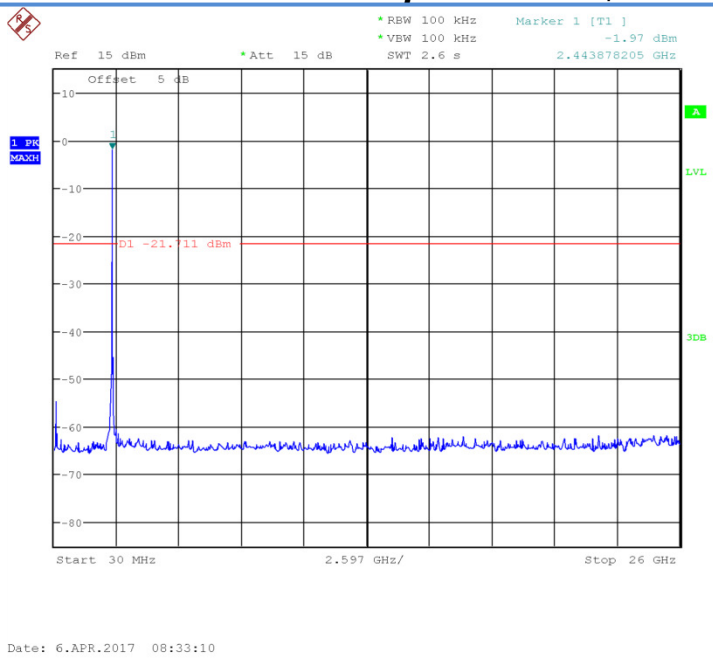


Fig.58 Conducted Spurious Emission (802.11g, Ch11, 30MHz~26GHz)

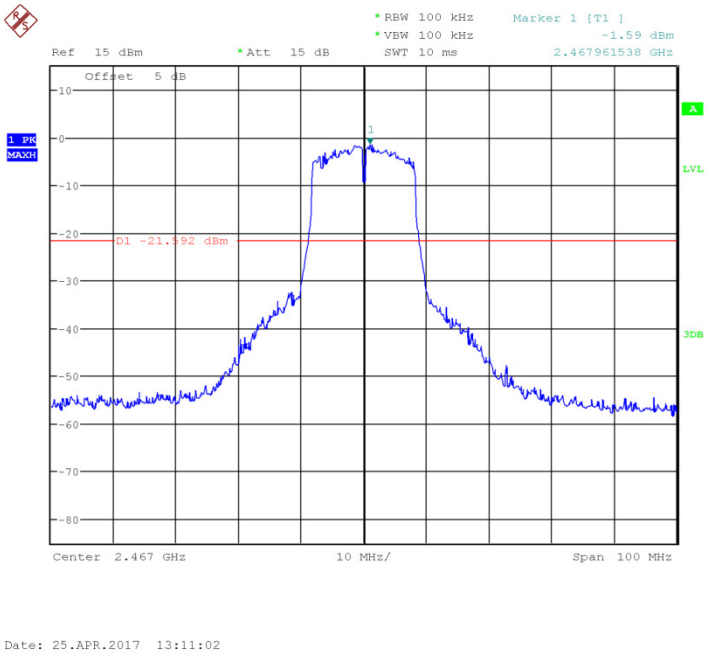


Fig.59 Conducted Spurious Emission (802.11g, Ch12)

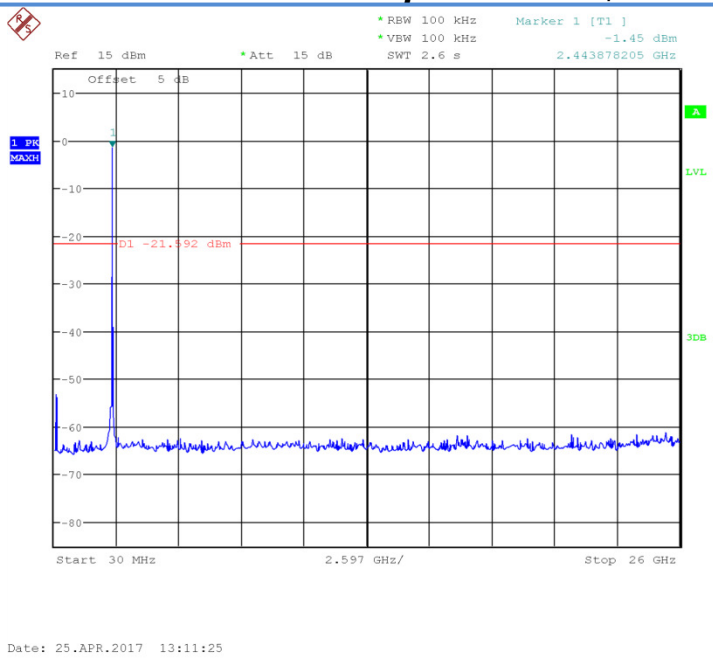


Fig.60 Conducted Spurious Emission (802.11g, Ch12, 30MHz~26GHz)

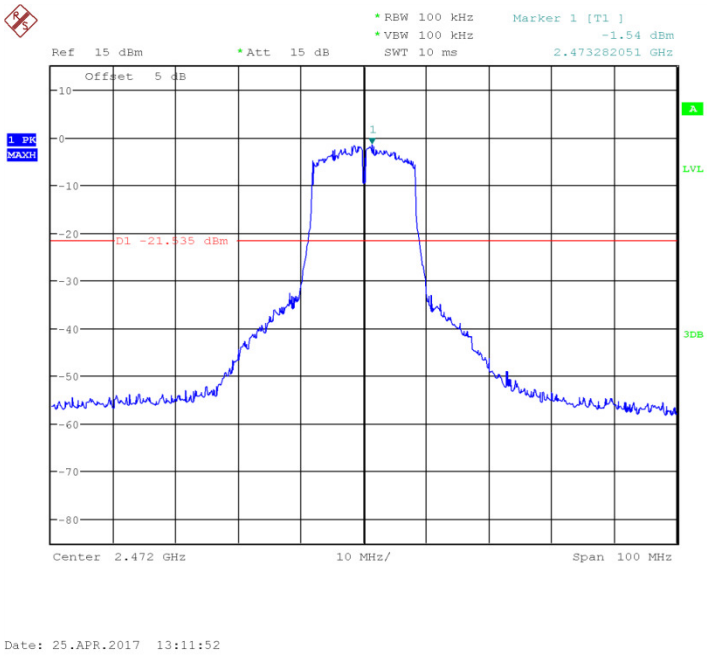


Fig.61 Conducted Spurious Emission (802.11g, Ch13)

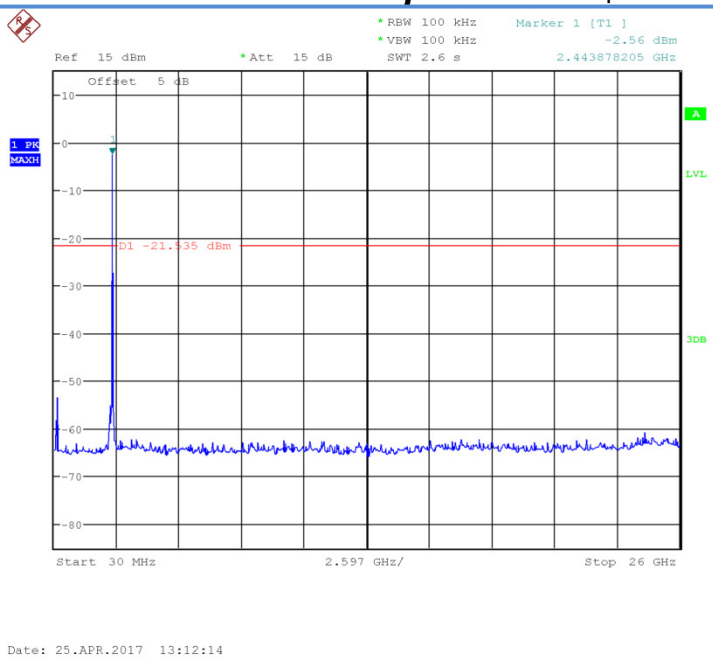


Fig.62 Conducted Spurious Emission (802.11g, Ch13, 30MHz~26GHz)

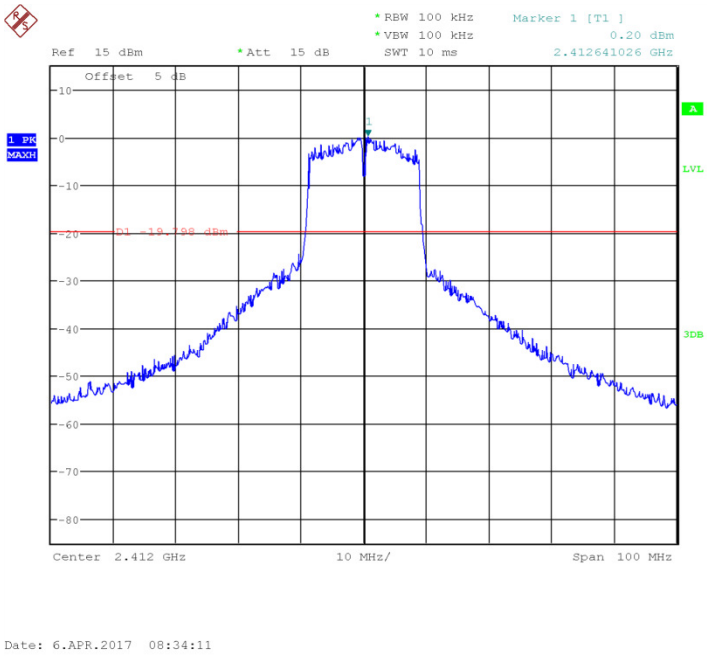


Fig.63 Conducted Spurious Emission (802.11n-20MHz, Ch1)

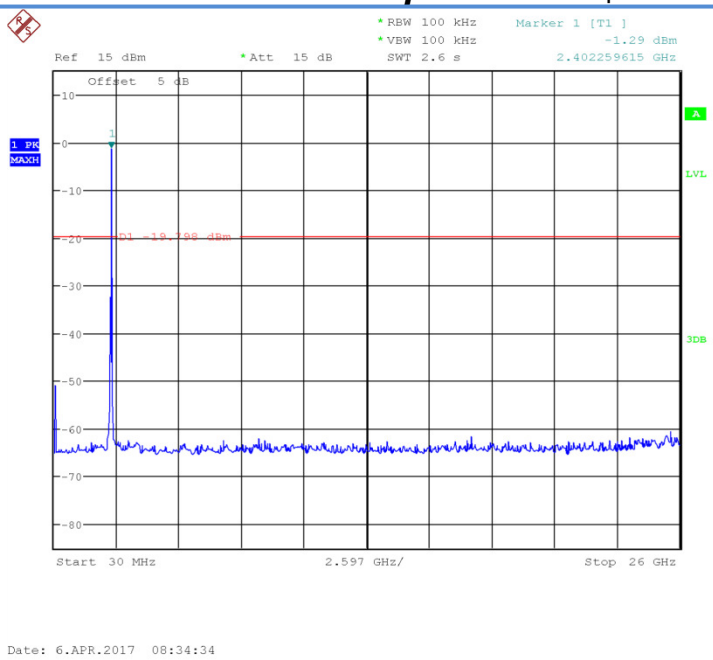


Fig.64 Conducted Spurious Emission (802.11n-20MHz, Ch1, 30MHz~26GHz)

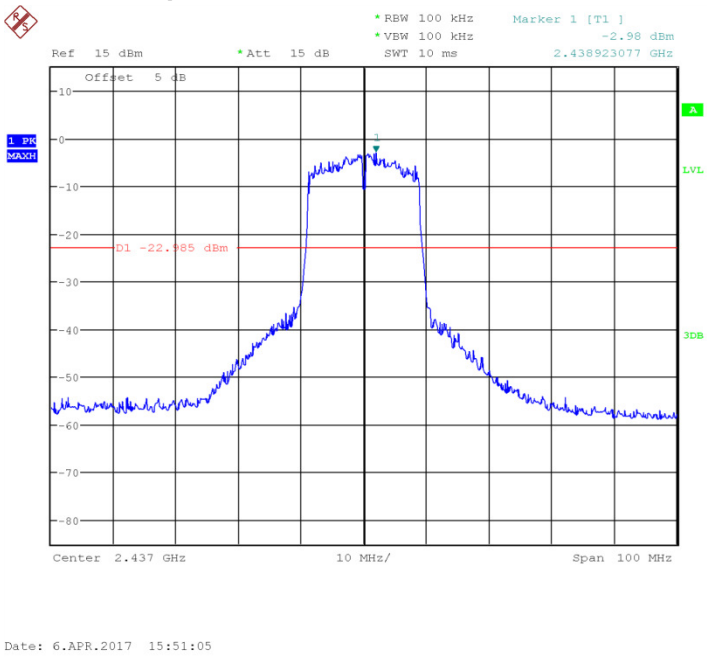


Fig.65 Conducted Spurious Emission (802.11n-20MHz, Ch6)

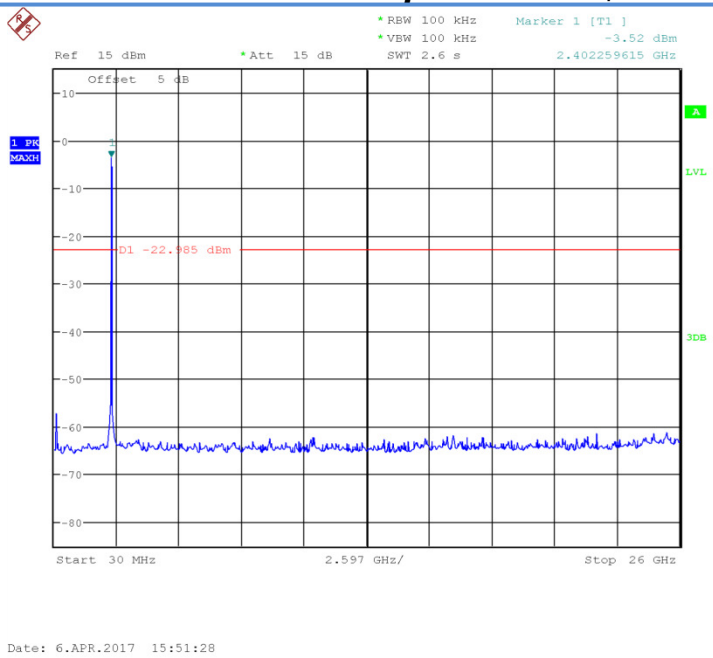


Fig.66 Conducted Spurious Emission (802.11n-20MHz, Ch6, 30MHz~26GHz)

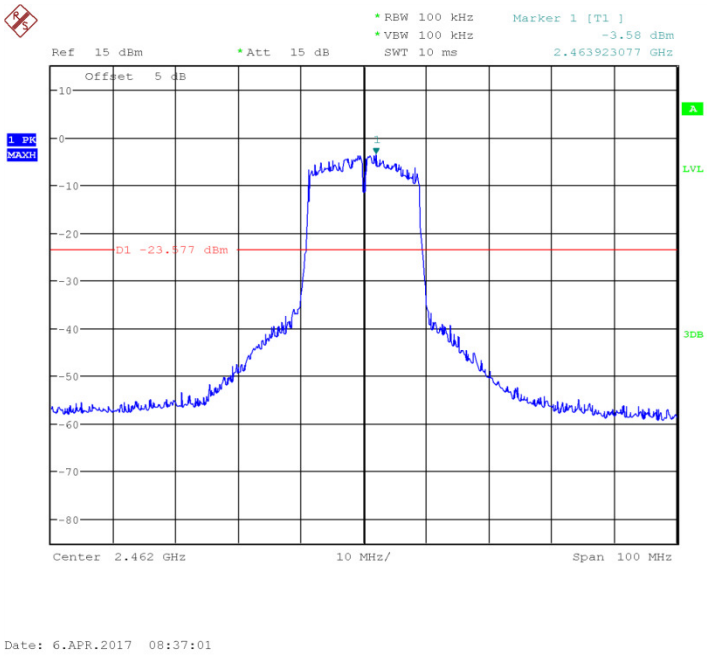


Fig.67 Conducted Spurious Emission (802.11n-20MHz, Ch11)

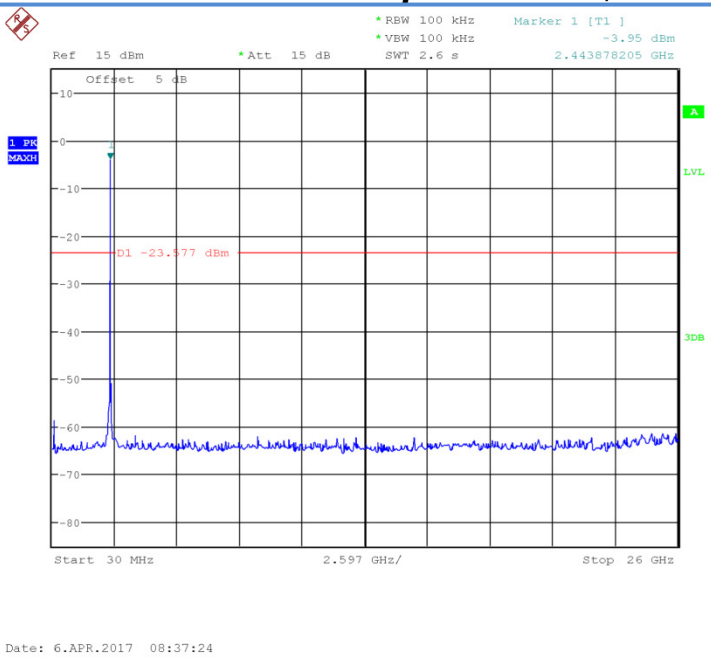


Fig.68 Conducted Spurious Emission (802.11n-20MHz, Ch11, 30MHz~26GHz)

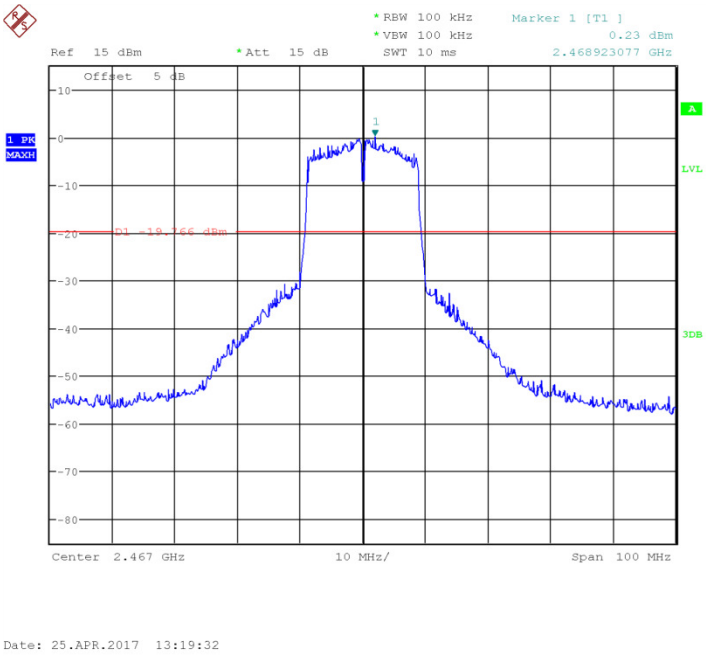


Fig.69 Conducted Spurious Emission (802.11n, Ch12)

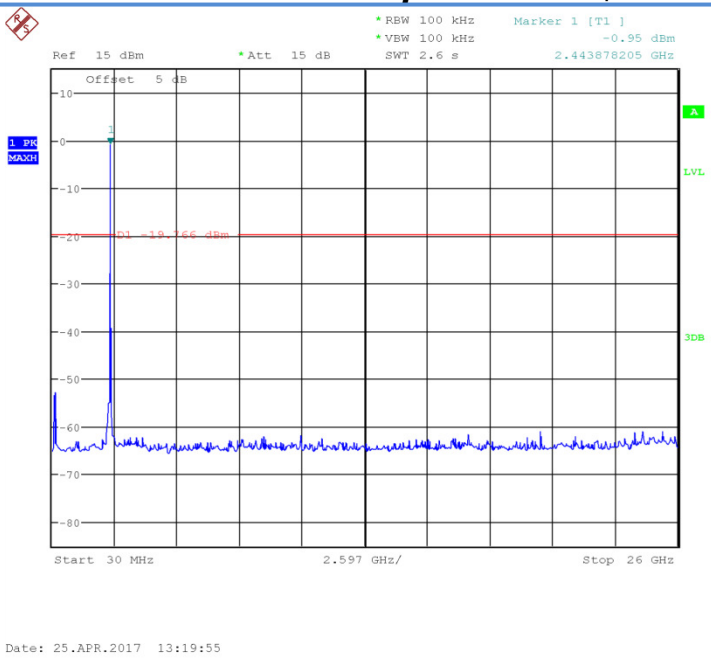


Fig.70 Conducted Spurious Emission (802.11n, Ch12, 30MHz~26GHz)

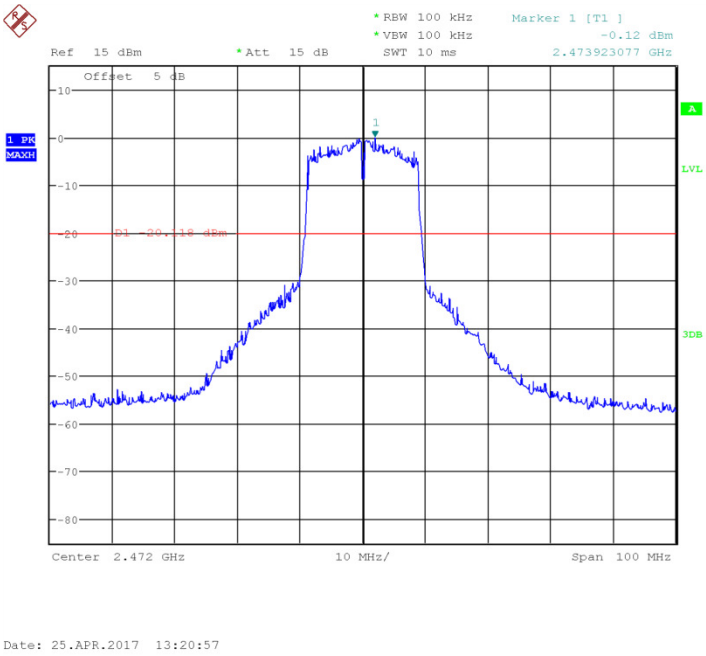


Fig.71 Conducted Spurious Emission (802.11n, Ch13)

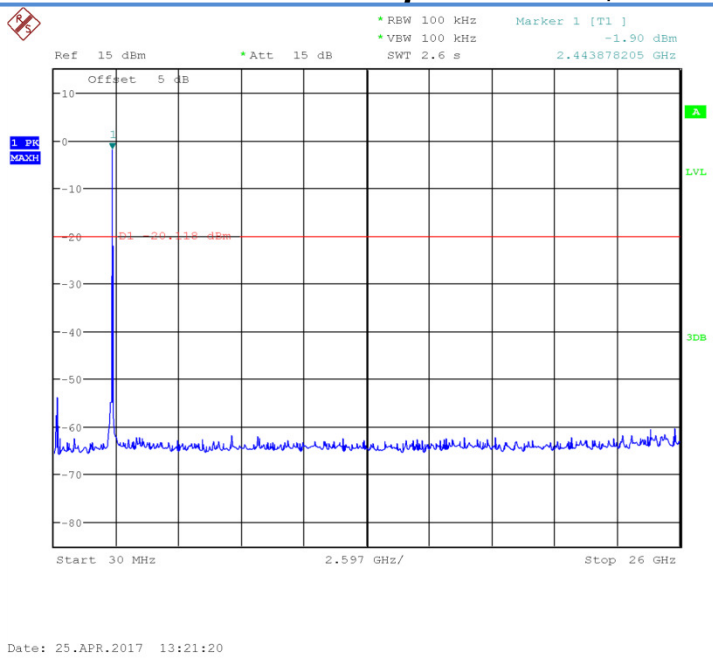


Fig.72 Conducted Spurious Emission (802.11n, Ch13, 30MHz~26GHz)

6.6. Transmitter Spurious Emission-Radiated

6.6.1 Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247,15.205,15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in 25.205(a), must also comply with the radiated emission limits specified in 15.209(a)(see 15.205(c)). The measurement is according to ANSI C63.10 clause 11.11 and 11.12.

6.6.2 Limit in restricted band:

Frequency of emission(MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30~88	100	40
88~216	150	43.5
216~960	200	46
Above 960	500	54

6.6.3 Test procedures

Portable, small, lightweight, or modular devices that may be handheld, worn on the body, or placed on a table during operation shall be positioned on a nonconducting platform, the

top of which is 80 cm above the reference ground plane. The preferred area occupied by the EUT arrangement is 1 m by 1.5 m, but it may be larger or smaller to accommodate various sized EUTs. For testing purposes, ceiling- and wall-mounted devices also shall be positioned on a tabletop (see also ANSI C63.4-2013 section 6.3.4 and 6.3.5). In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During testing, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emission from the EUT. This maximization process was repeated with the EUT positioned in each of its three rthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Times (s)
30~1000	100KHz/300KHz	5
1000~4000	1MHz/1MHz	15
4000~18000	1MHz/1MHz	40
18000~26500	1MHz/1MHz	20

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.3GHz~2.5GHz	Fig.73	P
	Power	2.3GHz~2.5GHz	Fig.74	P
	1	30MHz~1GHz	Fig.75	P
		1GHz~3GHz	Fig.76	P
		3GHz~18GHz	Fig.77	P
	Power	2.3GHz~2.5GHz	Fig.78	P
	Power	2.3GHz~2.5GHz	Fig.79	P
	11	30MHz~1GHz	Fig.80	P
		1GHz~3GHz	Fig.81	P
		3GHz~18GHz	Fig.82	P

802.11g	Power	2.3GHz~2.5GHz	Fig.83	P
	Power	2.3GHz~2.5GHz	Fig.84	P
	1	30MHz~1GHz	Fig.85	P
		1GHz~3GHz	Fig.86	P
		3GHz~18GHz	Fig.87	P
	Power	2.3GHz~2.5GHz	Fig.88	P
	Power	2.3GHz~2.5GHz	Fig.89	P
	11	30MHz~1GHz	Fig.90	P
		1GHz~3GHz	Fig.91	P
		3GHz~18GHz	Fig.92	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(20MHz)	Power	2.3GHz~2.5GHz	Fig.93	P
	Power	2.3GHz~2.5GHz	Fig.94	P
	1	30MHz~1GHz	Fig.95	P
		1GHz~3GHz	Fig.96	P
		3GHz~18GHz	Fig.97	P
	Power	2.3GHz~2.5GHz	Fig.98	P
	Power	2.3GHz~2.5GHz	Fig.99	P
	11	30MHz~1GHz	Fig.100	P
		1GHz~3GHz	Fig.101	P
		3GHz~18GHz	Fig.102	P

Conclusion: PASS

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.3GHz~2.5GHz	Fig.103	P

	Power	2.3GHz~2.5GHz	Fig.104	P
	12	30MHz~1GHz	Fig.105	P
		1GHz~3GHz	Fig.106	P
		3GHz~18GHz	Fig.107	P
802.11g	Power	2.3GHz~2.5GHz	Fig.108	P
	Power	2.3GHz~2.5GHz	Fig.109	P
	12	30MHz~1GHz	Fig.110	P
		1GHz~3GHz	Fig.111	P
		3GHz~18GHz	Fig.112	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(20MHz)	Power	2.3GHz~2.5GHz	Fig.113	P
	Power	2.3GHz~2.5GHz	Fig.114	P
	12	30MHz~1GHz	Fig.115	P
		1GHz~3GHz	Fig.116	P
		3GHz~18GHz	Fig.117	P

Conclusion: PASS

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.3GHz~2.5GHz	Fig.118	P
	Power	2.3GHz~2.5GHz	Fig.119	P
	13	30MHz~1GHz	Fig.120	P
		1GHz~3GHz	Fig.121	P
		3GHz~18GHz	Fig.122	P
802.11g	Power	2.3GHz~2.5GHz	Fig.123	P

	Power	2.3GHz~2.5GHz	Fig.124	P
	13	30MHz~1GHz	Fig.125	P
		1GHz~3GHz	Fig.126	P
		3GHz~18GHz	Fig.127	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(20MHz)	Power	2.3GHz~2.5GHz	Fig.128	P
	Power	2.3GHz~2.5GHz	Fig.129	P
	13	30MHz~1GHz	Fig.130	P
		1GHz~3GHz	Fig.131	P
		3GHz~18GHz	Fig.132	P

Conclusion: PASS

Note:

A ”reference path loss” is established and A_{Rpi} is the attenuation of “reference path loss”, and including the gain of receive antenna , the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

ARpi = Cable loss + Antenna Gain-Preamplifier gain

Result = P_{Mea} + Cable loss + Antenna Gain-Preamplifier gain = P_{Mea} + ARpi .

802.11b mode

Ch1 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
43.423	14.6	-24.1	38.7	V
43.439	14.6	-24.1	38.7	V
46.76	14.4	-23.8	38.2	V
47.029	14.6	-23.8	38.4	V
62.505	21.2	-25.8	47	V
187.518	25.7	-26.1	51.8	V

Ch1 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2576.8	46.9	2.9	44	V
2669.8	47	3.2	43.8	V
2707.2	47.1	3.5	43.6	V
2762.2	47.2	3.7	43.5	V
2853.4	47.7	3.9	43.8	V
2911.8	47.5	4.3	43.2	V

Ch1 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4824	48.8	-1	49.8	V
7237.25	51.9	2.9	49	H
10012.475	46.6	5.5	41.1	V
15863.775	56.6	16.2	40.4	V
16950.775	59.9	19.9	40	V
17847.325	61.9	21.9	40	H

Ch1 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4823.4	35.3	-1	36.3	V
7237.55	39.4	2.9	36.5	H
9636.9	36.5	5.5	31	V
13375.95	39.2	11.5	27.7	V
16930.475	46.9	19.9	27	V
17810.75	48.9	22	26.9	H

Ch11 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
32.501000	23.3	-26.6	49.9	V

46.336000	19.3	-23.8	43.1	V
62.505000	24.0	-25.8	49.8	V
187.518000	24.9	-26.1	51	V
599.621000	24.5	-15.0	39.5	H
799.491000	17.2	-12.6	29.8	V

Ch11 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2381.800000	49.2	1.3	47.9	H
2567.000000	46.7	2.7	44	V
2677.400000	46.9	3.3	43.6	V
2780.000000	48.1	3.6	44.5	V
2861.400000	48.0	3.9	44.1	H
2943.200000	48.0	4.4	43.6	V

Ch11 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7045.200000	46.1	3.1	43	H
8950.025000	47.0	4.5	42.5	V
11592.375000	48.8	8.1	40.7	V
15365.875000	55.4	15.0	40.4	V
16677.275000	59.3	18.3	41	H
17205.350000	61.0	19.8	41.2	H

Ch11 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7399.950000	35.6	2.9	32.7	H
11599.775000	36.5	8.2	28.3	H
13376.000000	39.2	11.5	27.7	V

14598.475000	41.2	13.9	27.3	H
15868.750000	43.4	16.2	27.2	V
16929.575000	46.9	19.9	27	H

802.11b mode

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
43.49	15.4	-24.1	39.5	V
46.968	14.2	-23.8	38	V
187.518	25.4	-26.1	51.5	V
599.611	18.3	-15	33.3	H
909.703	18.8	-11.1	29.9	V
999.358	19.5	-10.4	29.9	H

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2671.4	47.1	3.2	43.9	H
2747.4	47.7	3.8	43.9	H
2814.6	47.6	3.9	43.7	V
2887.8	48	4.3	43.7	H
2919	47.5	4.3	43.2	H
2978	48	4.8	43.2	V

Ch12 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4934.1	45.7	-0.7	46.4	V
7399.625	50.4	2.9	47.5	H
9879.225	48.3	5.2	43.1	V
15852.375	56.3	16.3	40	V

17300.325	60.5	20.2	40.3	H
17875.05	61.9	21.8	40.1	H

Ch12 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4933.2	36.4	-0.7	37.1	V
7402.275	38	2.9	35.1	H
9856.95	39	5.4	33.6	V
16432.15	44.9	17.9	27	V
16929.8	46.9	19.9	27	H
17798.775	48.8	21.9	26.9	V

802.11b mode

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
46.546	13.8	-23.8	37.6	V
50.002	20.5	-23.7	44.2	V
80.015	15	-29.5	44.5	H
187.518	25	-26.1	51.1	V
200.021	20.3	-24.8	45.1	V
999.408	19.5	-10.4	29.9	V

Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2650.4	47.4	3.2	44.2	V
2744.2	47.1	3.7	43.4	H
2806.4	47.3	3.8	43.5	V
2861.8	47.2	3.9	43.3	V
2939.8	47.7	4.4	43.3	H

2974.4	48.4	4.8	43.6	H

Ch13 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4943.7	45.8	-0.7	46.5	V
7016.55	45.7	3.2	42.5	V
11598.425	49.4	8.2	41.2	H
16929.675	59.7	19.9	39.8	H
17463.25	61.5	21	40.5	H
17808.05	61.7	22	39.7	H

Ch13 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4943.4	32.9	-0.7	33.6	V
7064.525	33.1	3.1	30	V
11606.6	36.5	8.2	28.3	V
16930.25	46.9	19.9	27	V
17477.1	47.8	19.9	27.9	V
17808.125	48.9	22	26.9	H

802.11g

Ch1 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.774	21.6	-26.5	48.1	V
43.4	25.5	-24.1	49.6	V
46.791	25.8	-23.8	49.6	V
62.505	20.8	-25.8	46.6	H
187.518	26.3	-26.1	52.4	V
999.368	19.4	-10.4	29.8	H

Ch1 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2552.6	47.1	2.7	44.4	V
2644	46.6	3.2	43.4	H
2726.8	47.7	3.5	44.2	H
2788.2	47.5	3.7	43.8	H
2880.6	47.8	4.2	43.6	V
2970.8	48.4	4.7	43.7	H

Ch1 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7073.55	46.6	3	43.6	V
9067.575	47.8	4.7	43.1	V
13866.05	53.1	12.8	40.3	V
15445.2	55.8	15	40.8	V
16826.375	59.8	19.4	40.4	V
17428.225	60.5	20.9	39.6	H

Ch1 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7063.175	33.1	3.1	30	V
8595.375	34.7	5.2	29.5	V
13876.75	40.3	12.8	27.5	V
15806.025	43.6	16.4	27.2	V
16860.7	46.6	19.6	27	H
17450.6	47.9	21	26.9	V

Ch11 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity

32.867000	16.6	-26.5	43.1	V
43.223000	18.8	-24.1	42.9	V
62.505000	22.8	-25.8	48.6	V
83.782000	16.3	-28.6	44.9	V
187.518000	24.5	-26.1	50.6	V
913.542000	18.8	-11.1	29.9	H

Ch11 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2577.600000	50.5	2.9	47.6	H
2634.400000	50.7	3.2	47.5	H
2707.200000	51.2	3.5	47.7	H
2793.200000	51.6	3.7	47.9	H
2879.200000	51.8	4.2	47.6	H
2989.000000	51.8	4.6	47.2	H

Ch11 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7069.575000	45.9	3.0	42.9	H
8590.975000	47.3	5.1	42.2	H
14760.325000	54.6	13.7	40.9	H
15798.675000	56.5	16.4	40.1	H
16830.775000	59.5	19.5	40	V
17496.675000	60.8	21.0	39.8	V

Ch11 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7058.675000	33.2	3.1	30.1	H
8595.725000	34.5	5.2	29.3	H

14632.925000	41.3	13.9	27.4	V
15831.325000	43.5	16.3	27.2	V
16840.375000	46.6	19.5	27.1	V
17513.325000	47.8	20.9	26.9	H

802.11g

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
42.283	16.7	-24.3	41	V
43.402	21.6	-24.1	45.7	V
62.505	21.7	-25.8	47.5	V
187.518	26.1	-26.1	52.2	V
200.031	20.6	-24.8	45.4	V
909.646	18.8	-11.1	29.9	H

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2567.4	46.6	2.7	43.9	H
2649.6	46.9	3.2	43.7	H
2758	48.2	3.7	44.5	H
2825.4	47.5	3.9	43.6	H
2880.8	47.6	4.2	43.4	H
2958	47.6	4.6	43	H

Ch12 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7029	46.9	3.2	43.7	V
12201.175	49.1	7.4	41.7	V
13482.525	51.9	11.1	40.8	V

15740.45	56.1	16.1	40	V
16782.425	59.4	19.2	40.2	H
17837.725	62.1	21.9	40.2	V

Ch12 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7059.7	33.2	3.1	30.1	V
11597.05	36.4	8.1	28.3	H
13386.4	39.2	11.5	27.7	V
15806.025	43.5	16.4	27.1	H
16931.05	47	19.9	27.1	V
17840.45	48.7	21.9	26.8	V

802.11g

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
32.67	12.3	-26.5	38.8	V
43.999	13.4	-24	37.4	V
62.505	20.8	-25.8	46.6	H
187.518	25.9	-26.1	52	V
200.021	20.5	-24.8	45.3	V
928.391	18.9	-10.9	29.8	H

Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2600.8	47.5	3.1	44.4	V
2696.4	47	3.5	43.5	H
2773.8	48.6	3.6	45	V
2841.6	47.7	3.9	43.8	V

2885.6	47.8	4.3	43.5	H
2932.8	48.1	4.4	43.7	V

Ch13 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
8563.025	47.4	4.9	42.5	V
9835.35	48	5.5	42.5	H
11584.6	49.7	8	41.7	H
13398.275	52.2	11.4	40.8	V
13930.1	53.1	12.6	40.5	V
17474.2	61.5	21	40.5	H

Ch13 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
8595.05	34.6	5.2	29.4	V
10034.825	34.2	5.5	28.7	H
11591.975	36.4	8.1	28.3	H
13490.1	38.8	11.1	27.7	V
15918.05	43.3	16.1	27.2	H
17478.25	48	21	27	V

802.11n-20MHz

Ch1 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
43.753	14.2	-24	38.2	V
44.014	15.1	-24	39.1	V
46.402	14.4	-23.8	38.2	V
46.701	15.5	-23.8	39.3	V
62.505	21.1	-25.8	46.9	V

187.518	25.8	-26.1	51.9	V

Ch1 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2597.8	46.9	3	43.9	V
2682.6	47	3.4	43.6	H
2753.4	47.2	3.8	43.4	H
2839.8	47.9	3.9	44	V
2870.2	47.4	4.1	43.3	H
2968.8	47.7	4.7	43	V

Ch1 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7080.725	45.5	2.9	42.6	V
8963.975	46.7	4.5	42.2	H
13816.225	53.4	12.7	40.7	H
15353.325	55	15	40	V
16855.75	59.2	19.6	39.6	H
17666.825	61.3	20.9	40.4	H

Ch1 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7057.675	33.1	3.1	30	V
8583.5	34.5	5.1	29.4	V
13791.65	40.3	12.7	27.6	V
15364.75	42.2	15	27.2	H
16924.55	46.9	19.9	27	H
17798.25	48.8	21.9	26.9	H

Ch11 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
32.046000	23.1	-26.6	49.7	V
46.447000	18.8	-23.8	42.6	V
62.505000	20.4	-25.8	46.2	H
83.836000	16.2	-28.6	44.8	V
187.518000	24.6	-26.1	50.7	V
599.621000	14.7	-15.0	29.7	H

Ch11 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2540.400000	51.6	2.8	48.8	H
2646.800000	51.1	3.2	47.9	H
2743.800000	51.4	3.7	47.7	H
2839.400000	51.3	3.9	47.4	H
2888.000000	52.4	4.3	48.1	H
2953.600000	52.1	4.5	47.6	H

Ch11 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
16810.875000	59.3	19.3	40	V
16923.900000	59.5	19.9	39.6	V
17348.100000	60.5	20.3	40.2	H
17413.250000	60.5	20.8	39.7	V
17603.575000	62.0	20.6	41.4	V
17786.750000	61.4	21.8	39.6	V

Ch11 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
16810.875000	46.4	19.3	27.1	V

16923.900000	46.9	19.9	27	V
17348.100000	47.3	20.3	27	H
17413.250000	47.7	20.8	26.9	V
17603.575000	47.6	20.6	27	V
17786.750000	48.5	21.8	26.7	V

802.11n-20MHz

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
43.135	16.7	-24.1	40.8	V
44.118	15.4	-24	39.4	V
46.772	15.2	-23.8	39	V
62.505	20.8	-25.8	46.6	V
187.518	26.2	-26.1	52.3	V
799.491	23.9	-12.6	36.5	V

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2582.6	46.9	2.9	44	H
2652	46.9	3.2	43.7	V
2744.2	47.6	3.7	43.9	V
2836.4	47.1	4	43.1	H
2934	47.9	4.4	43.5	H
2988.2	48.5	4.6	43.9	H

Ch12 3GHz~18GHz(Peak)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
5021	43.7	-0.6	44.3	V
7047.25	46	3.1	42.9	V

11555.525	48.7	7.7	41	V
14363.275	53.2	13.1	40.1	V
16954.3	59.8	19.9	39.9	V
17338.225	60.8	20.3	40.5	V

Ch12 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
5020.1	30.7	-0.6	31.3	V
7058.75	33.1	3.1	30	V
11593.325	36.4	8.1	28.3	H
13341.675	39.2	11.6	27.6	H
16910.675	46.9	19.8	27.1	V
17427.6	47.9	20.8	27.1	V

802.11n-20MHz

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
43.135	16.7	-24.1	40.8	V
44.118	15.4	-24	39.4	V
46.772	15.2	-23.8	39	V
62.505	20.8	-25.8	46.6	V
187.518	26.2	-26.1	52.3	V
799.491	23.9	-12.6	36.5	V

Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2594.2	47.8	3	44.8	H
2679.8	47.3	3.3	44	V
2773.6	47.2	3.6	43.6	H

2801.4	46.8	3.8	43	V
2914.4	47.7	4.3	43.4	H
2956.8	48.8	4.6	44.2	H

Ch13 3GHz~18GHz(Peak)

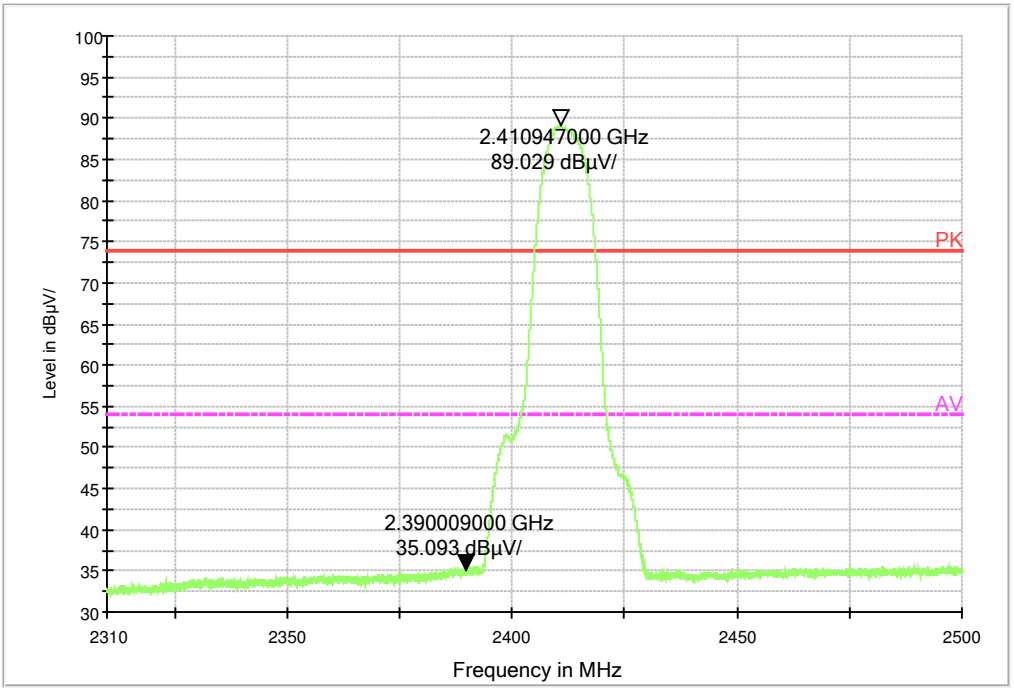
Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
7076.35	45.7	3	42.7	H
8595.75	47.2	5.2	42	H
11612.3	49.3	8.3	41	V
14871.425	54.3	13.8	40.5	V
16554.875	57.2	17.8	39.4	H
17771.05	61.9	21.7	40.2	H

Ch13 3GHz~18GHz(Average)

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
4823.4	35.3	-1	36.3	V
7237.55	39.4	2.9	36.5	H
9636.9	36.5	5.5	31	V
13375.95	39.2	11.5	27.7	V
16930.475	46.9	19.9	27	V
17810.75	48.9	22	26.9	H

Test graphs as below:

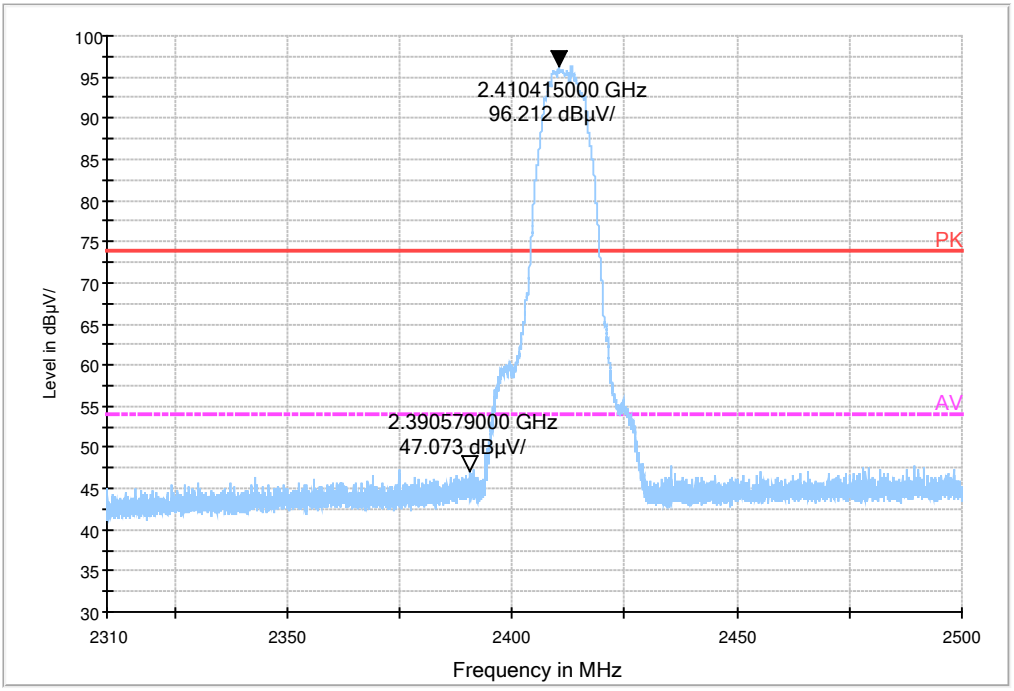
BAND EDGERE 1GHz-3GHz 2380-2450



Average detector

Fig.73 Radiated emission (Power): 802.11b, channel 1

BAND EDGERE 1GHz-3GHz 2380-2450



Peak detector

Fig.74 Radiated emission (Power): 802.11b, channel 1

RE 30MHz-1GHz

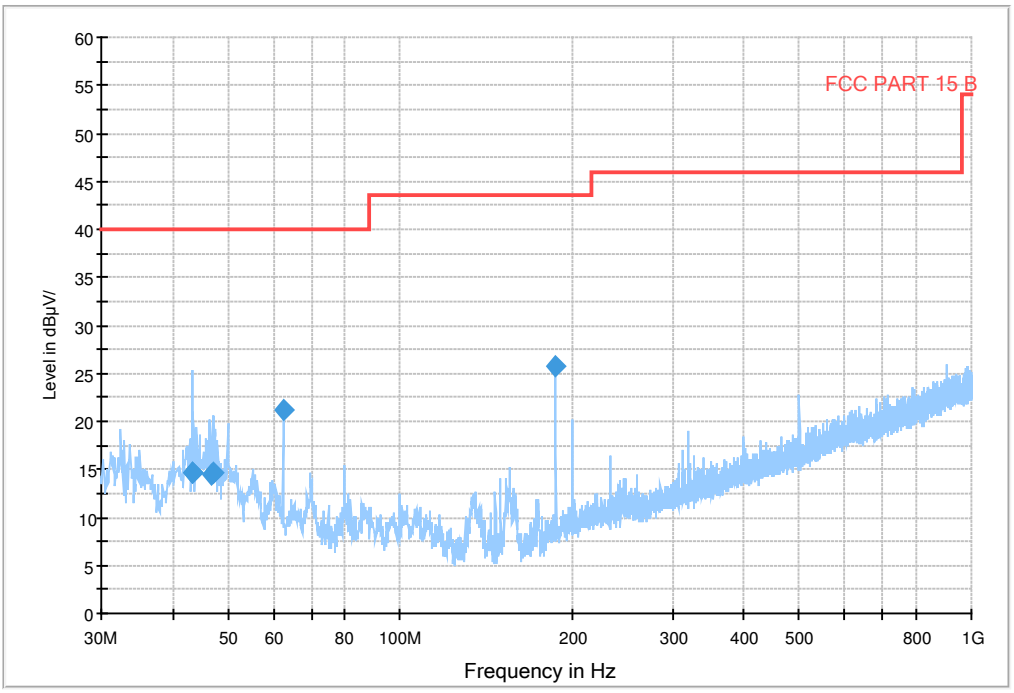


Fig.75 Radiated Spurious Emission (802.11b,Ch1,30MHz~1GHz)

RE 1GHz-3GHz

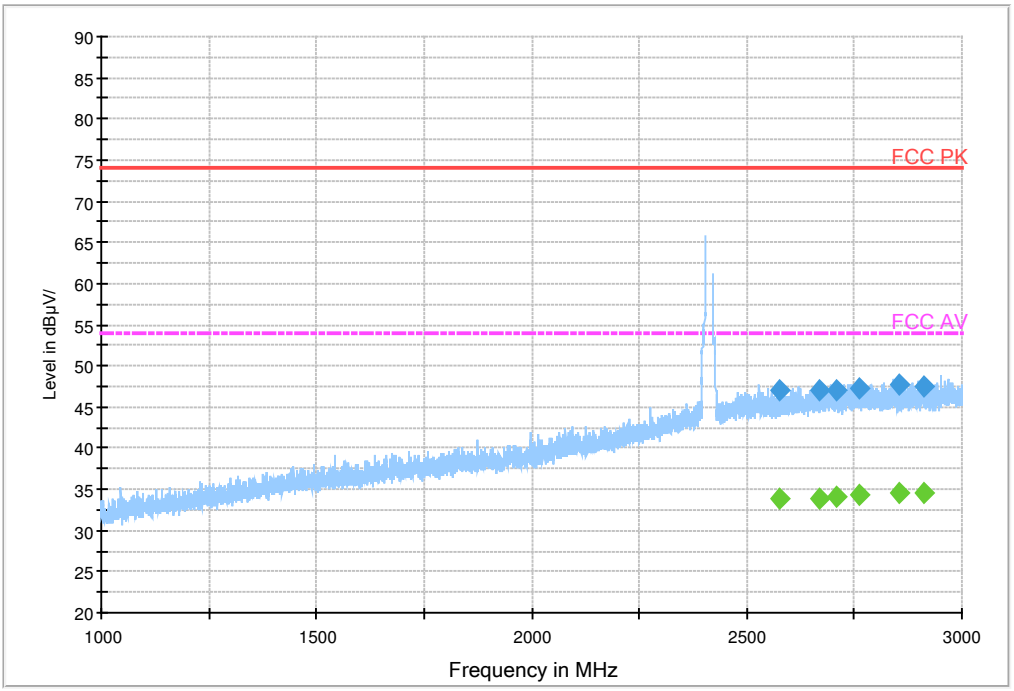


Fig.76 Radiated Spurious Emission (802.11b,Ch1,1GHz~3GHz)

RE 3GHz-18GHz

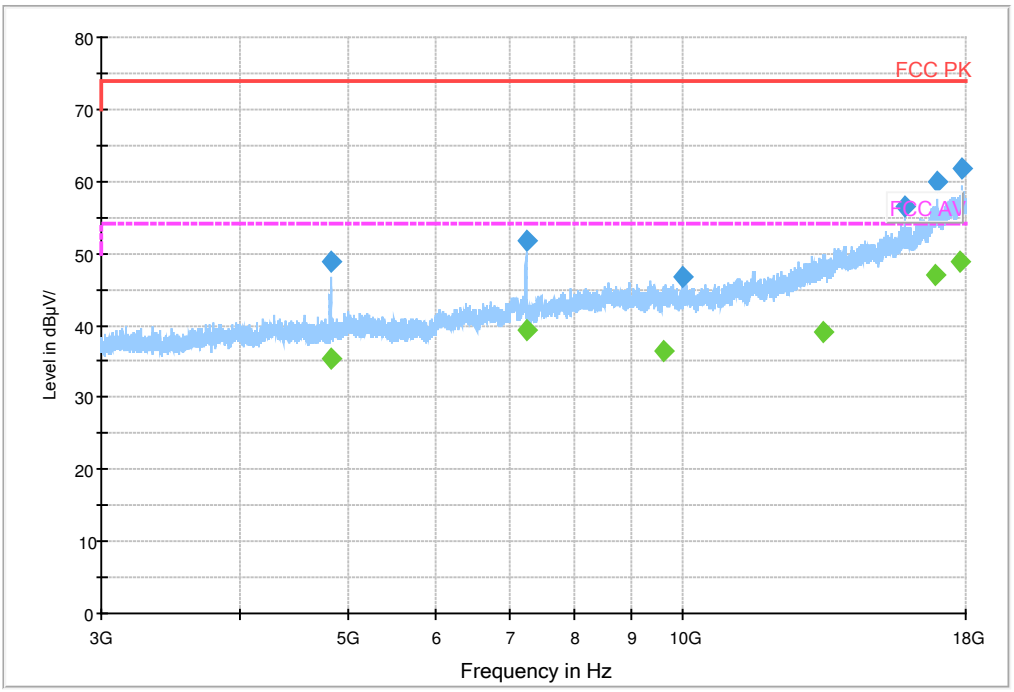
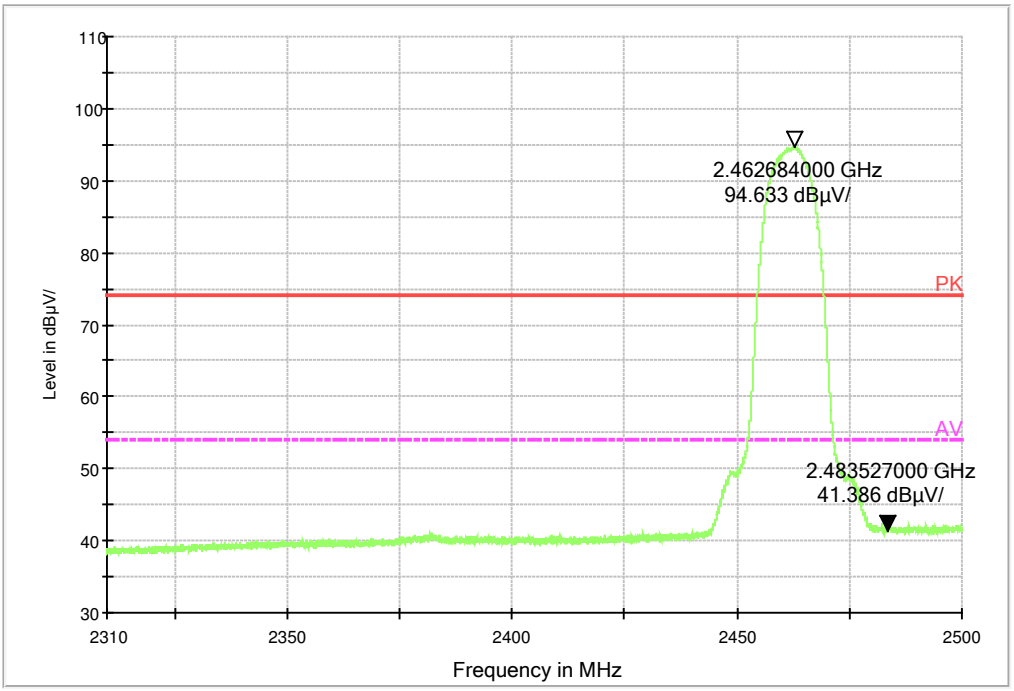


Fig.77 Radiated Spurious Emission (802.11b,Ch1,3GHz~18GHz)

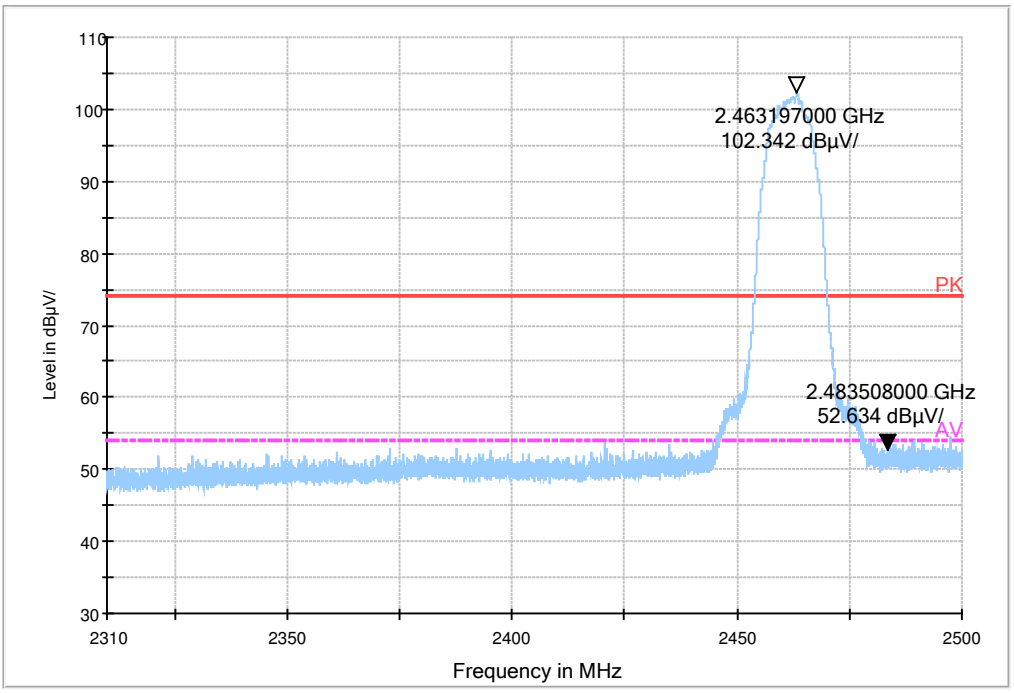
BAND EDGERE 1GHz-3GHz 2380-2450



Average detector

Fig.78 Radiated emission (Power): 802.11b, channel 11

BAND EDGERE 1GHz-3GHz 2380-2450



Peak detector

Fig.79 Radiated emission (Power): 802.11b, channel 11

RE 30MHz-1GHz

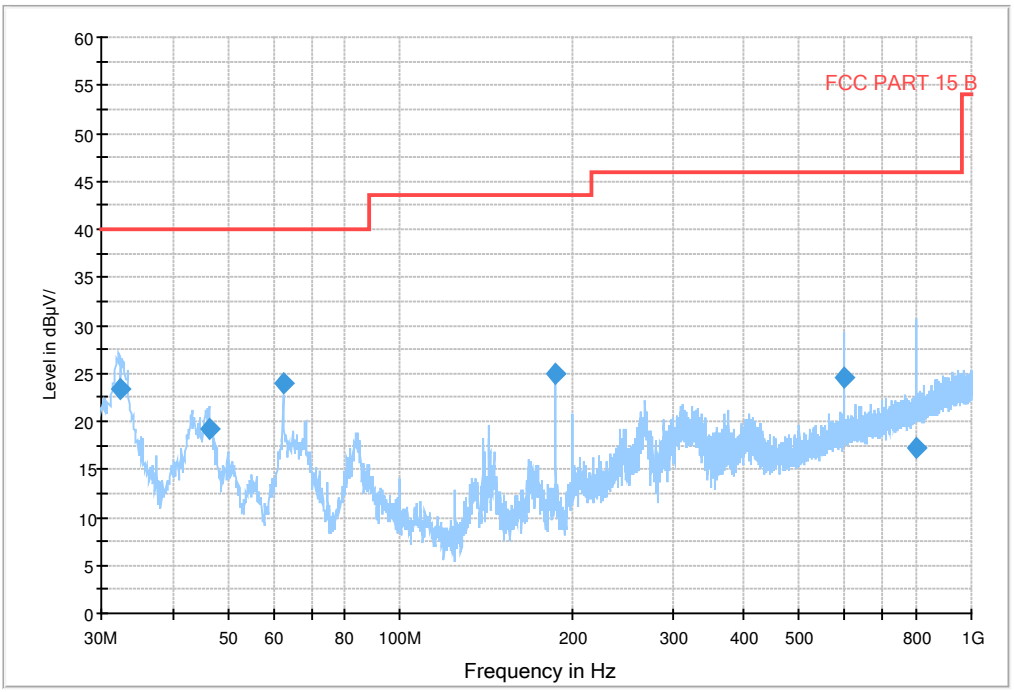


Fig.80 Radiated Spurious Emission (802.11b,Ch11,30MHz~1GHz)

RE 1GHz-3GHz

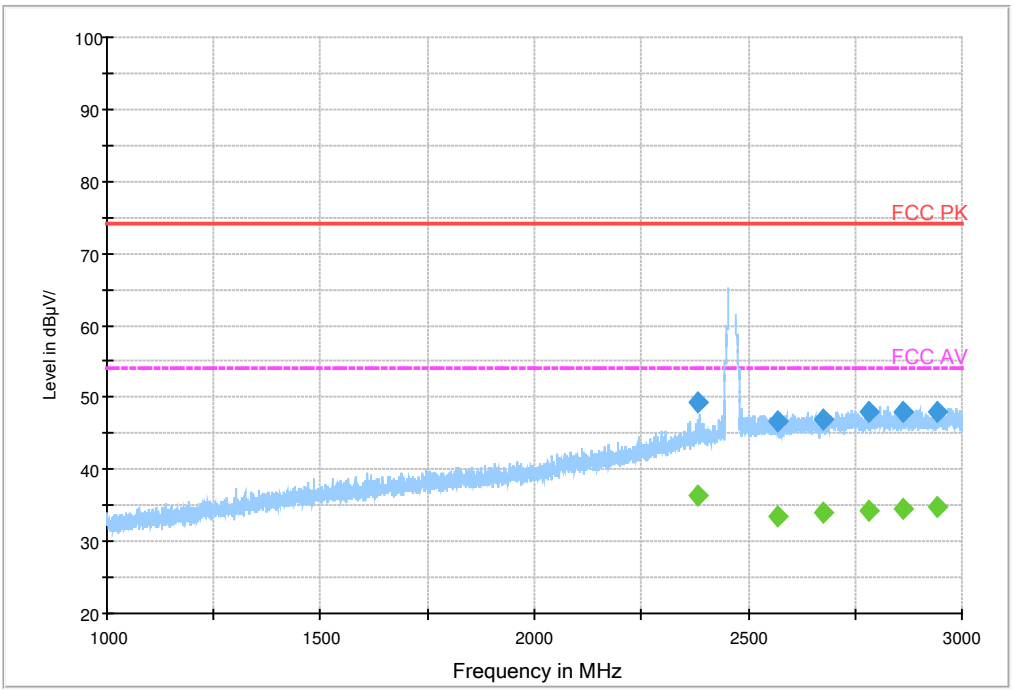


Fig.81 Radiated Spurious Emission (802.11b,Ch11,1GHz~3GHz)

RE 3GHz-18GHz

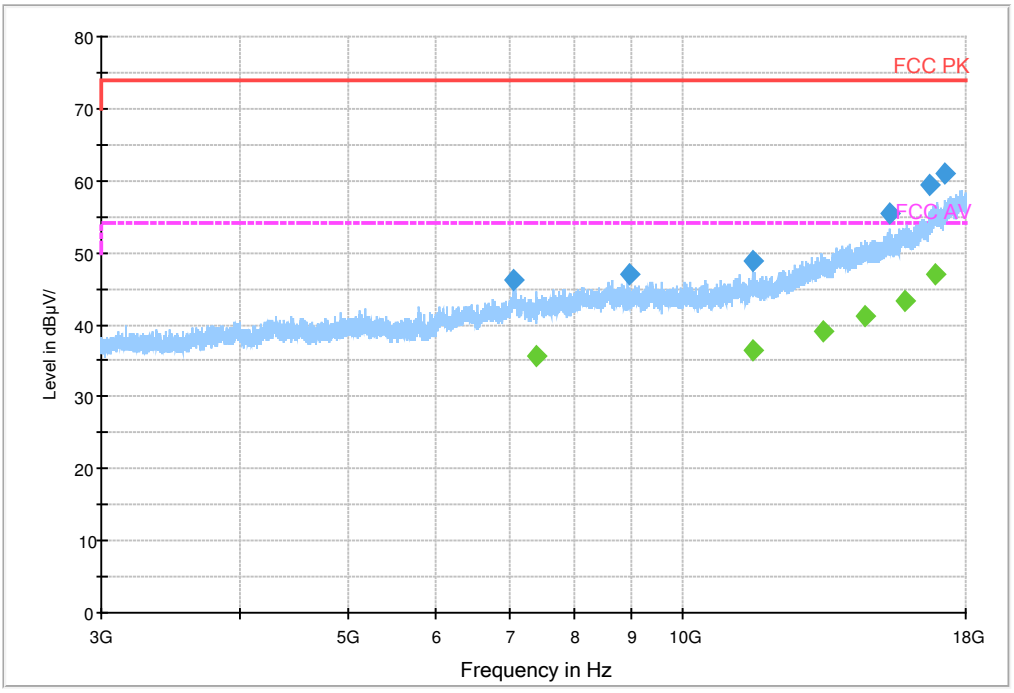
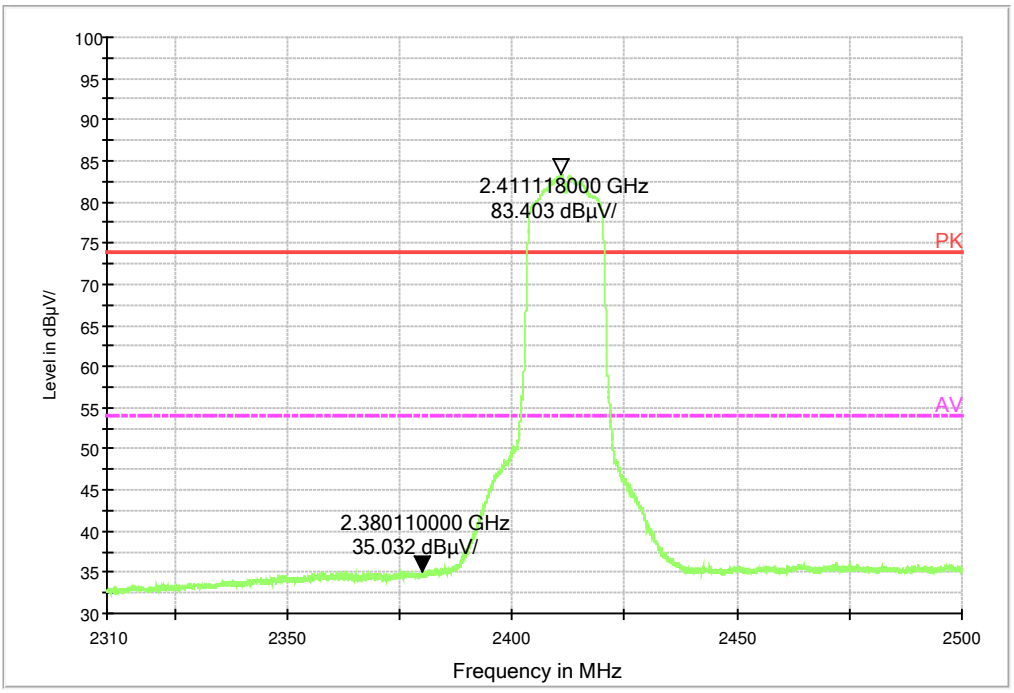


Fig.82 Radiated Spurious Emission (802.11b,Ch11,3GHz~18GHz)

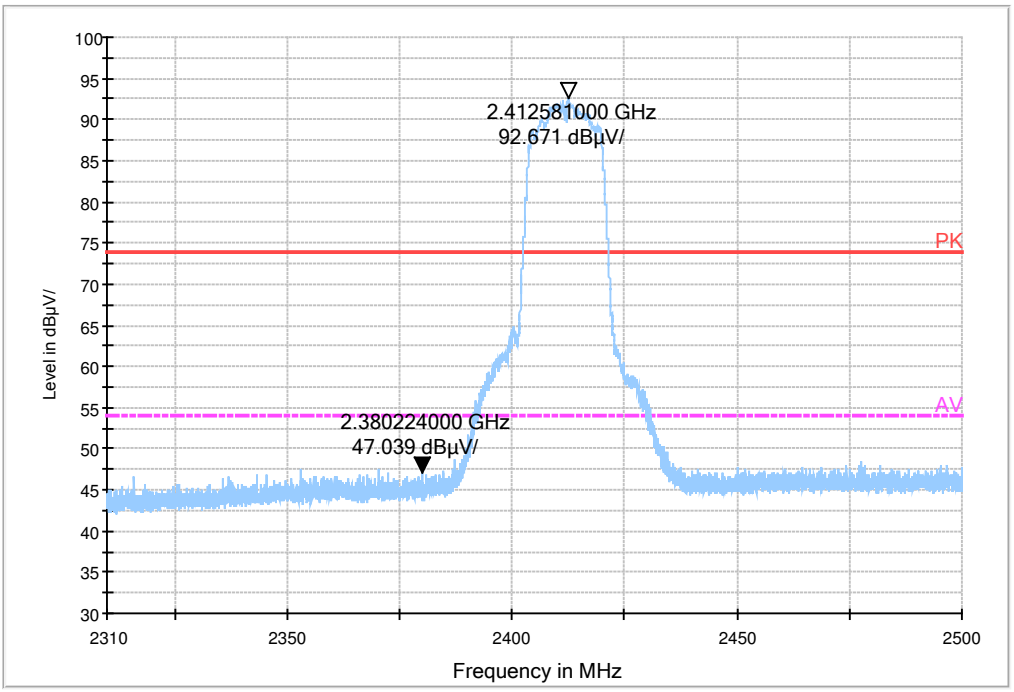
BAND EDGERE 1GHz-3GHz 2380-2450



Average detector

Fig.83 Radiated emission (Power): 802.11g, channel 1

BAND EDGERE 1GHz-3GHz 2380-2450



Peak detector

Fig.84 Radiated emission (Power): 802.11g, channel 1

RE 30MHz-1GHz

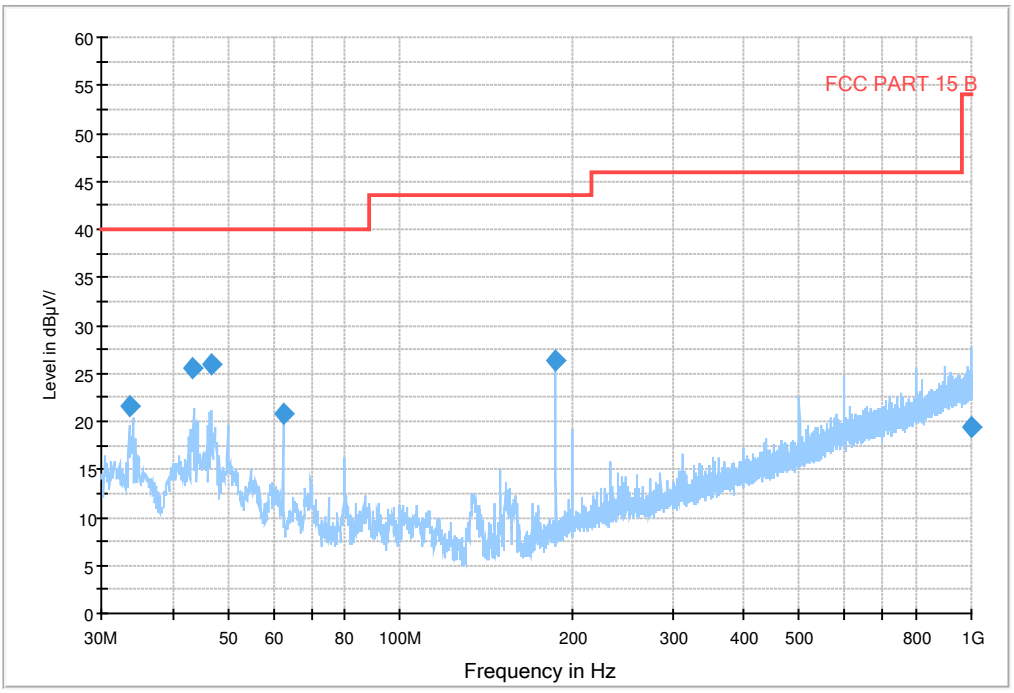


Fig.85 Radiated Spurious Emission (802.11g,Ch1,30MHz~1GHz)

RE 1GHz-3GHz

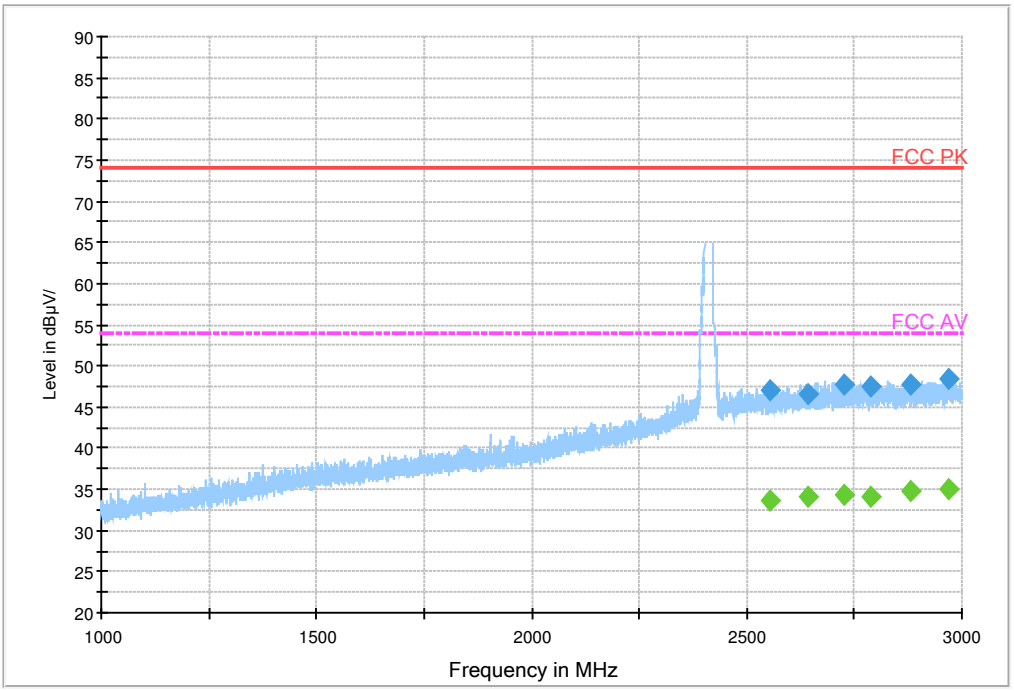


Fig.86 Radiated Spurious Emission (802.11g,Ch1,1GHz~3GHz)

RE 3GHz-18GHz

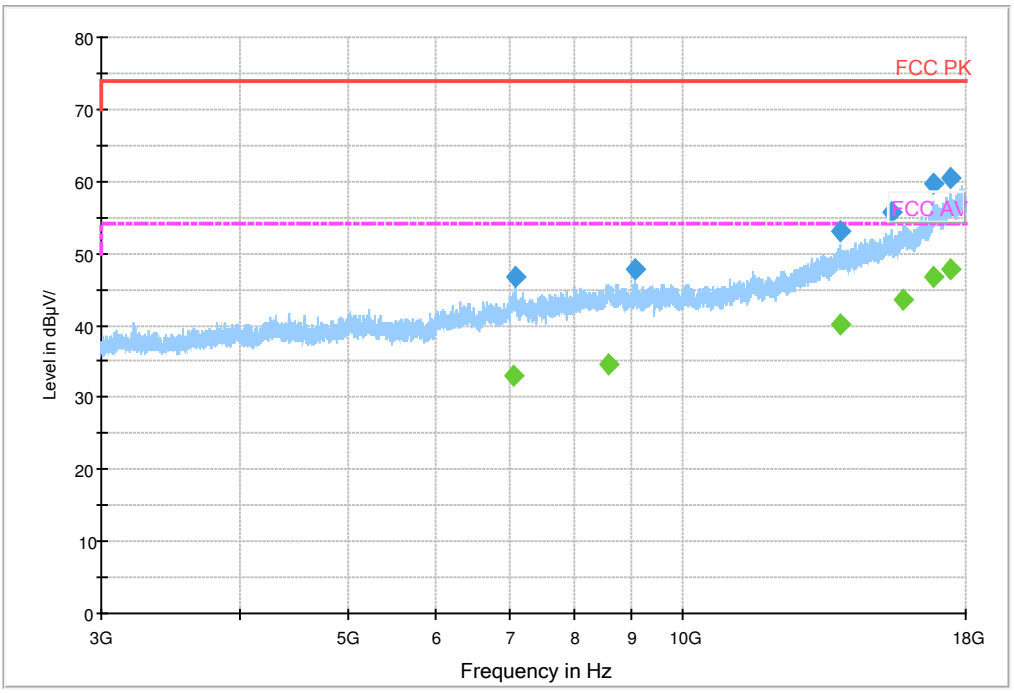
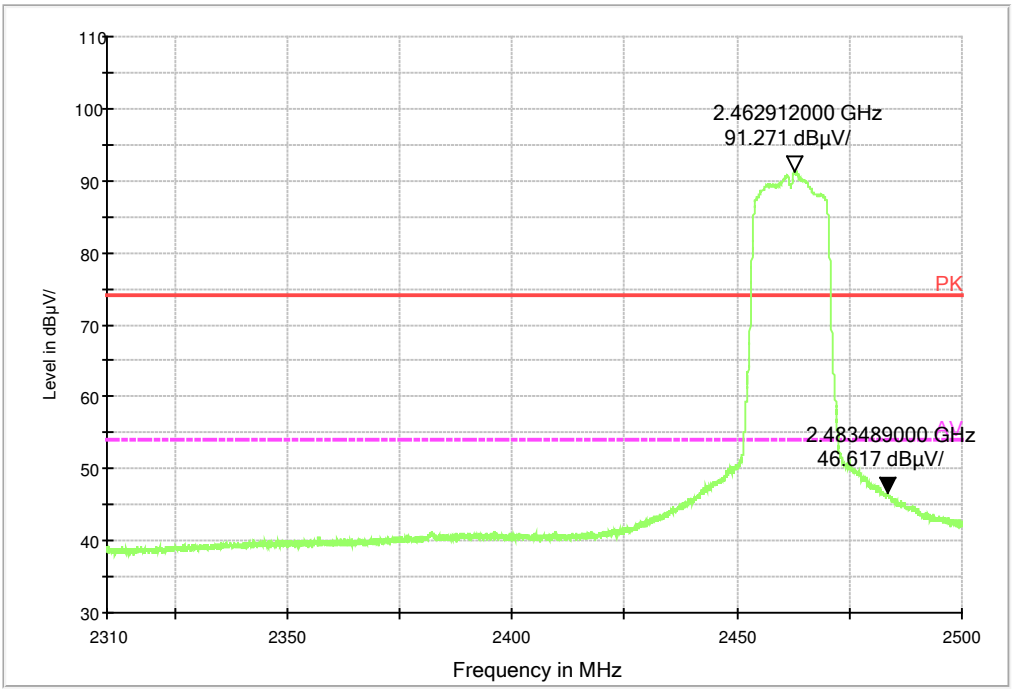


Fig.87 Radiated Spurious Emission (802.11g,Ch1,3GHz~18GHz)

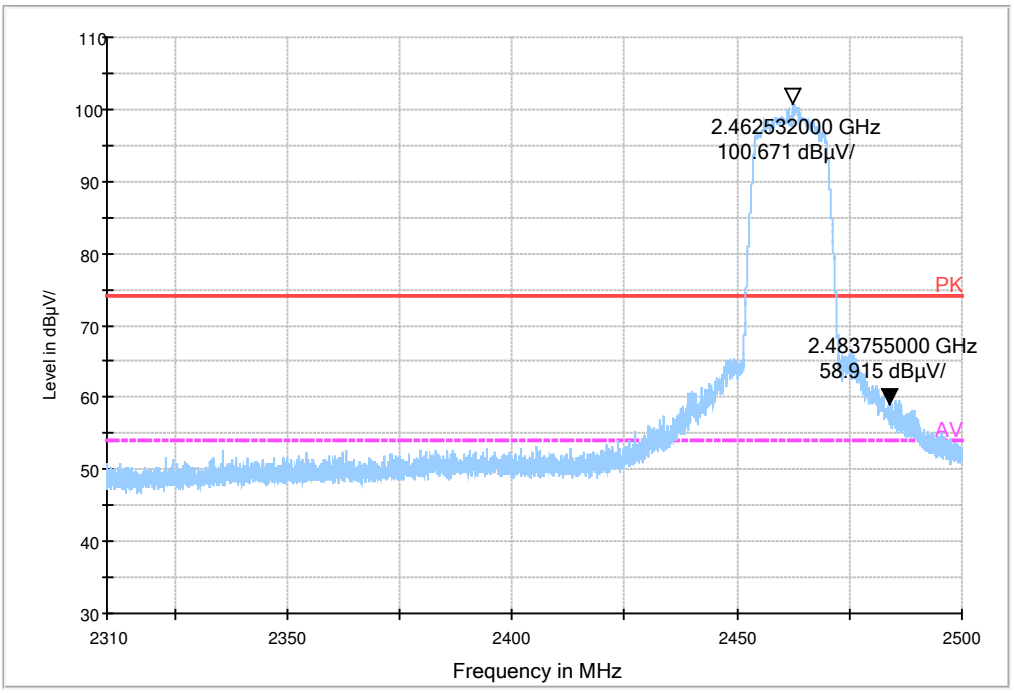
BAND EDGERE 1GHz-3GHz 2380-2450



Average detector

Fig.88 Radiated emission (Power): 802.11g, channel 11

BAND EDGERE 1GHz-3GHz 2380-2450



Peak detector

Fig.89 Radiated emission (Power): 802.11g, channel 11

RE 30MHz-1GHz

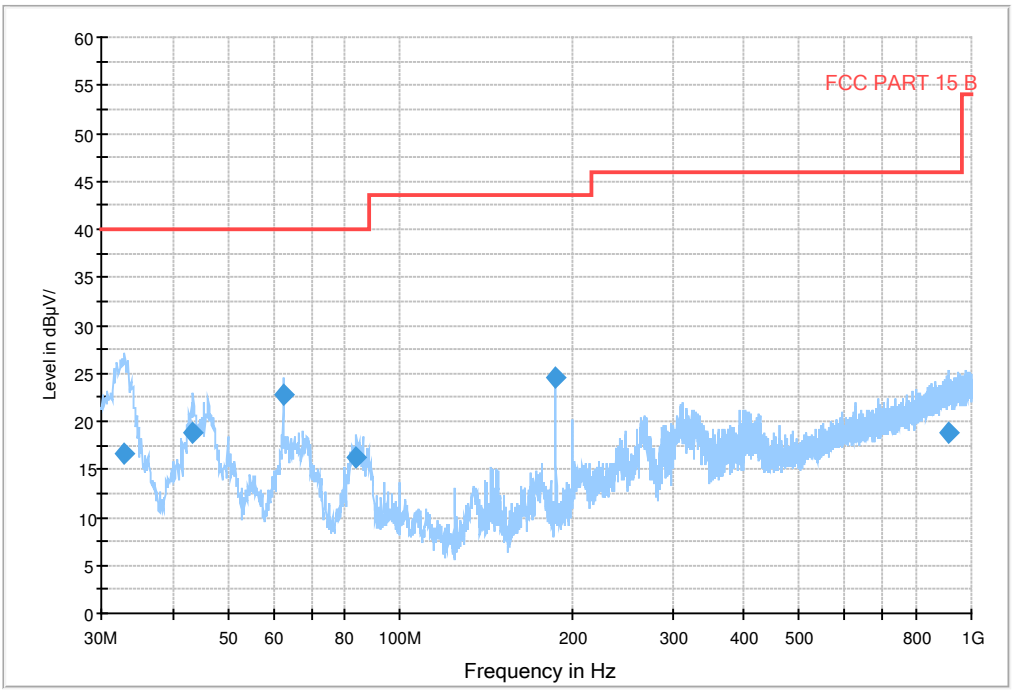


Fig.90 Radiated Spurious Emission (802.11g,Ch11,30MHz~1GHz)

RE 1GHz-3GHz

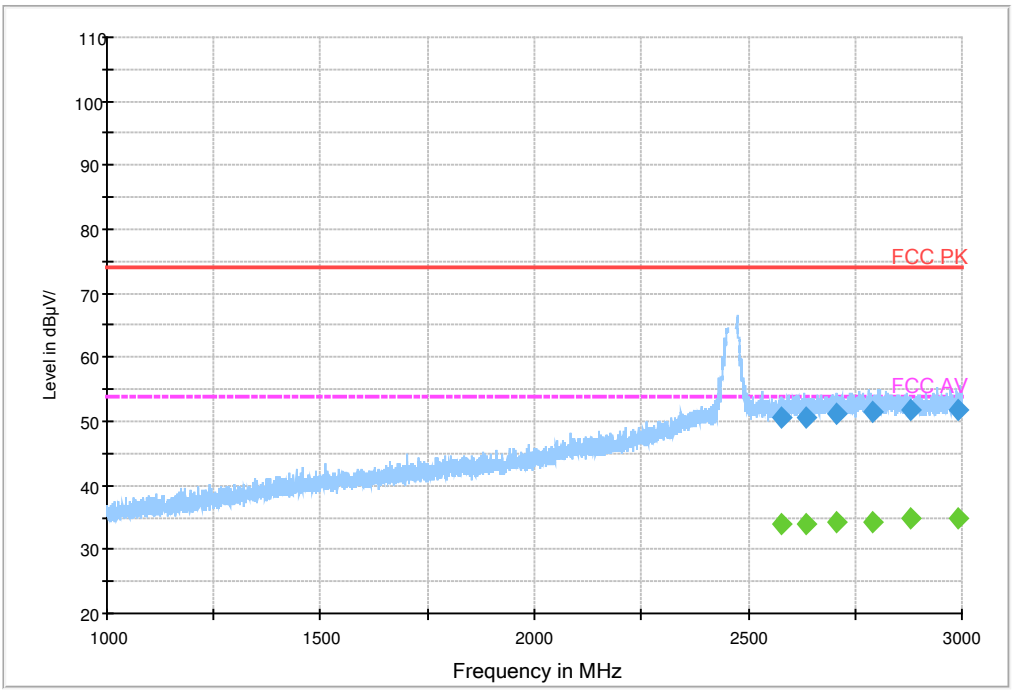


Fig.91 Radiated Spurious Emission (802.11g,Ch11,1GHz~3GHz)

RE 3GHz-18GHz

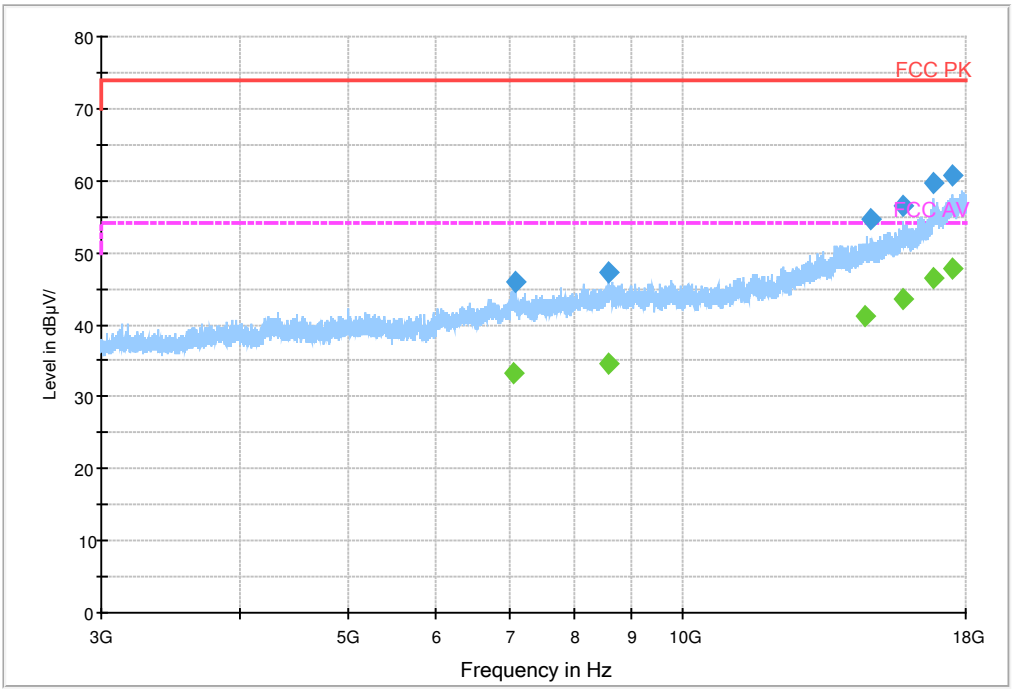
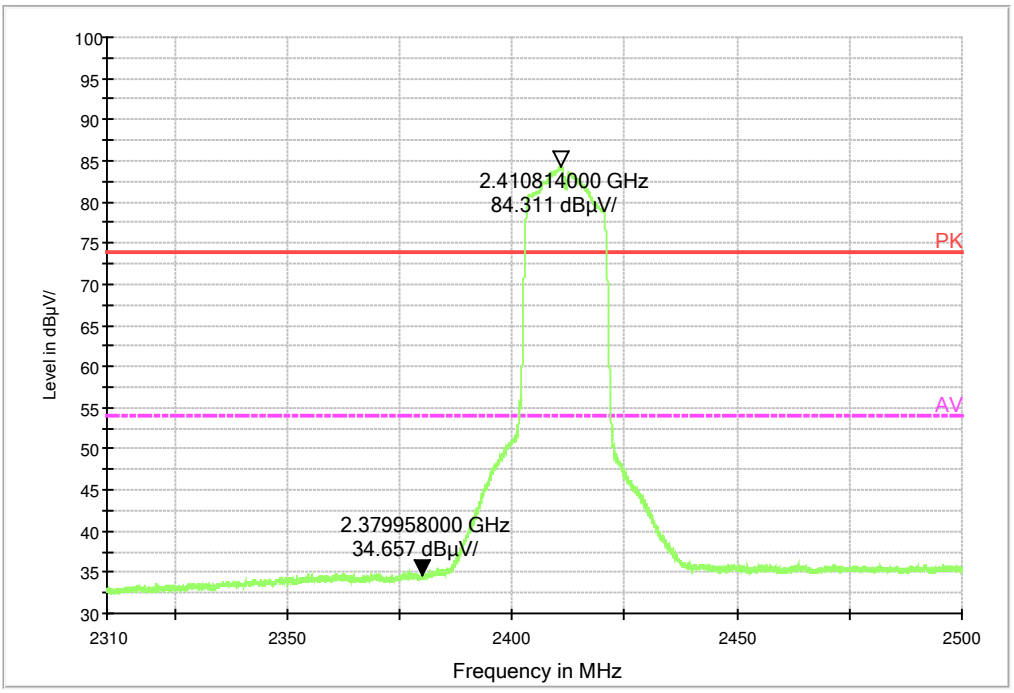


Fig.92 Radiated Spurious Emission (802.11g,Ch11,3GHz~18GHz)

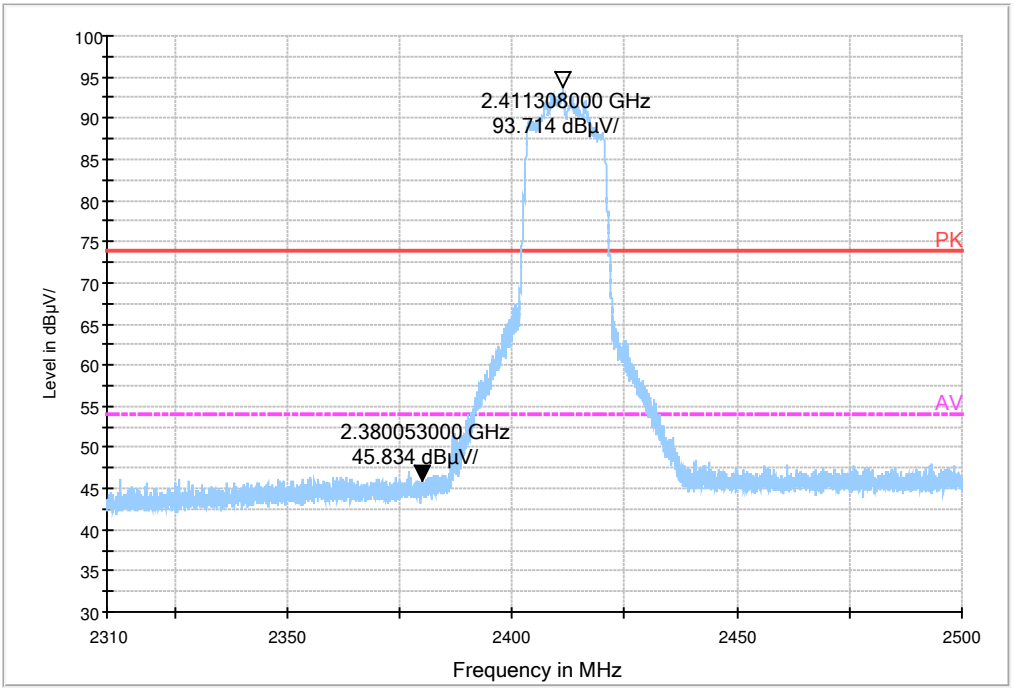
BAND EDGERE 1GHz-3GHz 2380-2450



Average detector

Fig.93 Radiated emission (Power): 802.11n-20MHz, channel 1

BAND EDGERE 1GHz-3GHz 2380-2450



Peak detector

Fig.94 Radiated emission (Power): 802.11n-20MHz, channel 1

RE 30MHz-1GHz

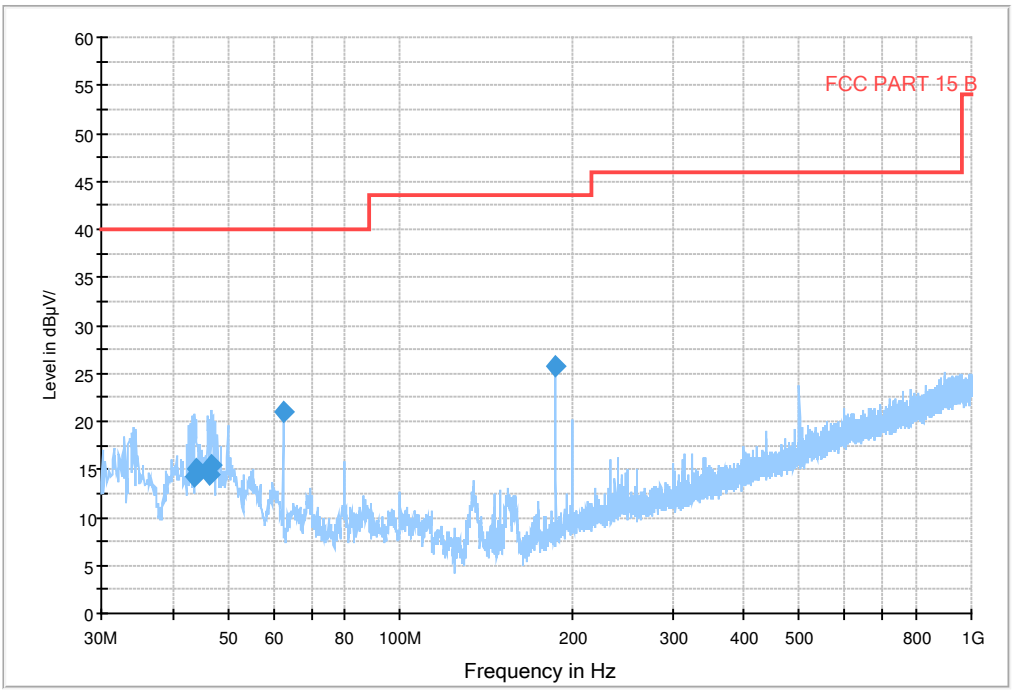


Fig.95 Radiated Spurious Emission (802.11 n-20MHz,Ch1,30MHz~1GHz)

RE 1GHz-3GHz

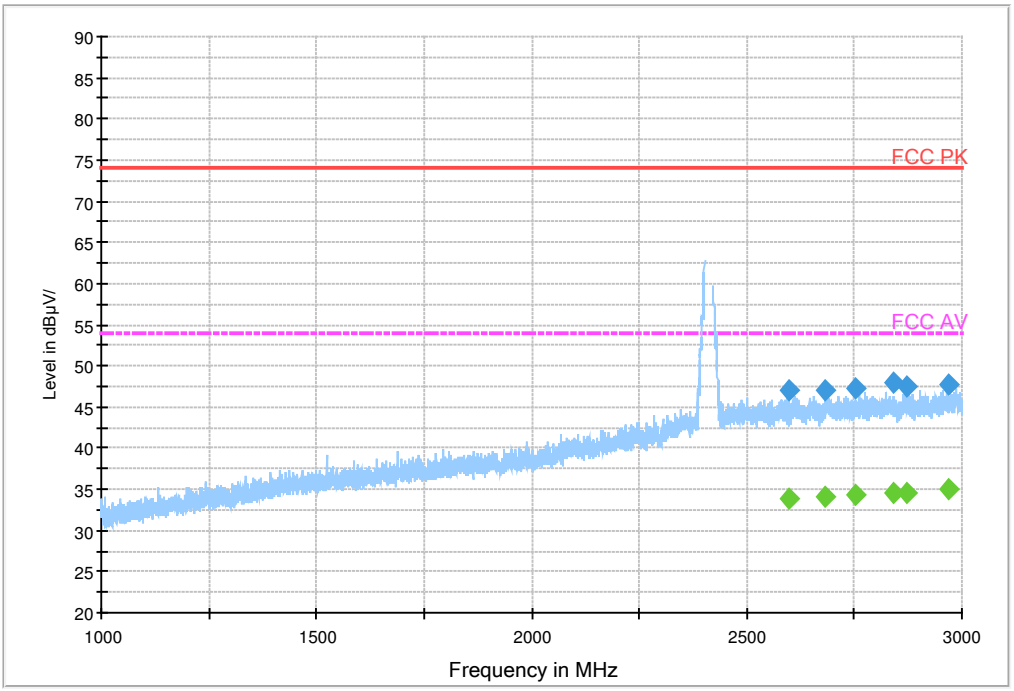


Fig.96 Radiated Spurious Emission (802.11 n-20MHz,Ch1,1GHz~3GHz)

RE 3GHz-18GHz

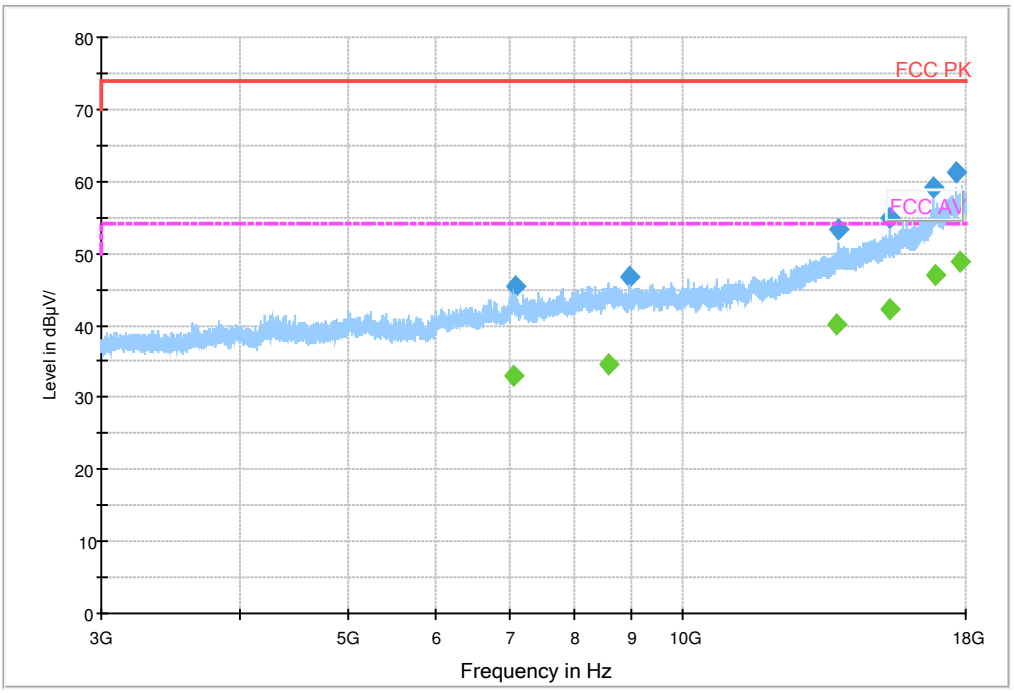
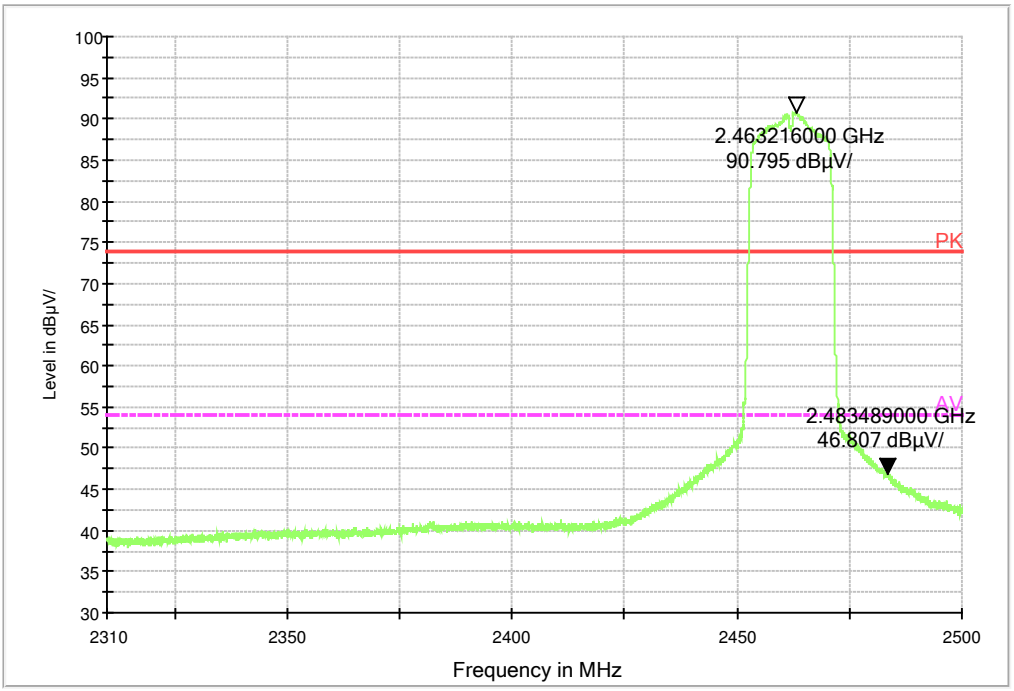


Fig.97 Radiated Spurious Emission (802.11 n-20MHz,Ch1,3GHz~18GHz)

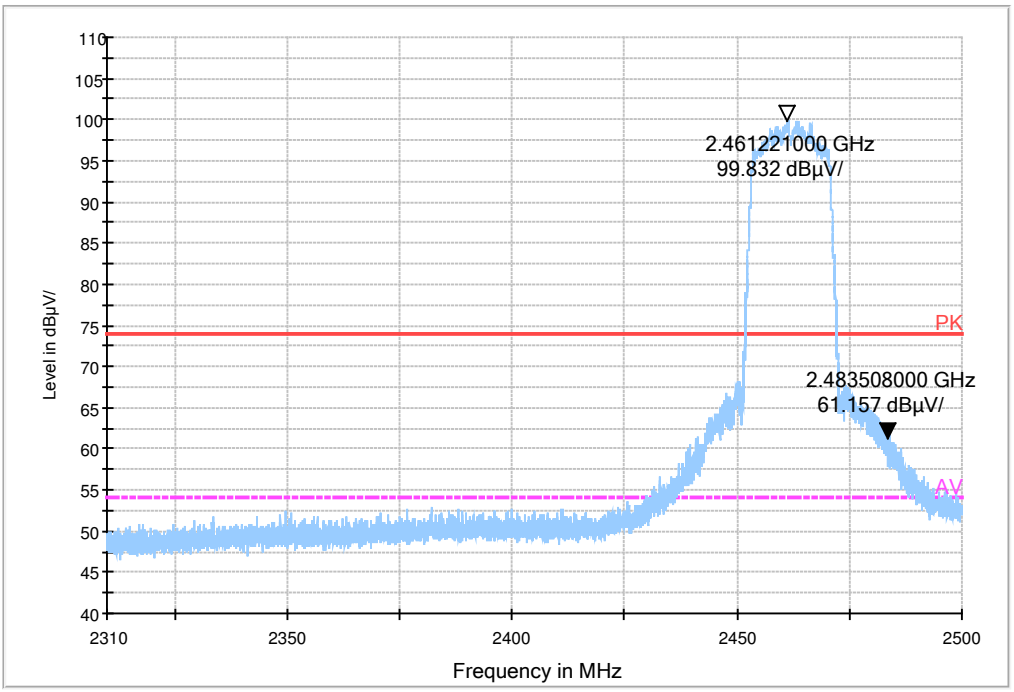
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.98 Radiated emission (Power): 802.11n, channel 11

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.99 Radiated emission (Power): 802.11n, channel 11

RE 30MHz-1GHz

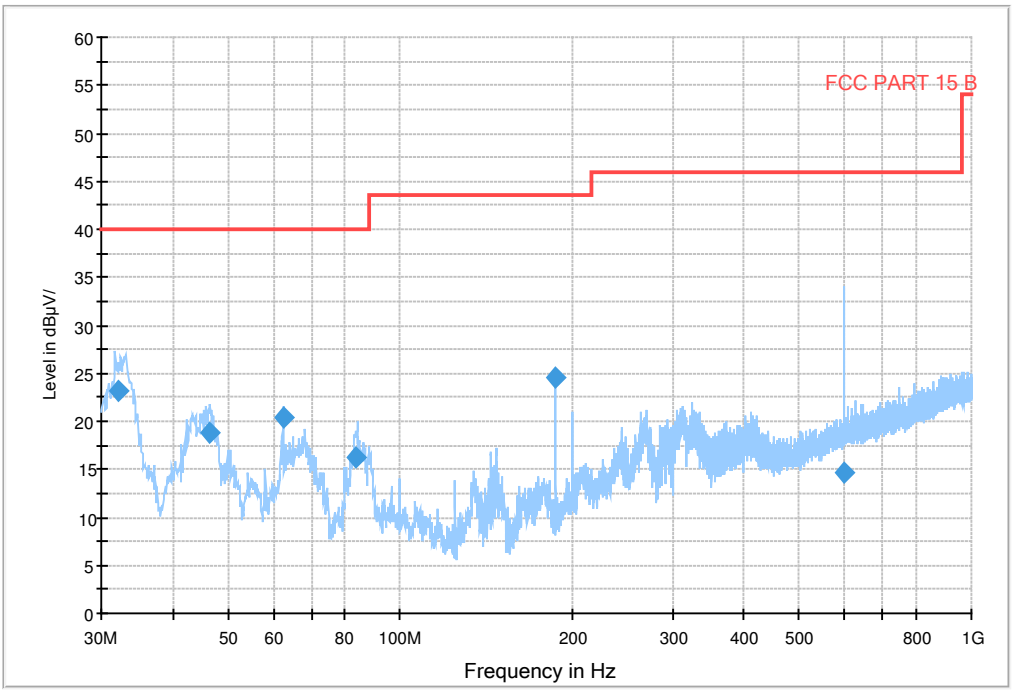


Fig.100 Radiated Spurious Emission (802.11n,Ch11,30MHz~1GHz)

RE 1GHz-3GHz

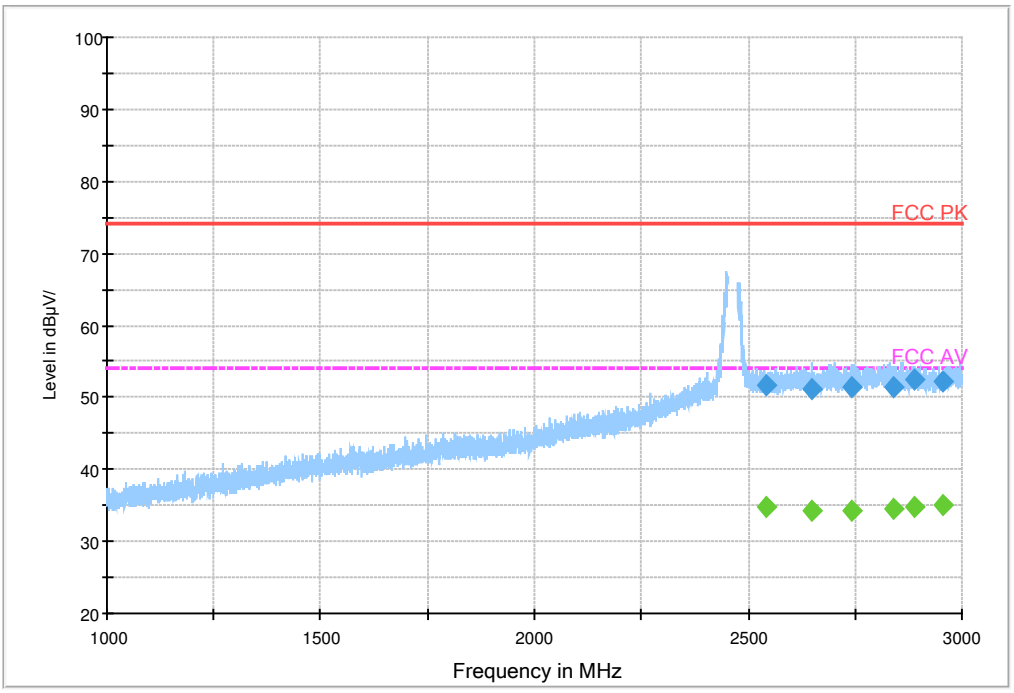


Fig.101 Radiated Spurious Emission (802.11n,Ch11,1GHz~3GHz)

RE 3GHz-18GHz

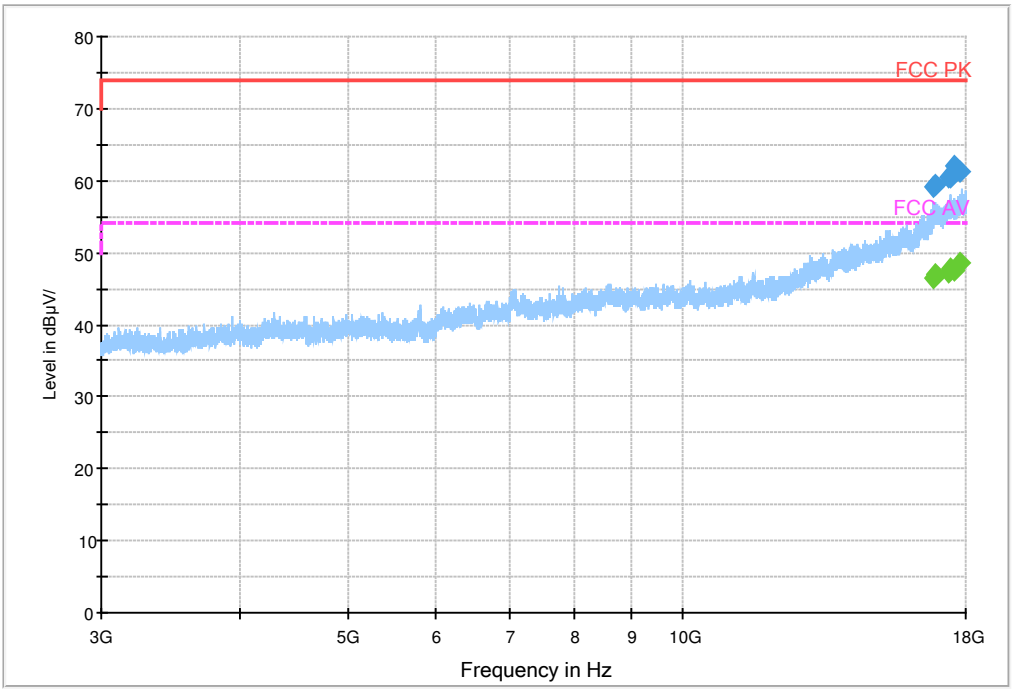
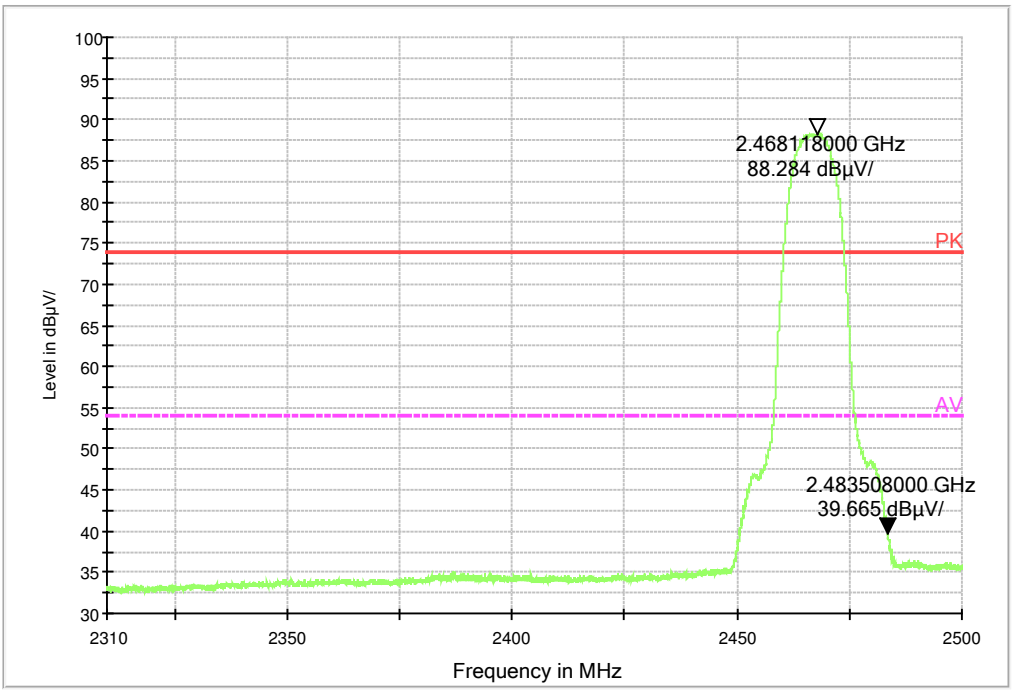


Fig.102 Radiated Spurious Emission (802.11n,Ch11,3GHz~18GHz)

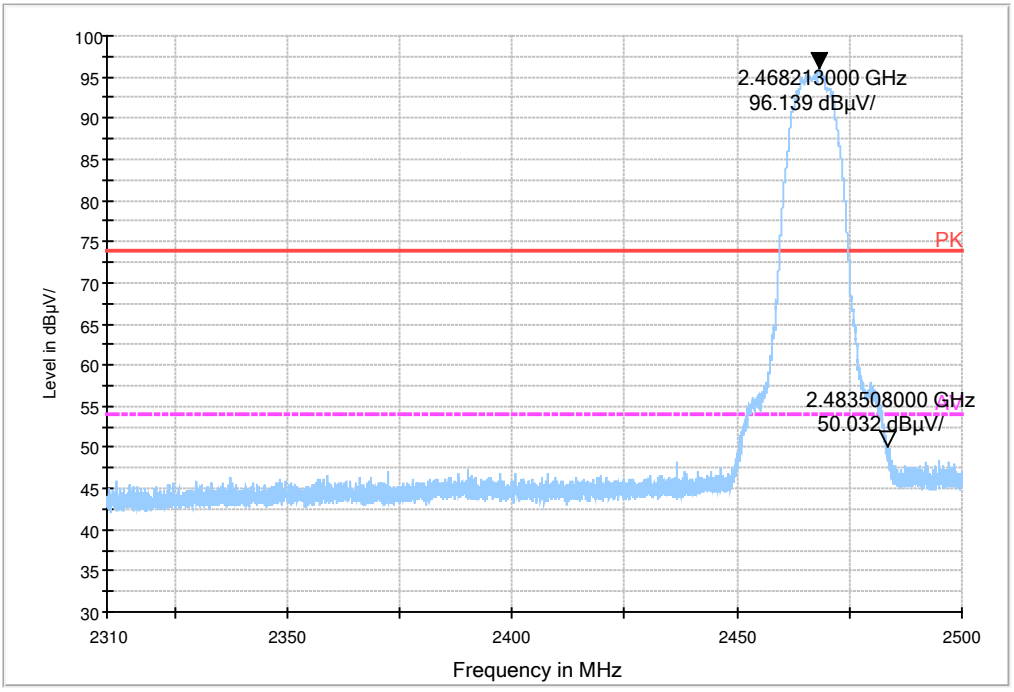
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.103 Radiated emission (Power): 802.11b channel12

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.104 Radiated emission (Power): 802.11b channel12

RE 30MHz-1GHz

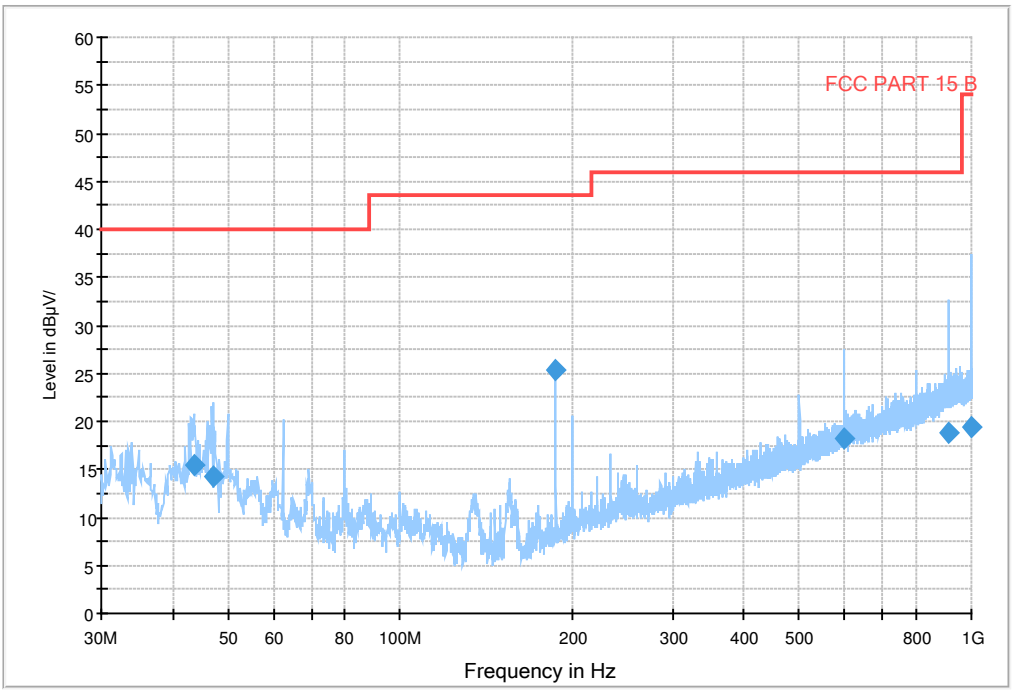


Fig.105 Radiated Spurious Emission (802.11 b,Ch12,30MHz~1GHz)

RE 1GHz-3GHz

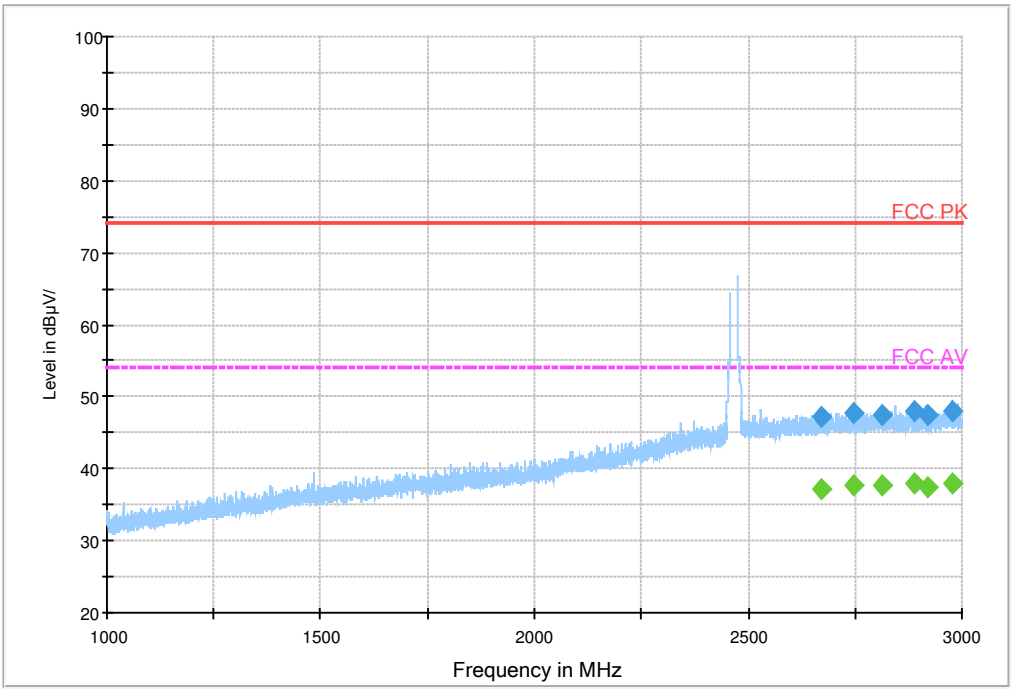


Fig.106 Radiated Spurious Emission (802.11 b,Ch12,1GHz~3GHz)

RE 3GHz-18GHz

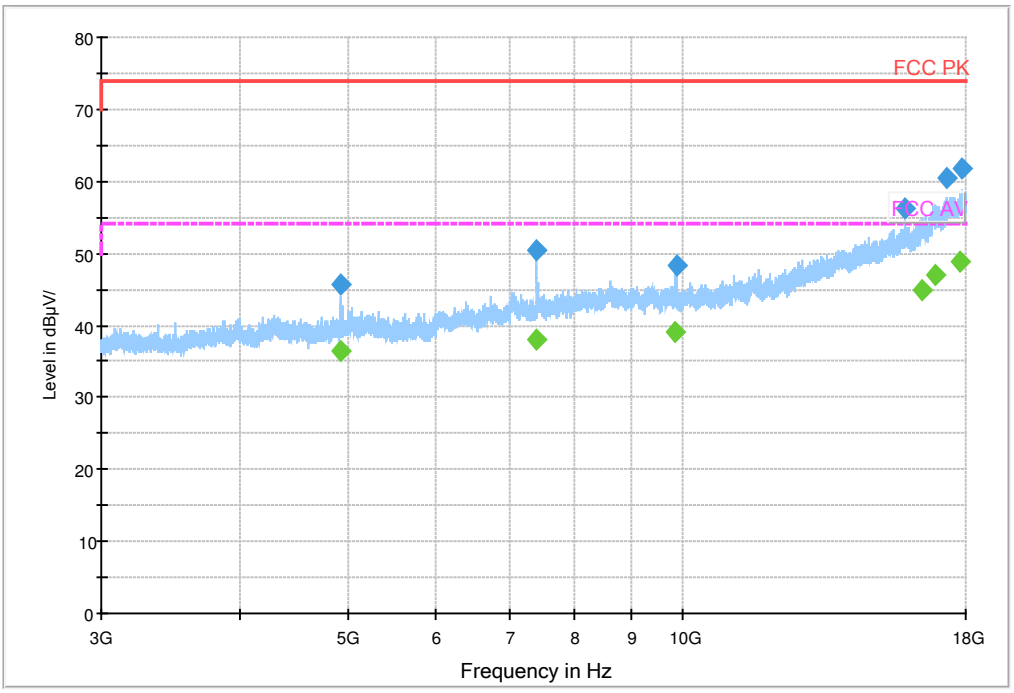
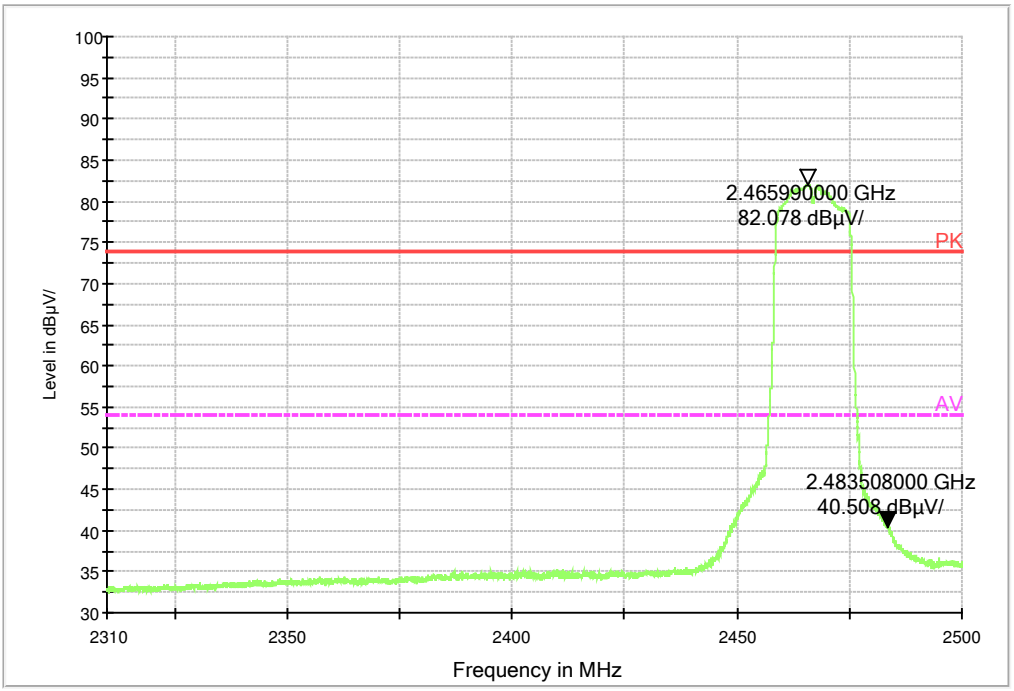


Fig.107Radiated Spurious Emission (802.11 b,Ch12,3GHz~18GHz)

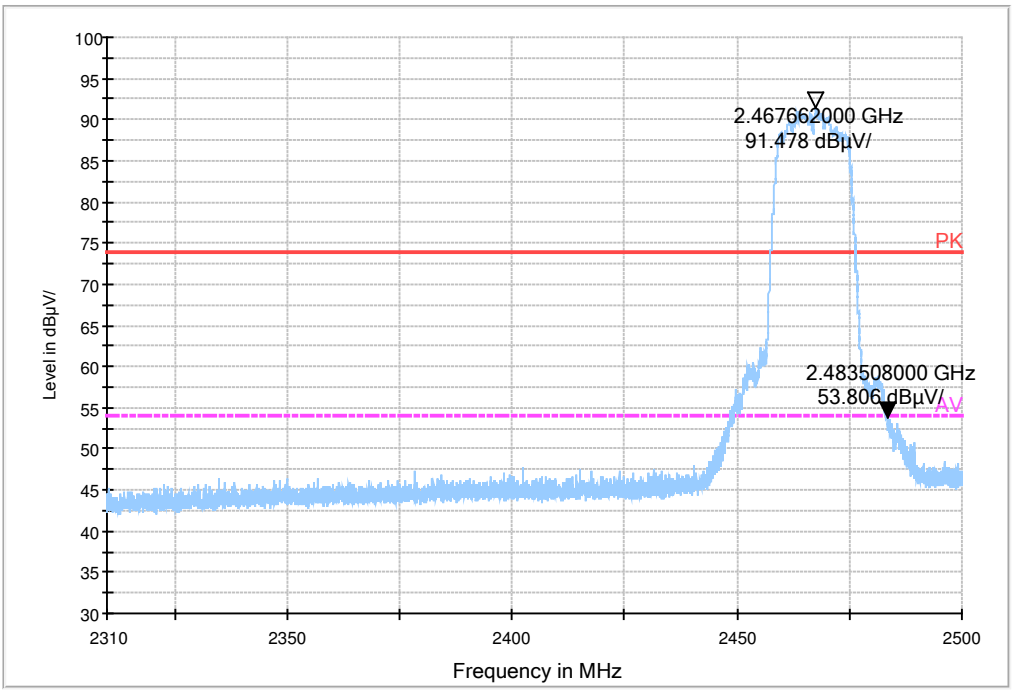
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.108 Radiated emission (Power): 802.11g channel12

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.109 Radiated emission (Power): 802.11g channel12

RE 30MHz-1GHz

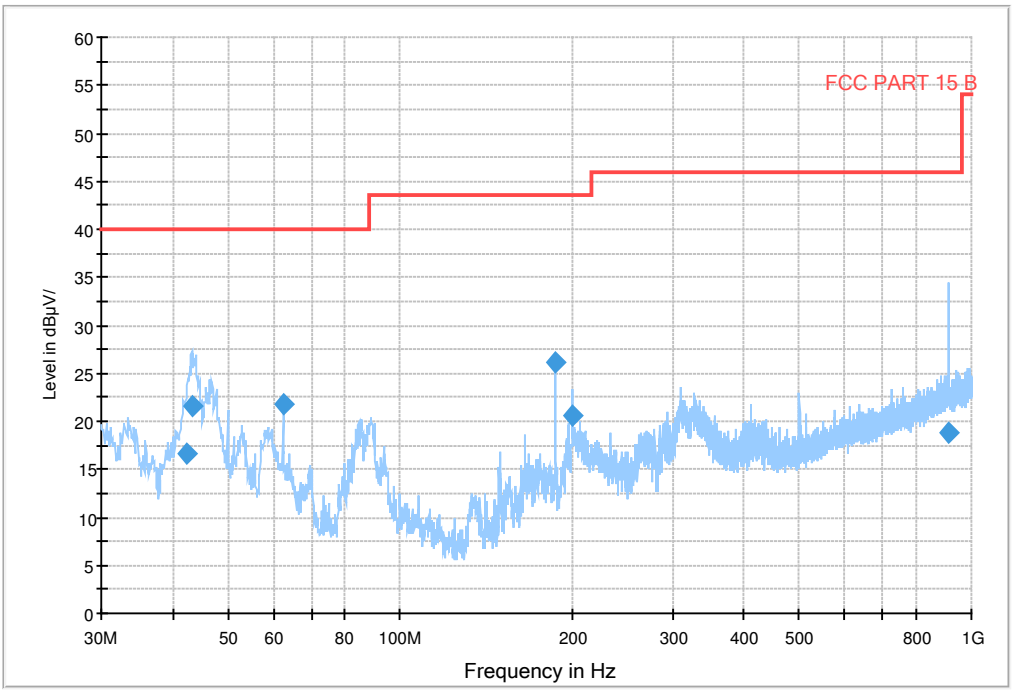


Fig.110 Radiated Spurious Emission (802.11 g,Ch12,30MHz~1GHz)

RE 1GHz-3GHz

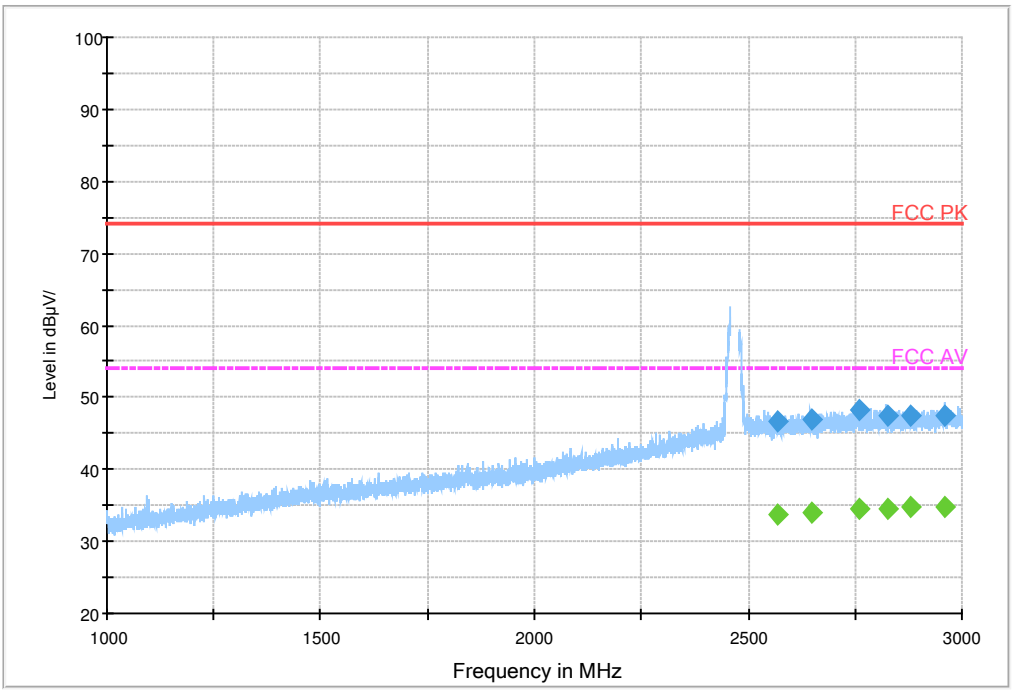


Fig.111 Radiated Spurious Emission (802.11 g,Ch12,1GHz~3GHz)

RE 3GHz-18GHz

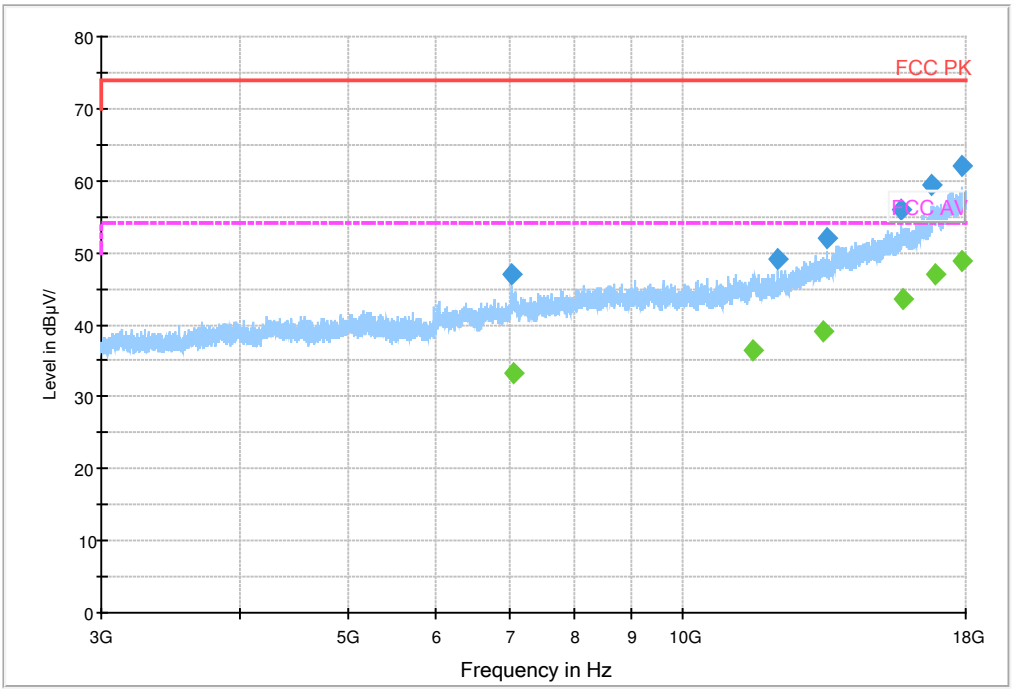
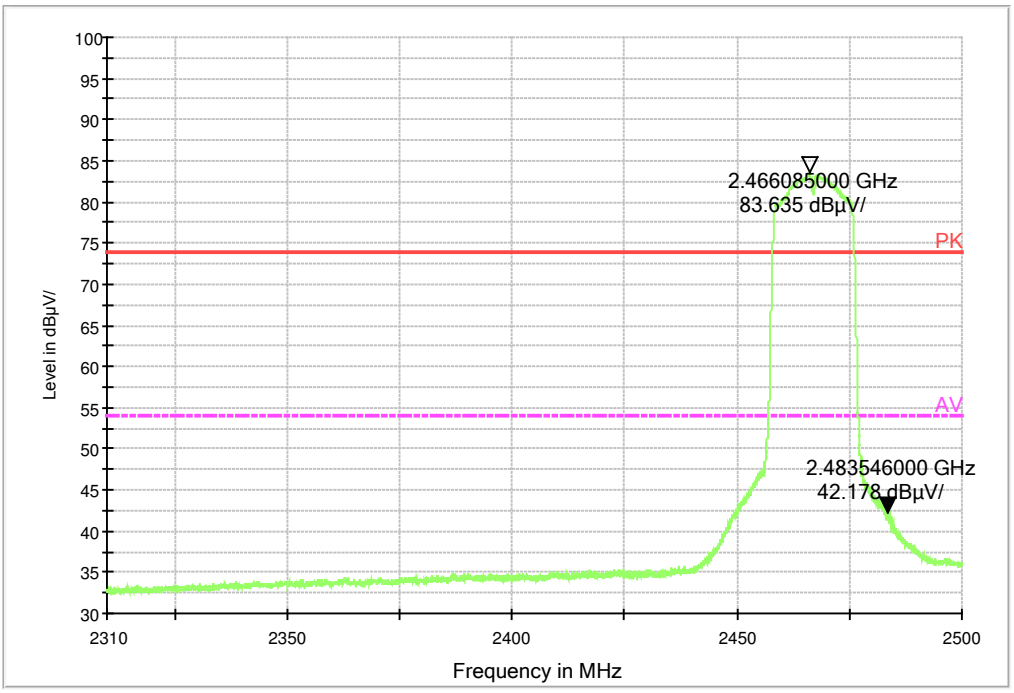


Fig.112 Radiated Spurious Emission (802.11 g,Ch12,3GHz~18GHz)

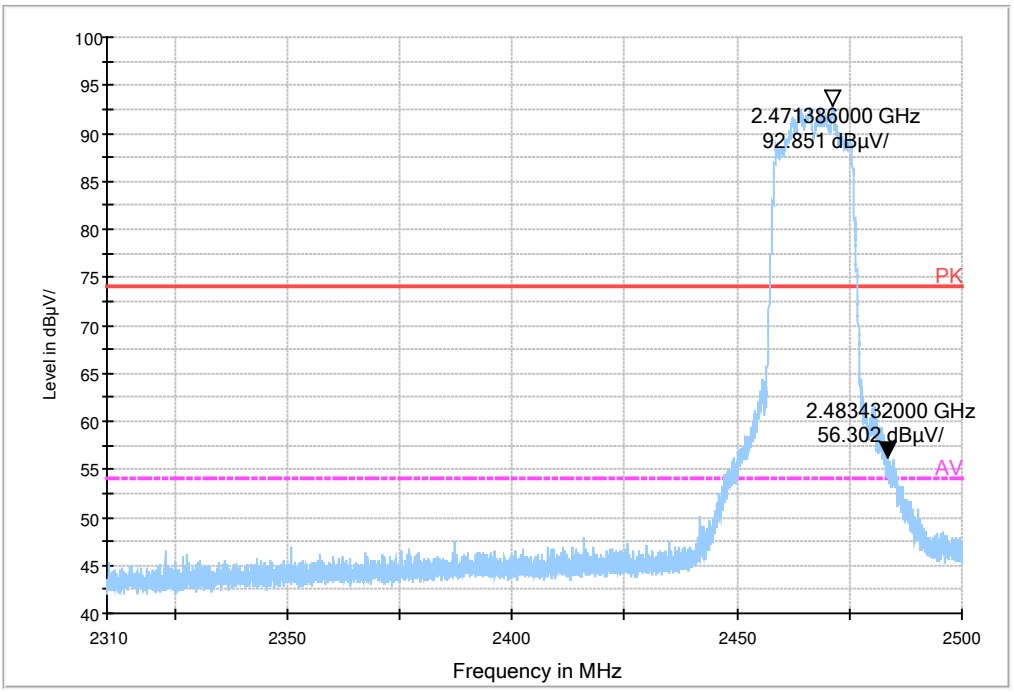
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.113 Radiated emission (Power): 802.11n-20MHz channel12

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.114 Radiated emission (Power): 802.11n-20MHz channel12

RE 30MHz-1GHz

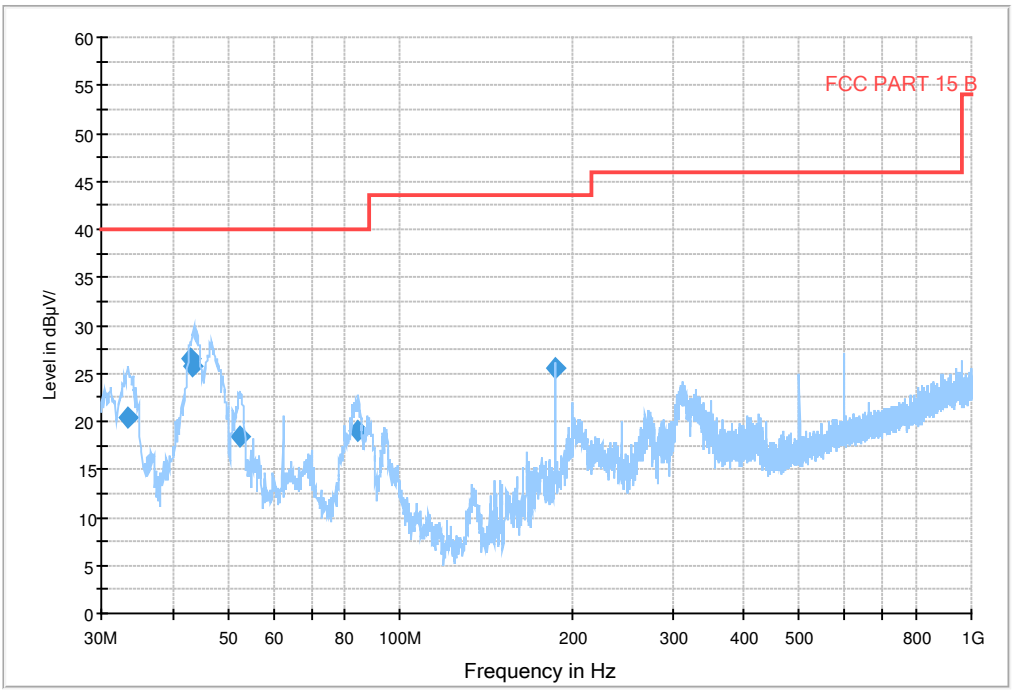


Fig.115 Radiated Spurious Emission (802.11 n-20 MHz,Ch12,30MHz~1GHz)

RE 1GHz-3GHz

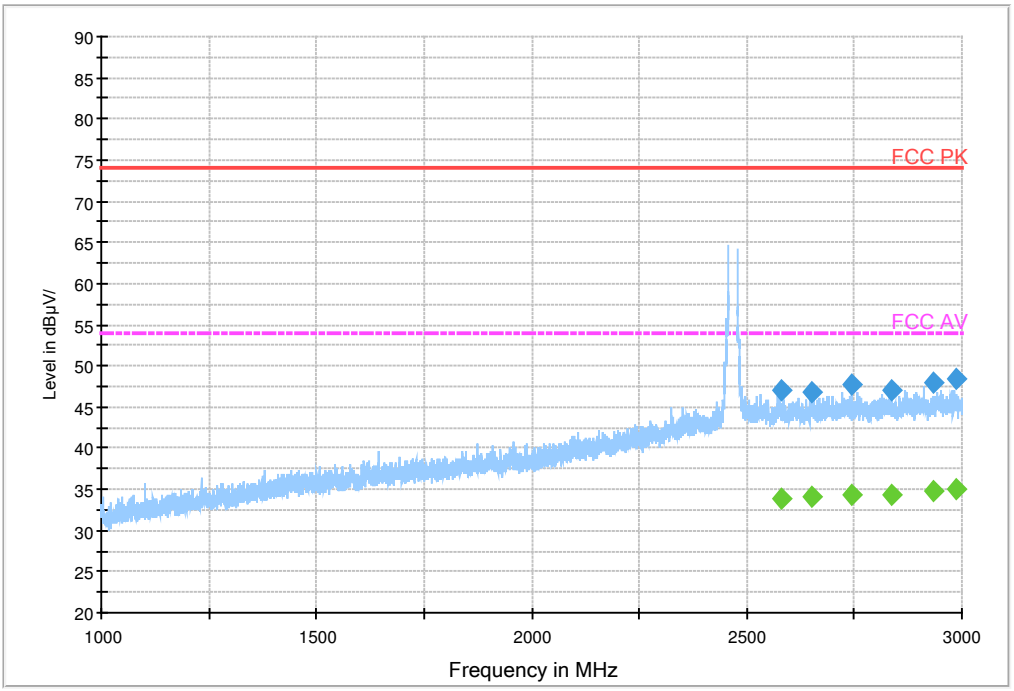


Fig.116 Radiated Spurious Emission (802.11 n-20 MHz,Ch12,1GHz~3GHz)

RE 3GHz-18GHz

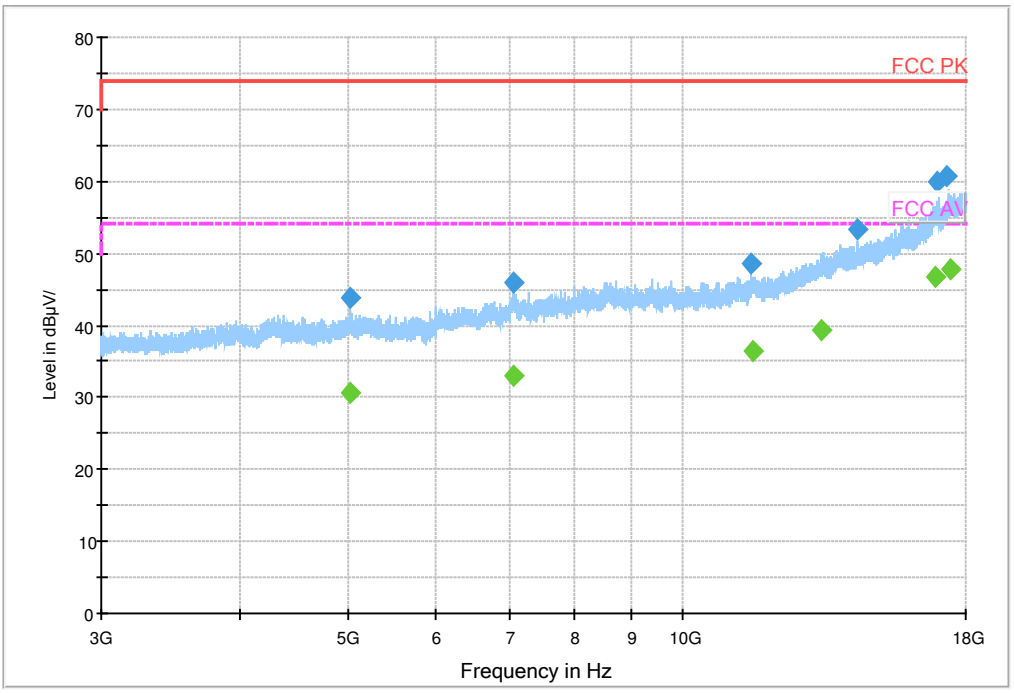
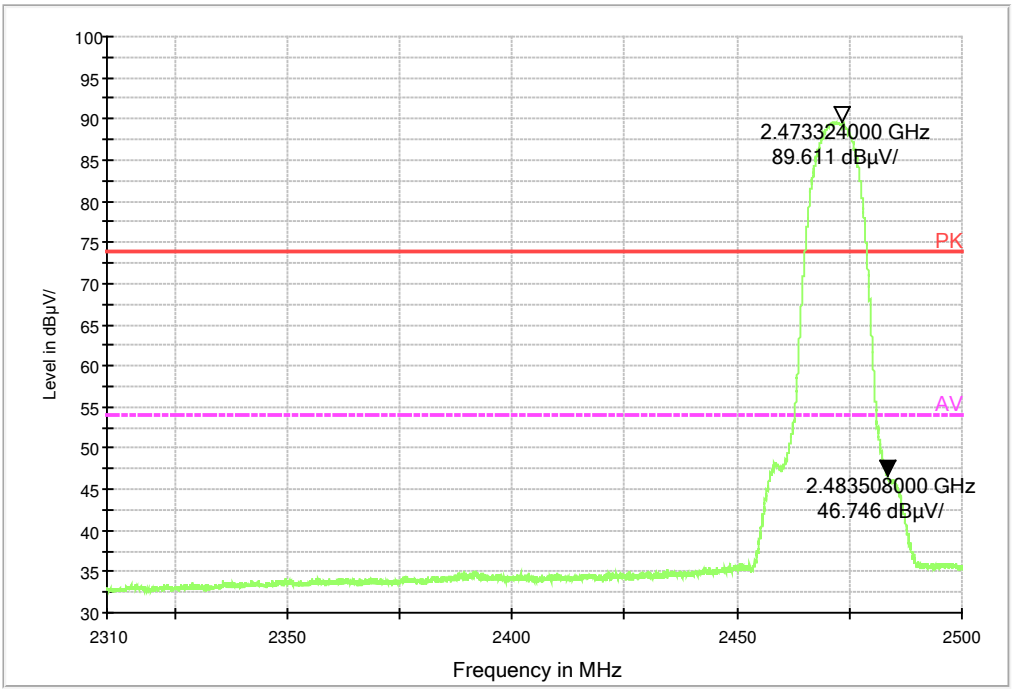


Fig.117 Radiated Spurious Emission (802.11 n-20 MHz,Ch12,3GHz~18GHz)

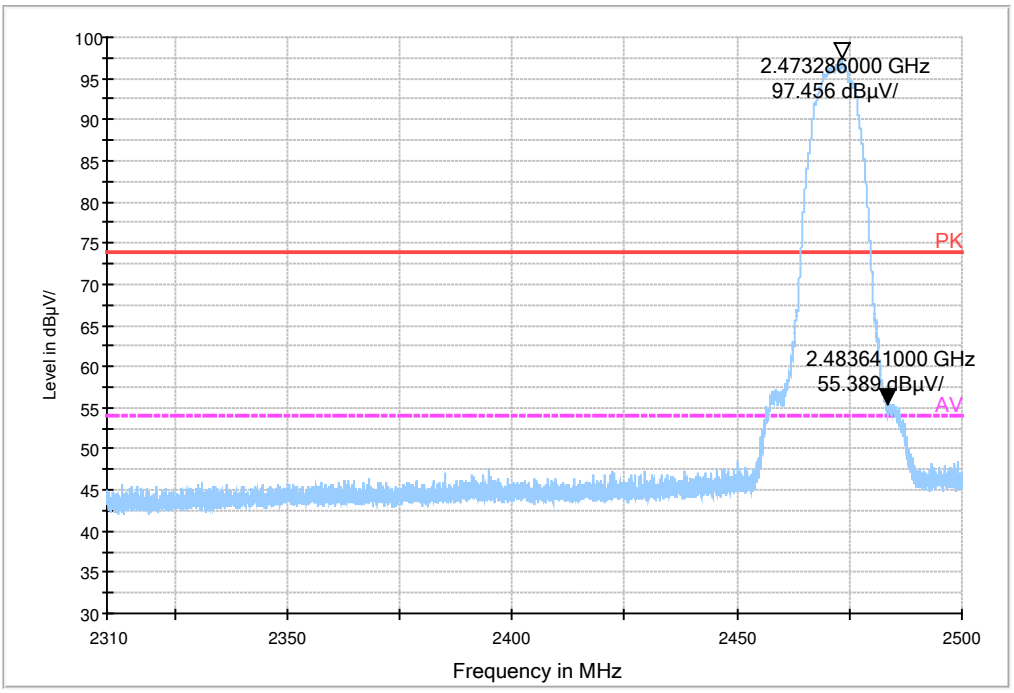
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.118 Radiated emission (Power): 802.11b channel13

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.119 Radiated emission (Power): 802.11b channel13

RE 30MHz-1GHz

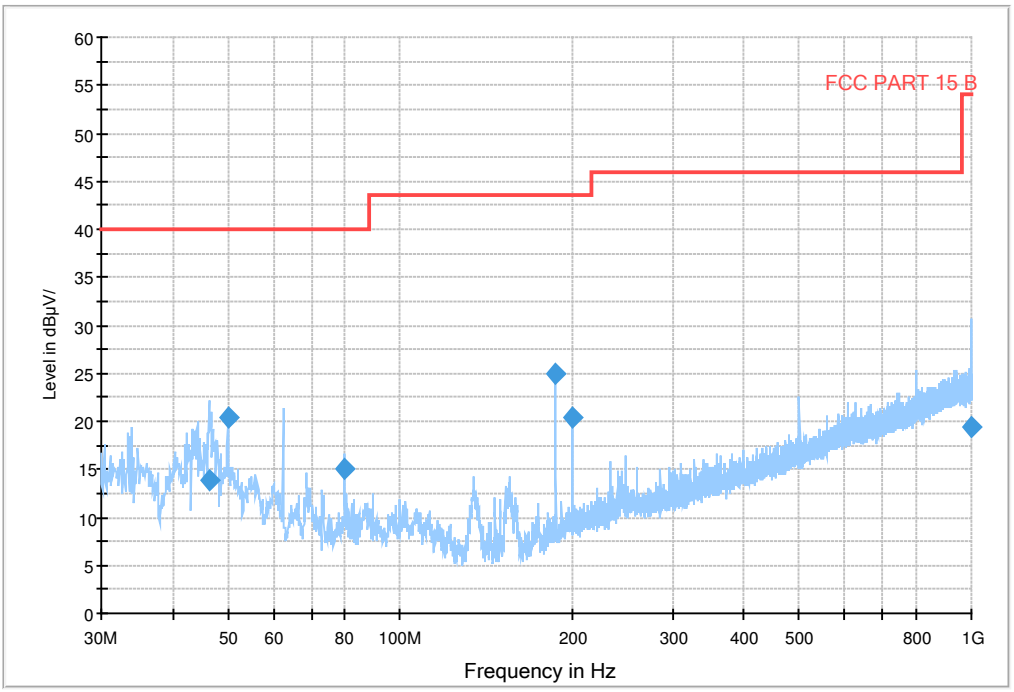


Fig.120 Radiated Spurious Emission (802.11 b,Ch13,30MHz~1GHz)

RE 1GHz-3GHz

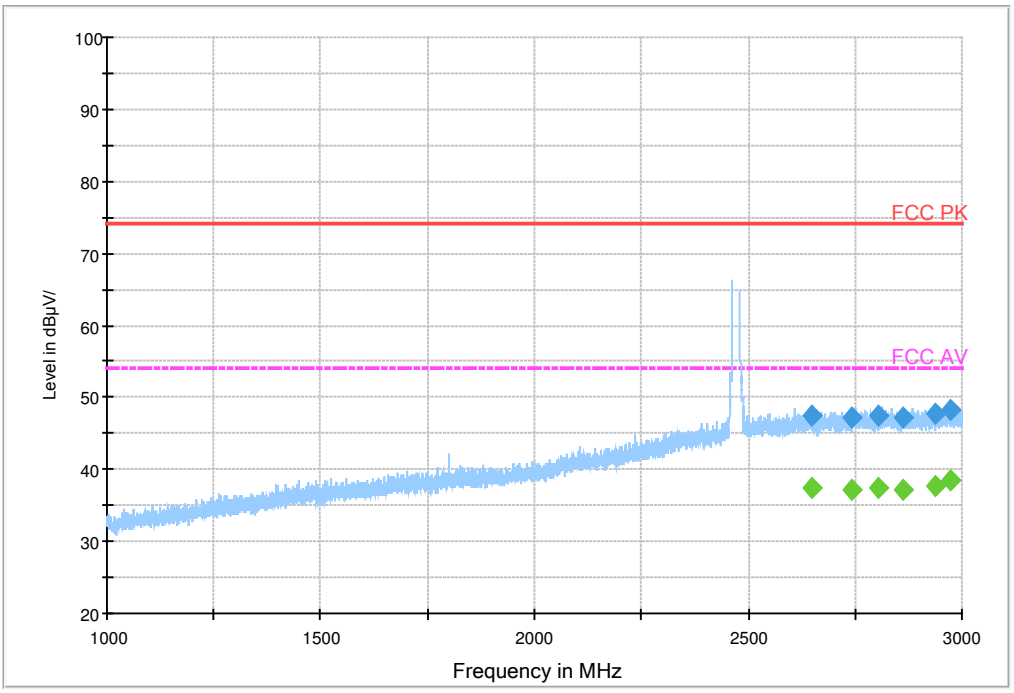


Fig.121 Radiated Spurious Emission (802.11 b,Ch13,1GHz~3GHz)

RE 3GHz-18GHz

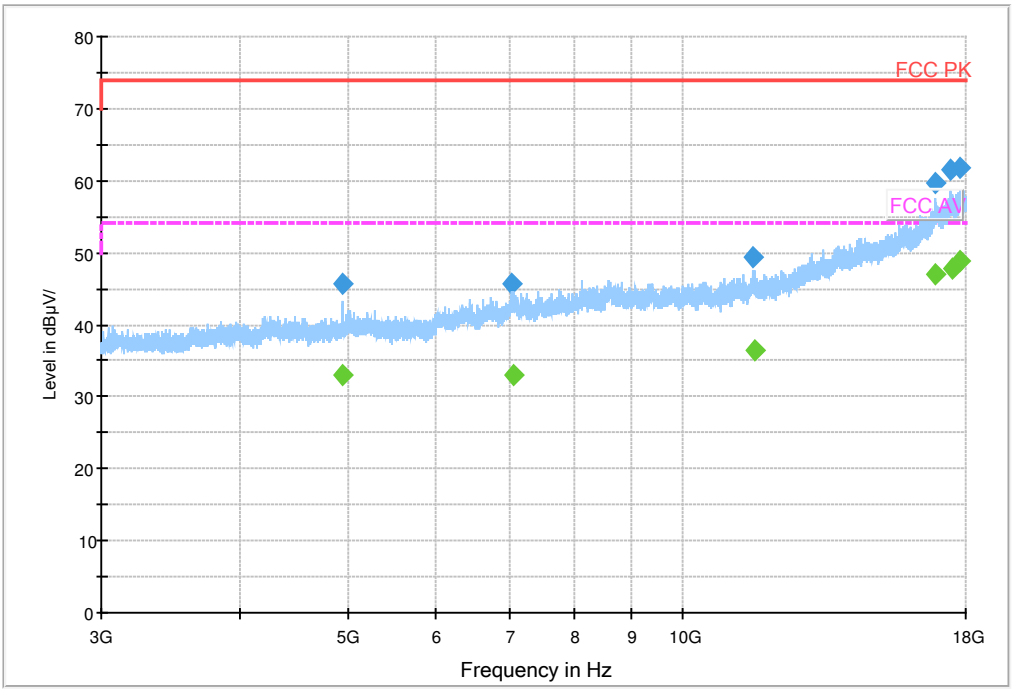
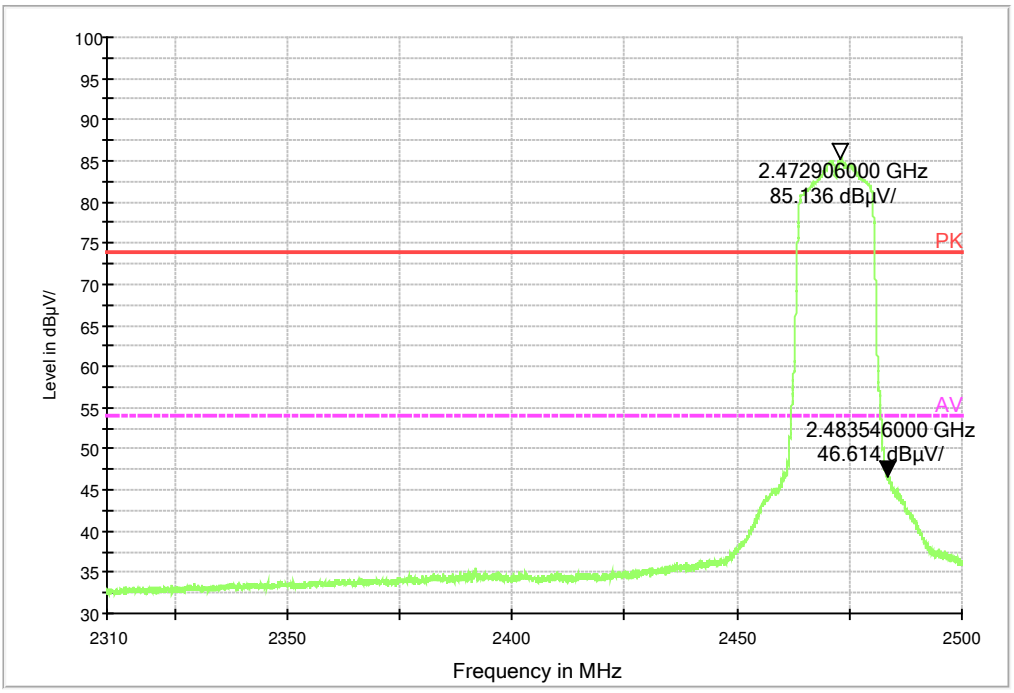


Fig.122 Radiated Spurious Emission (802.11 b,Ch13,3GHz~18GHz)

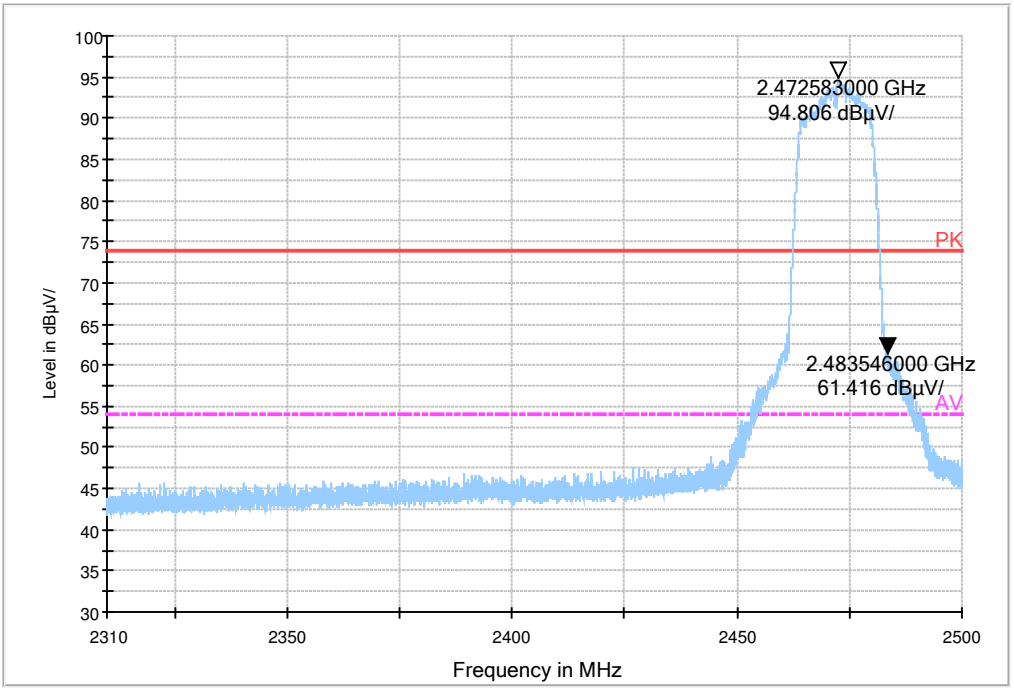
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.123 Radiated emission (Power): 802.11g channel13

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.124 Radiated emission (Power): 802.11g channel13

RE 30MHz-1GHz

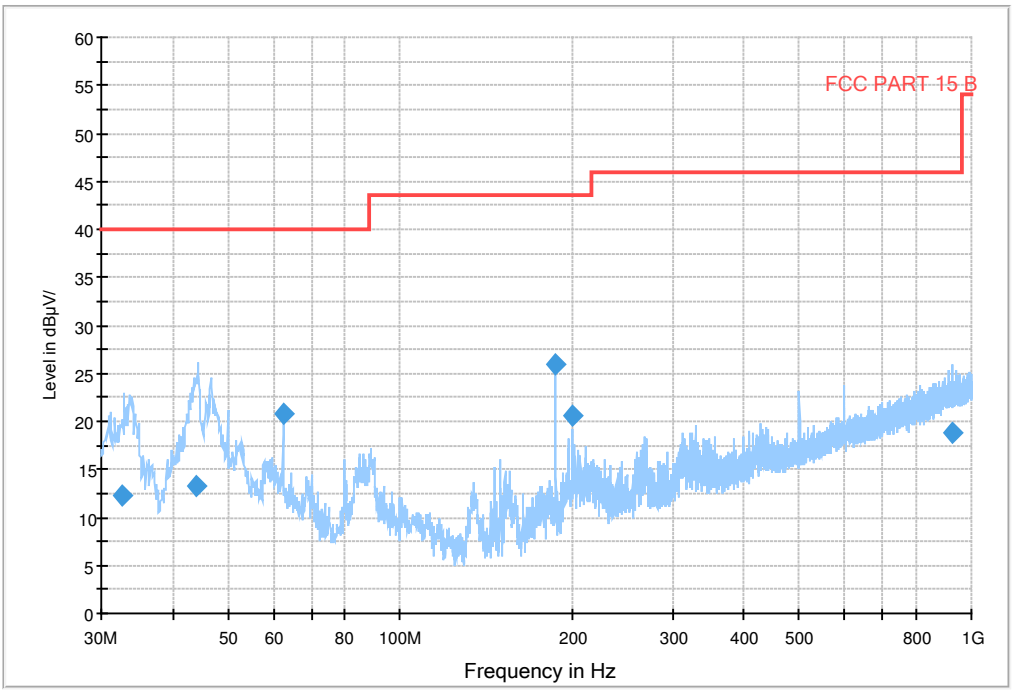


Fig.125 Radiated Spurious Emission (802.11 g,Ch13,30MHz~1GHz)

BAND EDGERE 1GHz-3GHz 2483.5-2500

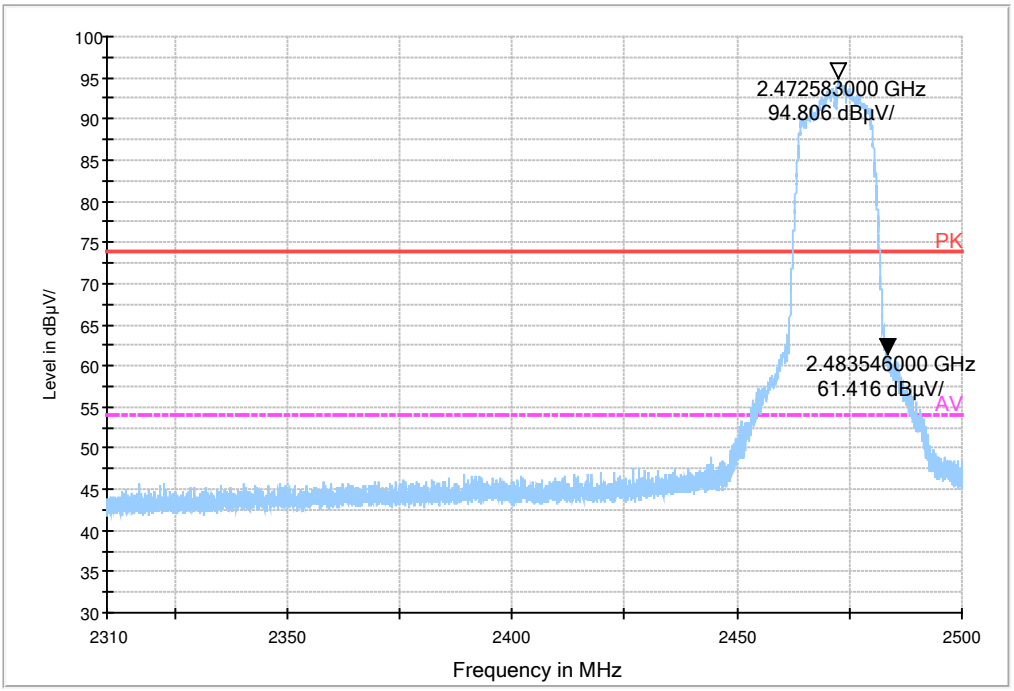


Fig.126 Radiated Spurious Emission (802.11 g,Ch13,1GHz~3GHz)

RE 3GHz-18GHz

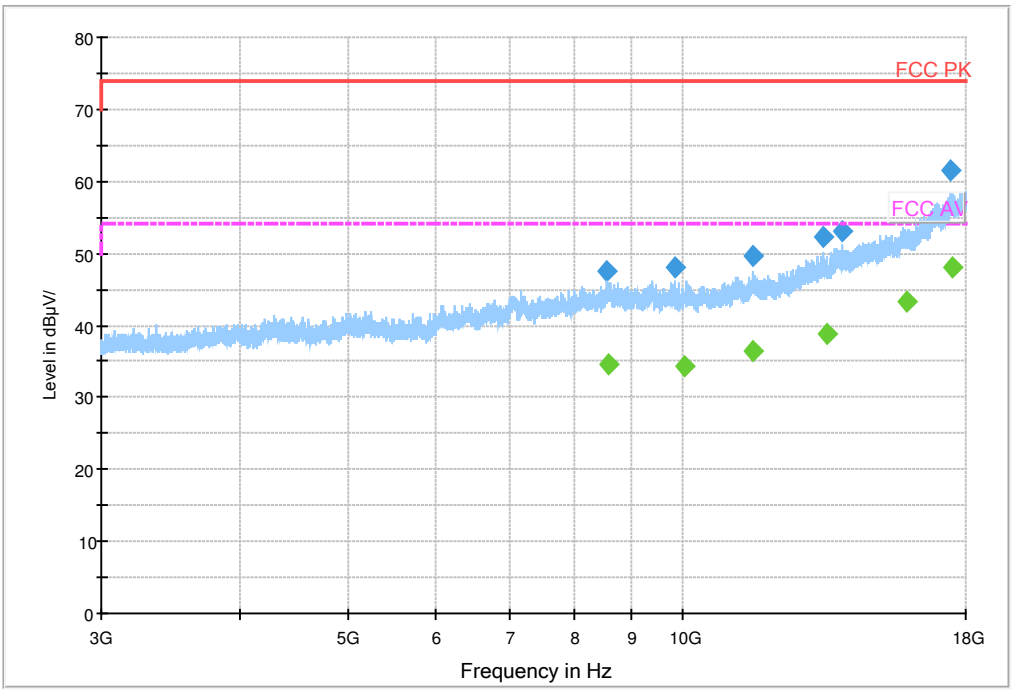
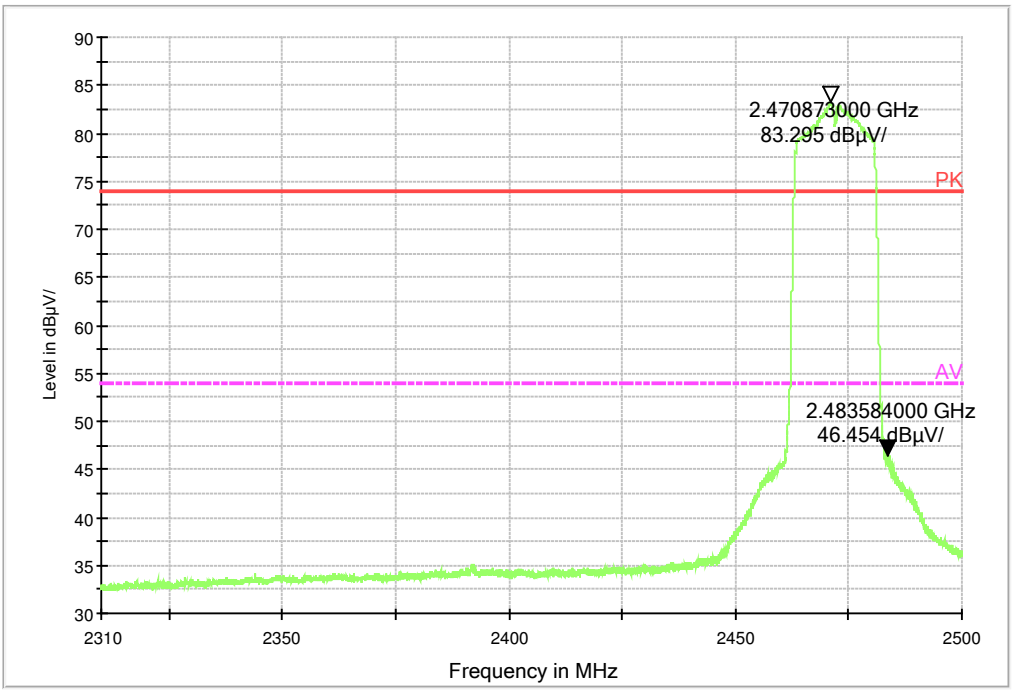


Fig.127 Radiated Spurious Emission (802.11 g,Ch13,3GHz~18GHz)

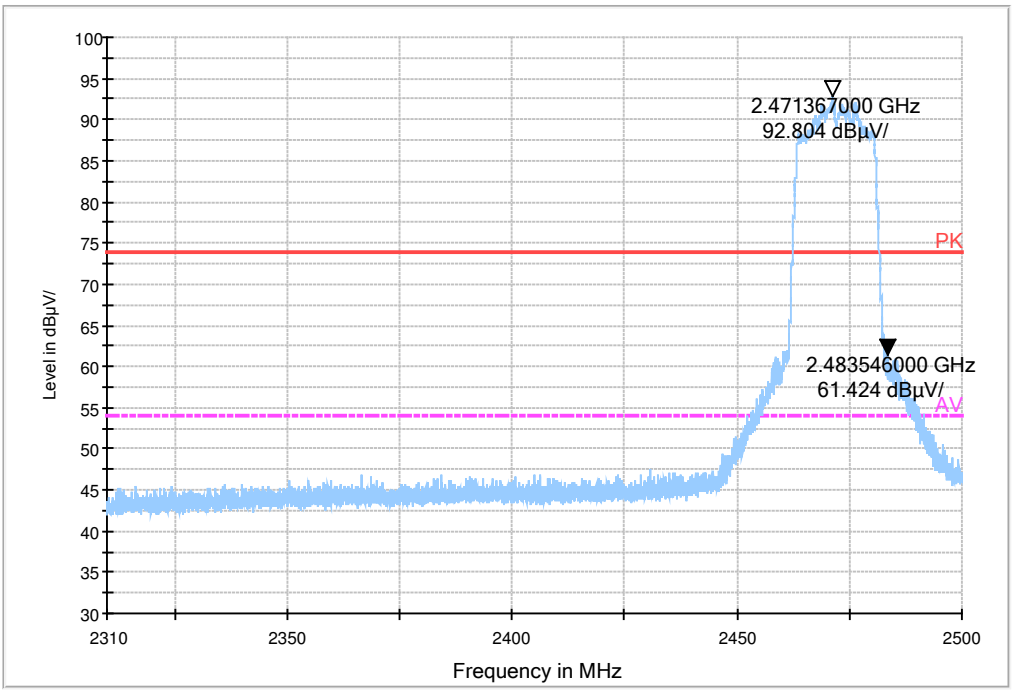
BAND EDGERE 1GHz-3GHz 2483.5-2500



Average detector

Fig.128 Radiated emission (Power): 802.11n-MHz channel13

BAND EDGERE 1GHz-3GHz 2483.5-2500



Peak detector

Fig.129 Radiated emission (Power): 802.11n-20MHz channel13

RE 30MHz-1GHz

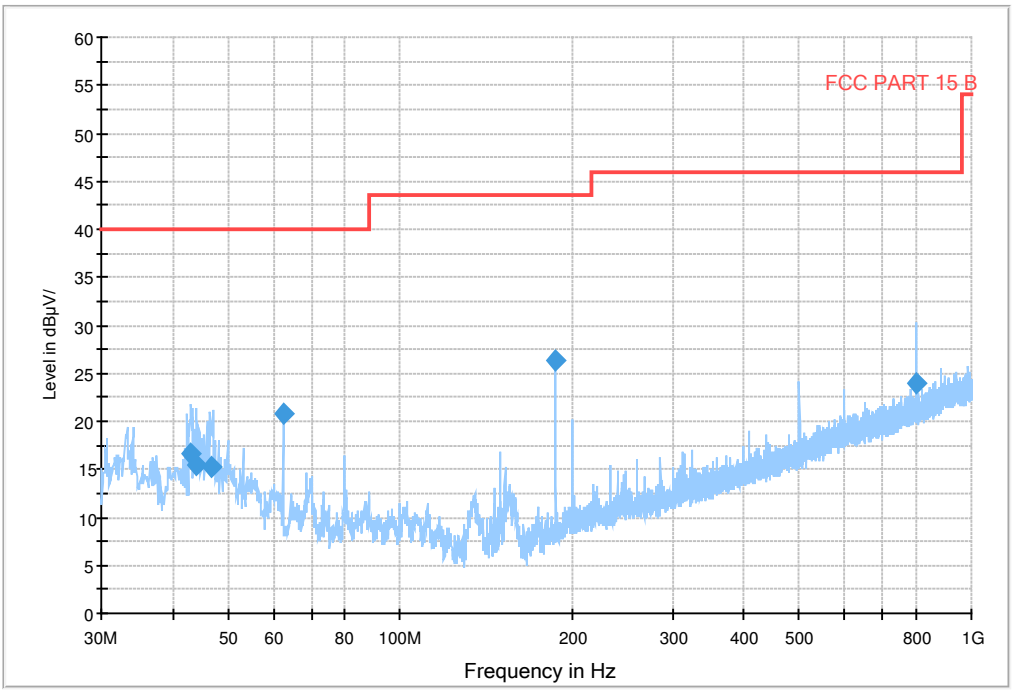


Fig.130 Radiated Spurious Emission (802.11 n-20MHz,Ch13,30MHz~1GHz)

RE 1GHz-3GHz

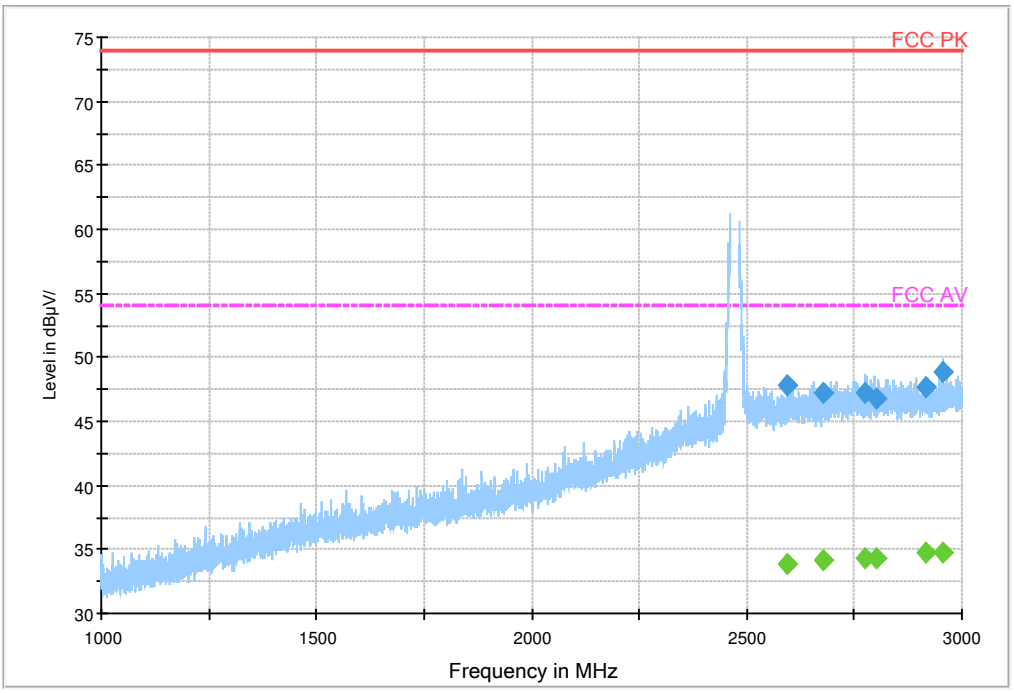


Fig.131 Radiated Spurious Emission (802.11 n-20MHz,Ch13,1GHz~3GHz)

RE 3GHz-18GHz

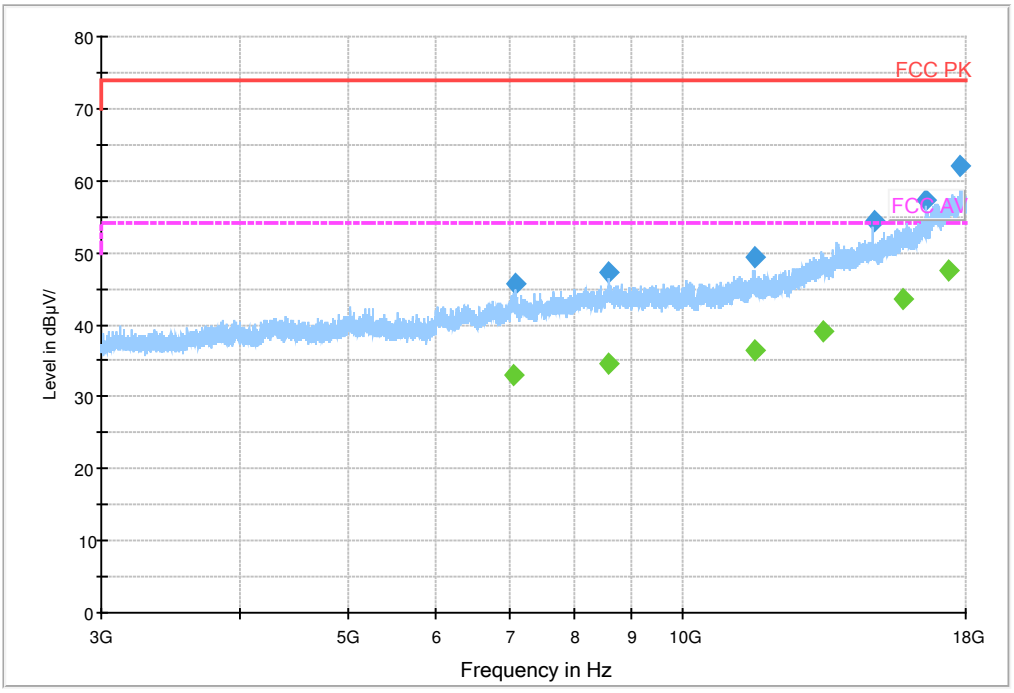


Fig.132 Radiated Spurious Emission (802.11 n-20MHz,Ch13,3GHz~18GHz)

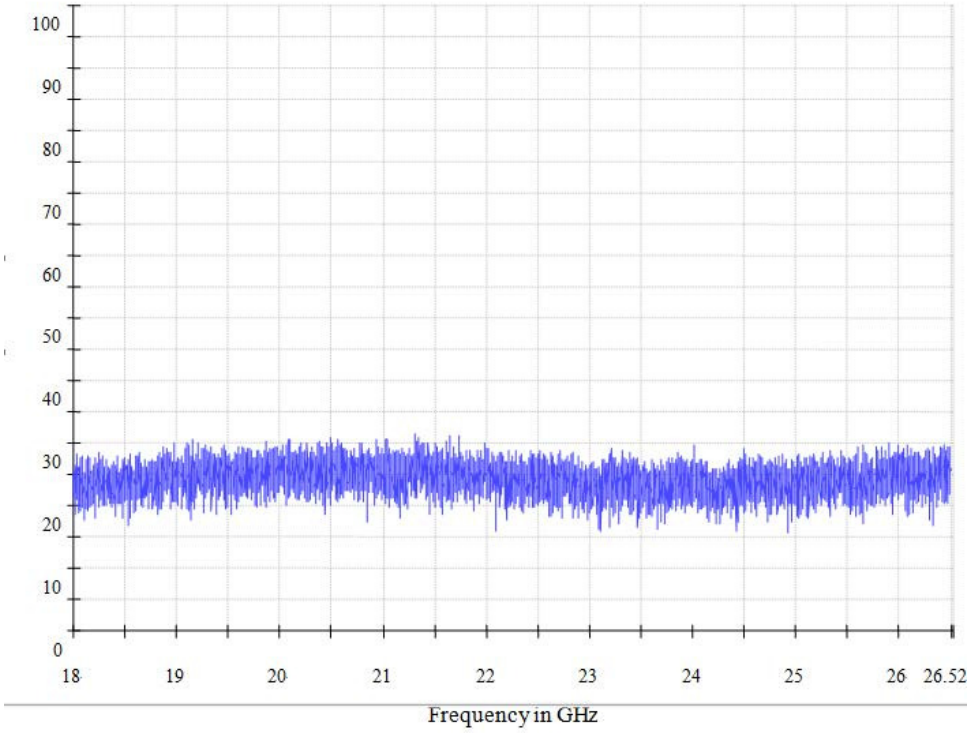


Fig.133 Radiated Spurious Emission (18GHz~26GHz)

6.7. AC Powerline Conducted Emission

Method of Measurement: See ANSI C63.10-2013-clause 6.2

1 The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.

2 If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.

3 The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.

4 If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in

the power cord of the power strip shall be measured.

If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.36 Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

Test Condition:

Voltage（V）	Frequency（Hz）
120	60

Measurement Result and limit:

(Quasi-peak-average Limit)

First Supply

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Average Limit (dBμV)	Result (dBμV) With charger 802.11b	Conclusion
0.15 to 0.5	66 to 56	56 to 46	Fig.118	P
0.5 to 5	56	46		
5 to 30	60	50		
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: Pass

First Supply

CISPR N&L1 Voltage 150k to 30MHz-Class B

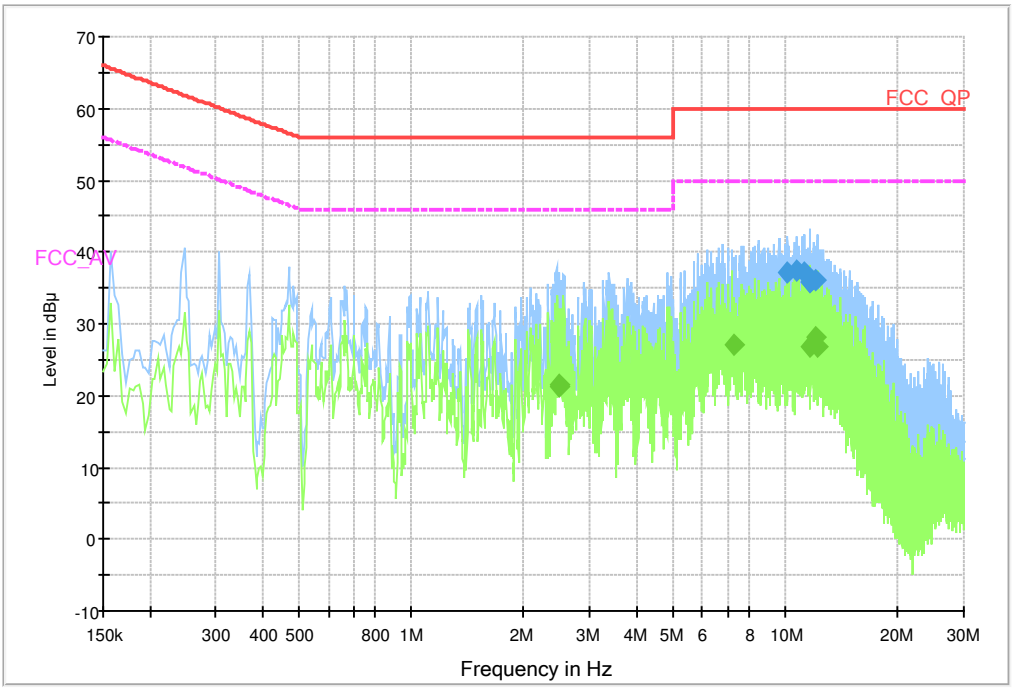


Fig.134 AC Powerline Conducted Emission

Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ	Comment
10.110675	37.2	1000.0	9.000	On	L1	9.9	22.8	60.0	
10.732212	37.4	1000.0	9.000	On	L1	9.9	22.6	60.0	
11.227156	37.1	1000.0	9.000	On	L1	9.9	22.9	60.0	
11.613356	35.8	1000.0	9.000	On	L1	9.9	24.2	60.0	
11.665562	35.8	1000.0	9.000	On	L1	9.9	24.2	60.0	
12.059969	36.1	1000.0	9.000	On	L1	9.9	23.9	60.0	

Final Result 2

Frequency (MHz)	CAverage (dB µ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB µ	Comment
2.490656	21.3	1000.0	9.000	On	L1	9.7	24.7	46.0	
2.494181	21.4	1000.0	9.000	On	L1	9.7	24.6	46.0	
7.246212	27.0	1000.0	9.000	On	L1	9.9	23.0	50.0	
11.589562	26.8	1000.0	9.000	On	L1	9.9	23.2	50.0	
12.028569	28.1	1000.0	9.000	On	L1	9.9	21.9	50.0	
12.163431	26.7	1000.0	9.000	On	L1	9.9	23.3	50.0	

7. Test Equipment and Ancillaries Used For Tests

The test equipment and ancillaries used are as follows.

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Cal.interval
1	Vector Signal	FSQ26	101096	R&S	2016-05-12	1 Year
2	DC Power Supply	ZUP60-14	LOC-220Z006	TDL-Lambda	2016-05-12	1 Year

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Cal.interval
1	Universal Radio Communication Tester	CMU200	123101	R&S	2016-05-12	1 Year
2	Test Receiver	ESU40	100307	R&S	2016-05-12	1 Year
3	Trilog Antenna	VULB9163	VULB9163-515	Schwarzbeck	2014-11-05	3 Year
4	Double Ridged Guide Antenna	ETS-3117	135885	ETS	2014-05-06	3 Year
5	2-Line V-Network	ENV216	101380	R&S	2016-05-12	1 Year

Anechoic chamber

Fully anechoic chamber by Frankonia German.

8. Test Environment

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Ground system resistance	< 0.5 Ω

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. =25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber1 (6.9 meters×10.9 meters×5.4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 1GHz to 18GHz
Site Attenuation Deviation	Between -4 and 4 dB,30MHz to 1GHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

ANNEX A. Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

************End The Report************