

Fig.A.6.1.155 Conducted Spurious Emission (802.11 n-HT40, Ch11, 1 GHz-2.5 GHz)

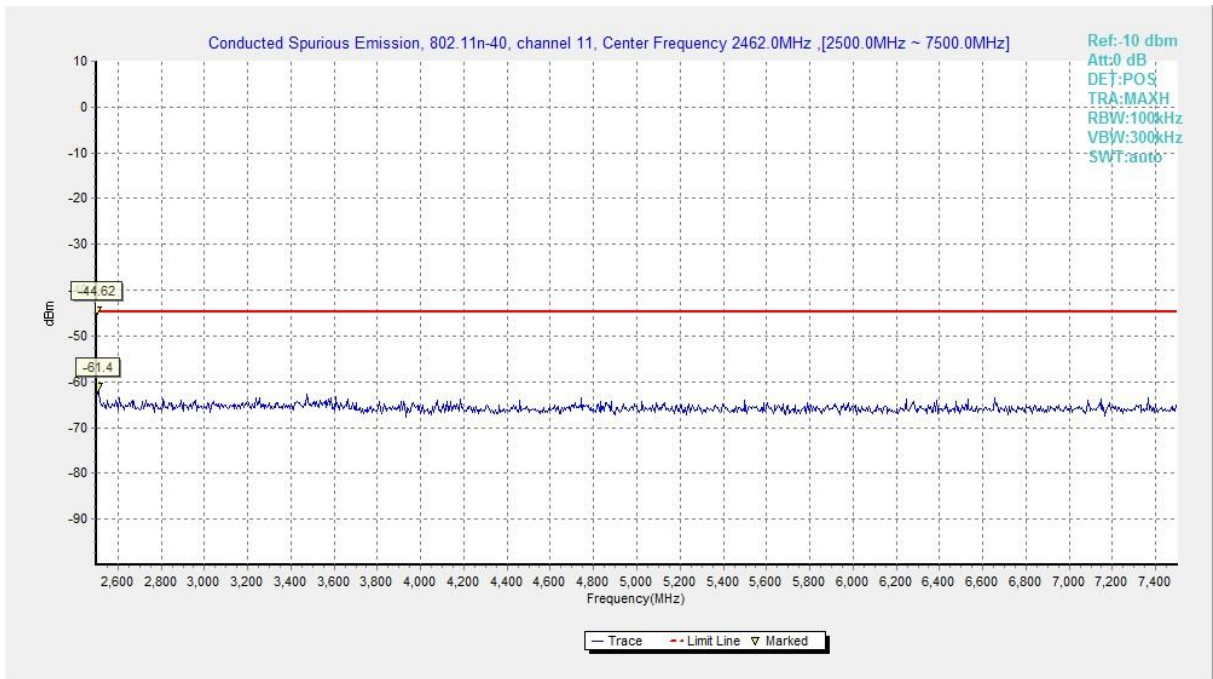


Fig.A.6.1.156 Conducted Spurious Emission (802.11 n-HT40, Ch11, 2.5 GHz-7.5 GHz)

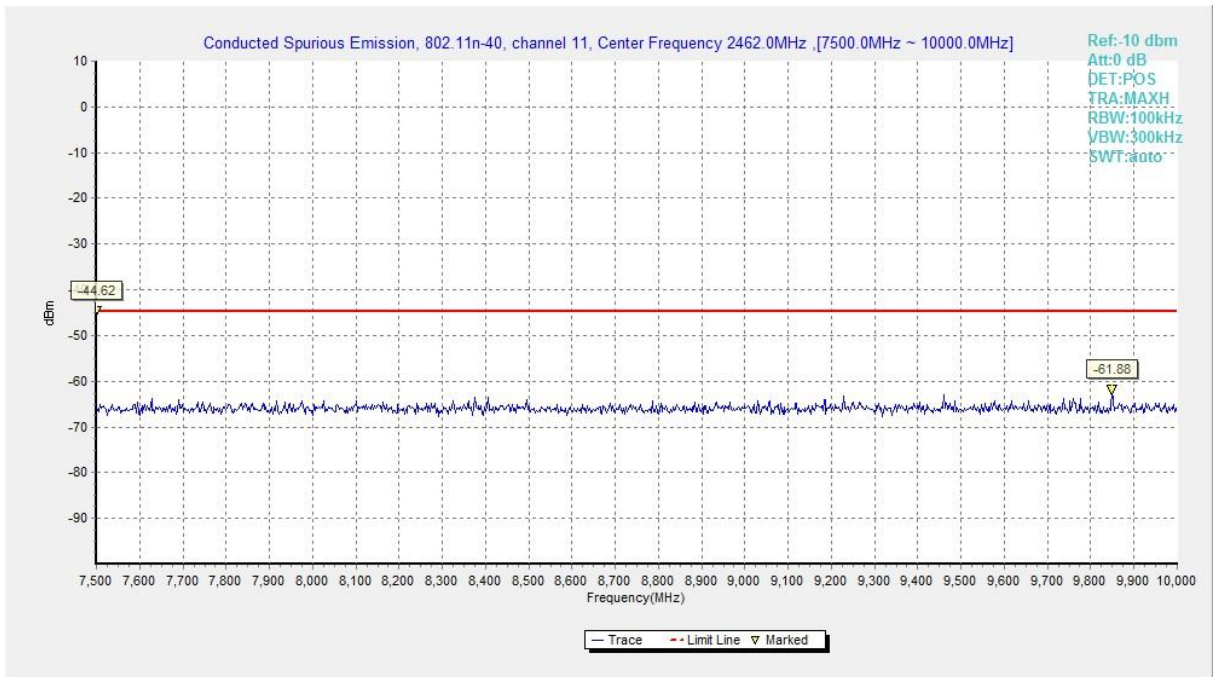


Fig.A.6.1.157 Conducted Spurious Emission (802.11 n-HT40, Ch11, 7.5 GHz-10 GHz)

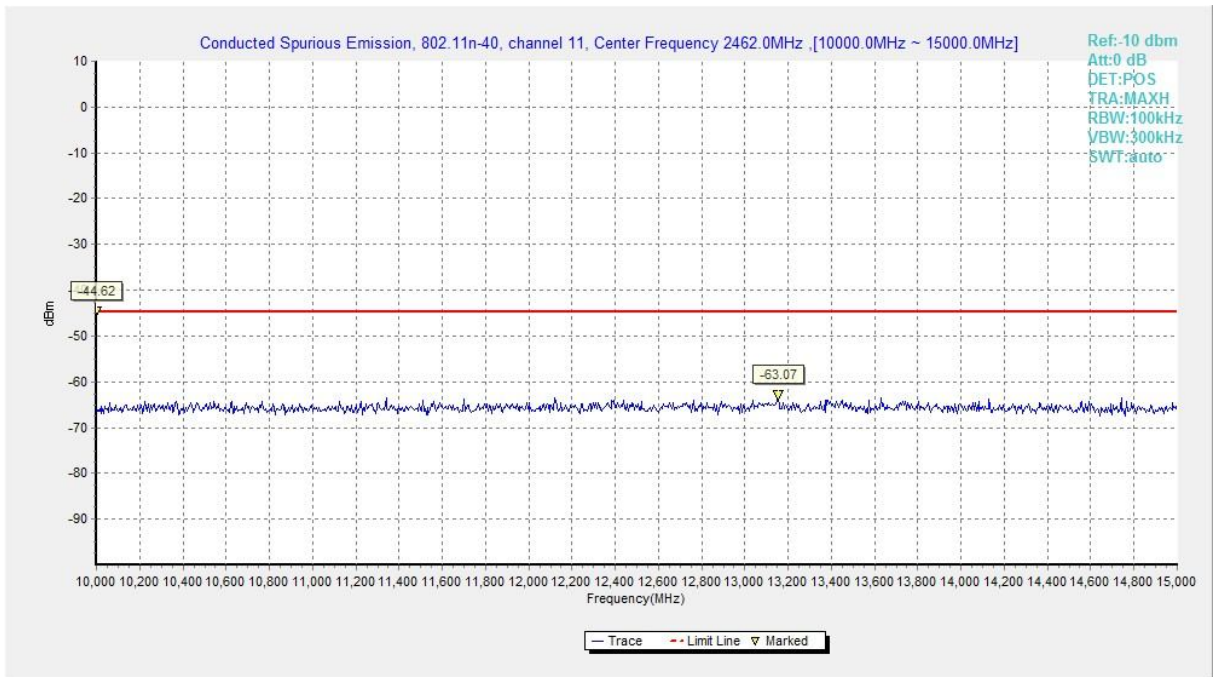


Fig.A.6.1.158 Conducted Spurious Emission (802.11 n-HT40, Ch11, 10 GHz-15 GHz)

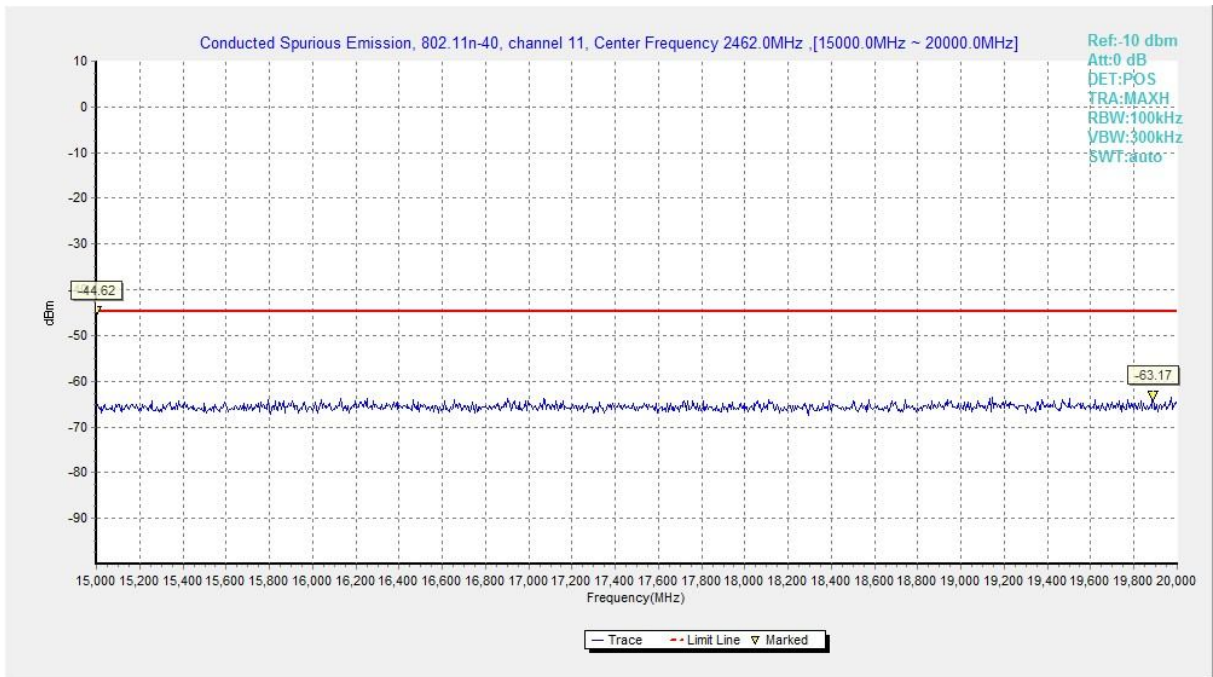


Fig.A.6.1.159 Conducted Spurious Emission (802.11 n-HT40, Ch11, 15 GHz-20 GHz)

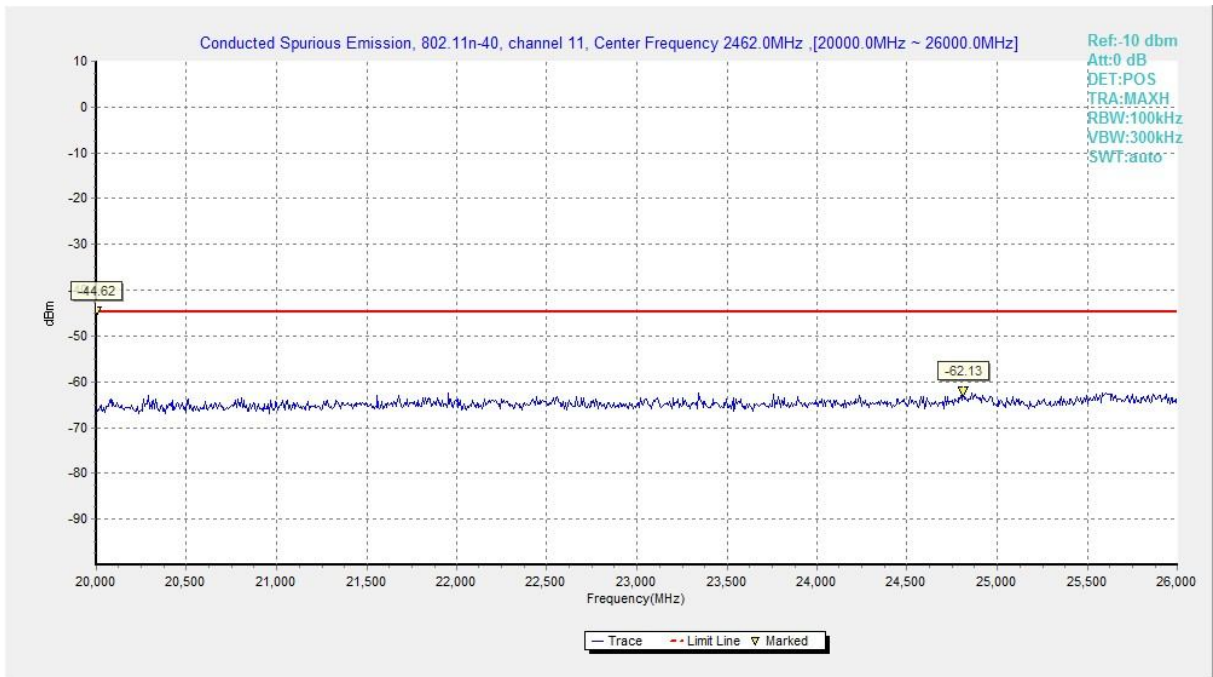


Fig.A.6.1.160 Conducted Spurious Emission (802.11 n-HT40, Ch11, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

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 § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)). The measurement is made according to KDB558074.

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

Test Condition

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

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

Modulation type and data rate tested:

802.11b	802.11g	802.11n-HT20	802.11n-HT40
11Mbps(CCK)	24Mbps(OFDM)	MCS4(OFDM)	MCS0(OFDM)

Measurement Results:

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11b	Power	2.38GHz ~2.45GHz	Fig.A.6.2.1	P	
	1	1 GHz ~ 3 GHz	Fig.A.6.2.2	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.3	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.4	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.5	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.6	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.7	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.8	P
		11	1 GHz ~ 3 GHz	Fig.A.6.2.9	P
	3 GHz ~ 18 GHz		Fig.A.6.2.10	P	
	12	1 GHz ~ 3 GHz	Fig.A.6.2.11	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.12	P	
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.13	P	
	13	1 GHz ~ 3 GHz	Fig.A.6.2.14	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.15	P	

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.16	P	
	1	1 GHz ~ 3 GHz	Fig.A.6.2.17	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.18	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.19	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.20	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.21	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.22	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.23	P
		11	1 GHz ~ 3 GHz	Fig.A.6.2.24	P
	3 GHz ~ 18 GHz		Fig.A.6.2.25	P	
	12	1 GHz ~ 3 GHz	Fig.A.6.2.26	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.27	P	
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.28	P	
	13	1 GHz ~ 3 GHz	Fig.A.6.2.29	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.30	P	

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.31	P	
	1	1 GHz ~ 3 GHz	Fig.A.6.2.32	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.33	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.34	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.35	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.36	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.37	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.38	P
		11	1 GHz ~ 3 GHz	Fig.A.6.2.39	P
	3 GHz ~ 18 GHz		Fig.A.6.2.40	P	
	12	1 GHz ~ 3 GHz	Fig.A.6.2.41	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.42	P	
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.43	P	
	13	1 GHz ~ 3 GHz	Fig.A.6.2.44	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.45	P	

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.46	P	
	3	1 GHz ~ 3 GHz	Fig.A.6.2.47	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.48	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.49	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.50	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.51	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.52	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.53	P
		9	1 GHz ~ 3 GHz	Fig.A.6.2.54	P
	3 GHz ~ 18 GHz		Fig.A.6.2.55	P	
	12	1 GHz ~ 3 GHz	Fig.A.6.2.56	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.57	P	
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.58	P	
	13	1 GHz ~ 3 GHz	Fig.A.6.2.59	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.60	P	

Conclusion: Pass

Measurement Uncertainty:

Frequency Range	Uncertainty(dB)
f ≤ 1GHz	3.9
f > 1GHz	4.3

Note:

A "reference path loss" is established and the A_{Rpl} 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:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2390.000	33.9	-38.8	27.7	45.000	V
17979.000	43.0	-17.7	45.6	15.100	H
17982.000	42.7	-17.7	45.6	14.800	V
17998.500	42.7	-17.7	45.6	14.800	H
17989.500	42.6	-17.7	45.6	14.700	V
17992.500	42.6	-17.7	45.6	14.700	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17982.000	42.5	-17.7	45.6	14.600	V
17986.500	42.5	-17.7	45.6	14.600	V
17976.000	42.3	-17.7	45.6	14.400	V
17998.500	42.3	-17.7	45.6	14.400	V
17979.000	42.3	-17.7	45.6	14.400	V
17989.500	42.3	-17.7	45.6	14.400	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2483.500	31.7	-38.9	27.7	42.900	V
17976.000	42.5	-17.7	45.6	14.600	V
17982.000	42.3	-17.7	45.6	14.400	V
17965.500	42.3	-17.7	45.6	14.400	V
17989.500	42.3	-17.7	45.6	14.400	H
17992.500	42.2	-17.7	45.6	14.300	V

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	32.7	-38.9	27.7	43.900	H
17982.000	43.6	-17.7	45.6	15.700	V
17766.000	43.5	-18.5	45.6	16.400	V
17979.000	43.5	-17.7	45.6	15.600	H
17962.500	43.2	-17.7	45.6	15.300	V
17965.500	43.2	-17.7	45.6	15.300	V

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.630	35.6	-38.9	27.7	46.800	V
17803.500	42.3	-18.5	45.6	15.200	V
17949.000	42.3	-17.7	45.6	14.400	H
17779.500	42.2	-18.5	45.6	15.100	V
17992.500	42.2	-17.7	45.6	14.300	V
17965.500	42.2	-17.7	45.6	14.300	V

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2390.000	43.2	-38.8	27.7	54.300	H
17982.000	42.7	-17.7	45.6	14.800	V
17992.500	42.4	-17.7	45.6	14.500	V
17965.500	42.3	-17.7	45.6	14.400	H
17989.500	42.2	-17.7	45.6	14.300	V
17962.500	42.1	-17.7	45.6	14.200	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17982.000	42.7	-17.7	45.6	14.800	V
17976.000	42.4	-17.7	45.6	14.500	V
17992.500	42.3	-17.7	45.6	14.400	V
17989.500	42.3	-17.7	45.6	14.400	V
17995.500	42.3	-17.7	45.6	14.400	V
17979.000	42.3	-17.7	45.6	14.400	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.587	32.3	-38.9	27.7	43.500	V
17979.000	42.4	-17.7	45.6	14.500	V
17992.500	42.4	-17.7	45.6	14.500	H
17986.500	42.3	-17.7	45.6	14.400	H
17989.500	42.3	-17.7	45.6	14.400	V
17976.000	42.2	-17.7	45.6	14.300	V

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	33.3	-38.9	27.7	44.500	V
17989.500	42.6	-17.7	45.6	14.700	V
17995.500	42.5	-17.7	45.6	14.600	H
17965.500	42.3	-17.7	45.6	14.400	H
17998.500	42.3	-17.7	45.6	14.400	V
17982.000	42.3	-17.7	45.6	14.400	V

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	35.3	-38.9	27.7	46.500	V
17982.000	42.3	-17.7	45.6	14.400	V
17766.000	42.0	-18.5	45.6	14.900	H
17965.500	42.0	-17.7	45.6	14.100	V
17995.500	42.0	-17.7	45.6	14.100	V
17992.500	42.0	-17.7	45.6	14.100	V

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2390.000	36.4	-38.8	27.7	47.500	V
17982.000	42.5	-17.7	45.6	14.600	V
17976.000	42.2	-17.7	45.6	14.300	H
17992.500	42.0	-17.7	45.6	14.100	V
17995.500	41.9	-17.7	45.6	14.000	V
17989.500	41.9	-17.7	45.6	14.000	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17979.000	42.5	-17.7	45.6	14.600	V
17986.500	42.5	-17.7	45.6	14.600	H
17992.500	42.3	-17.7	45.6	14.400	V
17998.500	42.2	-17.7	45.6	14.300	V
17989.500	42.1	-17.7	45.6	14.200	H
17982.000	42.1	-17.7	45.6	14.200	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.537	31.8	-38.9	27.7	43.000	V
17959.500	42.4	-17.7	45.6	14.500	V
17982.000	42.3	-17.7	45.6	14.400	V
17992.500	42.3	-17.7	45.6	14.400	H
17989.500	42.2	-17.7	45.6	14.300	V
17949.000	42.1	-17.7	45.6	14.200	V

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	32.9	-38.9	27.7	44.100	V
17803.500	42.3	-18.5	45.6	15.200	V
17949.000	42.3	-17.7	45.6	14.400	H
17779.500	42.2	-18.5	45.6	15.100	V
17992.500	42.2	-17.7	45.6	14.300	V
17965.500	42.2	-17.7	45.6	14.300	V

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	33.7	-38.9	27.7	44.900	V
17803.500	42.3	-18.5	45.6	15.200	V
17776.500	42.2	-18.5	45.6	15.100	H
17814.000	42.2	-18.5	45.6	15.100	H
17806.500	42.2	-18.5	45.6	15.100	V
17982.000	42.2	-17.7	45.6	14.300	V

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.900	38.6	-38.8	27.7	49.700	V
17976.000	42.4	-17.7	45.6	14.500	H
17965.500	42.4	-17.7	45.6	14.500	V
17992.500	42.3	-17.7	45.6	14.400	V
17979.000	42.2	-17.7	45.6	14.300	H
17989.500	42.2	-17.7	45.6	14.300	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17962.500	42.3	-17.7	45.6	14.400	V
17986.500	42.3	-17.7	45.6	14.400	H
17982.000	42.2	-17.7	45.6	14.300	V
17995.500	42.1	-17.7	45.6	14.200	V
17992.500	42.1	-17.7	45.6	14.200	H
17998.500	42.1	-17.7	45.6	14.200	V

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.556	35.2	-38.9	27.7	46.400	V
17982.000	42.2	-17.7	45.6	14.300	H
17976.000	42.2	-17.7	45.6	14.300	H
17995.500	42.2	-17.7	45.6	14.300	V
17989.500	42.1	-17.7	45.6	14.200	V
17992.500	42.1	-17.7	45.6	14.200	V

Ch10

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	43.9	-38.9	27.7	55.100	V
17989.500	42.3	-17.7	45.6	11.400	H
17779.500	42.2	-18.5	45.6	12.100	V
17992.500	42.1	-17.7	45.6	11.200	V
17979.000	42.1	-17.7	45.6	11.200	V
17806.500	42.1	-18.5	45.6	12.000	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.500	43.5	-38.9	27.7	54.700	V
17982.000	42.3	-17.7	45.6	11.400	V
17806.500	42.3	-18.5	45.6	12.200	H
17979.000	42.3	-17.7	45.6	11.400	H
17766.000	42.3	-18.5	45.6	12.200	V
17995.500	42.2	-17.7	45.6	11.300	V

Test graphs as below:

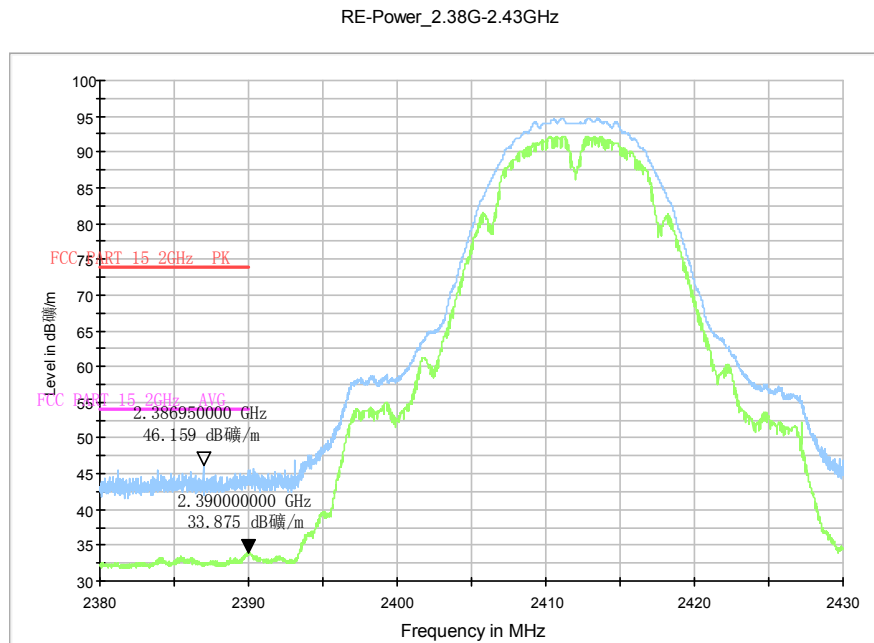


Fig.A.6.2.1 Radiated Spurious Emission (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

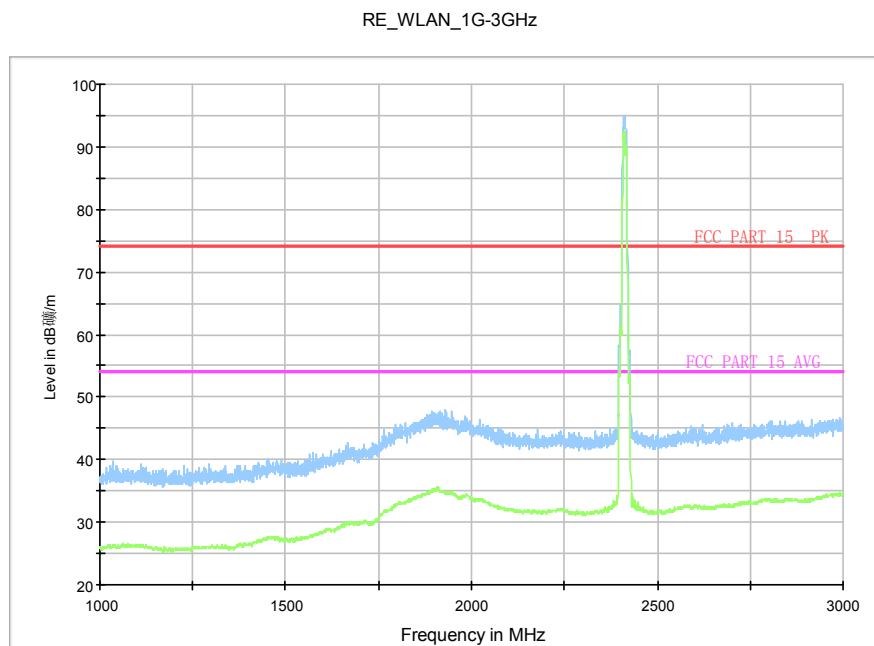


Fig.A.6.2.2 Radiated Spurious Emission (802.11b, Ch1, 1 GHz-3 GHz)

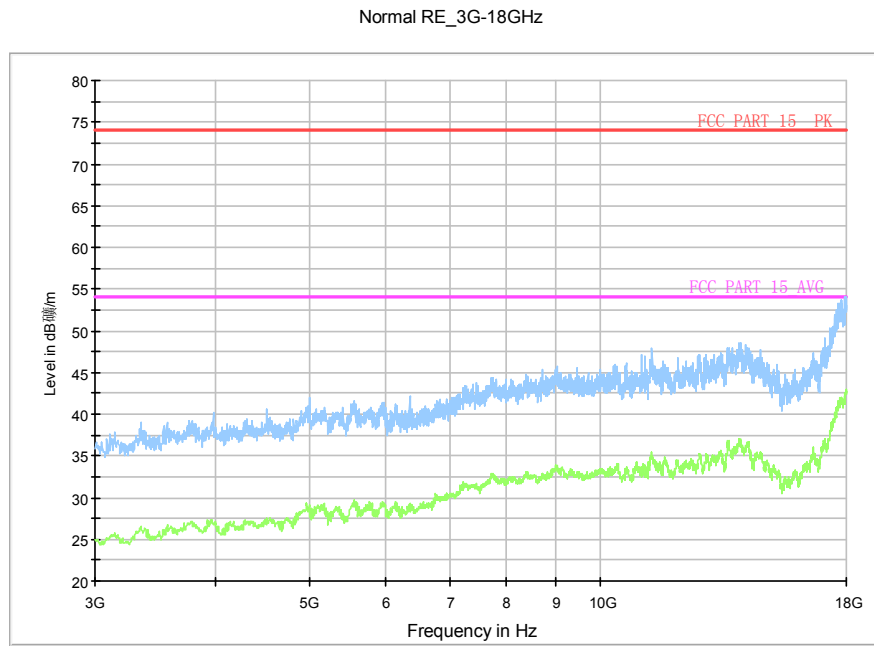


Fig.A.6.2.3 Radiated Spurious Emission (802.11b, Ch1, 3 GHz-18 GHz)

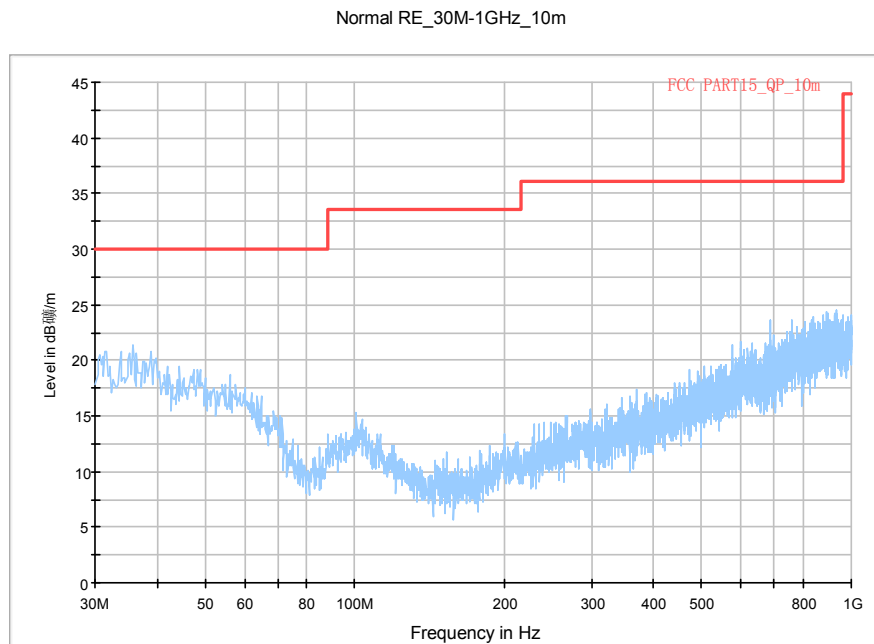


Fig.A.6.2.4 Radiated Spurious Emission (802.11b, Ch6, 30 MHz-1 GHz)

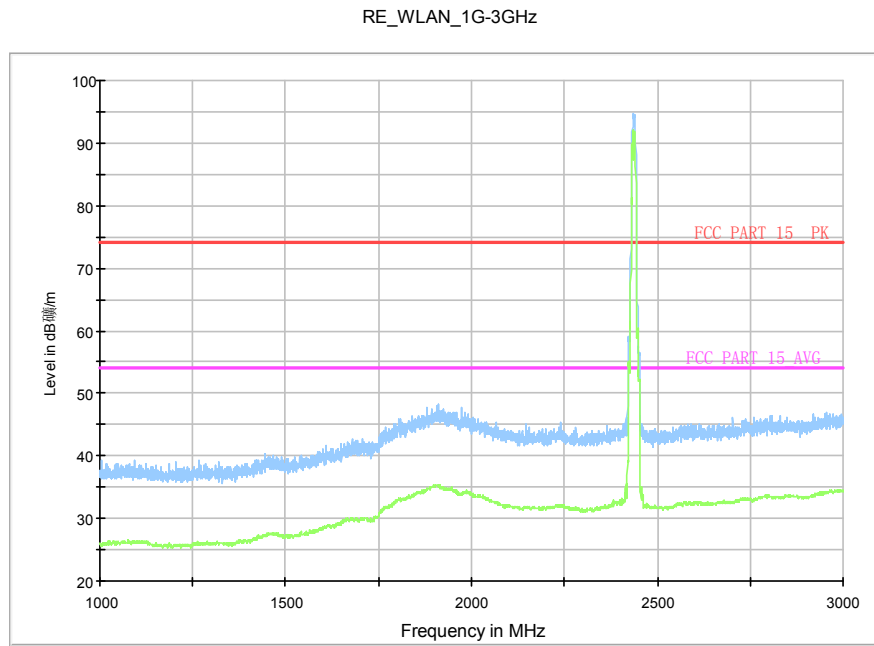


Fig.A.6.2.5 Radiated Spurious Emission (802.11b, Ch6, 1 GHz-3 GHz)

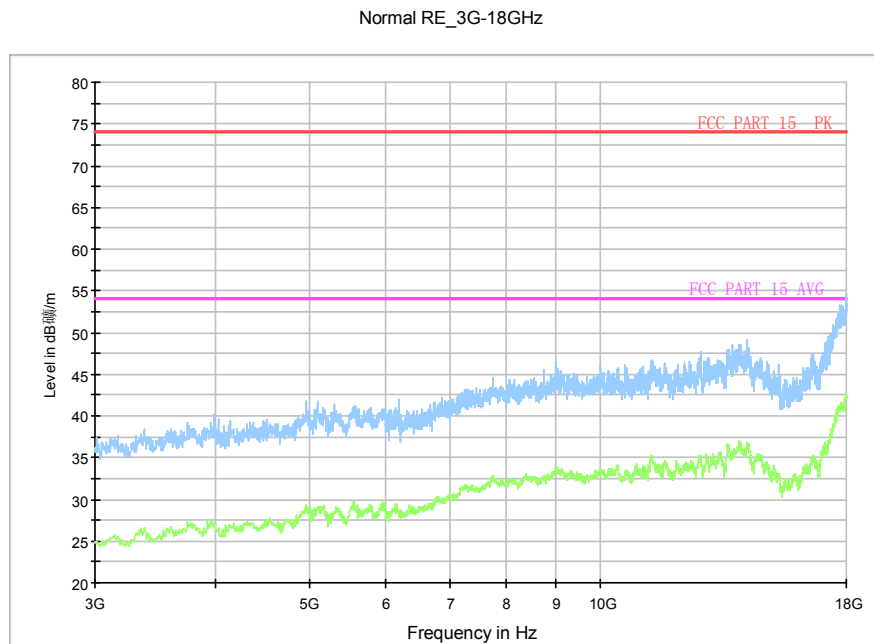


Fig.A.6.2.6 Radiated Spurious Emission (802.11b, Ch6, 3 GHz-18 GHz)

Normal RE_18G-26.5GHz

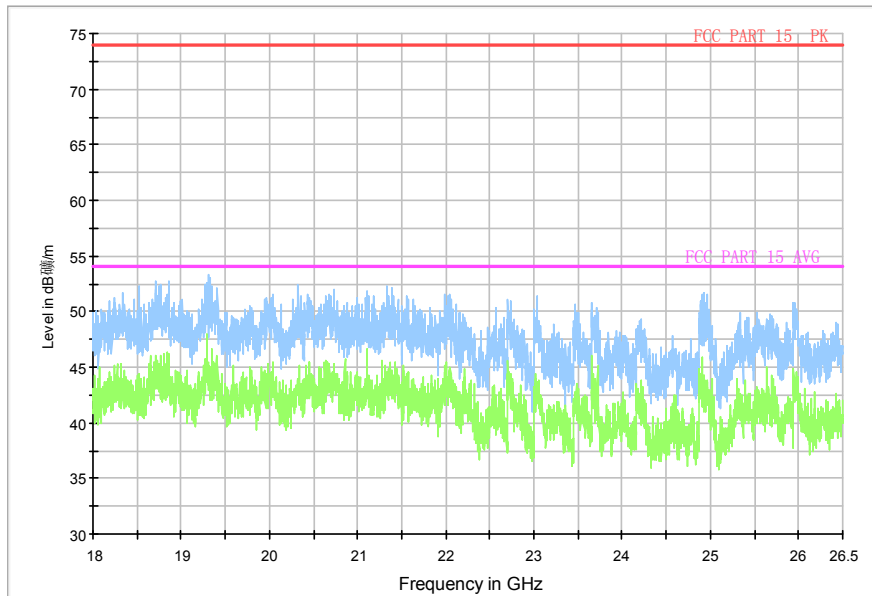


Fig.A.6.2.7 Radiated Spurious Emission (802.11b, Ch6, 18GHz – 26.5GHz)

RE-Power_2.45G-2.5GHz

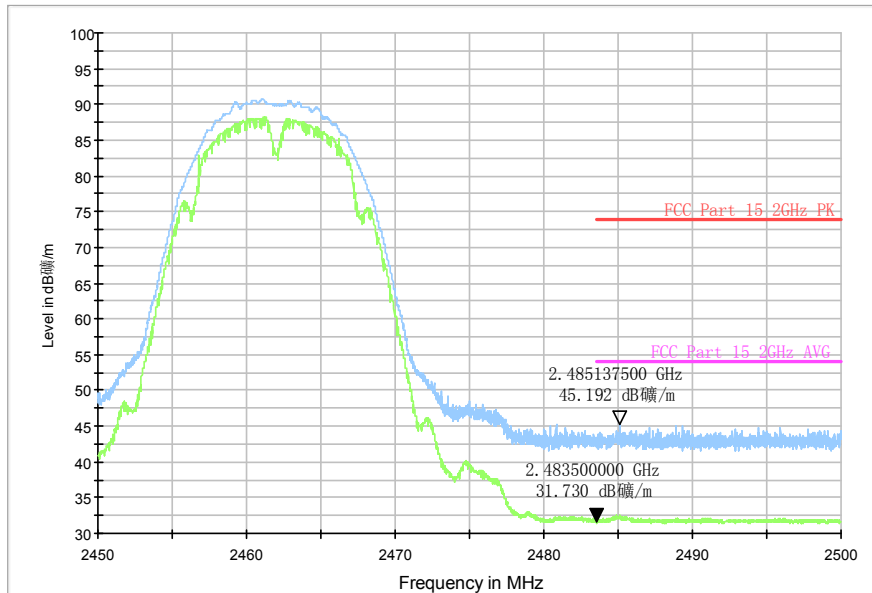


Fig.A.6.2.8 Radiated Spurious Emission (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

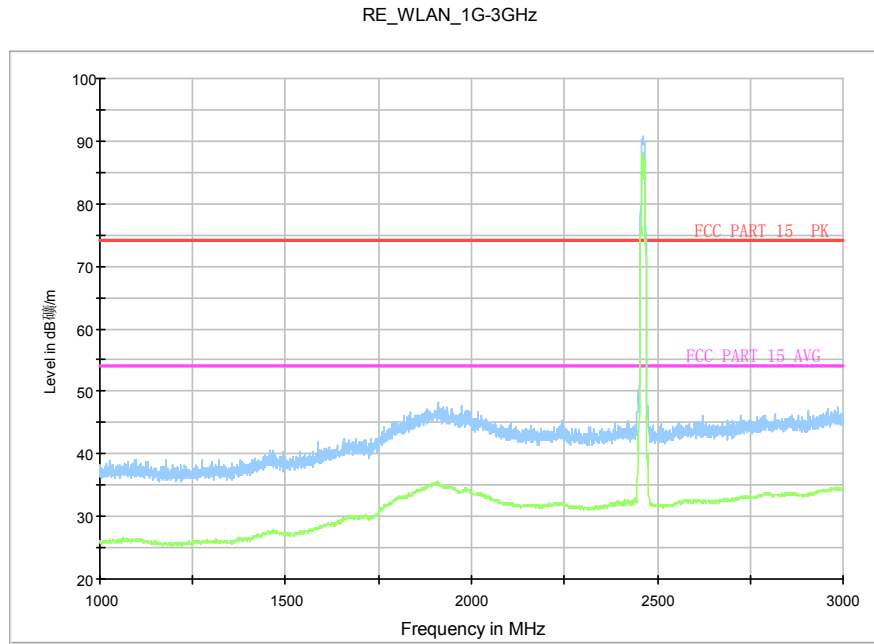


Fig.A.6.2.9 Radiated Spurious Emission (802.11b, Ch11, 1 GHz-3 GHz)

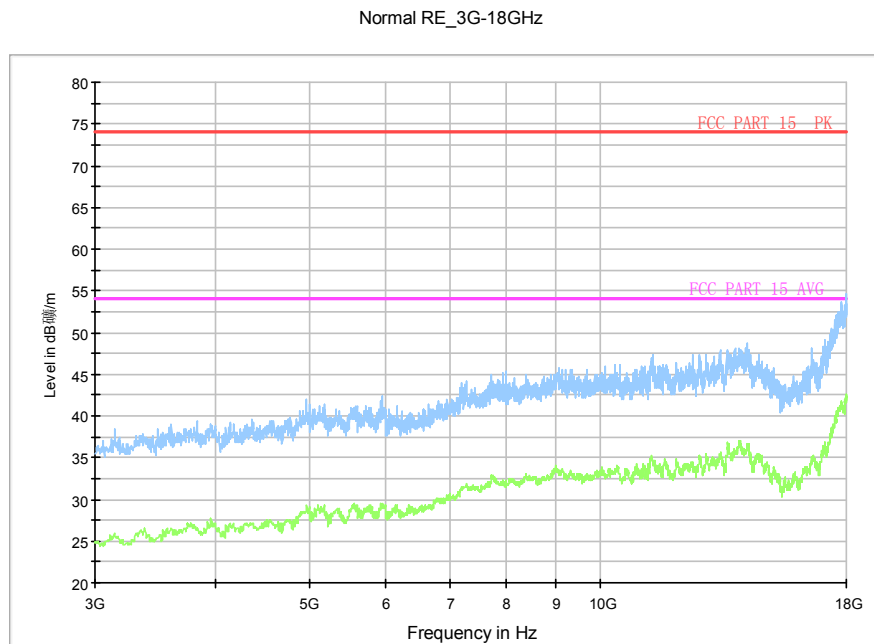


Fig.A.6.2.10 Radiated Spurious Emission (802.11b, Ch11, 3 GHz-18 GHz)

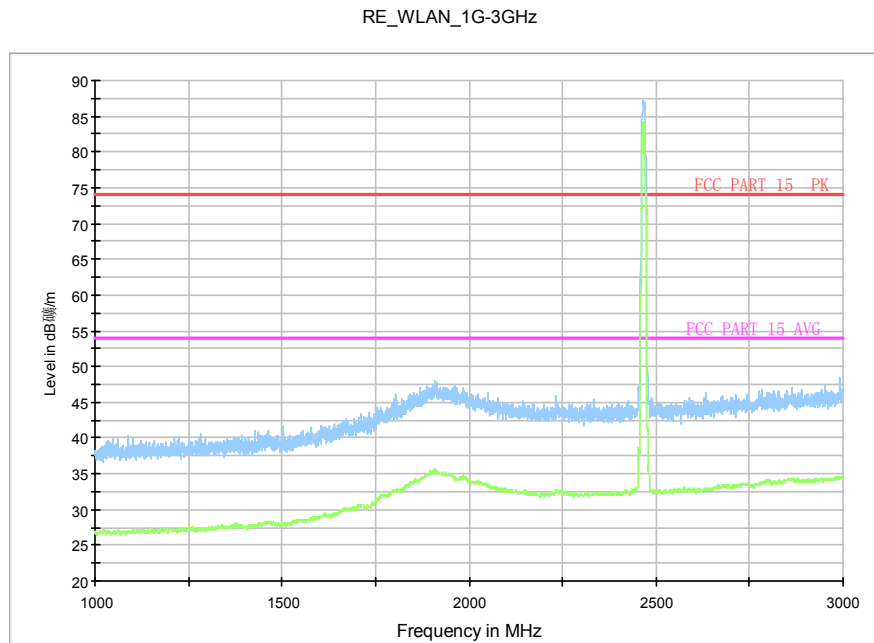


Fig.A.6.2.11 Radiated Spurious Emission (802.11b, Ch12, 1 GHz-3 GHz)

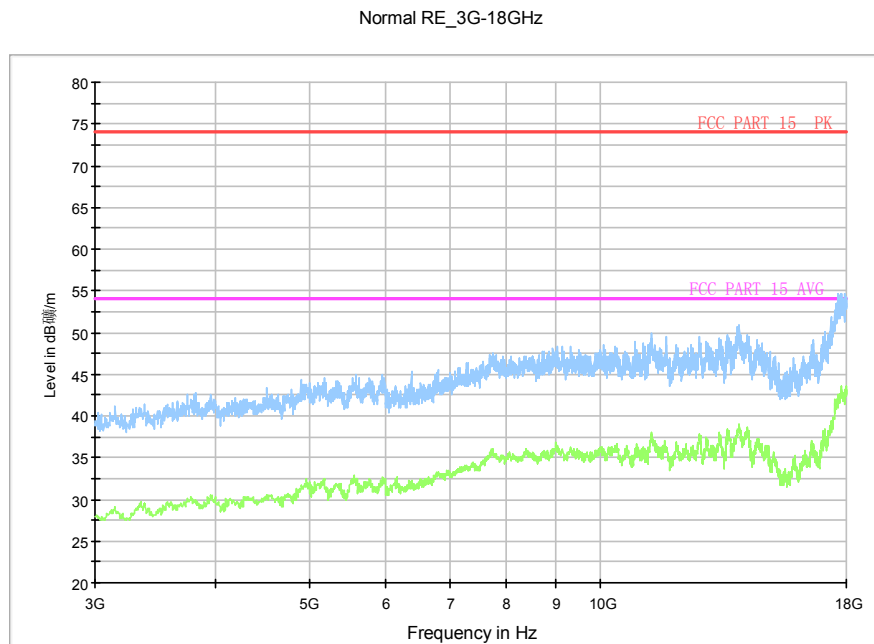


Fig.A.6.2.12 Radiated Spurious Emission (802.11b, Ch12, 3 GHz-18 GHz)

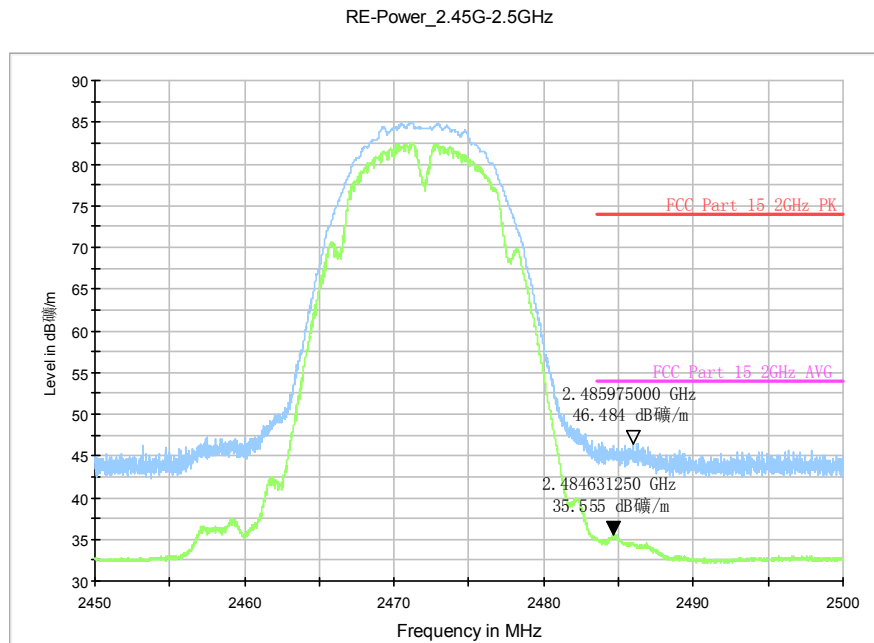


Fig.A.6.2.13 Radiated Spurious Emission (Power): 802.11b, ch13, 2.45 GHz - 2.50GHz

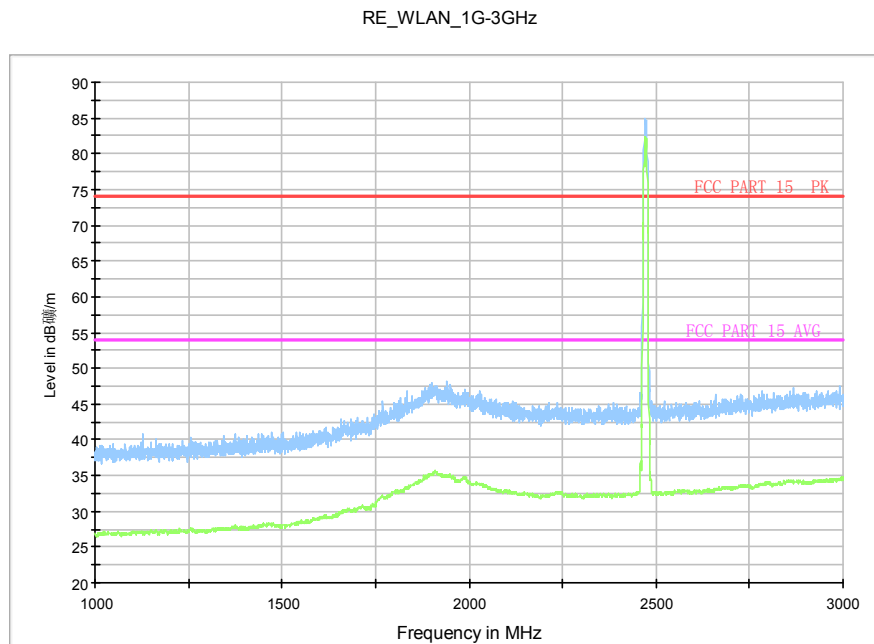


Fig.A.6.2.14 Radiated Spurious Emission (802.11b, Ch13, 1 GHz-3 GHz)

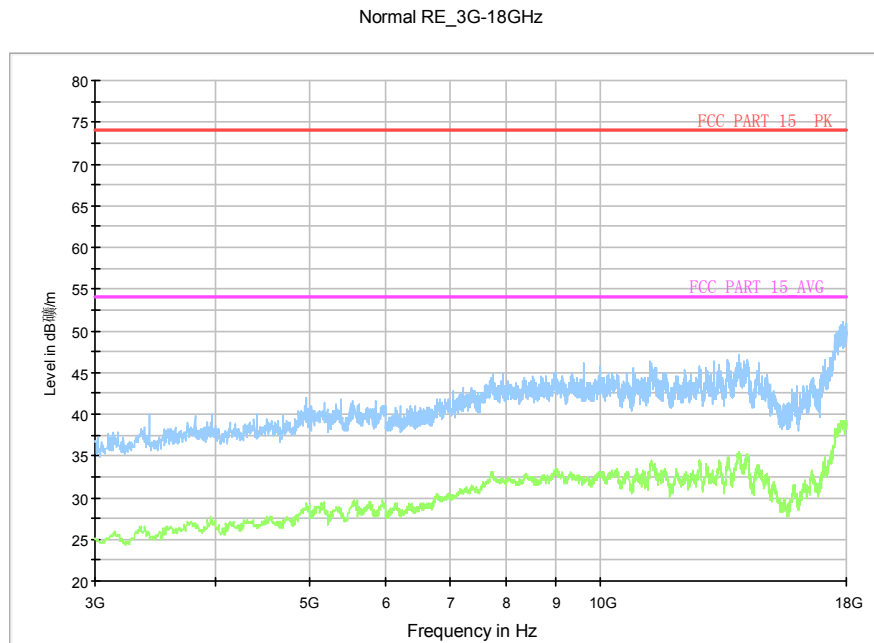


Fig.A.6.2.15 Radiated Spurious Emission (802.11b, Ch13, 3 GHz-18 GHz)

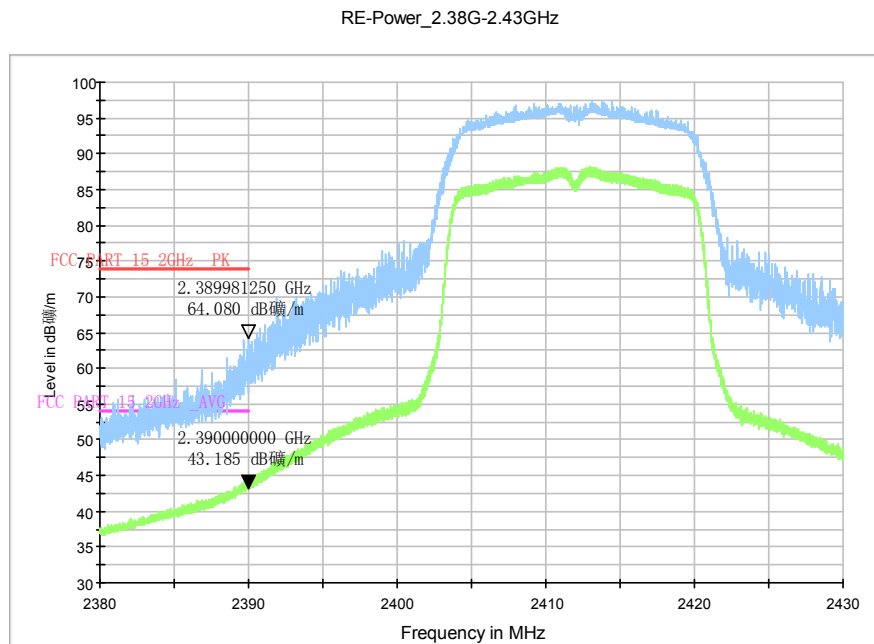


Fig.A.6.2.16 Radiated Spurious Emission (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

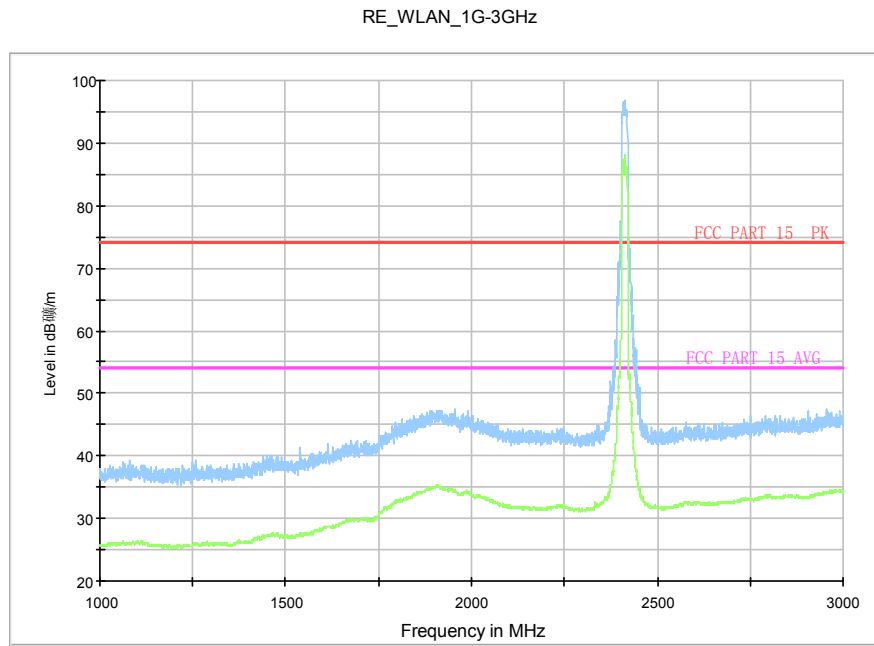


Fig.A.6.2.17 Radiated Spurious Emission (802.11g, Ch1, 1 GHz-3 GHz)

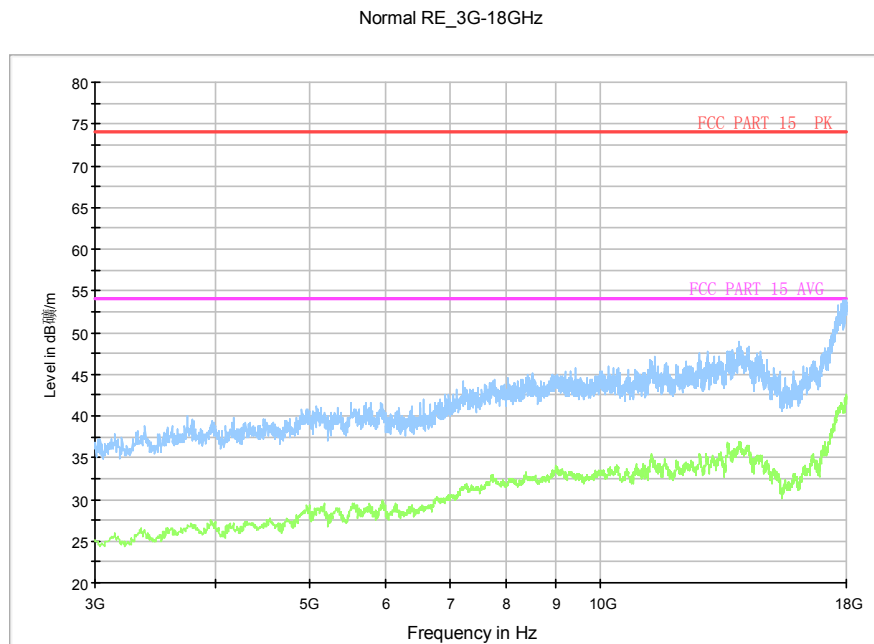


Fig.A.6.2.18 Radiated Spurious Emission (802.11g, Ch1, 3 GHz-18 GHz)

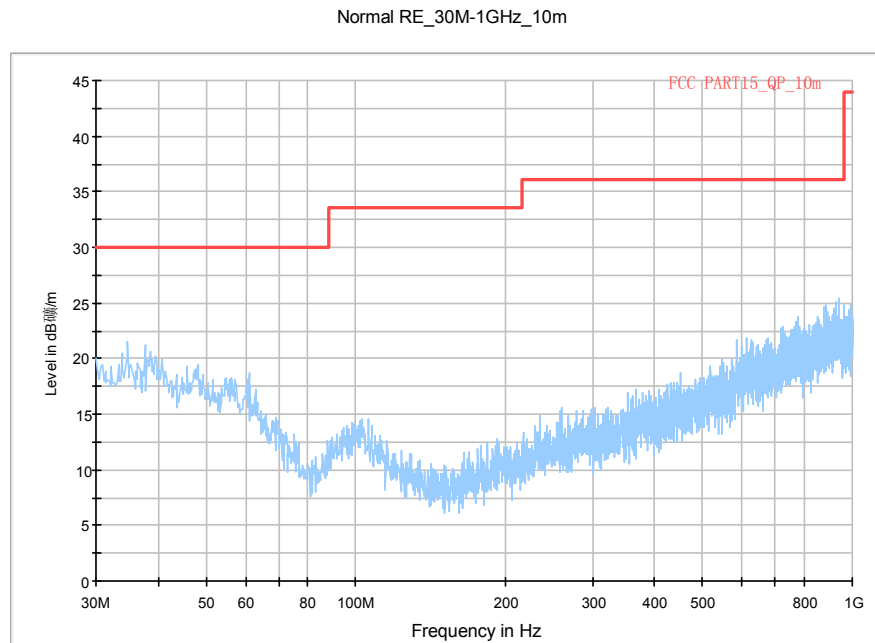


Fig.A.6.2.19 Radiated Spurious Emission (802.11g, Ch6, 30 MHz-1 GHz)

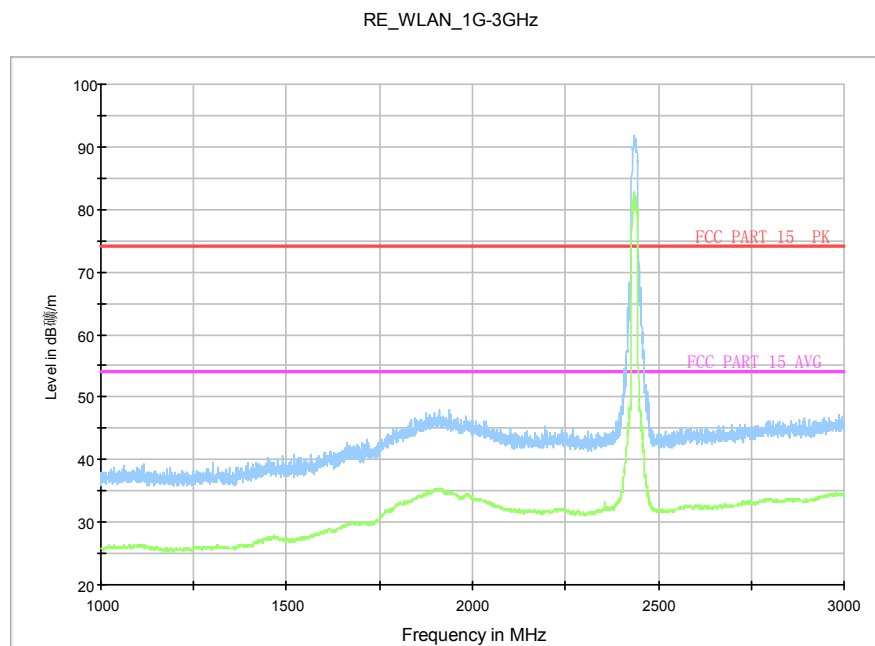


Fig.A.6.2.20 Radiated Spurious Emission (802.11g, Ch6, 1 GHz-3 GHz)