

Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

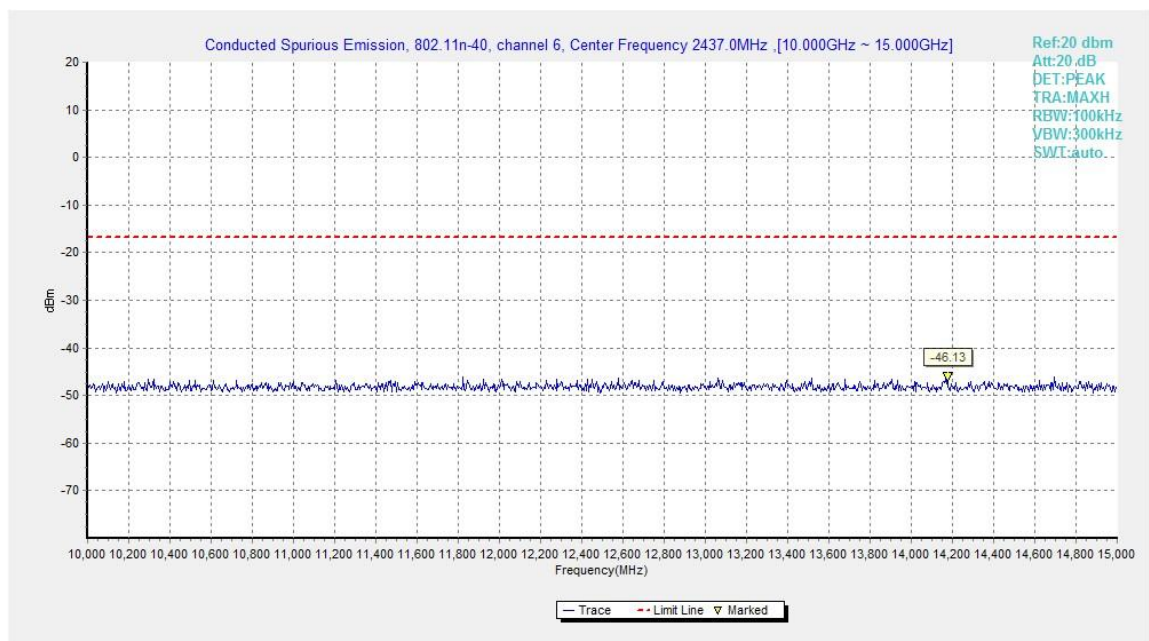


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

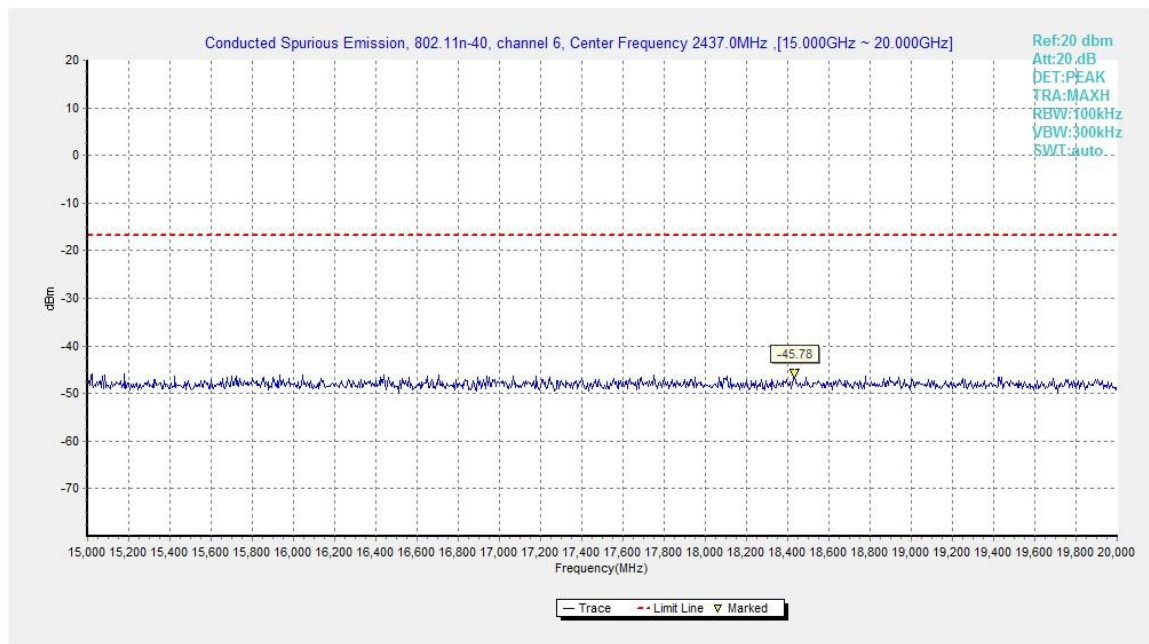


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

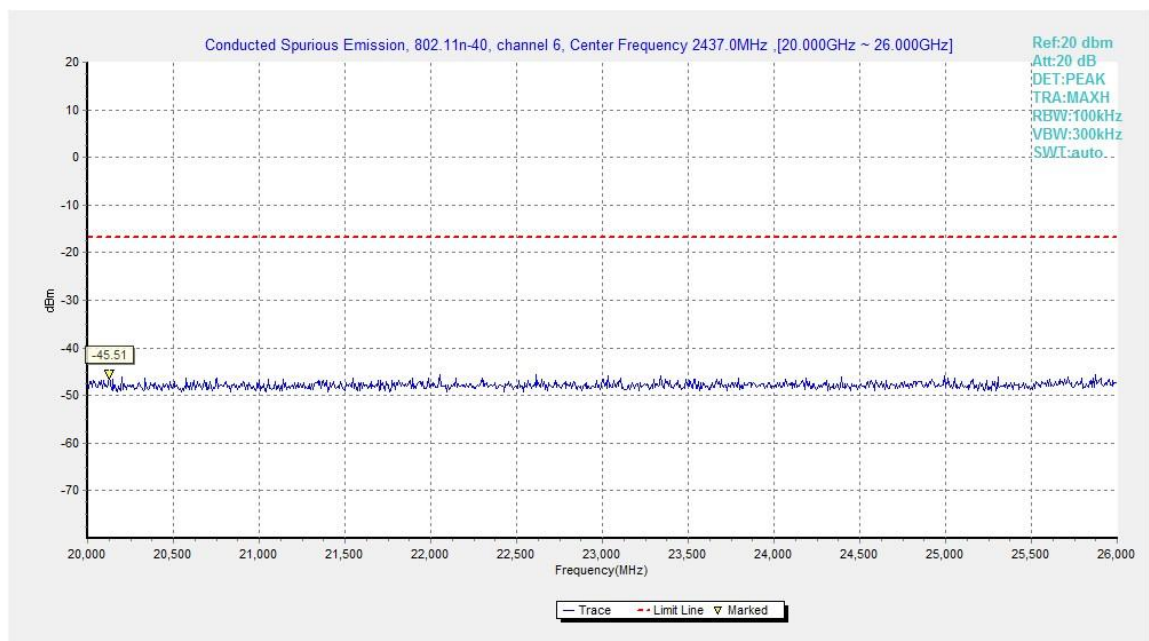


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

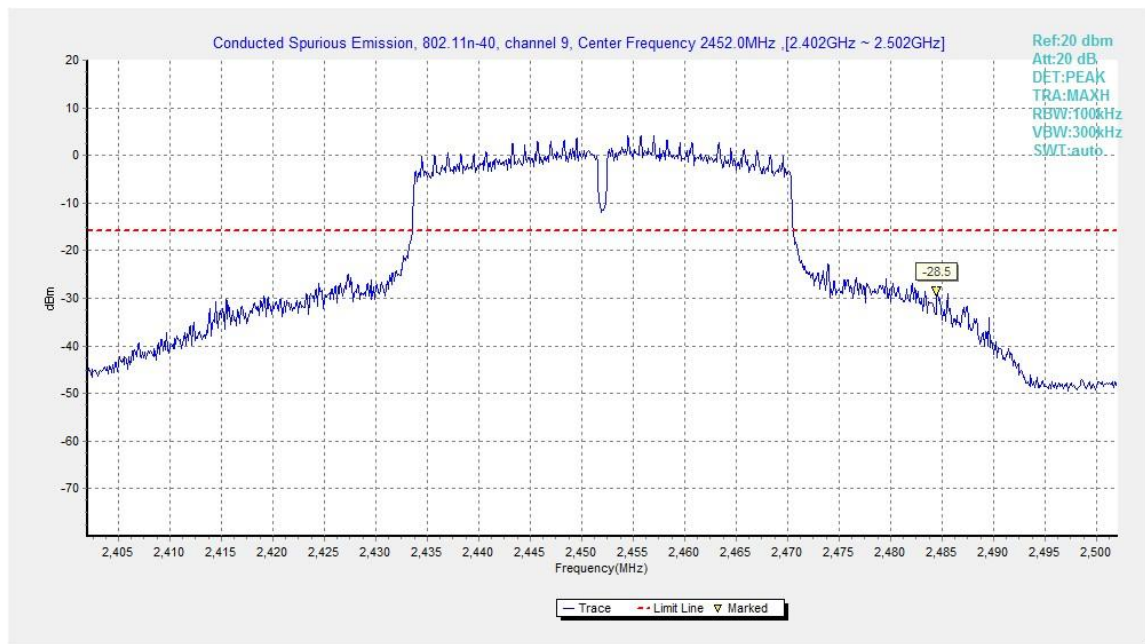


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

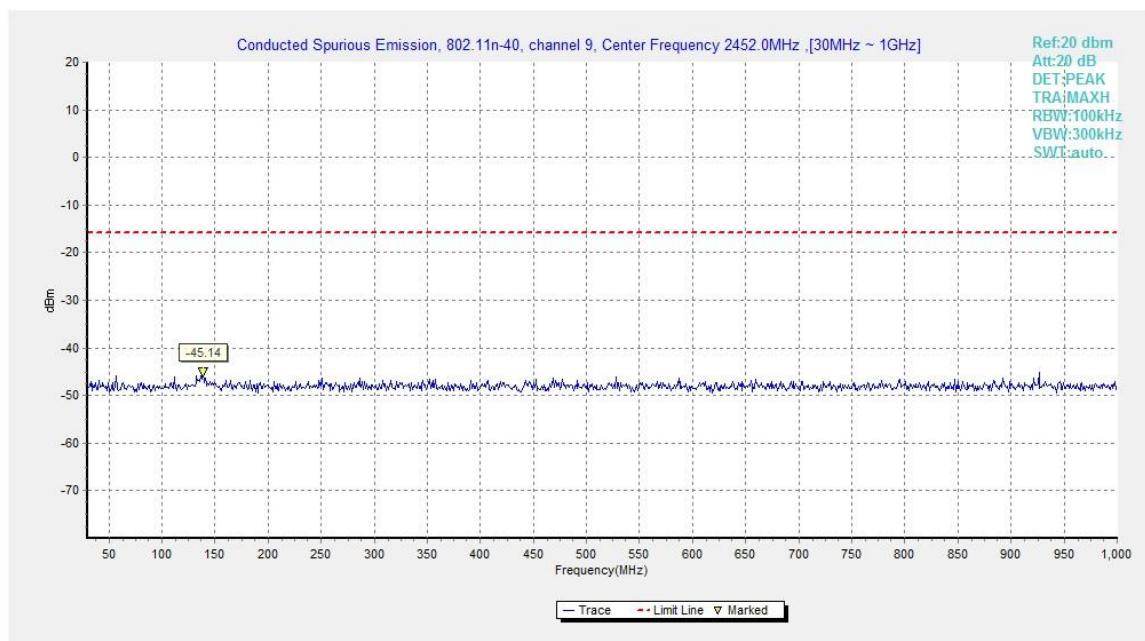


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

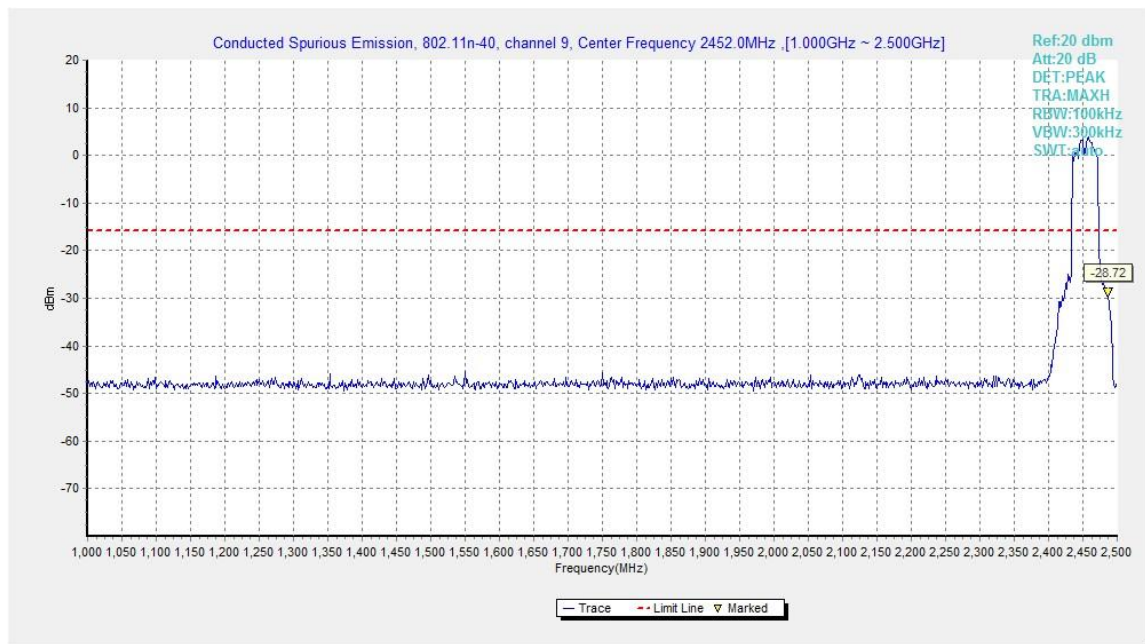


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

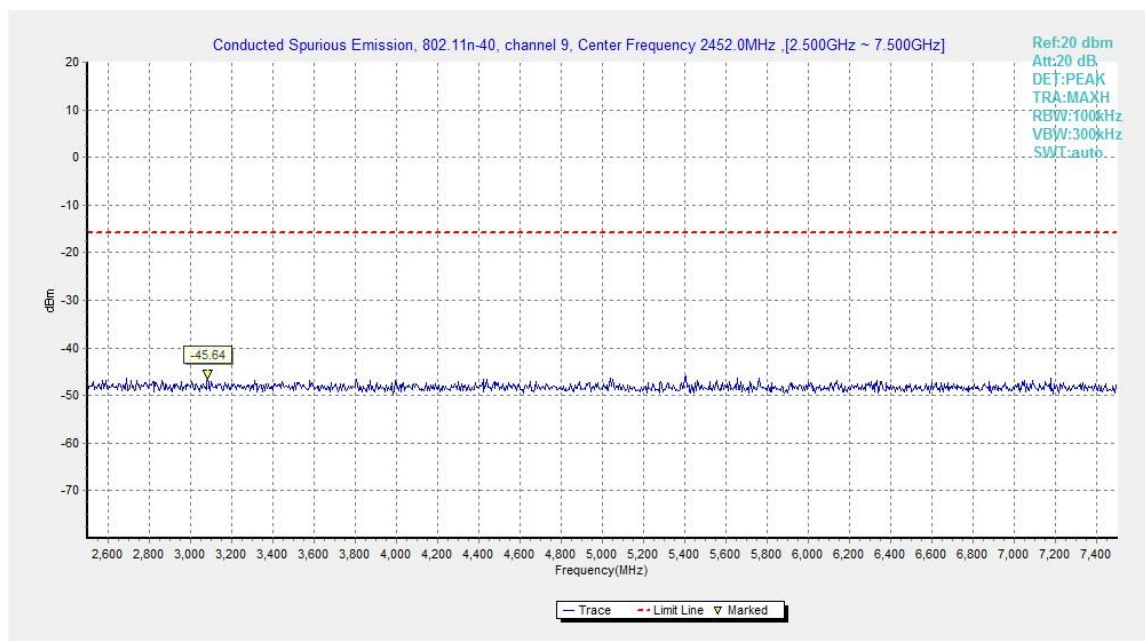


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

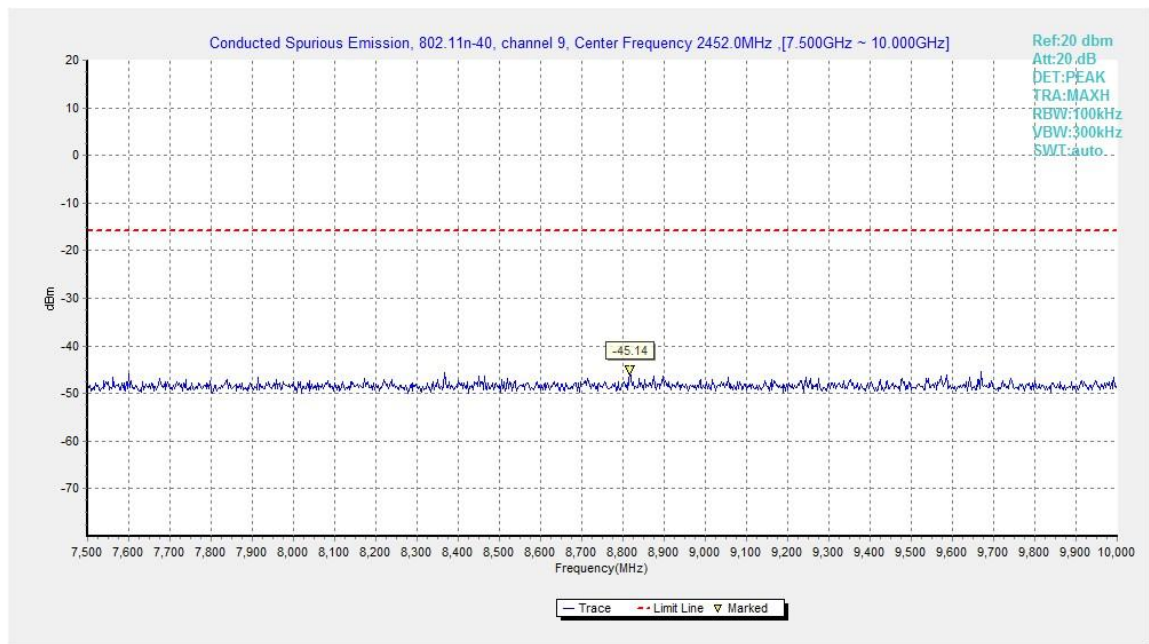


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

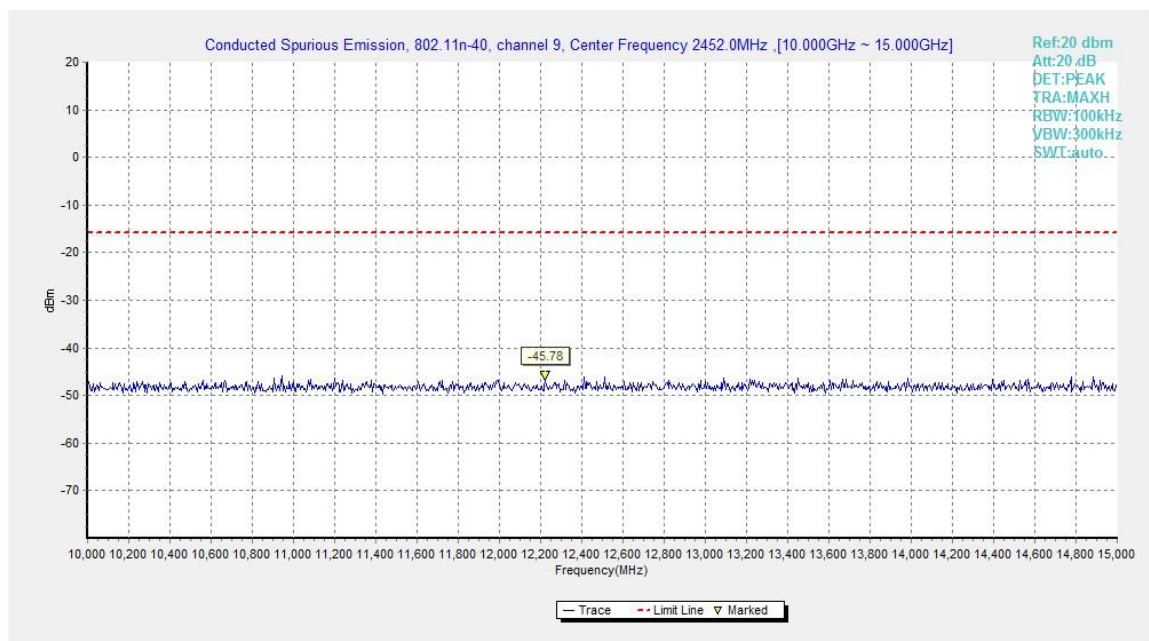


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

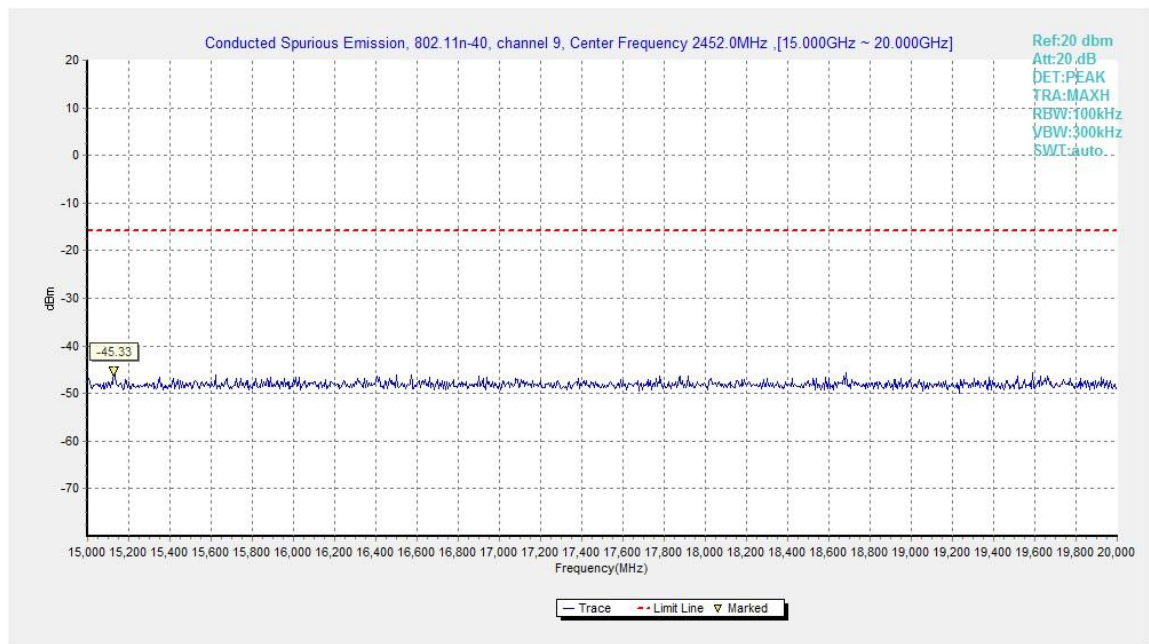


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

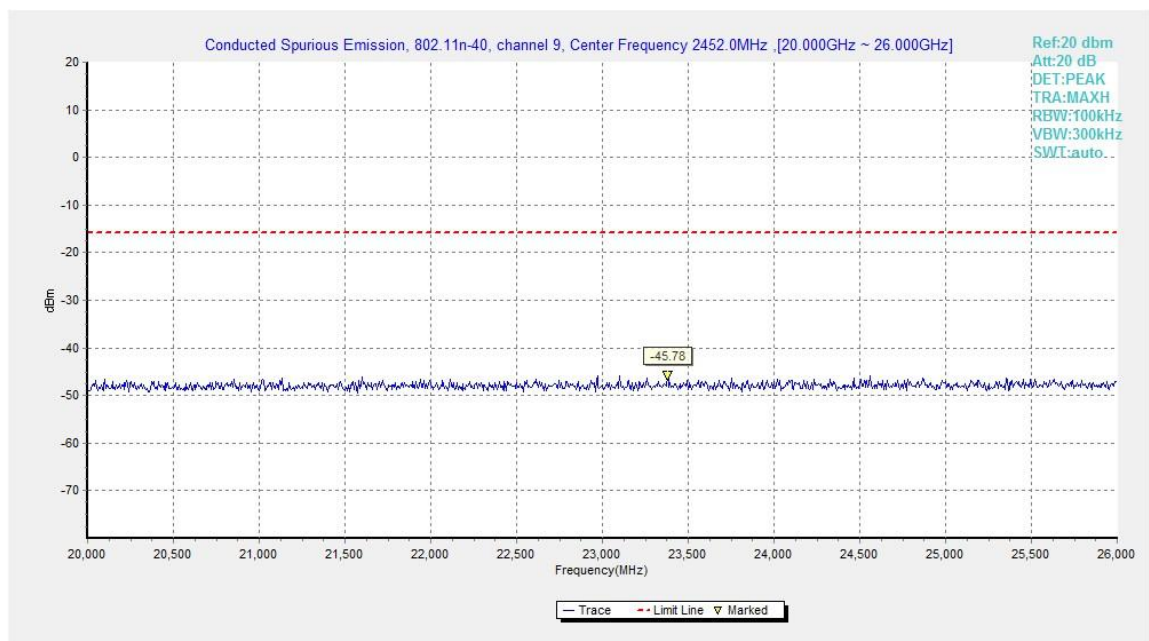


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated**Method of Measurement: See ANSI C63.10-2013-clause 6.4 & 6.5 & 6.6****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)).

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

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

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

EUT ID: EUT1

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
		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

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.11	P
	1	1 GHz ~ 3 GHz	Fig.A.6.2.12	P
		3 GHz ~ 18 GHz	Fig.A.6.2.13	P
	6	30 MHz ~1 GHz	Fig.A.6.2.14	P
		1 GHz ~ 3 GHz	Fig.A.6.2.15	P
		3 GHz ~ 18 GHz	Fig.A.6.2.16	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.17	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.18	P
	11	1 GHz ~ 3 GHz	Fig.A.6.2.19	P
		3 GHz ~ 18 GHz	Fig.A.6.2.20	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.21	P
	1	1 GHz ~ 3 GHz	Fig.A.6.2.22	P
		3 GHz ~ 18 GHz	Fig.A.6.2.23	P
	6	30 MHz ~1 GHz	Fig.A.6.2.24	P
		1 GHz ~ 3 GHz	Fig.A.6.2.25	P
		3 GHz ~ 18 GHz	Fig.A.6.2.26	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.27	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.28	P
	11	1 GHz ~ 3 GHz	Fig.A.6.2.29	P
		3 GHz ~ 18 GHz	Fig.A.6.2.30	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.31	P
	3	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
		18 GHz~ 26.5 GHz	Fig.A.6.2.37	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.38	P
	9	1 GHz ~ 3 GHz	Fig.A.6.2.39	P
		3 GHz ~ 18 GHz	Fig.A.6.2.40	P

Conclusion: Pass

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:

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

AVERAGE
802.11b
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2380.600	46.3	2.9	32.1	11.36	54.0	7.7	H
2385.700	46.3	2.9	32.0	11.41	54.0	7.7	H
4824.000	28.55	-32.8	34.5	26.81	54.0	25.4	H
7236.000	30.10	-31.7	36.1	25.74	54.0	23.9	H
9648.000	33.07	-30.4	37.0	26.39	54.0	20.9	H
12060.000	35.35	-29.6	39.3	25.68	54.0	18.7	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.200	46.5	2.9	32.0	11.63	54.0	7.5	H
2484.800	47.1	2.9	32.7	11.41	54.0	6.9	H
4874.000	28.55	-32.7	34.5	26.76	54.0	25.4	H
7311.000	29.67	-31.9	36.1	25.50	54.0	24.3	H
9748.000	32.60	-30.7	37.2	26.07	54.0	21.4	H
12185.000	35.25	-29.4	39.2	25.46	54.0	18.8	H

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.200	47.1	2.9	32.7	11.43	54.0	6.9	H
2485.600	47.0	2.9	32.7	11.34	54.0	7.0	H
4924.000	28.68	-33.1	34.5	27.26	54.0	25.3	H
7386.000	30.24	-31.8	36.0	26.03	54.0	23.8	H
9848.000	33.48	-30.1	37.3	26.23	54.0	20.5	H
12310.000	34.19	-29.7	39.2	24.71	54.0	19.8	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2381.800	46.2	2.9	32.0	11.29	54.0	7.8	H
2384.600	46.3	2.9	32.0	11.37	54.0	7.7	H
4824.000	28.64	-32.8	34.5	26.90	54.0	25.4	H
7236.000	30.14	-31.7	36.1	25.77	54.0	23.9	H
9648.000	33.15	-30.4	37.0	26.46	54.0	20.9	H
12060.000	35.32	-29.6	39.3	25.64	54.0	18.7	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.400	46.3	2.9	32.0	11.45	54.0	7.7	H
2487.100	47.0	2.9	32.7	11.39	54.0	7.0	H
4874.000	28.63	-32.7	34.5	26.84	54.0	25.4	H
7311.000	29.68	-31.9	36.1	25.51	54.0	24.3	H
9748.000	32.56	-30.7	37.2	26.03	54.0	21.4	H
12185.000	35.28	-29.4	39.2	25.49	54.0	18.7	H

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2487.500	47.1	2.9	32.6	11.54	54.0	6.9	H
2489.600	46.9	2.9	32.6	11.38	54.0	7.1	H
4924.000	28.61	-33.1	34.5	27.20	54.0	25.4	H
7386.000	30.39	-31.8	36.0	26.18	54.0	23.6	H

9848.000	33.57	-30.1	37.3	26.32	54.0	20.4	H
12310.000	34.32	-29.7	39.2	24.85	54.0	19.7	H

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.300	46.2	2.9	32.0	11.34	54.0	7.8	H
2387.400	46.3	2.9	32.0	11.48	54.0	7.7	H
4824.000	28.73	-32.8	34.5	26.98	54.0	25.3	H
7236.000	30.20	-31.7	36.1	25.84	54.0	23.8	H
9648.000	33.14	-30.4	37.0	26.45	54.0	20.9	H
12060.000	35.46	-29.6	39.3	25.79	54.0	18.5	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2386.900	46.4	2.9	32.0	11.55	54.0	7.6	H
2486.200	47.0	2.9	32.7	11.39	54.0	7.0	H
4874.000	28.76	-32.7	34.5	26.97	54.0	25.2	H
7311.000	29.78	-31.9	36.1	25.62	54.0	24.2	H
9748.000	32.72	-30.7	37.2	26.19	54.0	21.3	H
12185.000	35.30	-29.4	39.2	25.50	54.0	18.7	H

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.600	47.2	2.9	32.7	11.54	54.0	6.8	H
2489.150	47.0	2.9	32.6	11.47	54.0	7.0	H
4924.000	28.78	-33.1	34.5	27.36	54.0	25.2	H
7386.000	30.35	-31.8	36.0	26.14	54.0	23.7	H
9848.000	33.66	-30.1	37.3	26.41	54.0	20.3	H
12310.000	34.34	-29.7	39.2	24.86	54.0	19.7	H

802.11n-HT40
Ch3

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2381.000	46.2	2.9	32.1	11.26	54.0	7.8	H
2385.600	46.2	2.9	32.0	11.31	54.0	7.8	H
4844.000	28.73	-32.7	34.5	26.93	54.0	25.3	H
7266.000	30.46	-31.9	36.1	26.23	54.0	23.5	H
9688.000	32.82	-30.7	37.1	26.44	54.0	21.2	H
12110.000	35.00	-29.5	39.3	25.23	54.0	19.0	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.400	46.1	2.9	32.0	11.20	54.0	7.9	H
2485.600	47.1	2.9	32.7	11.47	54.0	6.9	H
4874.000	28.80	-32.7	34.5	27.01	54.0	25.2	H
7311.000	29.85	-31.9	36.1	25.69	54.0	24.1	H
9748.000	32.74	-30.7	37.2	26.21	54.0	21.3	H
12185.000	35.39	-29.4	39.2	25.60	54.0	18.6	H

Ch9

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.900	47.0	2.9	32.7	11.34	54.0	7.0	H
2486.500	47.0	2.9	32.7	11.38	54.0	7.0	H
4904.000	28.93	-32.9	34.5	27.32	54.0	25.1	H
7356.000	30.81	-31.9	36.1	26.66	54.0	23.2	H
9808.000	32.92	-30.4	37.3	26.01	54.0	21.1	H
12260.000	34.80	-29.6	39.2	25.17	54.0	19.2	H

PEAK
802.11b
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.694	59.2	2.9	32.0	24.36	74.0	14.8	H
2381.050	59.8	2.9	32.1	24.94	74.0	14.2	H
17784.750	53.7	-23.4	41.0	36.15	74.0	20.3	H

17809.500	53.2	-23.0	41.0	35.23	74.0	20.8	H
17802.750	52.8	-23.1	41.0	34.98	74.0	21.2	V
17778.000	52.7	-23.5	41.0	35.20	74.0	21.3	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2314.200	48.4	-27.8	31.1	45.10	74.0	25.6	H
2634.400	51.8	-26.8	33.5	45.10	74.0	22.2	H
17794.500	55.0	-23.2	41.0	37.26	74.0	19.0	V
17812.500	53.8	-23.0	40.9	35.85	74.0	20.2	V
17806.500	52.9	-23.0	41.0	34.97	74.0	21.1	H
17766.000	52.9	-23.7	41.0	35.59	74.0	21.1	V

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.350	60.6	2.9	32.7	24.92	74.0	13.4	H
2483.630	60.9	2.9	32.8	25.25	74.0	13.1	H
17801.250	53.2	-23.1	41.0	35.32	74.0	20.8	H
17811.750	52.9	-23.0	41.0	34.97	74.0	21.1	V
17816.250	52.5	-23.1	40.9	34.67	74.0	21.5	H
17811.000	52.5	-23.0	41.0	34.59	74.0	21.5	H

802.11g

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.378	59.2	2.9	32.0	24.33	74.0	14.8	H
2380.266	59.6	2.9	32.1	24.73	74.0	14.4	H
17799.000	54.5	-23.2	41.0	36.74	74.0	19.5	V
17795.250	53.5	-23.2	41.0	35.77	74.0	20.5	H
17803.500	52.9	-23.1	41.0	35.00	74.0	21.1	H
17826.000	52.8	-23.2	40.9	35.07	74.0	21.2	V

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2359.000	49.4	-27.6	31.8	45.22	74.0	24.6	H

2648.400	52.1	-26.7	33.7	45.18	74.0	21.9	H
17826.000	54.1	-23.2	40.9	36.43	74.0	19.9	H
17823.750	53.3	-23.2	40.9	35.56	74.0	20.7	H
17724.000	52.8	-24.4	41.0	36.16	74.0	21.2	H
17814.750	52.6	-23.1	40.9	34.69	74.0	21.4	H

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.840	59.9	2.9	32.8	24.25	74.0	14.1	H
2485.260	59.5	2.9	32.7	23.84	74.0	14.5	H
17801.250	53.8	-23.1	41.0	35.94	74.0	20.2	H
17809.500	52.9	-23.0	41.0	34.97	74.0	21.1	V
17814.750	52.6	-23.1	40.9	34.74	74.0	21.4	H
17822.250	52.6	-23.2	40.9	34.83	74.0	21.4	V

802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.352	59.5	2.9	32.0	24.65	74.0	14.5	H
2387.056	59.1	2.9	32.0	24.22	74.0	14.9	H
17765.250	53.6	-23.7	41.0	36.28	74.0	20.4	V
17805.000	53.0	-23.1	41.0	35.14	74.0	21.0	V
17795.250	52.5	-23.2	41.0	34.79	74.0	21.5	H
17811.000	52.3	-23.0	41.0	34.41	74.0	21.7	V

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2363.800	49.4	-27.4	31.9	44.84	74.0	24.6	H
2629.600	52.4	-26.8	33.4	45.81	74.0	21.6	H
17821.500	53.9	-23.2	40.9	36.15	74.0	20.1	V
17805.750	53.0	-23.1	41.0	35.06	74.0	21.0	H
17807.250	52.9	-23.0	41.0	34.95	74.0	21.1	V
17808.750	52.7	-23.0	41.0	34.72	74.0	21.3	V

Ch11

Frequency (MHz)	Measurement Result	Cable loss	Antenna Factor	Receiver eading	Limit (dBμV/m)	Margin (dB)	Antenna Pol.
-----------------	--------------------	------------	----------------	-----------------	----------------	-------------	--------------

	(dBμV/m)	(dB)	(dB/m)	(dBμV)			(H/V)
2484.350	63.9	2.9	32.7	28.21	74.0	10.1	H
2485.460	61.7	2.9	32.7	26.05	74.0	12.3	H
17794.500	53.5	-23.2	41.0	35.78	74.0	20.5	H
17779.500	52.8	-23.5	41.0	35.30	74.0	21.2	V
17795.250	52.7	-23.2	41.0	34.92	74.0	21.3	V
17800.500	52.4	-23.1	41.0	34.58	74.0	21.6	H

802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2380.750	59.5	2.9	32.1	24.60	74.0	14.5	H
2385.236	59.6	2.9	32.0	24.75	74.0	14.4	H
17805.000	52.5	-23.1	41.0	34.60	74.0	21.5	V
17797.500	52.4	-23.2	41.0	34.66	74.0	21.6	V
17818.500	52.4	-23.1	40.9	34.56	74.0	21.6	V
17812.500	52.3	-23.0	40.9	34.38	74.0	21.7	H

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2359.400	49.1	-27.6	31.8	44.84	74.0	24.9	H
2669.800	52.3	-26.7	33.5	45.54	74.0	21.7	H
17810.250	53.2	-23.0	41.0	35.26	74.0	20.8	V
17877.000	52.7	-23.9	40.9	35.74	74.0	21.3	H
17792.250	52.5	-23.3	41.0	34.79	74.0	21.5	V
17800.500	52.5	-23.1	41.0	34.64	74.0	21.5	V

Ch9

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.600	59.7	2.9	32.8	24.04	74.0	14.3	H
2487.730	61.1	2.9	32.6	25.49	74.0	12.9	H
17787.750	53.4	-23.3	41.0	35.81	74.0	20.6	V
17804.250	53.0	-23.1	41.0	35.10	74.0	21.0	H
17790.750	52.5	-23.3	41.0	34.88	74.0	21.5	V
17800.500	52.5	-23.1	41.0	34.64	74.0	21.5	V

Test graphs as below:

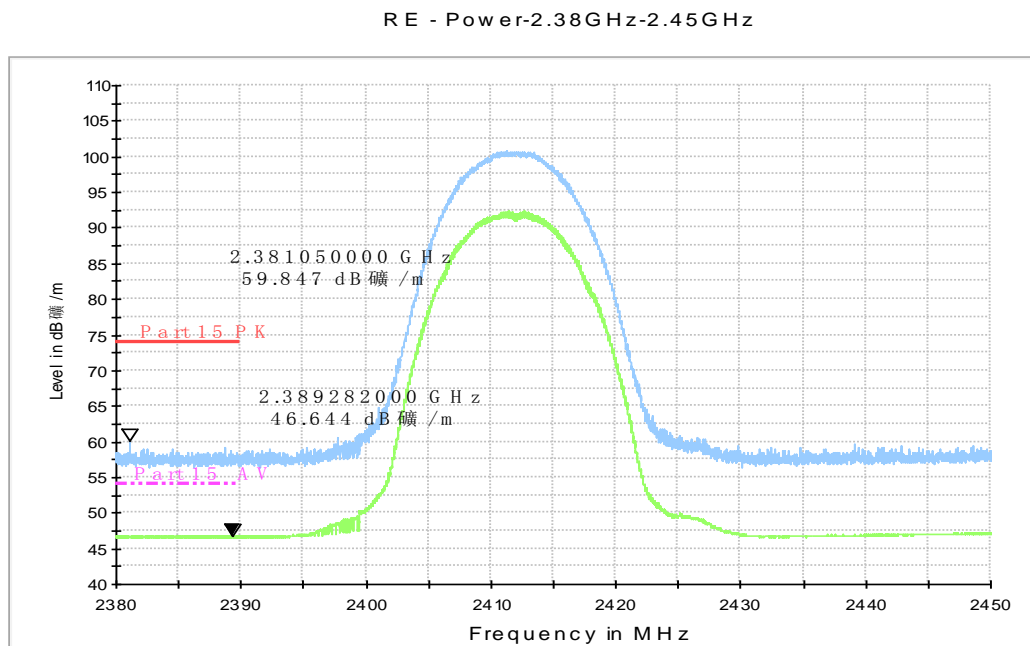


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

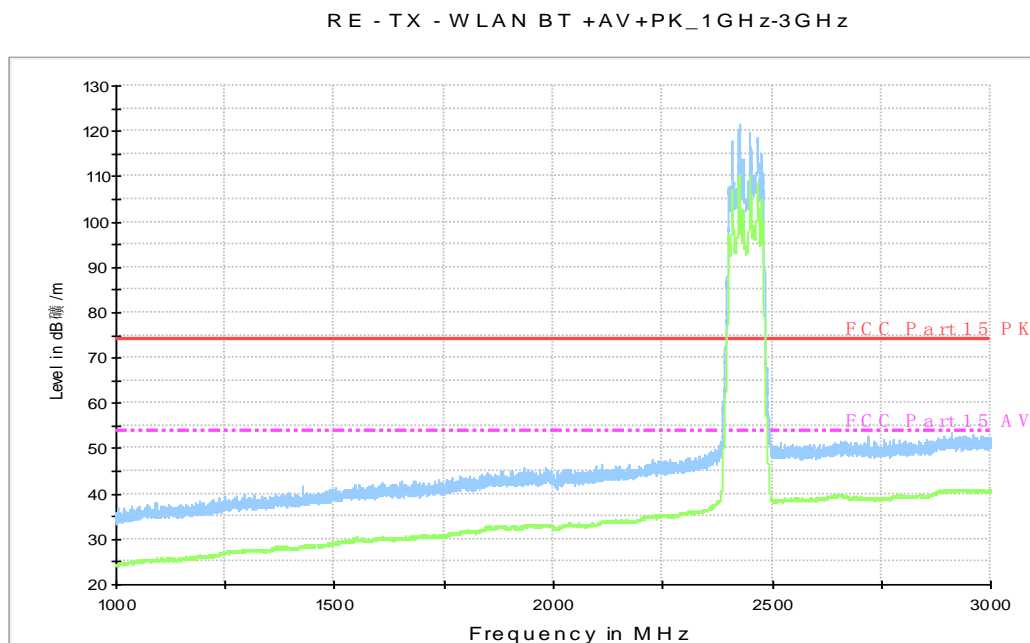


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 1 GHz-3 GHz)

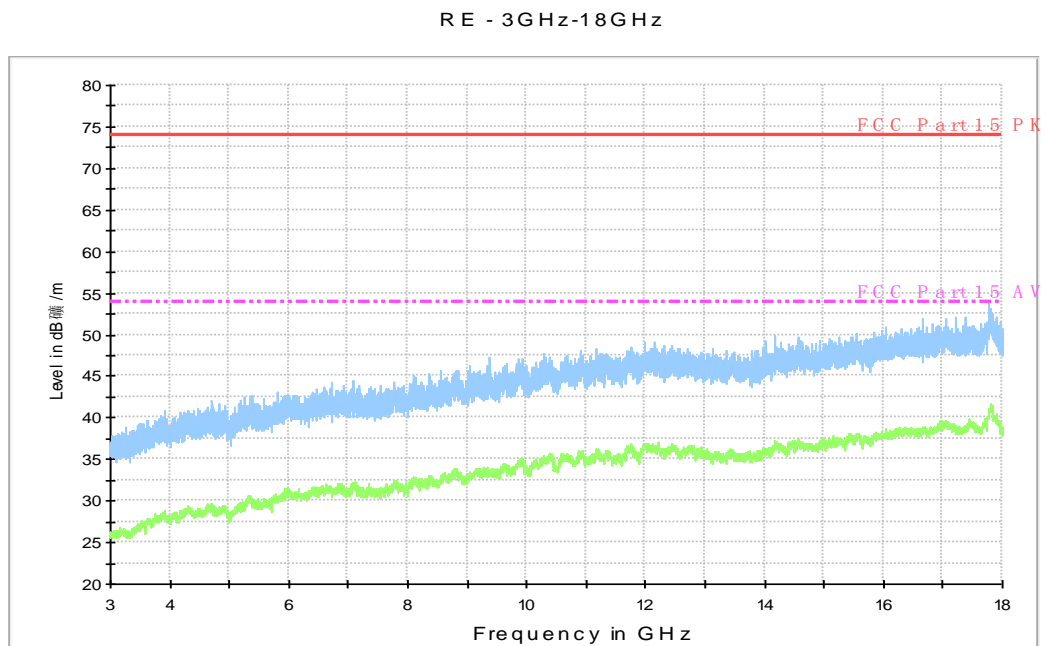


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 3 GHz-18 GHz)

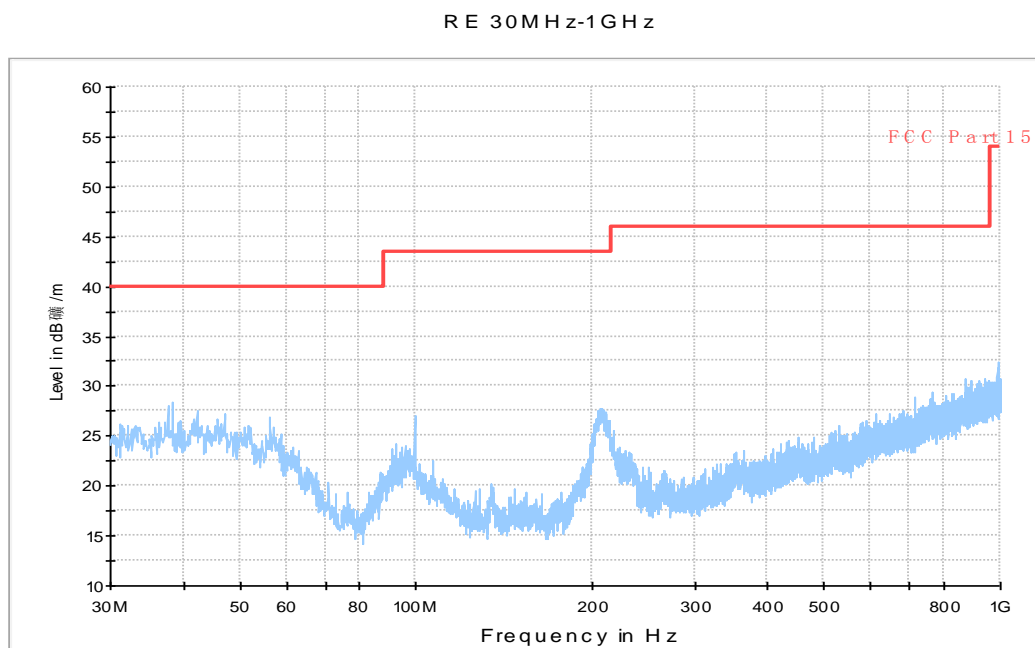


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 30 MHz-1 GHz)

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

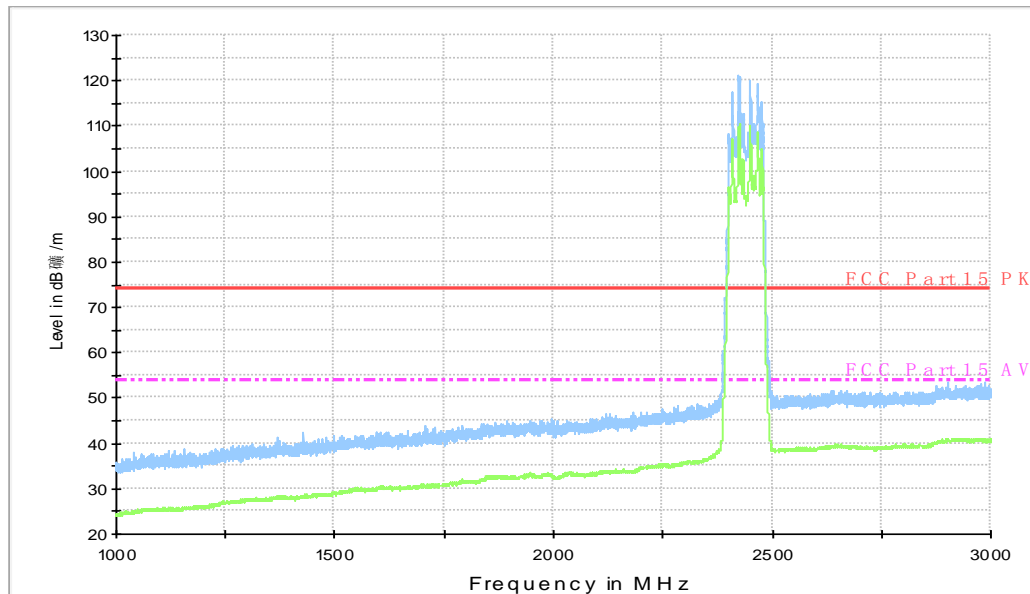


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 1 GHz-3 GHz)

RE - 3GHz-18GHz

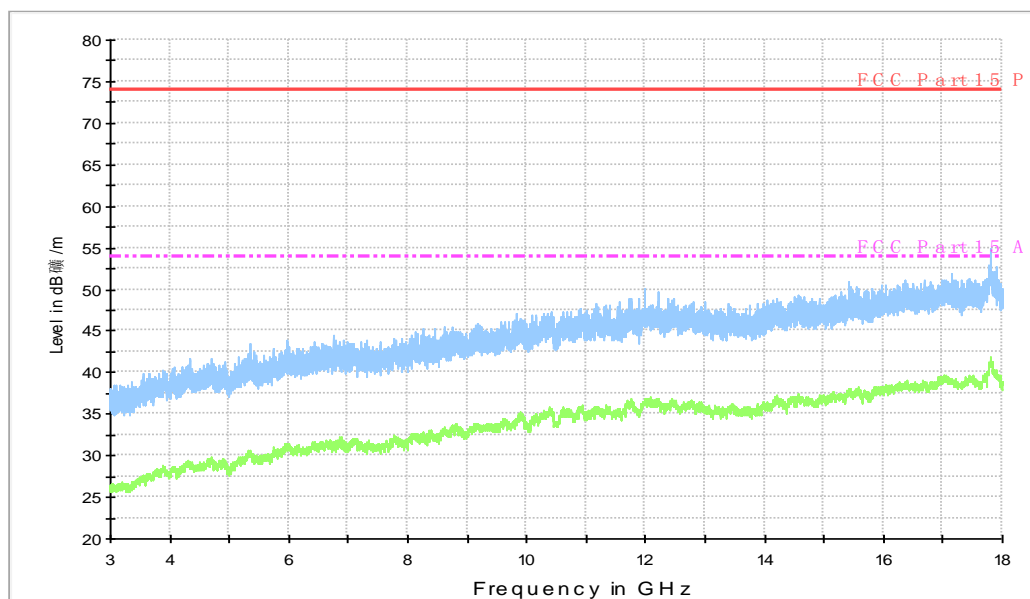


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 3 GHz-18 GHz)

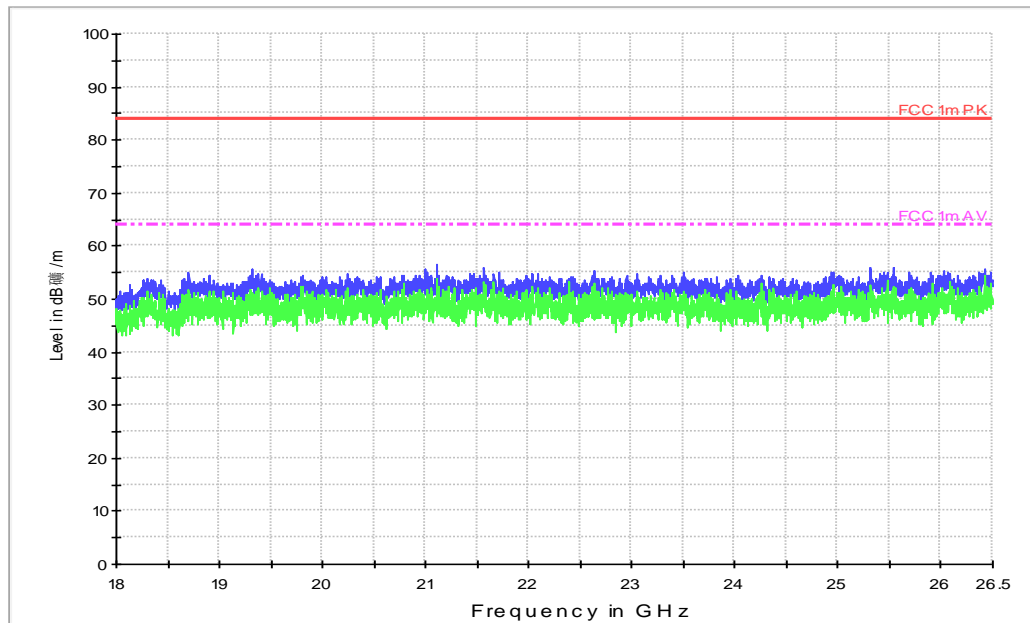


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

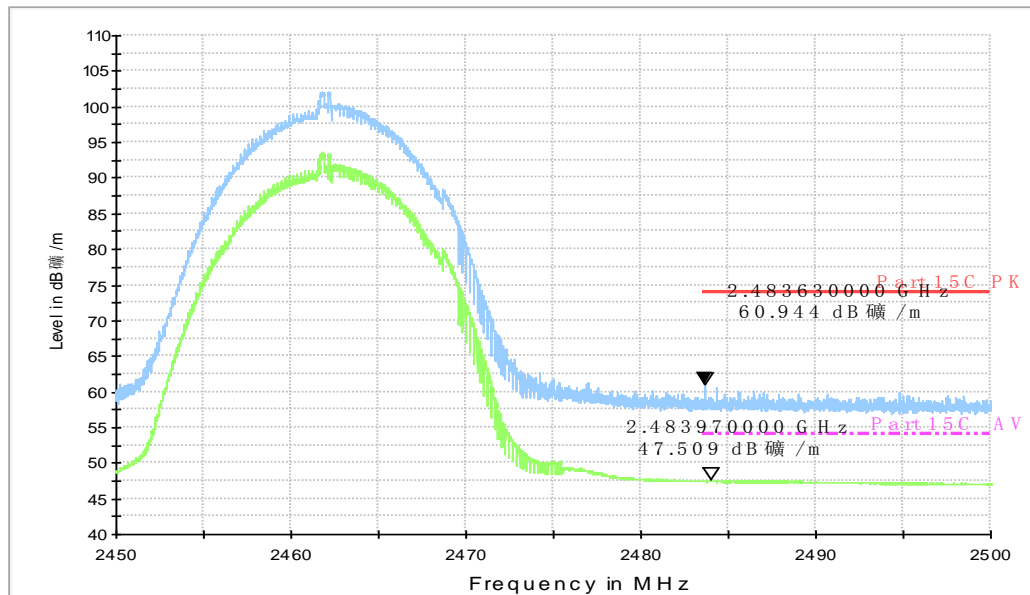


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

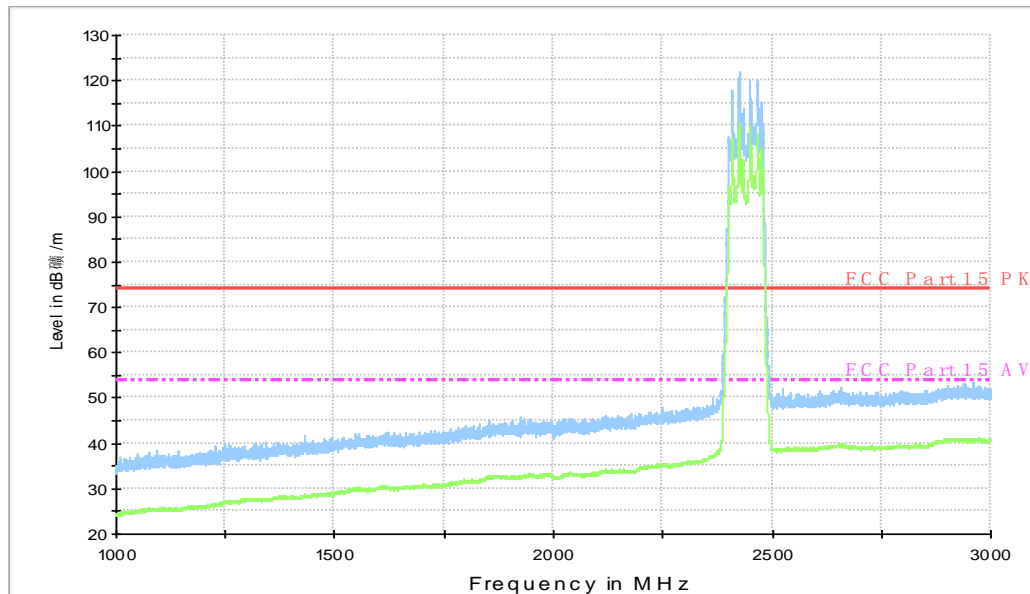


Fig.A.6.2.9 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 1 GHz-3 GHz)

RE - 3GHz-18GHz

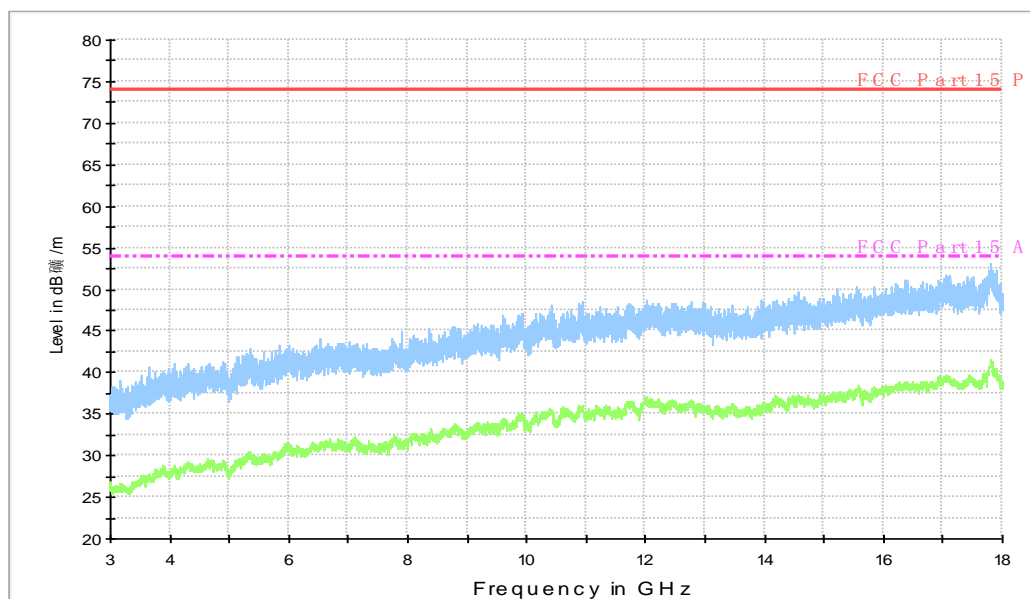


Fig.A.6.2.10 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 3 GHz-18 GHz)

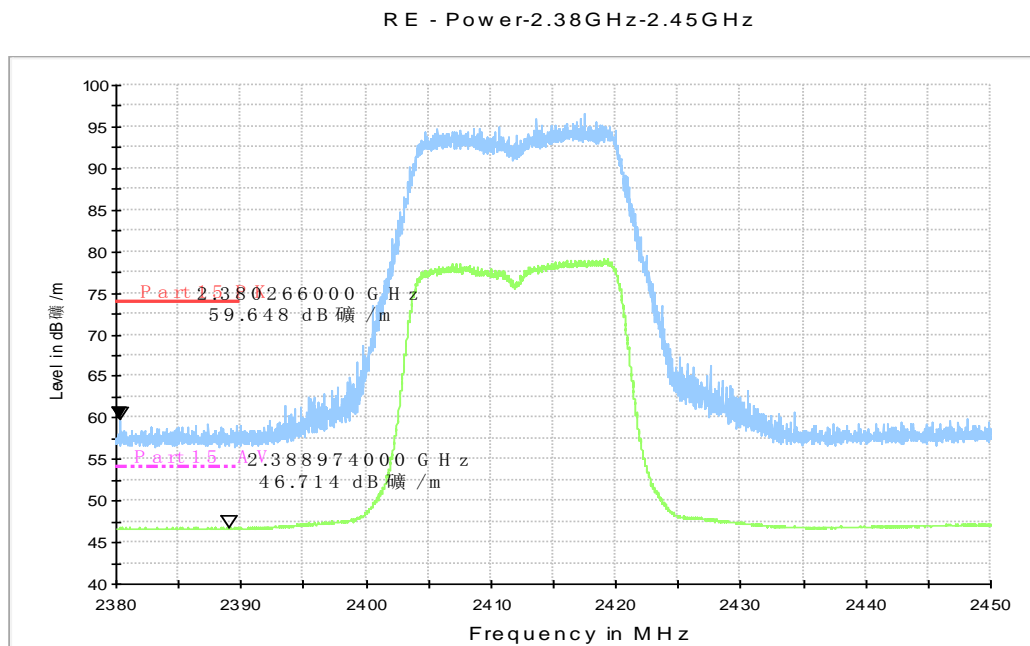


Fig.A.6.2.11 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

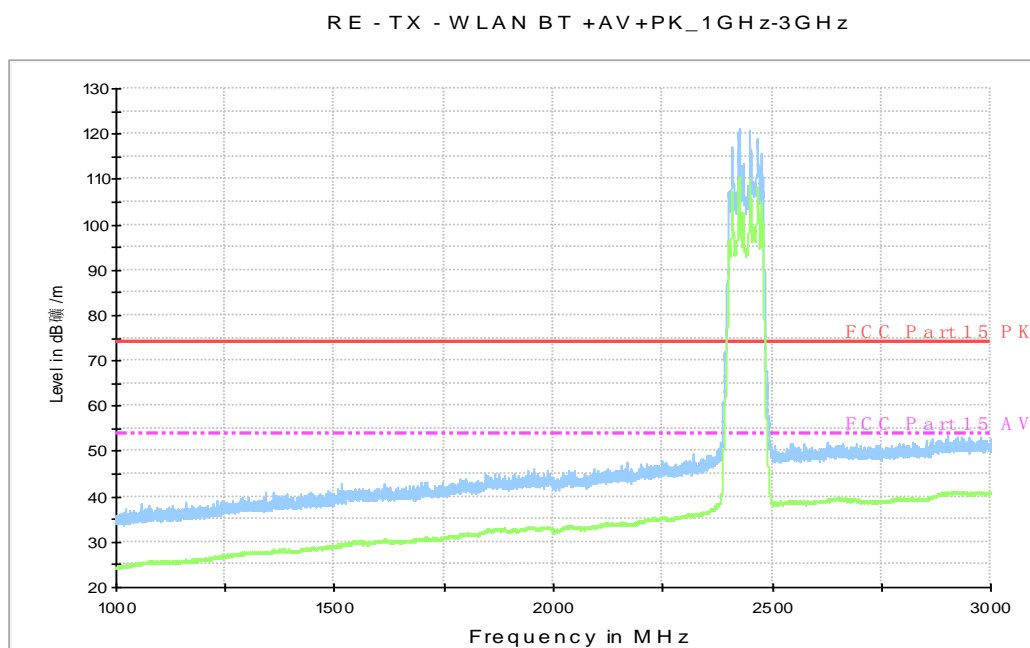


Fig.A.6.2.12 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 1 GHz-3 GHz)

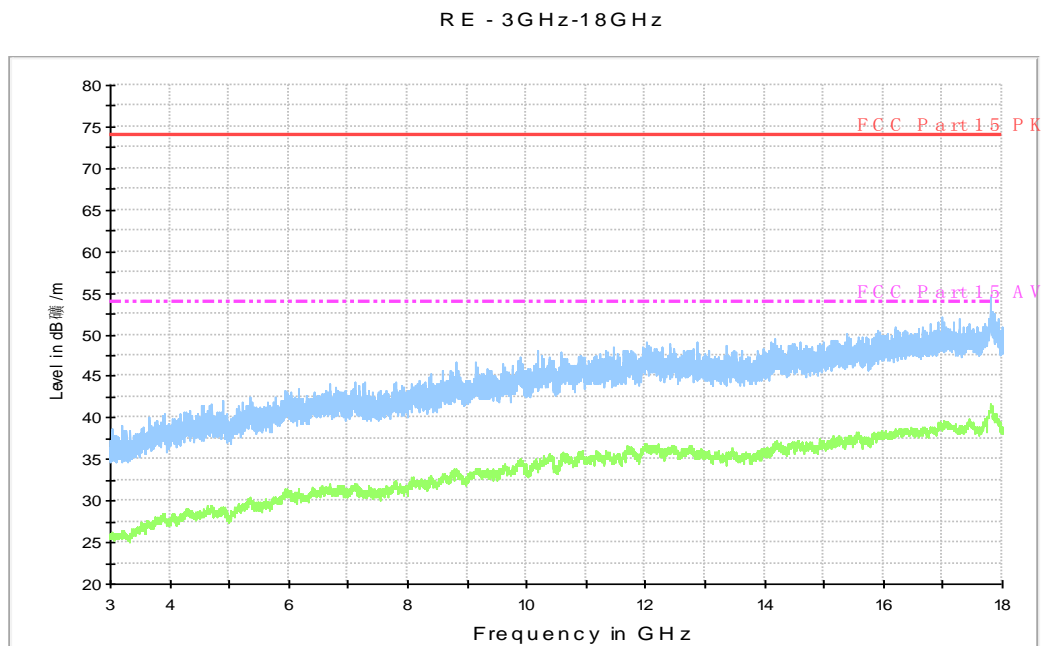


Fig.A.6.2.13 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 3 GHz-18 GHz)

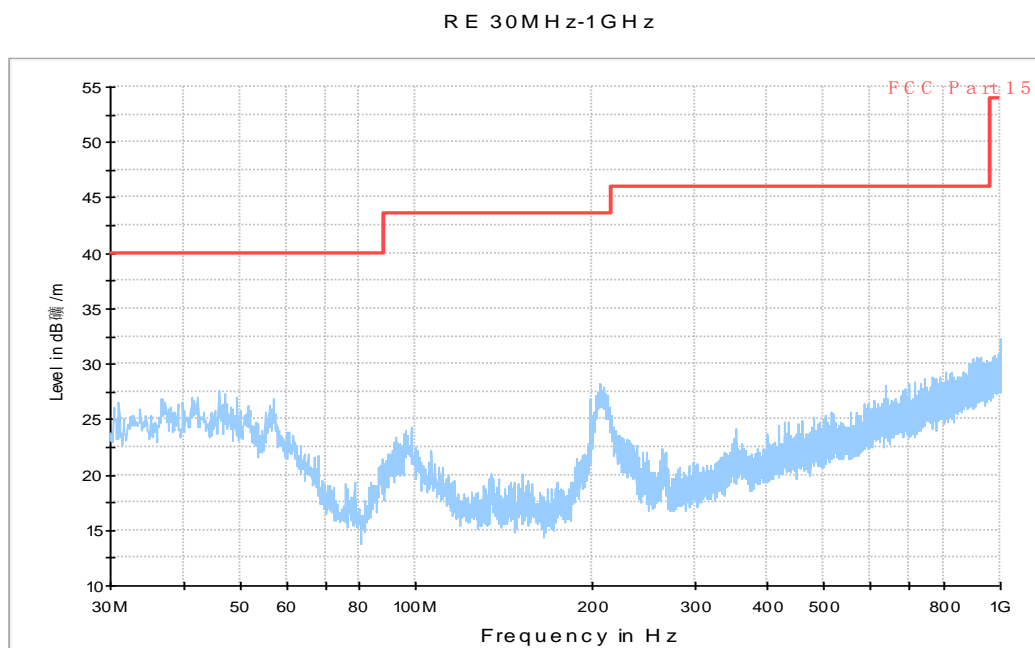


Fig.A.6.2.14 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 30 MHz-1 GHz)

RE - TX - WLAN BT +AV+PK_1GHz-3GHz

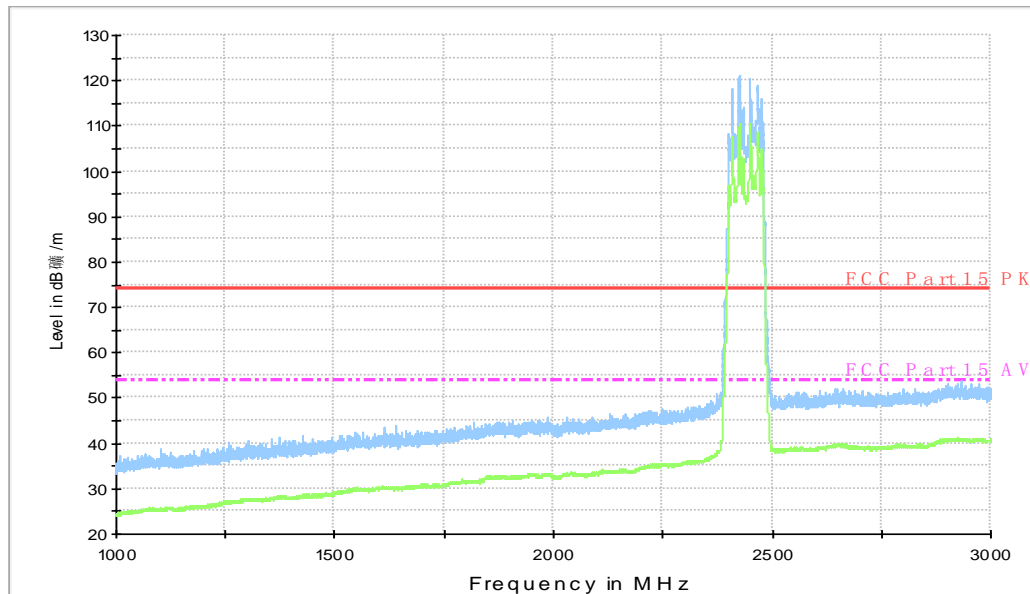


Fig.A.6.2.15 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 1 GHz-3 GHz)

RE - 3GHz-18GHz

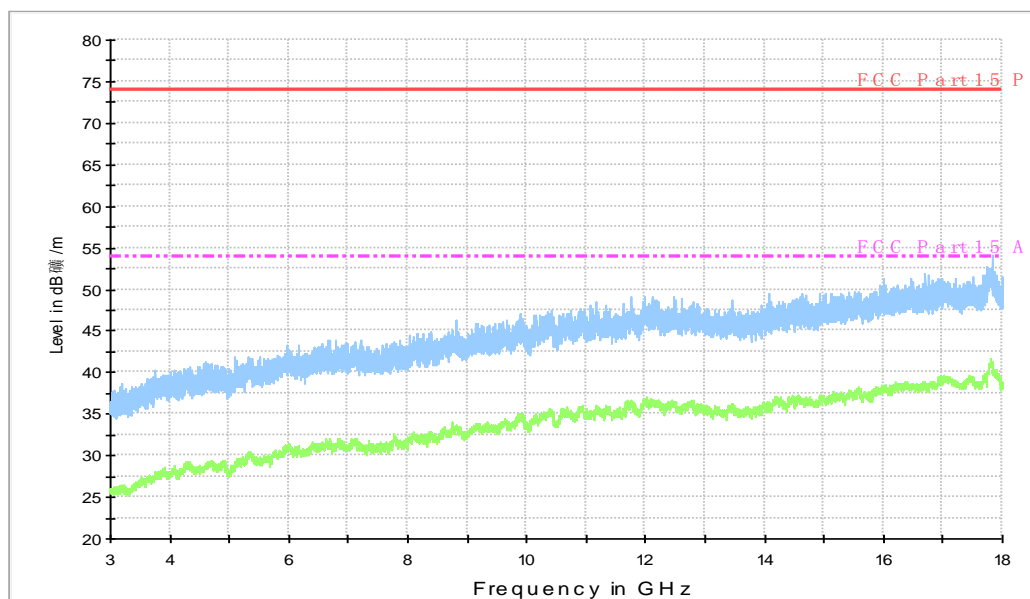


Fig.A.6.2.16 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 3 GHz-18 GHz)

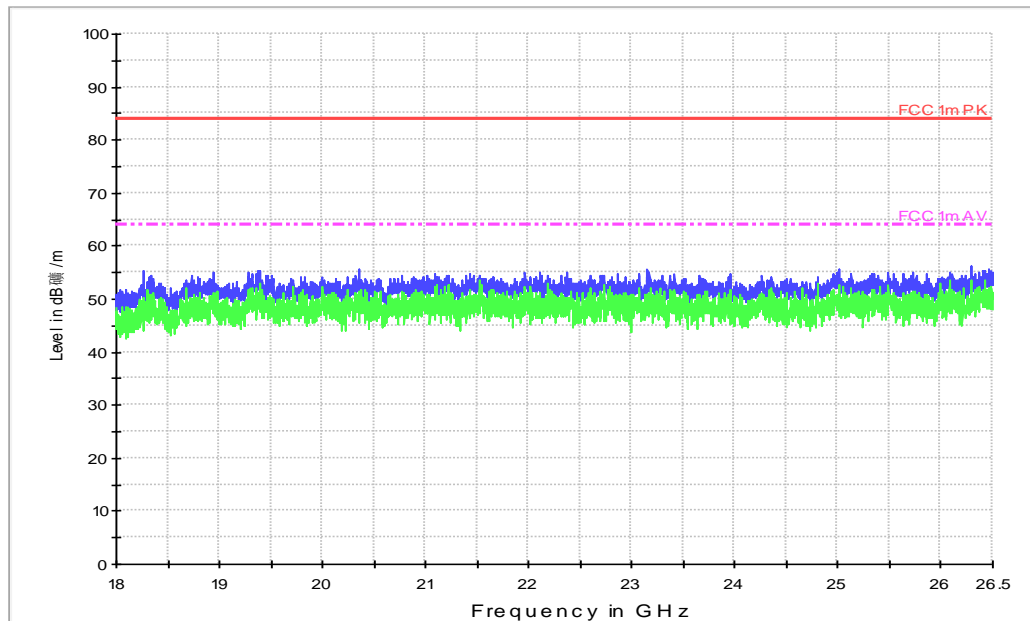


Fig.A.6.2.17 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

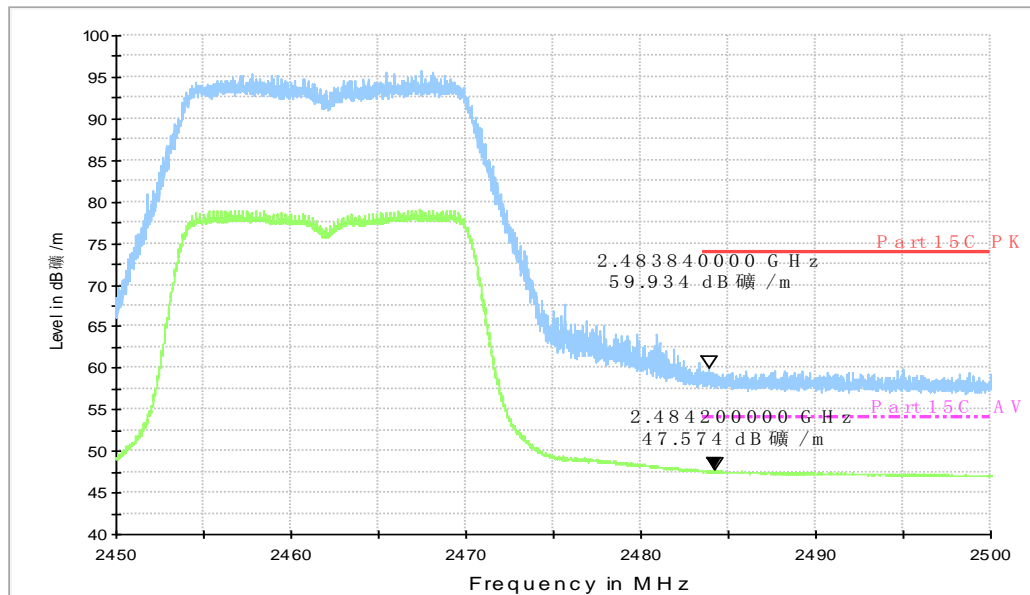


Fig.A.6.2.18 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

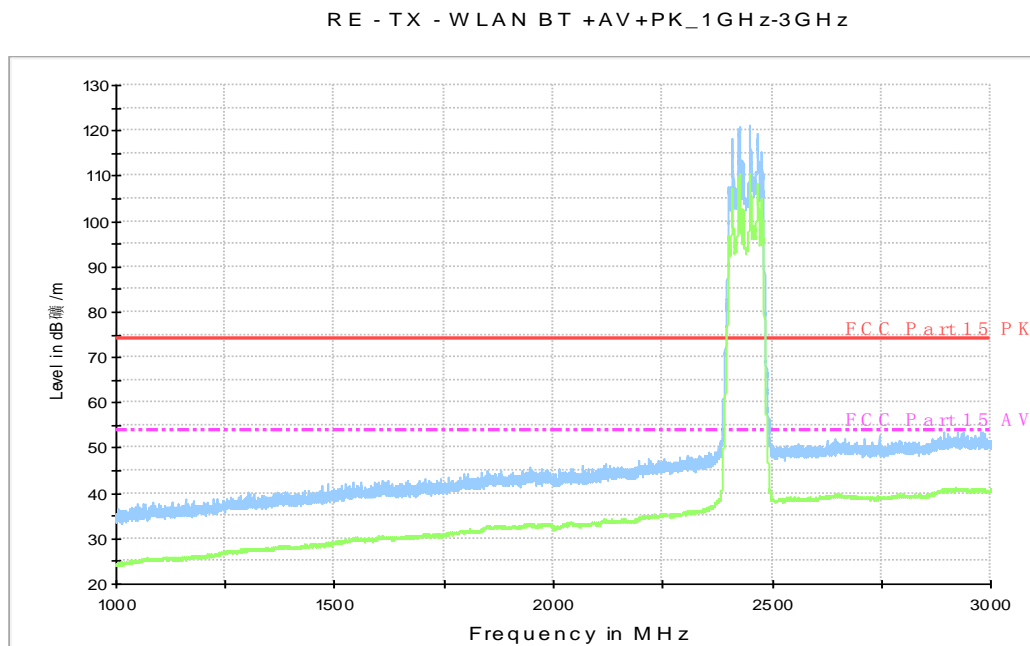


Fig.A.6.2.19 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 1 GHz-3 GHz)

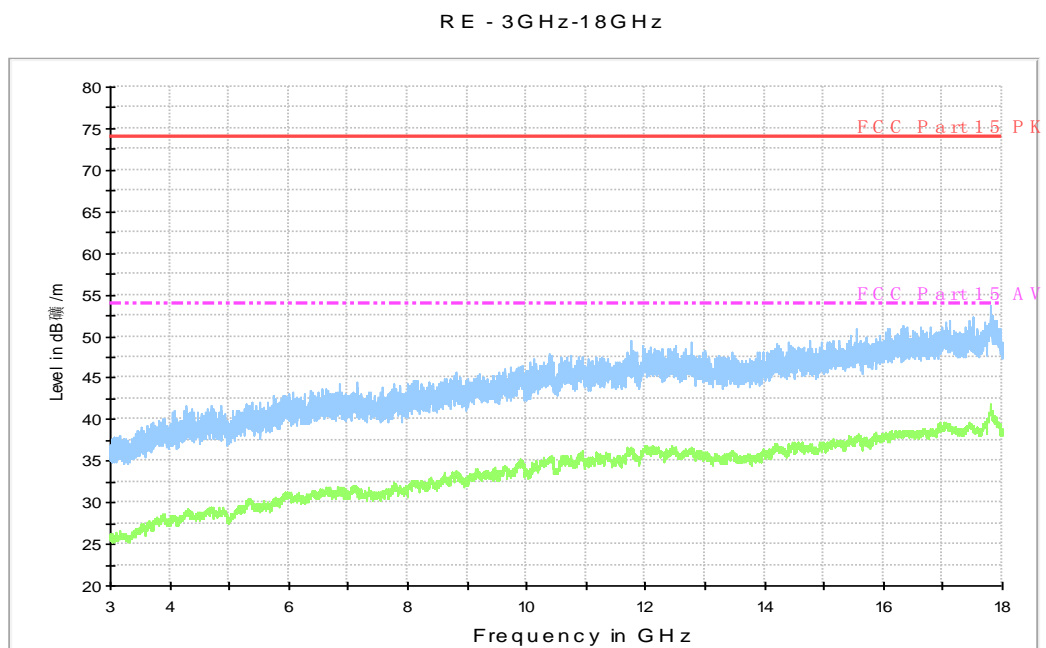


Fig.A.6.2.20 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 3 GHz-18 GHz)

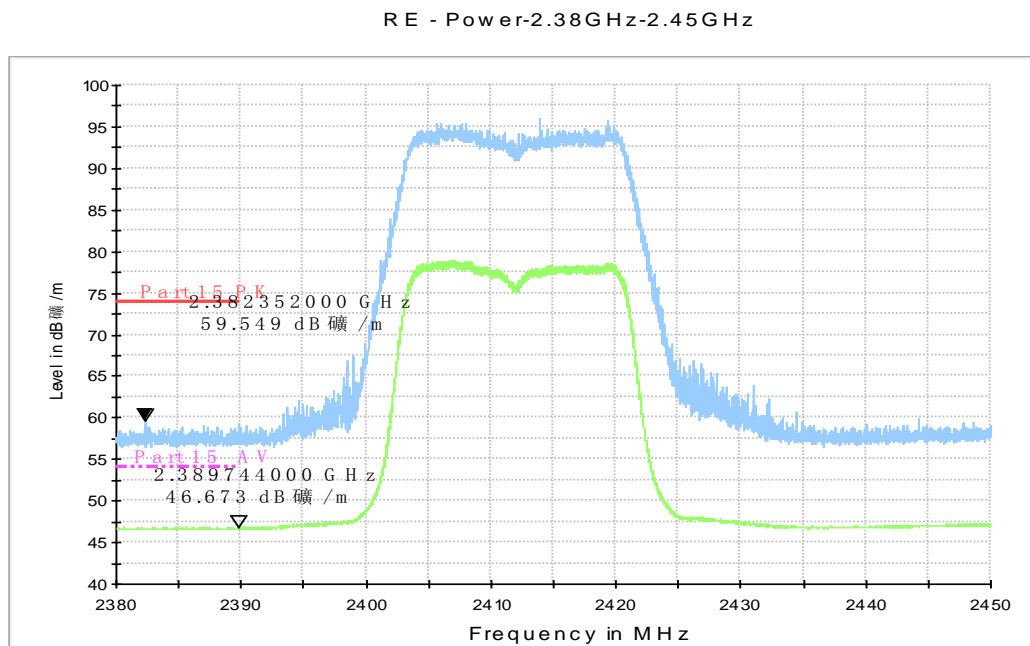


Fig.A.6.2.21 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1,
2.38 GHz - 2.45GHz

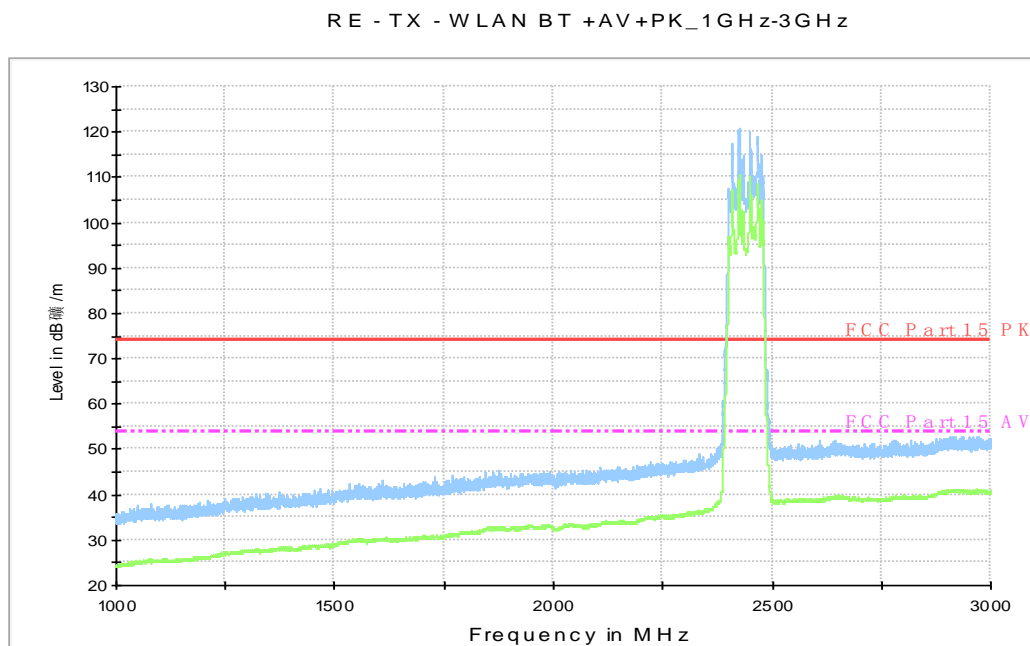


Fig.A.6.2.22 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 1 GHz-3
GHz)

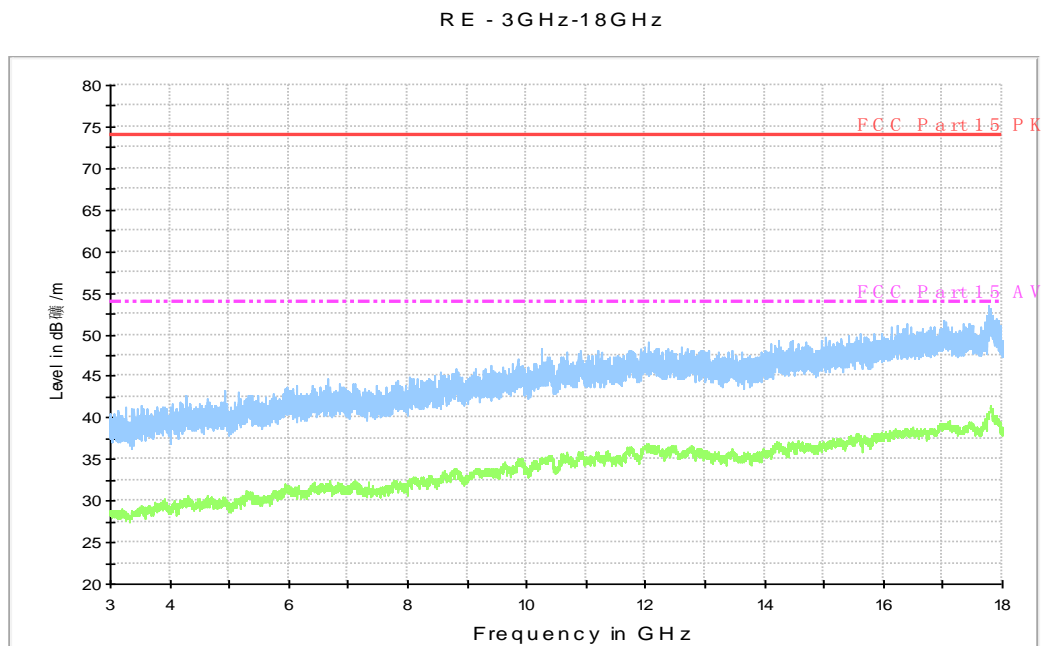


Fig.A.6.2.23 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 3 GHz-18 GHz)

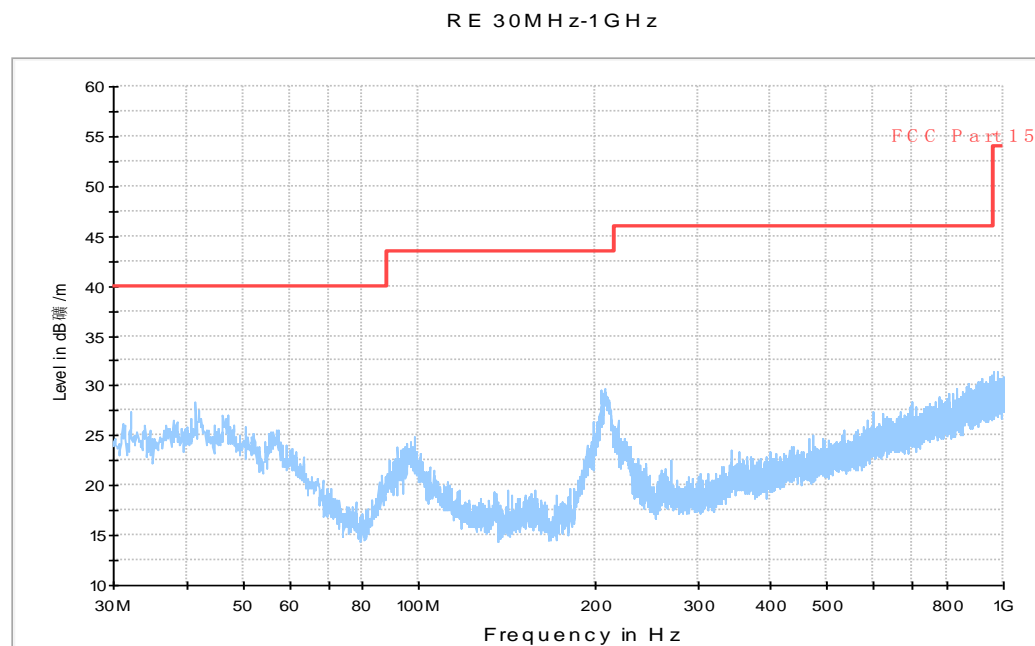


Fig.A.6.2.24 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 30 MHz-1 GHz)

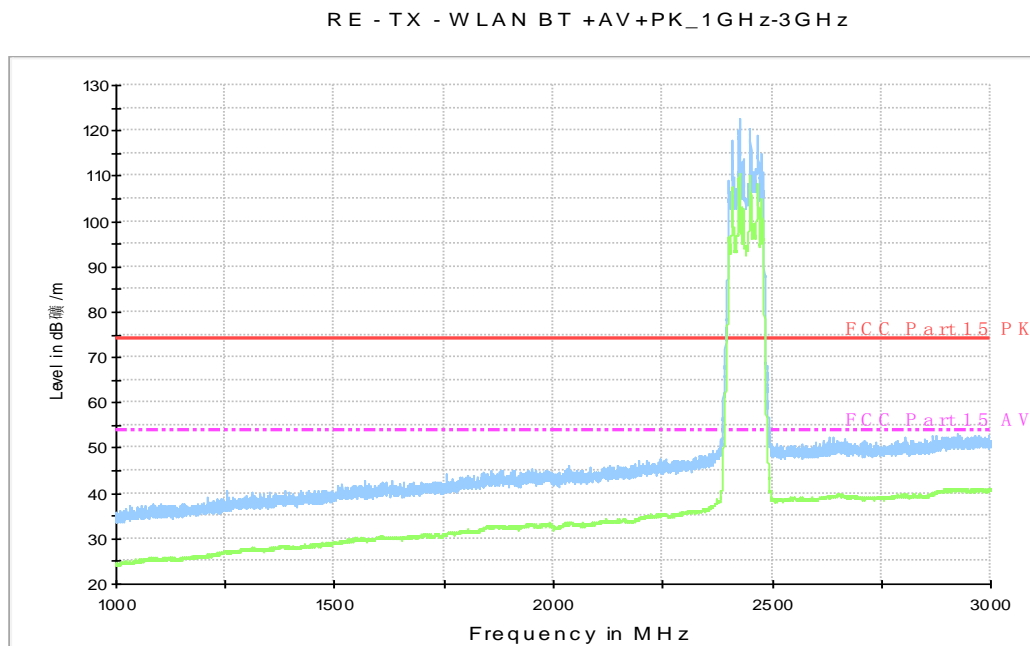


Fig.A.6.2.25 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 1 GHz-3 GHz)

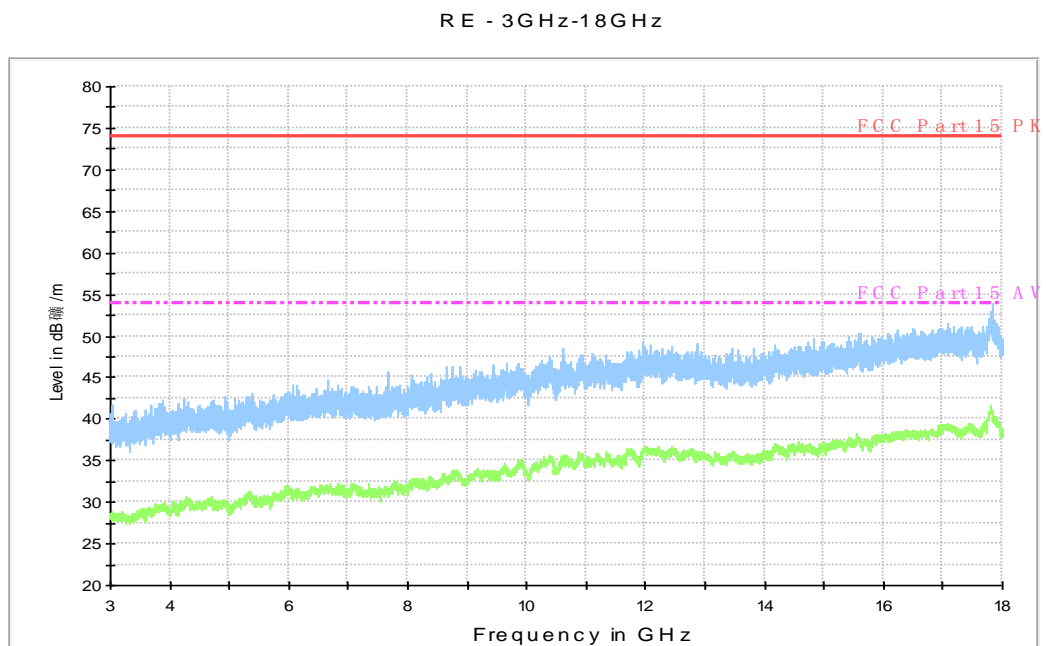


Fig.A.6.2.26 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 3 GHz-18 GHz)

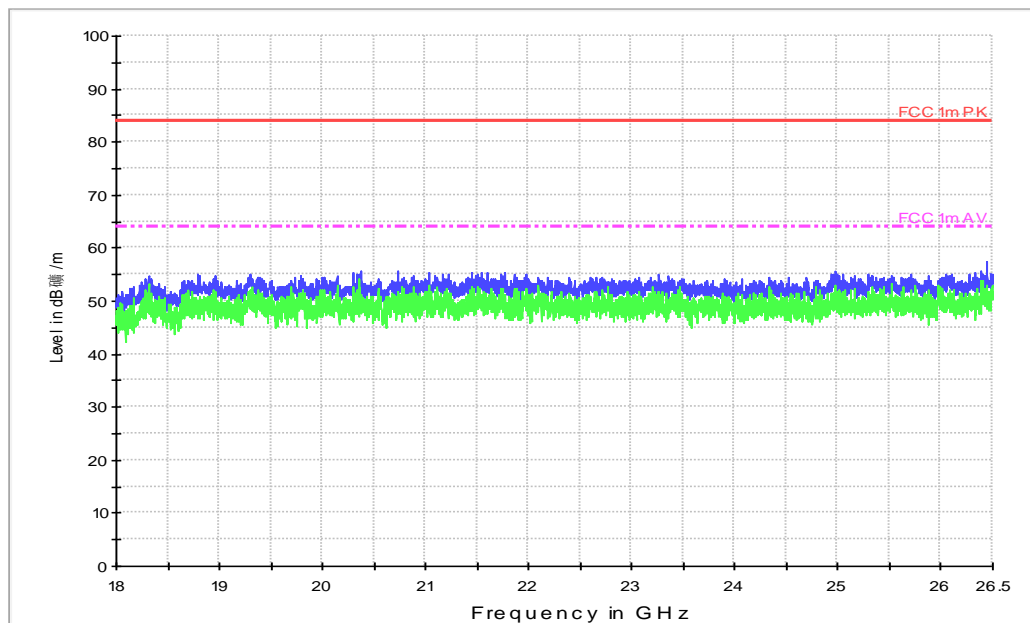


Fig.A.6.2.27 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

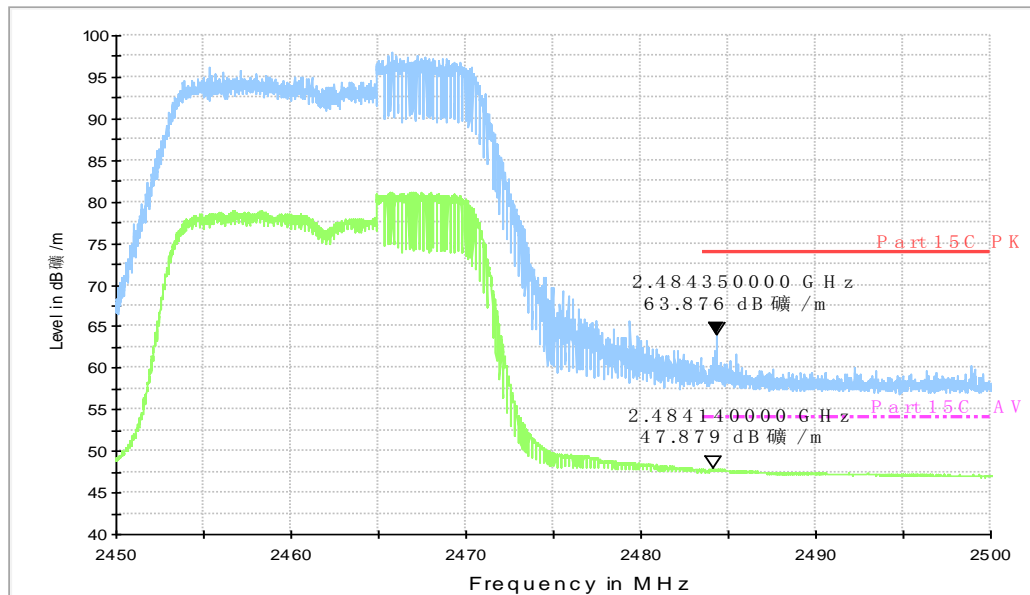


Fig.A.6.2.28 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

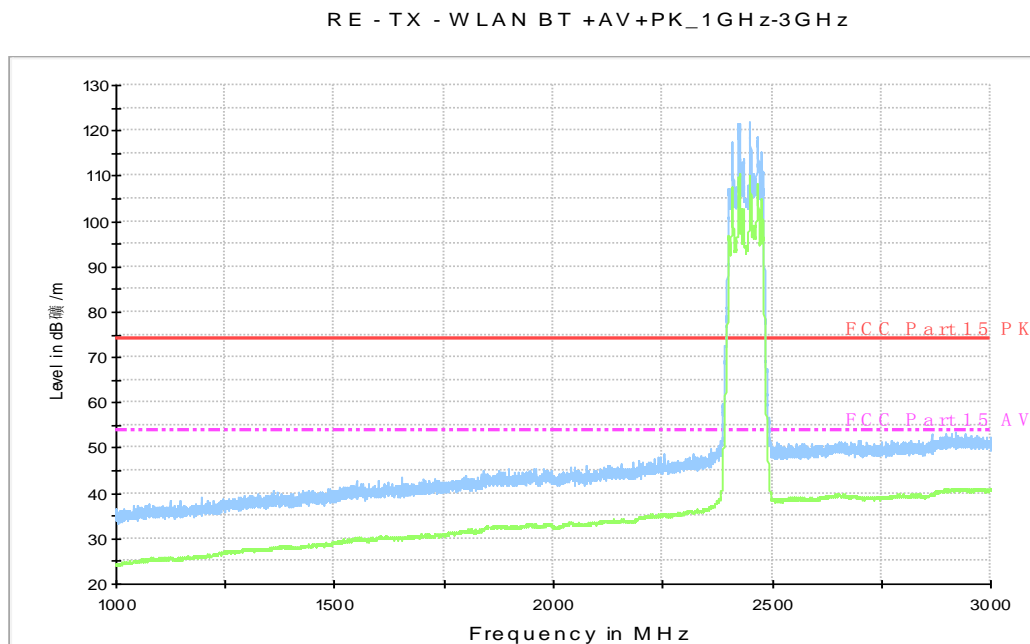


Fig.A.6.2.29 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 1 GHz-3 GHz)

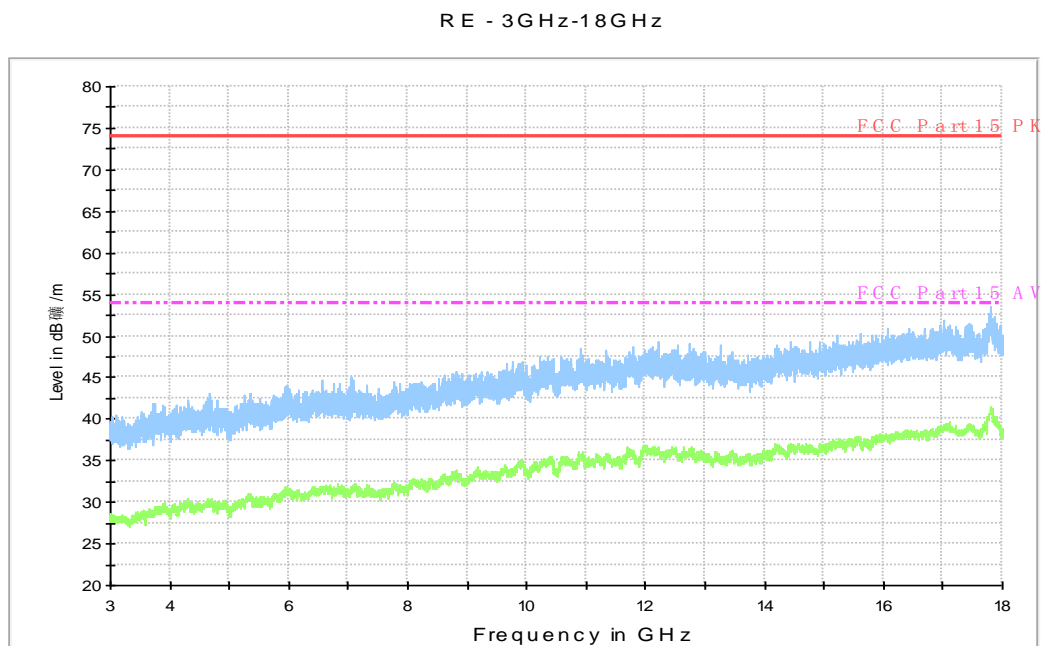


Fig.A.6.2.30 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 3 GHz-18 GHz)

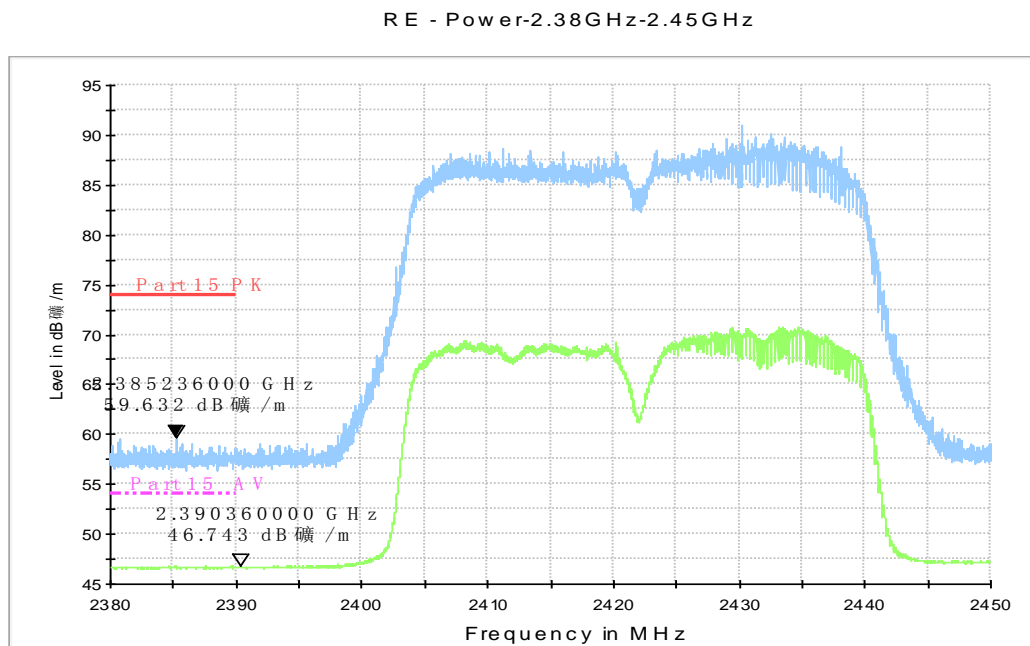


Fig.A.6.2.31 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz

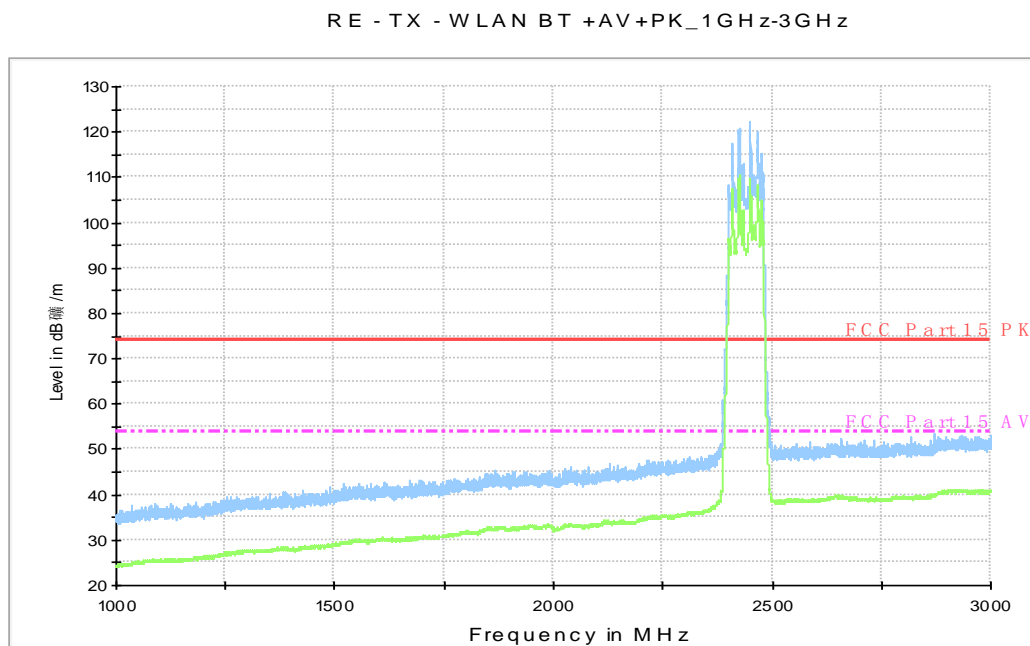


Fig.A.6.2.32 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 1 GHz-3 GHz)

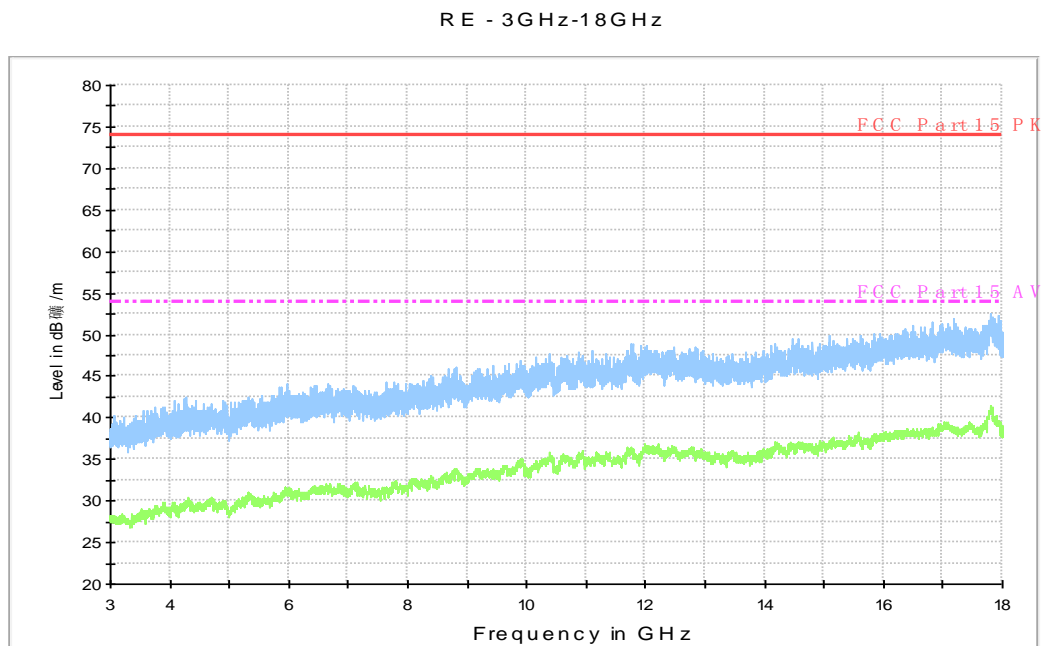


Fig.A.6.2.33 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 3 GHz-18 GHz)

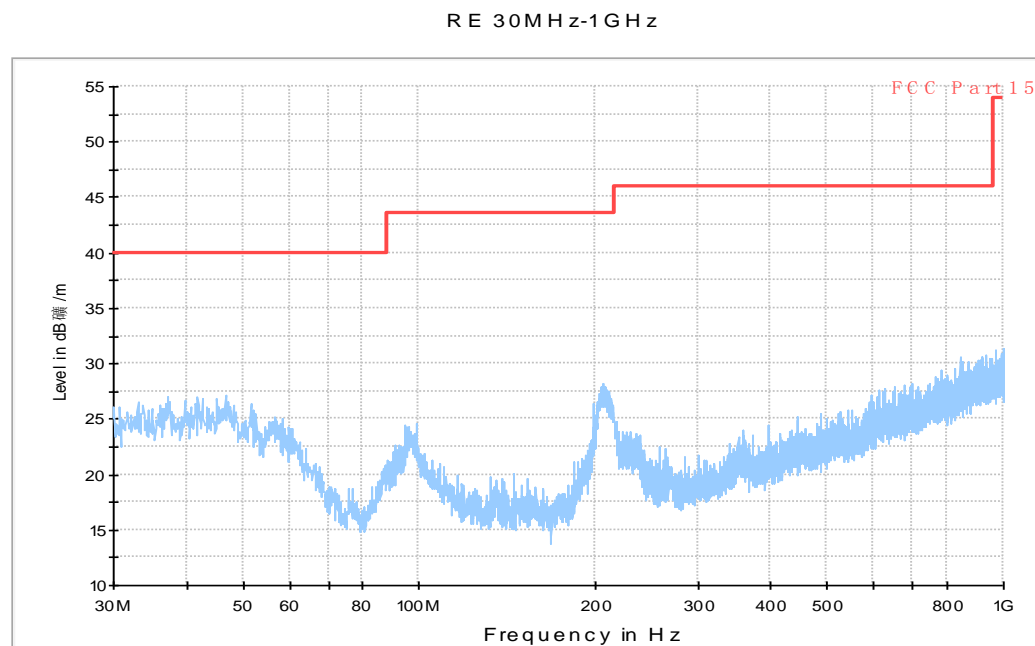


Fig.A.6.2.34 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 30 MHz-1 GHz)

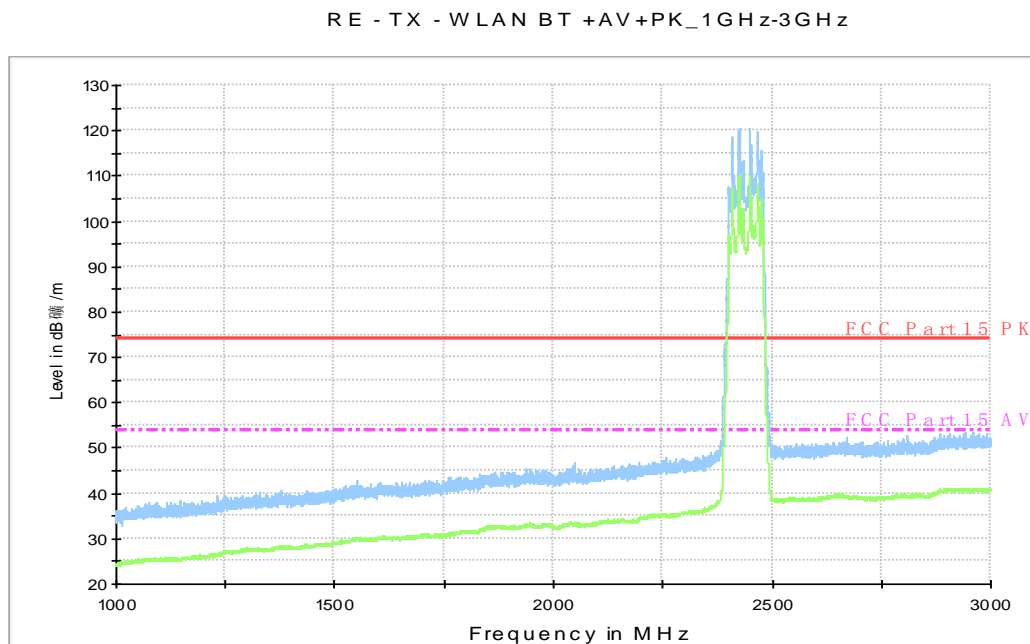


Fig.A.6.2.35 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 1 GHz-3 GHz)

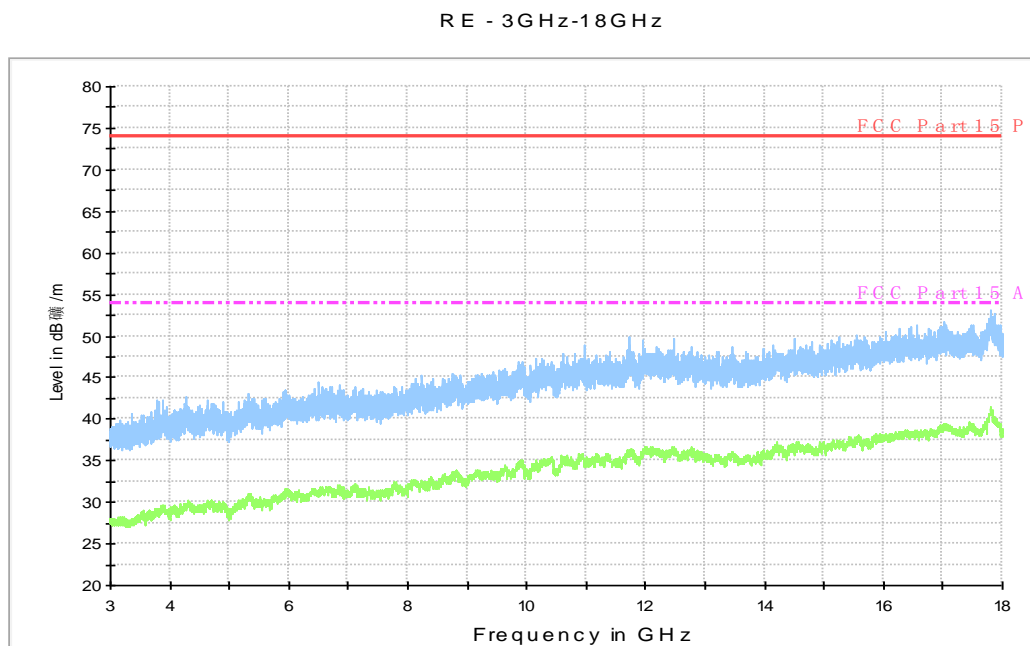


Fig.A.6.2.36 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 3 GHz-18 GHz)

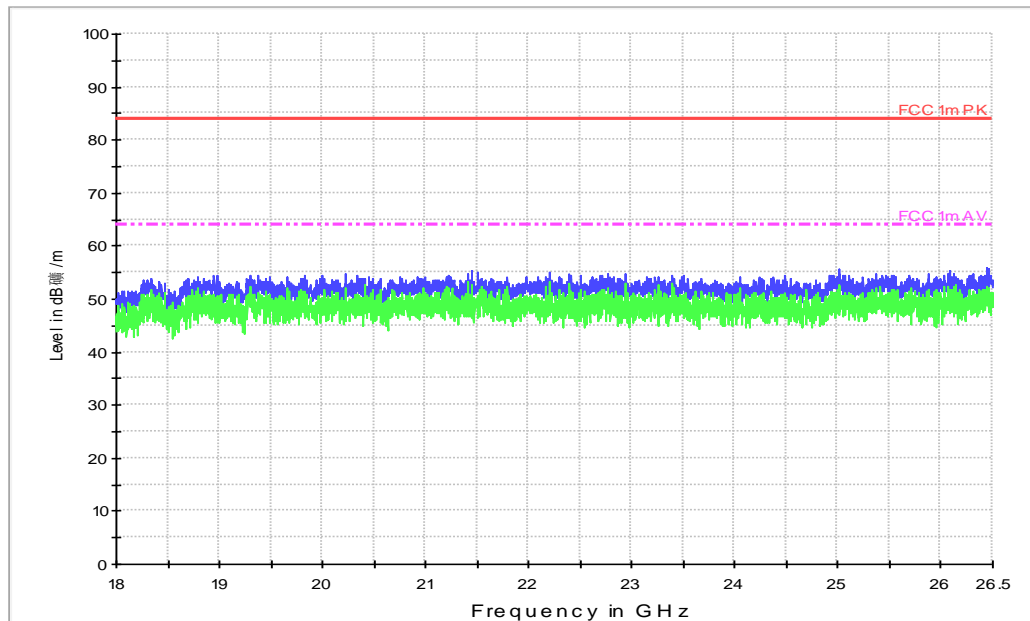


Fig.A.6.2.37 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

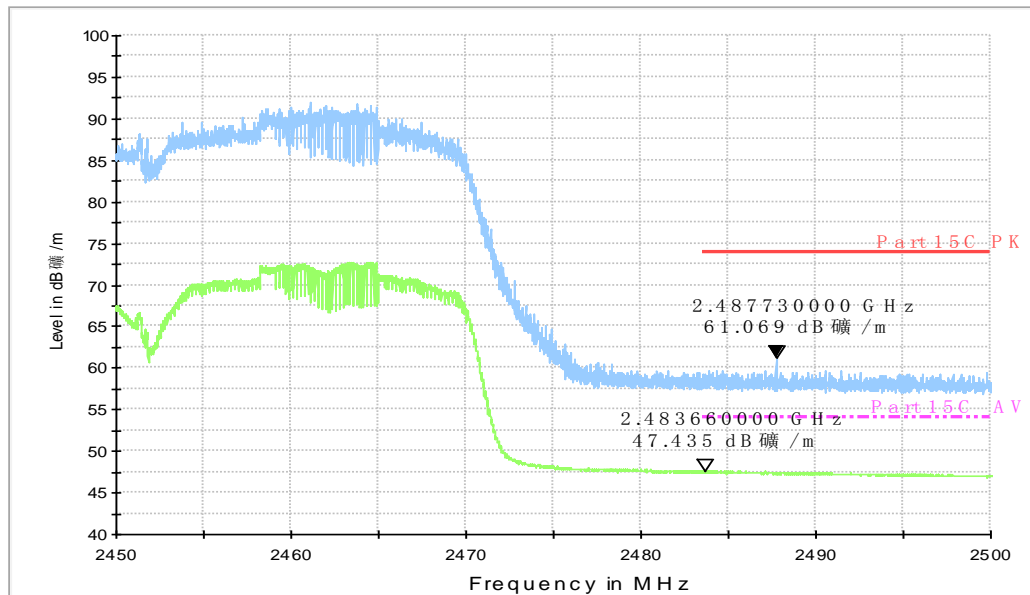


Fig.A.6.2.38 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

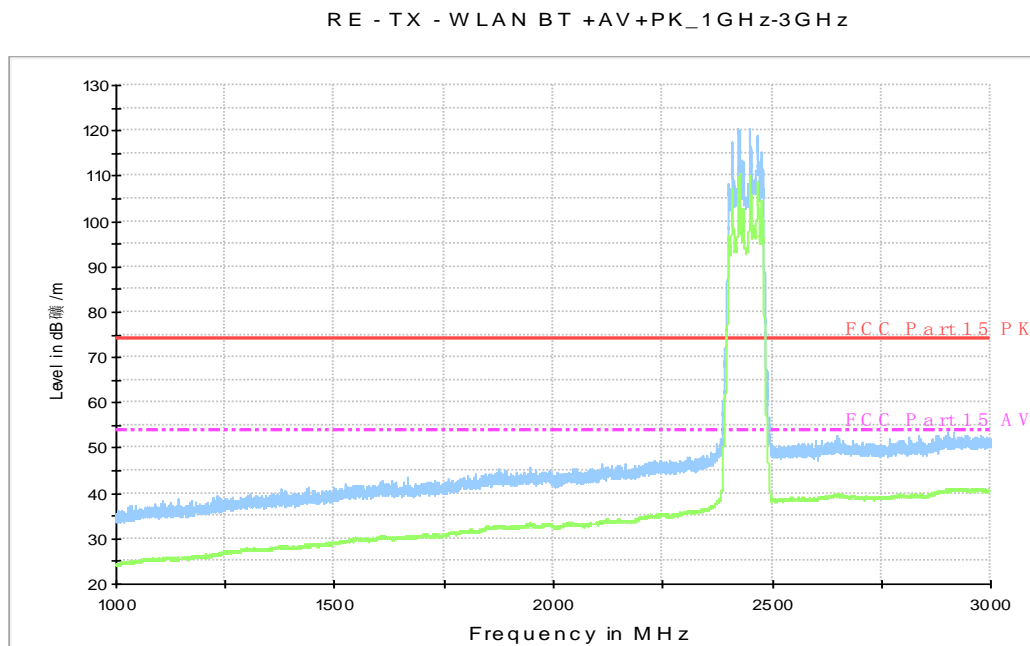


Fig.A.6.2.39 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 1 GHz-3 GHz)

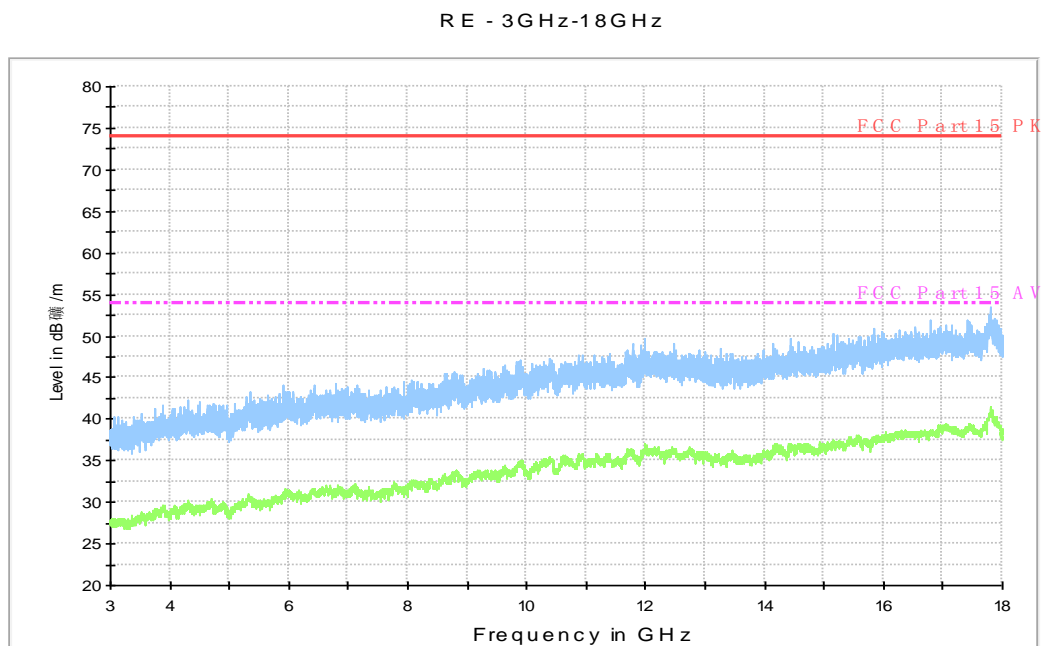


Fig.A.6.2.40 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 3 GHz-18 GHz)

A.7. AC Power-line 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.
- 5 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:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.A.7.1	Fig.A.7.2	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: Pass

Test graphs as below:

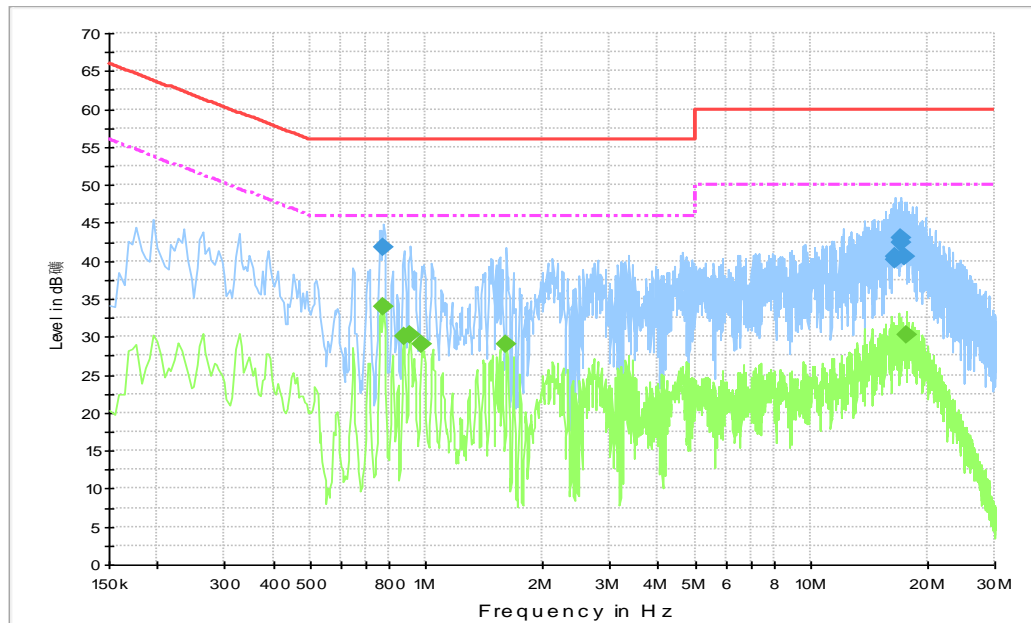


Fig.A.7.1 AC Powerline Conducted Emission-802.11b

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.775500	41.9	GND	L1	10.7	14.1	56.0
16.462500	40.6	GND	L1	11.2	19.4	60.0
16.530000	40.1	GND	L1	11.2	19.9	60.0
17.052000	43.0	GND	L1	11.2	17.0	60.0
17.115000	42.5	GND	L1	11.2	17.5	60.0
17.479500	40.6	GND	L1	11.2	19.4	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.775500	33.9	GND	L1	10.7	12.1	46.0
0.874500	30.0	GND	L1	10.7	16.0	46.0
0.910500	30.2	GND	L1	10.7	15.8	46.0
0.973500	29.0	GND	L1	10.7	17.0	46.0
1.617000	29.0	GND	L1	10.7	17.0	46.0
17.754000	30.3	GND	L1	11.2	19.7	50.0

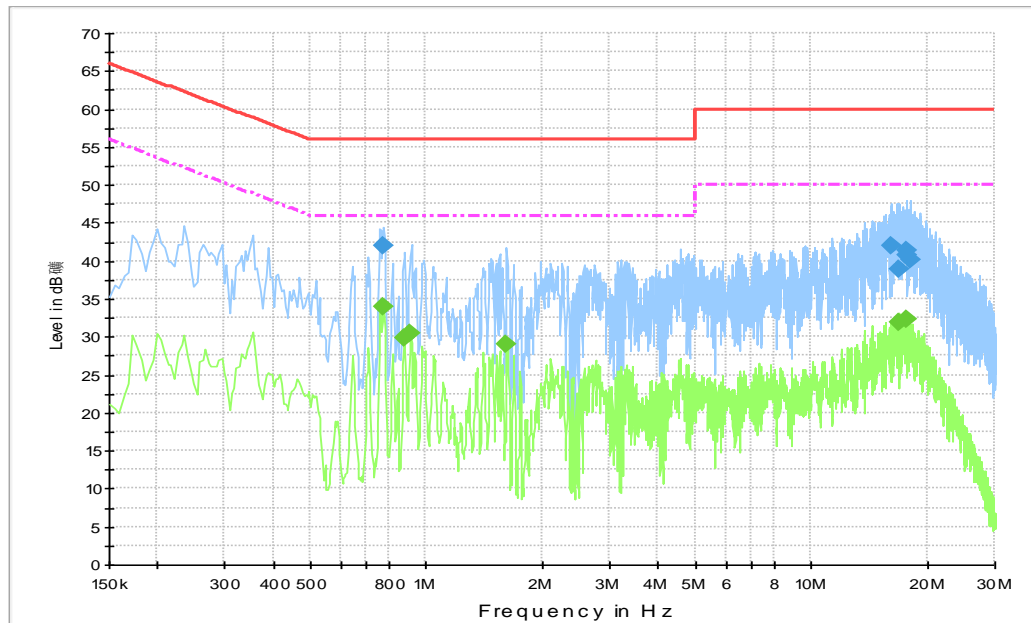


Fig.A.7.2 AC Powerline Conducted Emission-Iidle

Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.775500	42.0	GND	L1	10.7	14.0	56.0
16.206000	42.0	GND	L1	11.2	18.0	60.0
16.984500	39.0	GND	L1	11.2	21.0	60.0
17.637000	40.7	GND	L1	11.2	19.3	60.0
17.767500	41.4	GND	L1	11.2	18.6	60.0
18.015000	40.2	GND	L1	11.2	19.8	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.775500	33.9	GND	L1	10.7	12.1	46.0
0.874500	29.8	GND	L1	10.7	16.2	46.0
0.910500	30.5	GND	L1	10.7	15.5	46.0
1.617000	29.0	GND	L1	10.7	17.0	46.0
16.998000	32.0	GND	L1	11.2	18.0	50.0
17.709000	32.3	GND	L1	11.2	17.7	50.0

ANNEX B: Accreditation Certificate



The image shows a CNAS accreditation certificate. At the top, there are logos for ILAC-MRA and CNAS. The text reads: 'China National Accreditation Service for Conformity Assessment LABORATORY ACCREDITATION CERTIFICATE (Registration No. CNAS L0570)'. The accredited entity is 'Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT'. Three addresses are listed: 'No.52, Huayuan North Road, Haidian District, Beijing, China', 'No.51, Xueyuan Road, Haidian District, Beijing, China', and 'TCL International E City, No. 1001 Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong Province'. It states the lab is accredited to ISO/IEC 17025:2005 for testing and calibration. The date of issue is 2015-11-13, expiry is 2017-06-19, and initial accreditation was 1998-07-03. A signature is present. A footer note explains CNAS is authorized by the CNCA and provides a website to check the certificate's validity.

China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(Registration No. CNAS L0570)

Telecommunication Technology Labs,
Academy of Telecommunication Research, MIIT
No.52, Huayuan North Road, Haidian District, Beijing, China
No.51, Xueyuan Road, Haidian District, Beijing, China
TCL International E City, No. 1001 Zhongshanyuan Road, Nanshan
District, Shenzhen, Guangdong Province

is accredited in accordance with ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake testing and calibration service as described in the schedule attached to this certificate.

The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule form an integral part of this certificate.

Date of Issue: 2015-11-13
Date of Expiry: 2017-06-19
Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment 

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People' s Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Laboratory Accreditation Cooperation Mutual Recognition Arrangement (APLAC MRA). The validity of the certificate can be checked on CNAS website at <http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml>

*** END OF REPORT BODY ***

END OF REPORT