

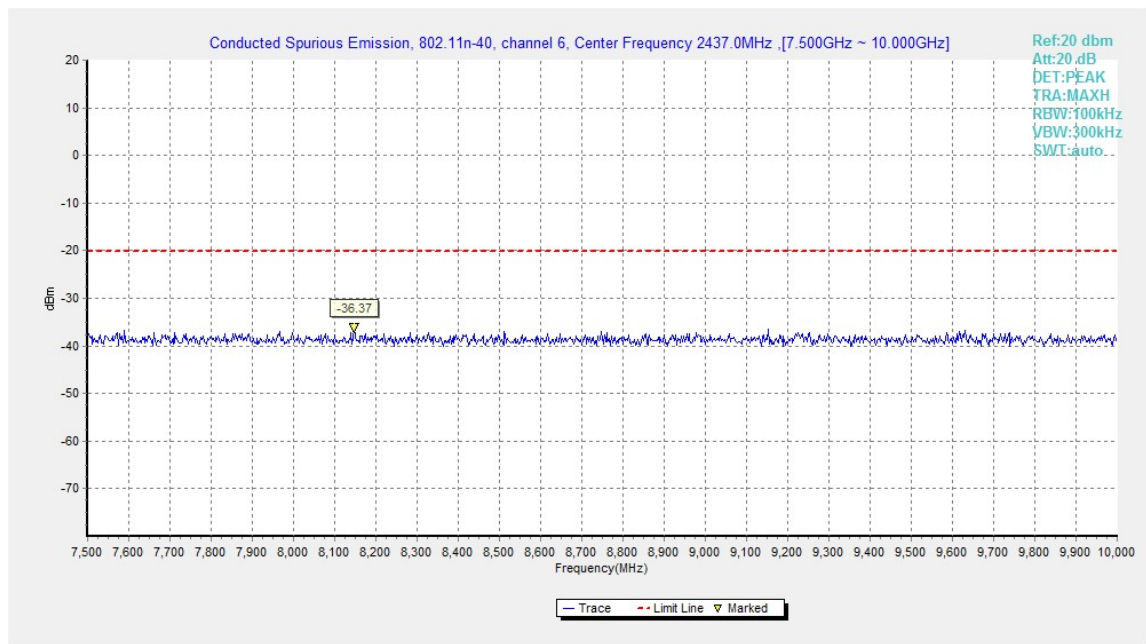


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

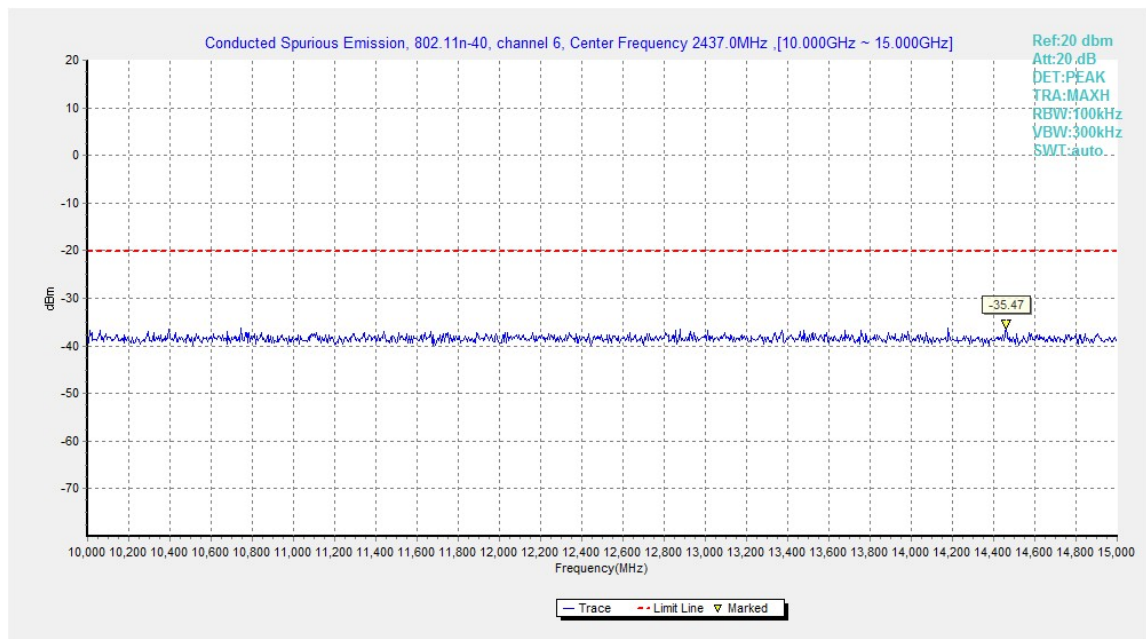


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

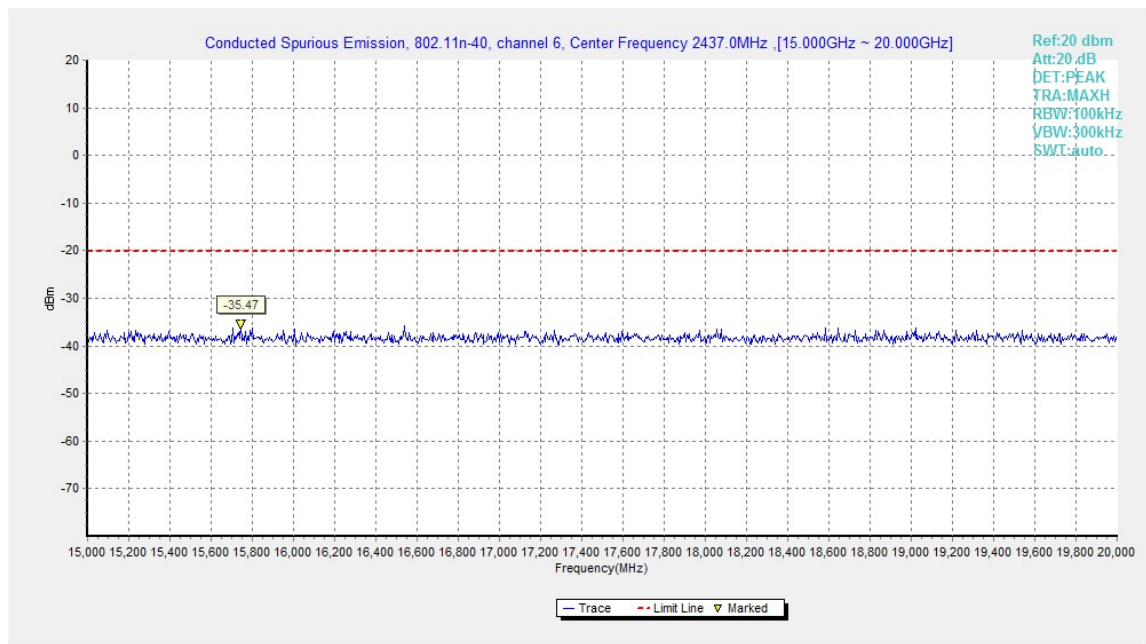


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

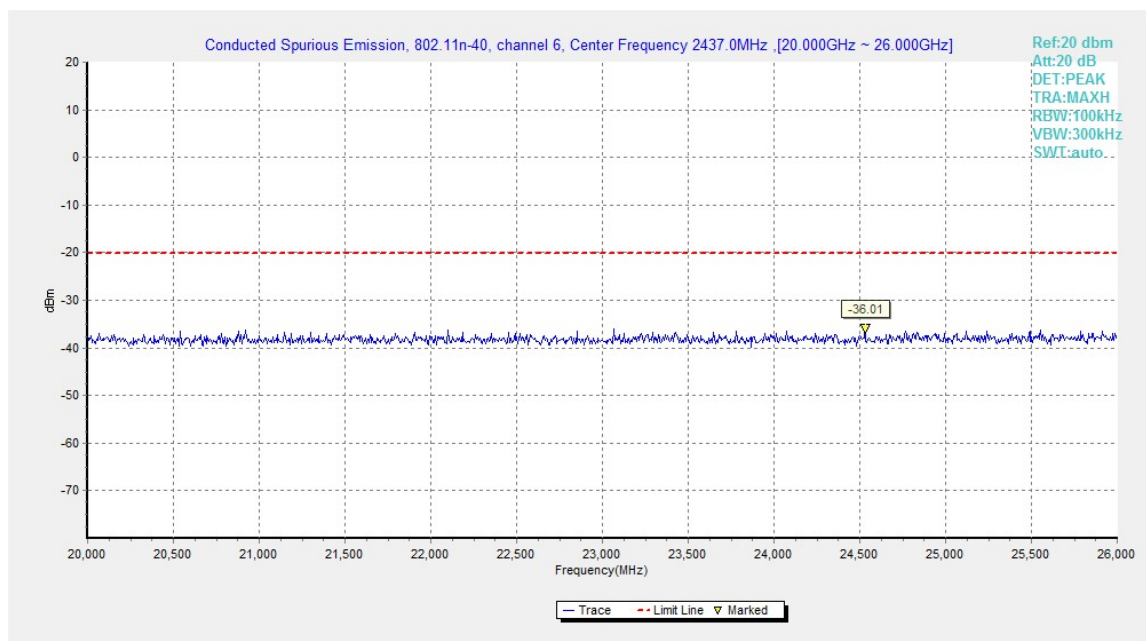


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

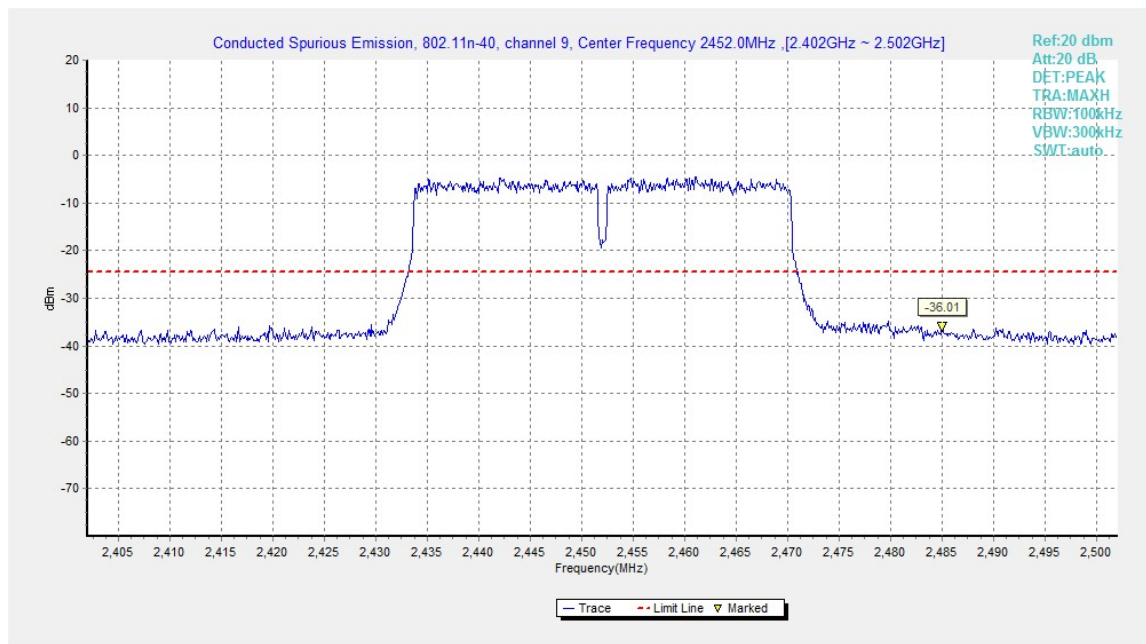


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

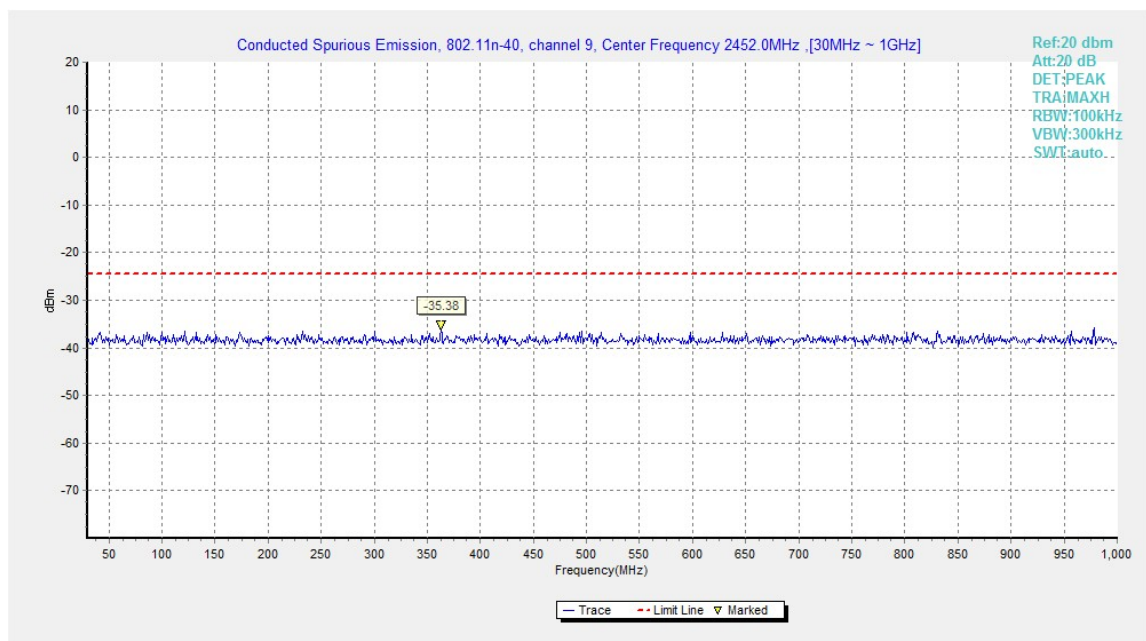


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

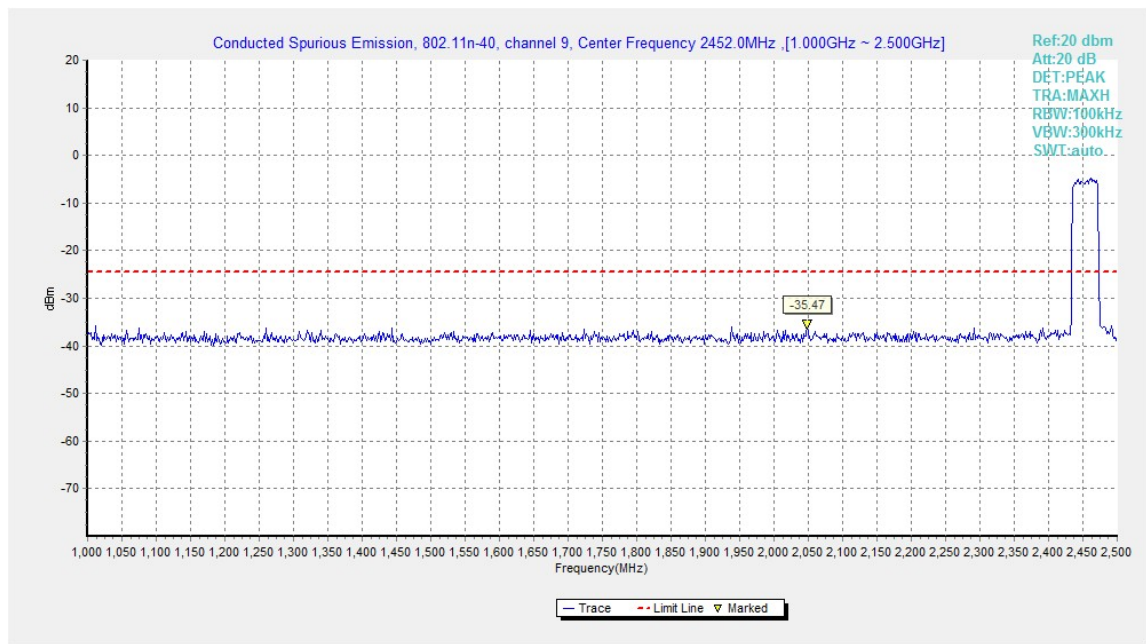


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

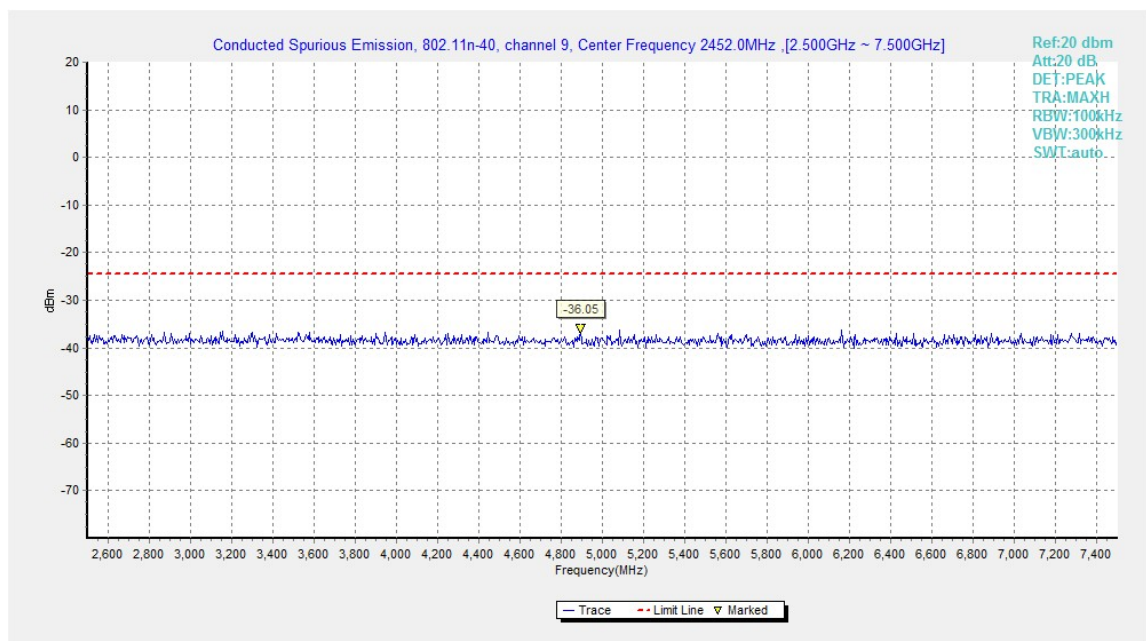


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

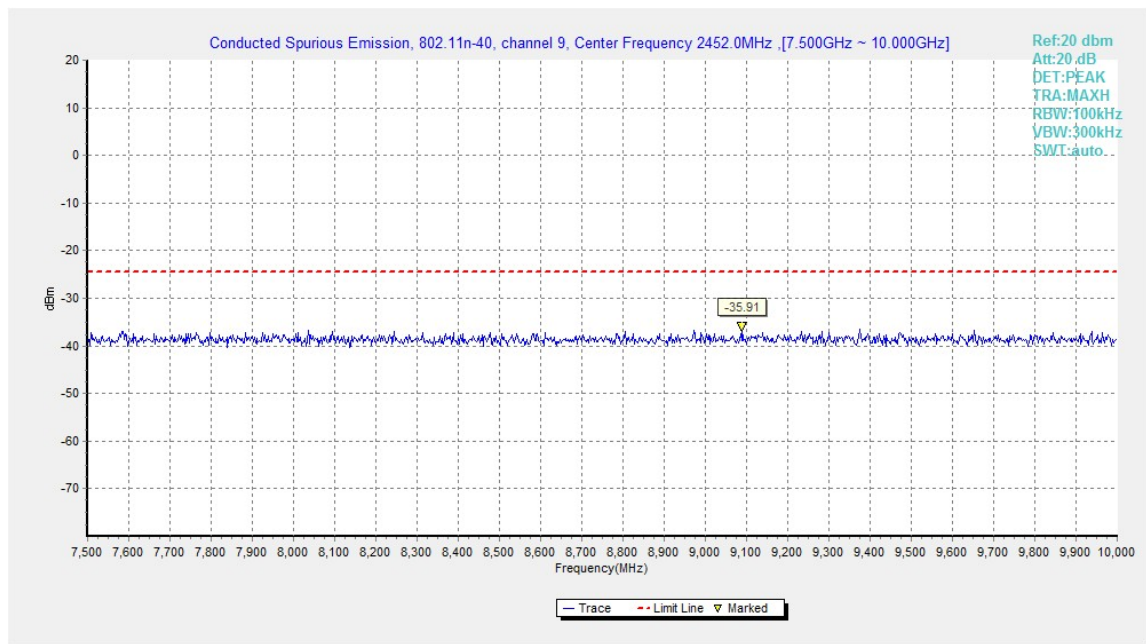


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

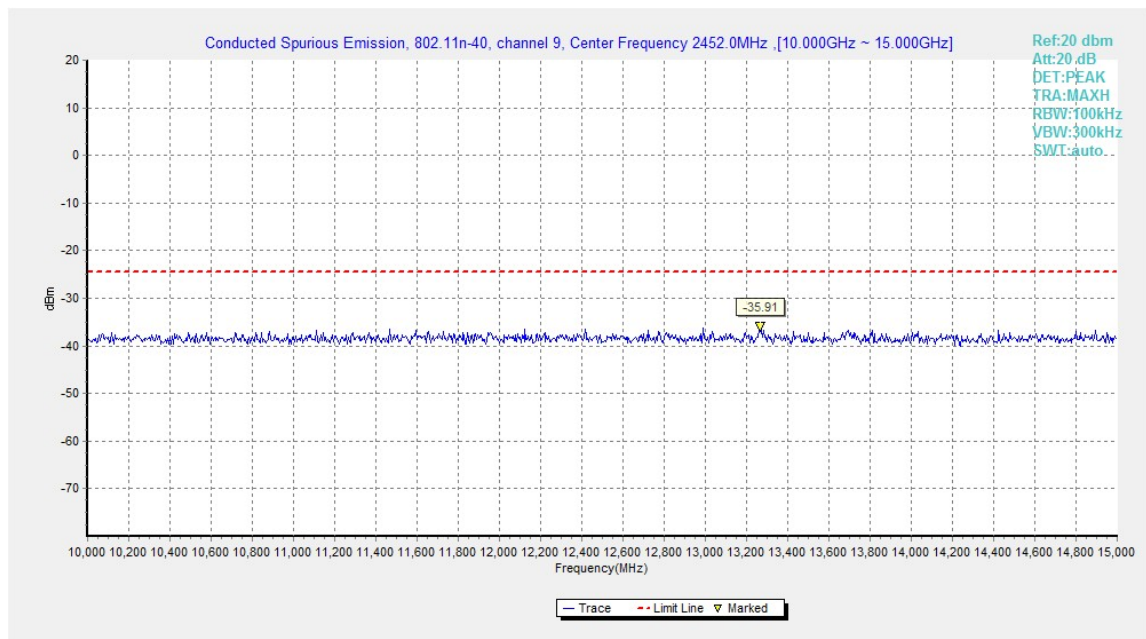


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

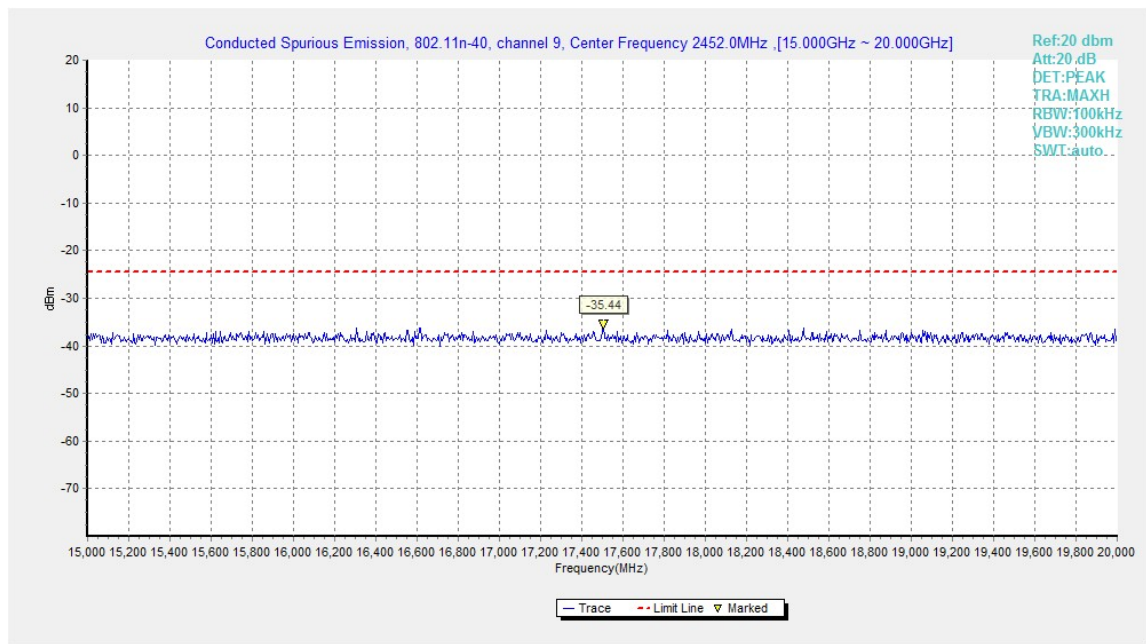


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

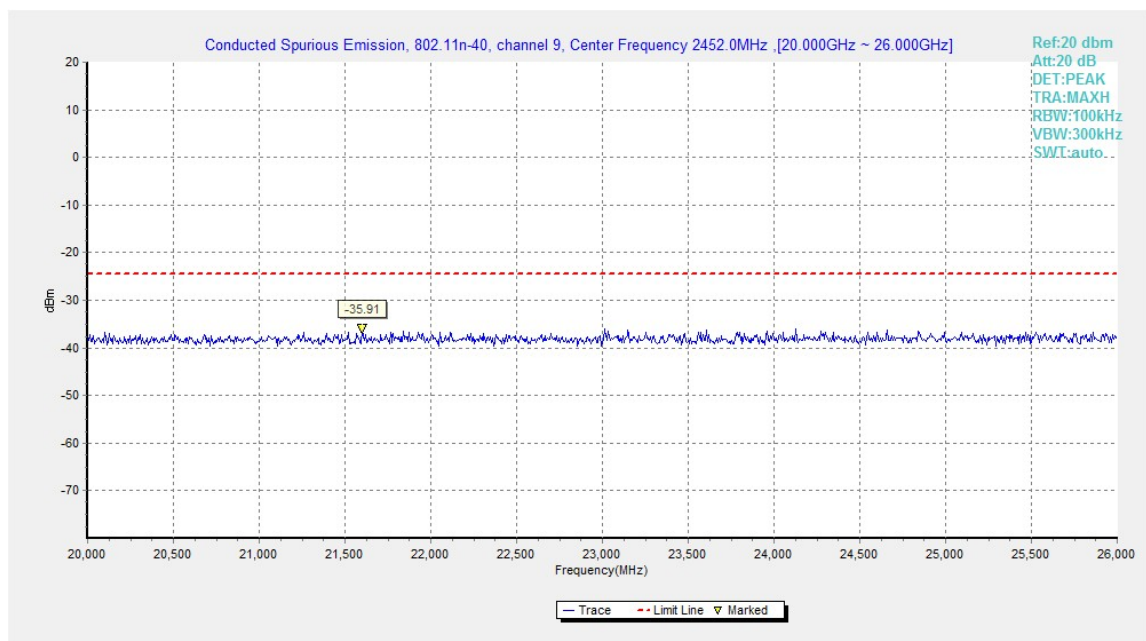


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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	9 kHz ~30 MHz	Fig.A.6.2.4	P
		30 MHz ~1 GHz	Fig.A.6.2.5	P
		1 GHz ~ 3 GHz	Fig.A.6.2.6	P
		3 GHz ~ 18 GHz	Fig.A.6.2.7	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.8	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.9	P
	11	1 GHz ~ 3 GHz	Fig.A.6.2.10	P
		3 GHz ~ 18 GHz	Fig.A.6.2.11	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.12	P
	1	1 GHz ~ 3 GHz	Fig.A.6.2.13	P
		3 GHz ~ 18 GHz	Fig.A.6.2.14	P
	6	30 MHz ~1 GHz	Fig.A.6.2.15	P
		1 GHz ~ 3 GHz	Fig.A.6.2.16	P
		3 GHz ~ 18 GHz	Fig.A.6.2.17	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.18	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.19	P
	11	1 GHz ~ 3 GHz	Fig.A.6.2.20	P
		3 GHz ~ 18 GHz	Fig.A.6.2.21	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.22	P
	1	1 GHz ~ 3 GHz	Fig.A.6.2.23	P
		3 GHz ~ 18 GHz	Fig.A.6.2.24	P
	6	30 MHz ~1 GHz	Fig.A.6.2.25	P
		1 GHz ~ 3 GHz	Fig.A.6.2.26	P
		3 GHz ~ 18 GHz	Fig.A.6.2.27	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.28	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.29	P
	11	1 GHz ~ 3 GHz	Fig.A.6.2.30	P
		3 GHz ~ 18 GHz	Fig.A.6.2.31	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.32	P
	3	1 GHz ~ 3 GHz	Fig.A.6.2.33	P
		3 GHz ~ 18 GHz	Fig.A.6.2.34	P
	6	30 MHz ~1 GHz	Fig.A.6.2.35	P
		1 GHz ~ 3 GHz	Fig.A.6.2.36	P
		3 GHz ~ 18 GHz	Fig.A.6.2.37	P
		18 GHz~ 26.5 GHz	Fig.A.6.2.38	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.39	P
	9	1 GHz ~ 3 GHz	Fig.A.6.2.40	P
		3 GHz ~ 18 GHz	Fig.A.6.2.41	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= $P_{Mea}+A_{Rpl}= P_{Mea}+Cable\ Loss+Antenna\ Factor$

802.11b-AVG
Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2387.315	47.5	-38.8	27.7	58.600	V
17990.000	51.4	-17.7	45.6	23.500	H
17977.500	51.3	-17.7	45.6	23.400	V
17968.500	51.3	-17.7	45.6	23.400	H
17981.000	51.3	-17.7	45.6	23.400	V
17961.000	51.3	-17.7	45.6	23.400	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17981.500	51.3	-17.7	45.6	23.400	H
17956.500	51.3	-17.7	45.6	23.400	H
17980.000	51.3	-17.7	45.6	23.400	V
17994.500	51.2	-17.7	45.6	23.300	V
17910.000	51.2	-18.5	45.6	24.100	H
17943.000	51.2	-17.7	45.6	23.300	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2487.160	53.2	-38.9	27.7	64.400	H
17975.500	51.3	-17.7	45.6	23.400	V
17971.500	51.2	-17.7	45.6	23.300	V
17998.000	51.2	-17.7	45.6	23.300	H
17980.500	51.2	-17.7	45.6	23.300	H
17973.500	51.1	-17.7	45.6	23.200	V

802.11g-AVG

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2398.720	52.4	-38.8	27.7	57.200	H
17978.000	51.5	-17.7	45.6	19.000	H
17953.500	51.3	-17.7	45.6	18.900	V
17979.000	51.3	-17.7	45.6	18.800	V
17912.000	51.2	-17.7	45.6	18.700	H
17981.000	51.2	-17.7	45.6	18.700	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17943.500	51.3	-17.7	45.6	23.400	H
17951.500	51.3	-17.7	45.6	23.400	V
17984.000	51.2	-17.7	45.6	23.300	V
17970.000	51.1	-17.7	45.6	23.200	H
17916.500	51.1	-17.7	45.6	23.200	V
17939.000	51.1	-17.7	45.6	23.200	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.640	53.1	-38.9	27.7	64.300	H
17987.000	51.3	-17.7	45.6	23.400	H
17975.000	51.2	-17.7	45.6	23.300	V
17988.500	51.1	-17.7	45.6	23.200	V
17933.500	51.1	-17.7	45.6	23.200	H
17946.500	51.1	-17.7	45.6	23.200	V

802.11n-HT20-AVG
Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.825	51.2	-38.8	27.7	57.400	H
17984.000	51.4	-17.7	45.6	19.200	H
17979.000	51.3	-17.7	45.6	19.100	V
17977.500	51.2	-17.7	45.6	18.900	H
17960.000	51.1	-17.7	45.6	18.800	V
17948.500	51.1	-17.7	45.6	18.800	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17987.500	51.3	-17.7	45.6	23.400	H
17980.500	51.2	-17.7	45.6	23.300	H
17911.500	51.2	-18.5	45.6	24.100	V
17967.500	51.2	-17.7	45.6	23.300	H
17967.000	51.2	-17.7	45.6	23.300	V
17981.000	51.2	-17.7	45.6	23.300	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.880	51.2	-38.9	27.7	62.400	H
17975.500	51.2	-17.7	45.6	23.300	V
17980.500	51.1	-17.7	45.6	23.200	V
17994.500	51.1	-17.7	45.6	23.200	H
17953.500	51.1	-17.7	45.6	23.200	H
17982.000	51.1	-17.7	45.6	23.200	V

802.11n-HT40-AVG

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.405	48.6	-38.8	27.7	59.700	H
17968.000	51.3	-17.7	45.6	23.400	H
17999.000	51.3	-17.7	45.6	23.400	V
17908.000	51.1	-18.5	45.6	24.000	H
17975.000	51.1	-17.7	45.6	23.200	H
17989.000	51.1	-17.7	45.6	23.200	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17983.000	51.2	-17.7	45.6	23.300	H
17979.000	51.2	-17.7	45.6	23.300	H
17915.000	51.2	-17.7	45.6	23.300	V
17935.000	51.2	-17.7	45.6	23.300	H
17984.000	51.2	-17.7	45.6	23.300	V
17985.500	51.2	-17.7	45.6	23.300	V

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.640	52.2	-38.9	27.7	63.400	H
17987.000	51.3	-17.7	45.6	23.400	H
17975.500	51.2	-17.7	45.6	23.300	V
17983.000	51.2	-17.7	45.6	23.300	H
18000.000	51.2	-45.6	44.5	52.266	H
17972.000	51.2	-17.7	45.6	23.300	H

802.11b-Peak

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2385.600	59.3	-38.8	27.7	70.400	H
17909.500	63.2	-18.5	45.6	36.100	H
17961.000	63.2	-17.7	45.6	35.300	V
17963.000	62.9	-17.7	45.6	35.000	V
17903.500	62.8	-18.5	45.6	35.700	H
17970.000	62.7	-17.7	45.6	34.800	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17878.500	63.2	-18.5	45.6	36.100	H
17991.000	62.6	-17.7	45.6	34.700	H
17995.000	62.6	-17.7	45.6	34.700	V
17902.000	62.5	-18.5	45.6	35.400	V
17898.000	62.4	-18.5	45.6	35.300	H
17799.500	62.4	-18.5	45.6	35.300	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2487.515	58.2	-38.9	27.7	69.400	H
17956.000	63.1	-17.7	45.6	35.200	V
17873.500	62.8	-18.5	45.6	35.700	V
17994.000	62.8	-17.7	45.6	34.900	H
17872.000	62.7	-18.5	45.6	35.600	V
17841.500	62.6	-18.5	45.6	35.500	H

802.11g-Peak

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.550	66.9	-38.8	27.7	78.000	H
17917.500	63.3	-17.7	45.6	35.400	V
17842.000	62.7	-18.5	45.6	35.600	H
17992.500	62.6	-17.7	45.6	34.700	V
17970.500	62.6	-17.7	45.6	34.700	H
17978.500	62.4	-17.7	45.6	34.500	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17985.500	63.4	-17.7	45.6	35.500	V
17967.500	63.1	-17.7	45.6	35.200	V
17951.000	63.0	-17.7	45.6	35.100	V
17909.500	62.5	-18.5	45.6	35.400	H
17871.000	62.5	-18.5	45.6	35.400	V
17889.500	62.5	-18.5	45.6	35.400	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.030	68.4	-38.9	27.7	79.600	H
17921.000	63.2	-17.7	45.6	35.300	V
17948.500	62.6	-17.7	45.6	34.700	V
17789.000	62.6	-18.5	45.6	35.500	V
17911.500	62.5	-18.5	45.6	35.400	H
17936.500	62.5	-17.7	45.6	34.600	H

802.11n-HT20-Peak

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.950	69.3	-38.8	27.7	80.400	H
17866.500	63.2	-18.5	45.6	36.100	H
17933.000	63.1	-17.7	45.6	35.200	V
17909.500	63.1	-18.5	45.6	36.000	H
17890.500	62.8	-18.5	45.6	35.700	V
17922.000	62.6	-17.7	45.6	34.700	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17860.500	63.5	-18.5	45.6	36.400	H
17828.500	63.0	-18.5	45.6	35.900	H
17873.500	63.0	-18.5	45.6	35.900	H
17939.000	63.0	-17.7	45.6	35.100	H
17867.000	62.8	-18.5	45.6	35.700	V
17961.000	62.8	-17.7	45.6	34.900	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.720	66.5	-38.9	27.7	77.700	H
17967.000	63.4	-17.7	45.6	35.500	H
17929.500	63.0	-17.7	45.6	35.100	V
17988.500	62.8	-17.7	45.6	34.900	H
17942.500	62.3	-17.7	45.6	34.400	V
17989.500	62.3	-17.7	45.6	34.400	H

802.11n-HT40-Peak

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.120	61.5	-38.8	27.7	72.600	H
17972.000	63.2	-17.7	45.6	35.300	H
17956.000	63.1	-17.7	45.6	35.200	V
17898.500	63.1	-18.5	45.6	36.000	H
17947.000	62.7	-17.7	45.6	34.800	H
17995.000	62.6	-17.7	45.6	34.700	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17950.500	62.8	-17.7	45.6	34.900	V
17860.500	62.7	-18.5	45.6	35.600	H
17972.000	62.6	-17.7	45.6	34.700	V
17855.000	62.6	-18.5	45.6	35.500	H
17853.000	62.6	-18.5	45.6	35.500	V
17985.000	62.5	-17.7	45.6	34.600	H

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.060	64.6	-38.9	27.7	75.800	H
17981.000	63.0	-17.7	45.6	35.100	H
17898.000	63.0	-18.5	45.6	35.900	V
17863.000	62.8	-18.5	45.6	35.700	H
17853.000	62.7	-18.5	45.6	35.600	H
17893.000	62.6	-18.5	45.6	35.500	H

Test graphs as below:

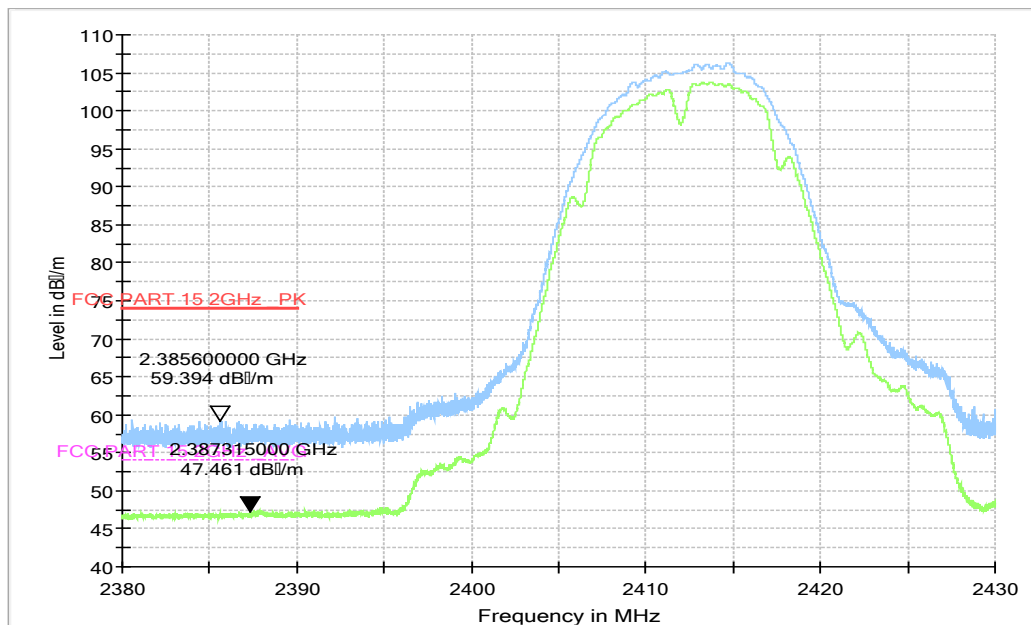


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz - 2.45GHz

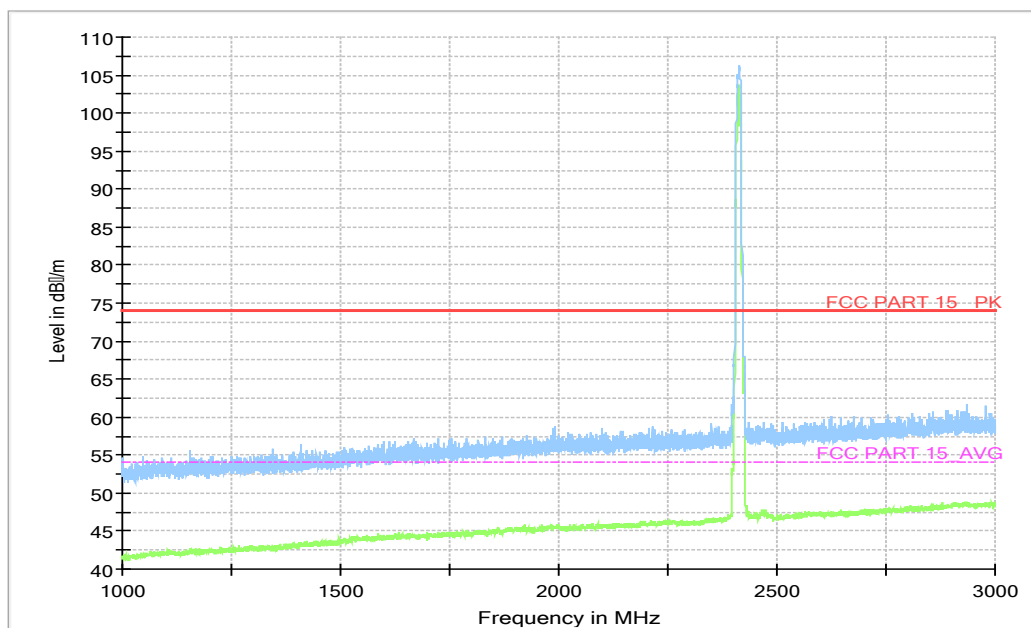


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 1 GHz-3 GHz)

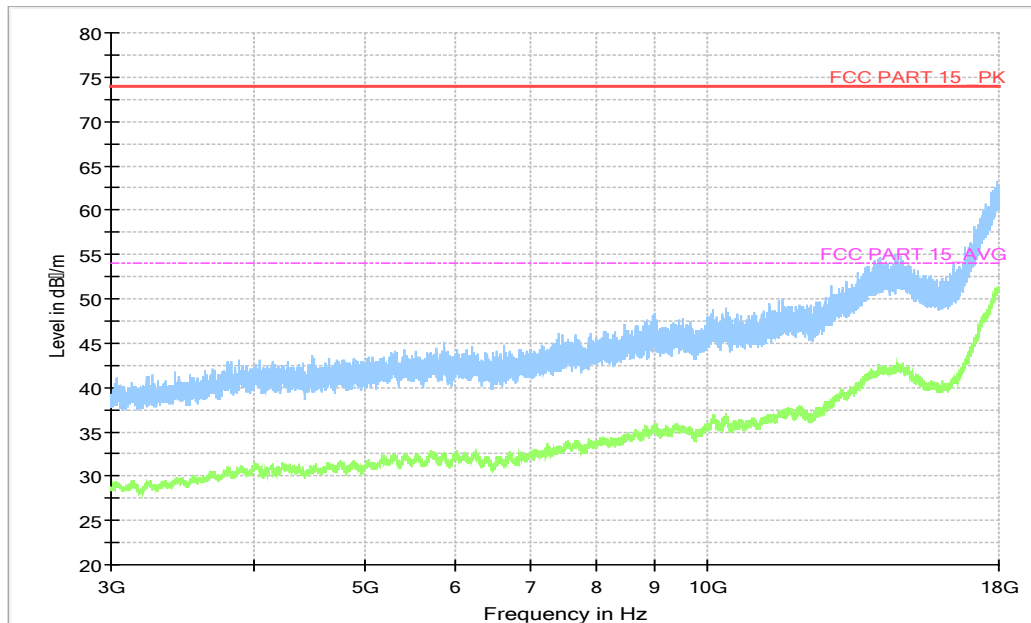


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 3 GHz-18 GHz)

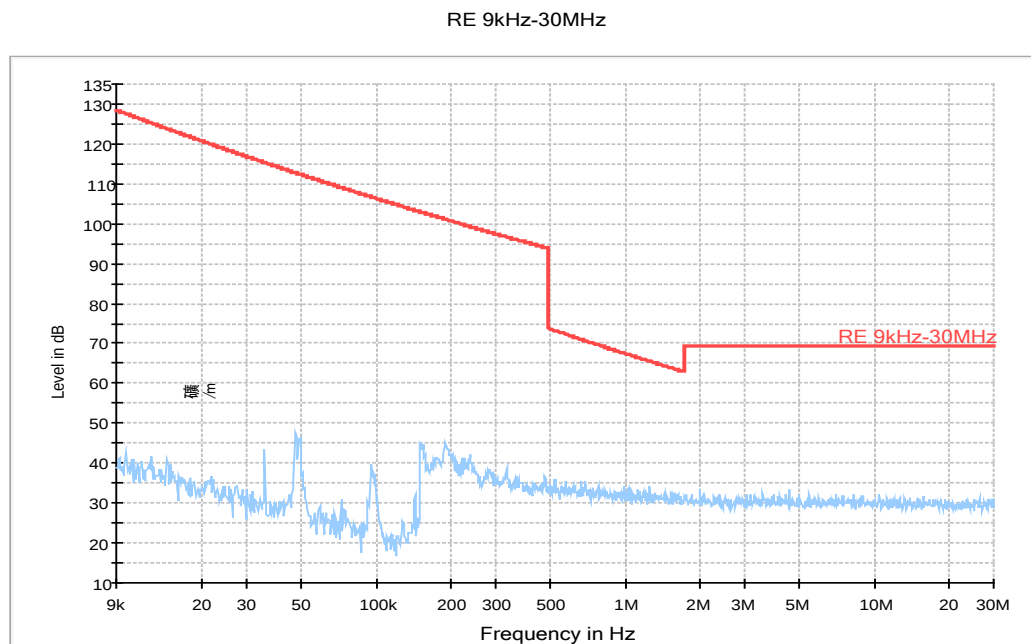


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 9kHz-30 MHz)

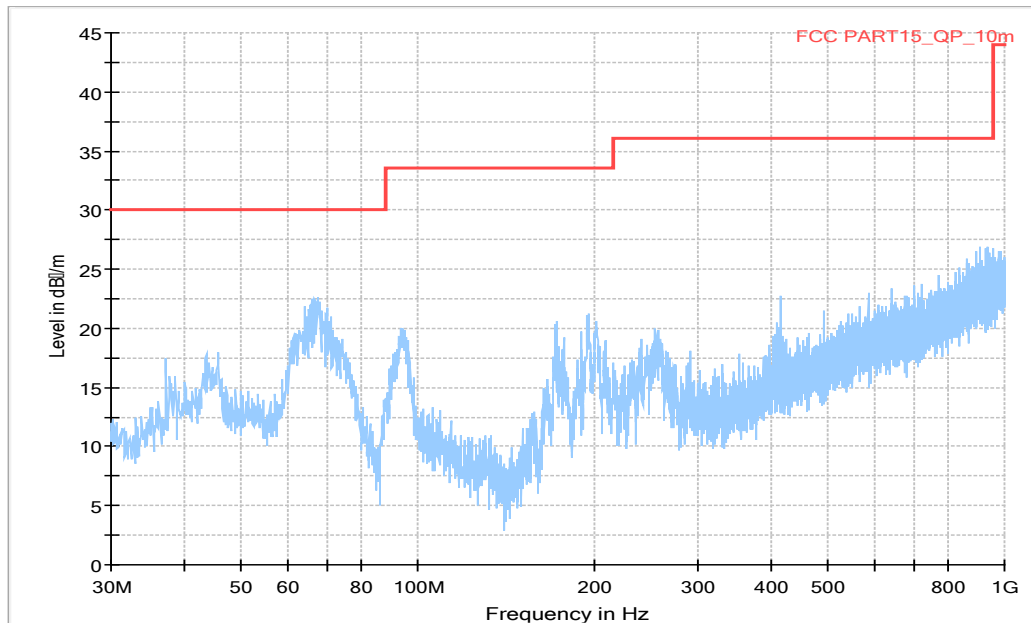


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 30 MHz-1 GHz)

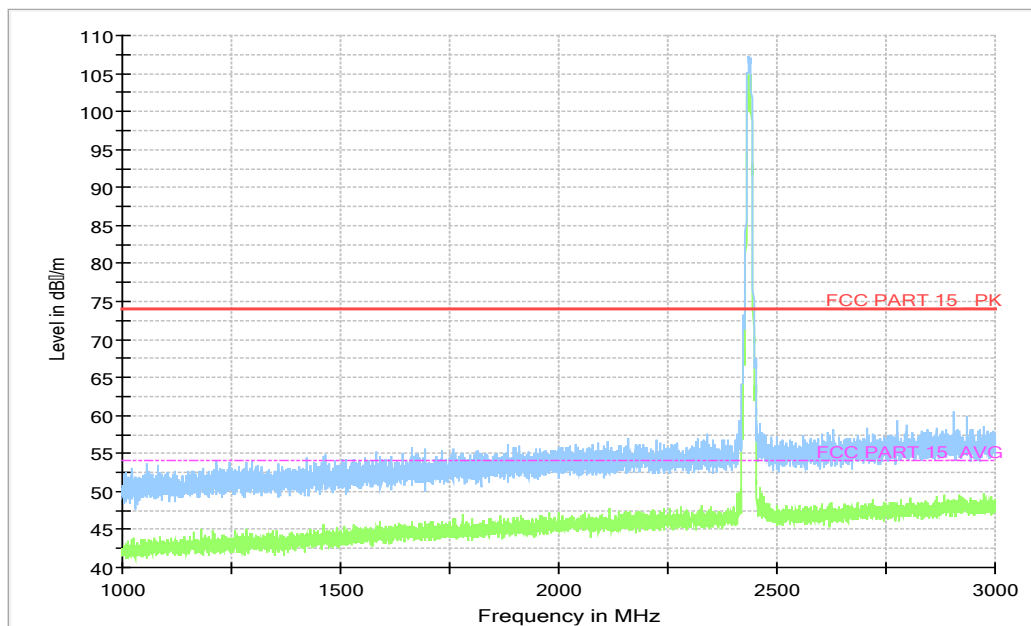


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 1 GHz-3 GHz)

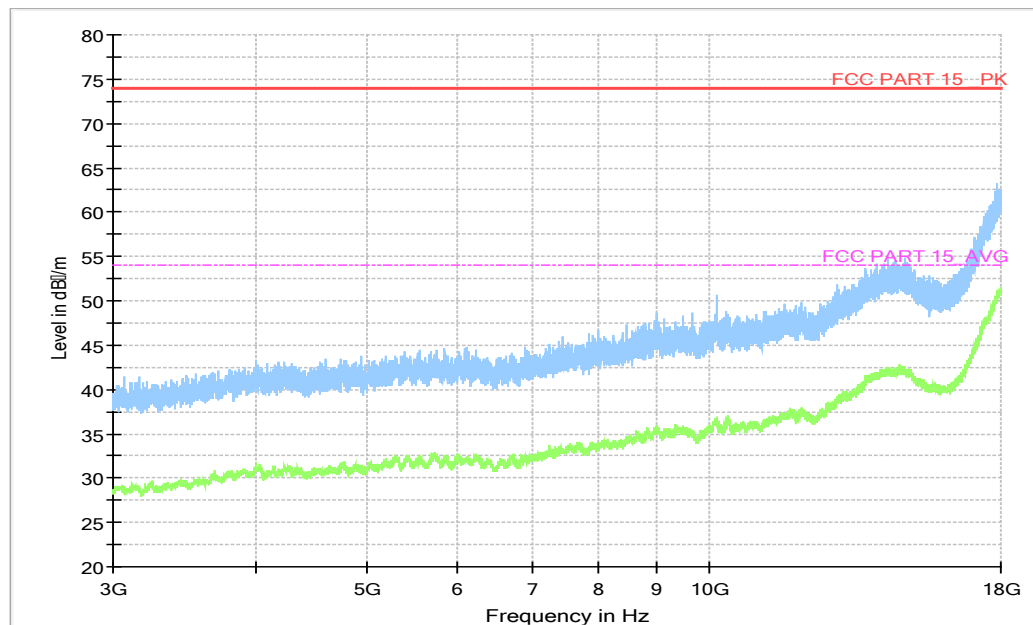


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 3 GHz-18 GHz)

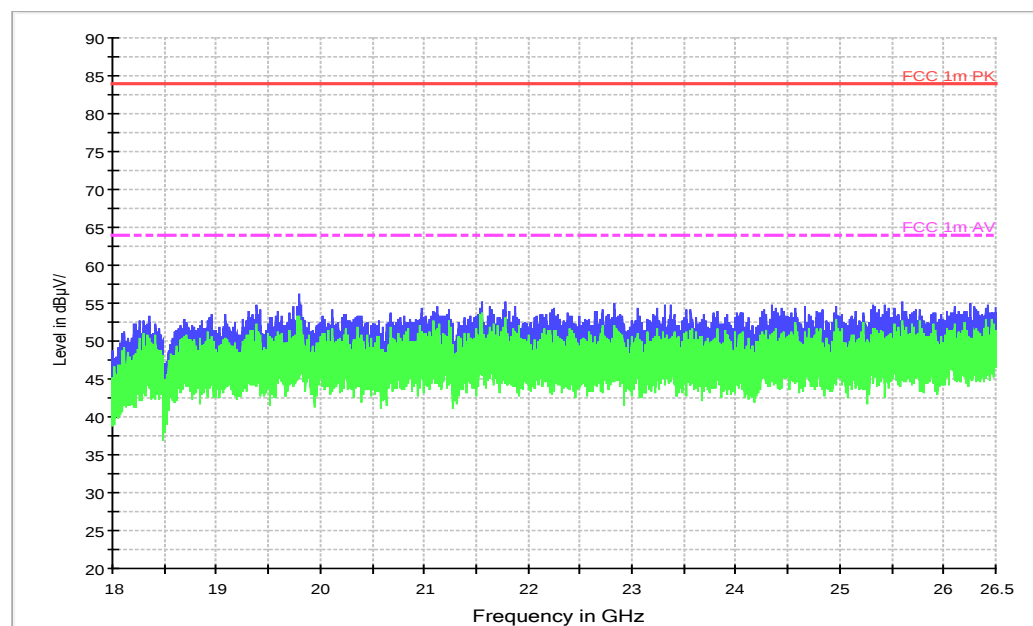


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 18GHz – 26.5GHz)

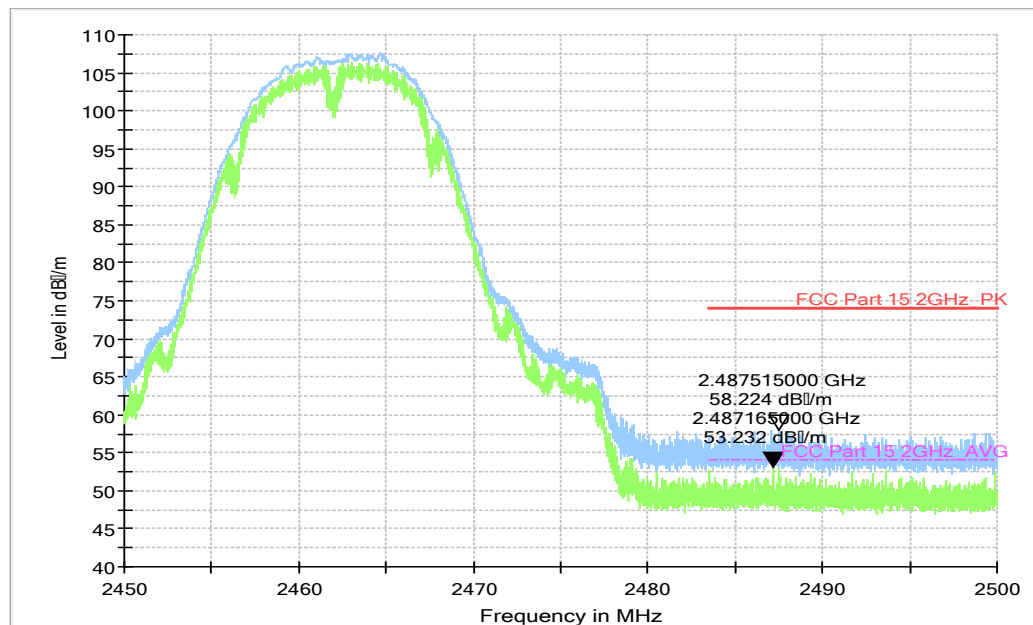


Fig.A.6.2.9 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

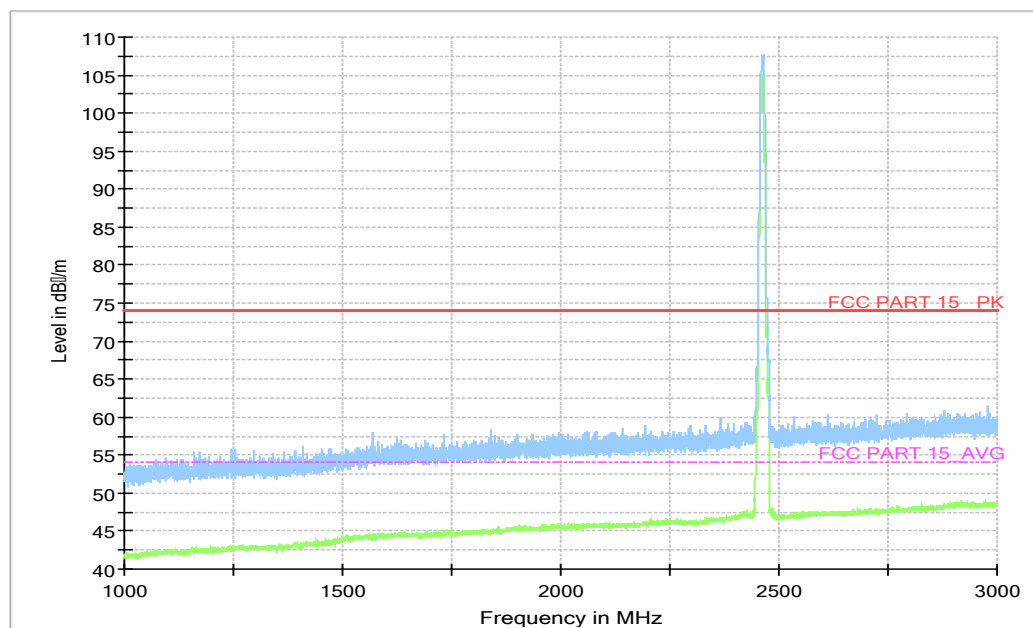


Fig.A.6.2.10 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 1 GHz-3 GHz)

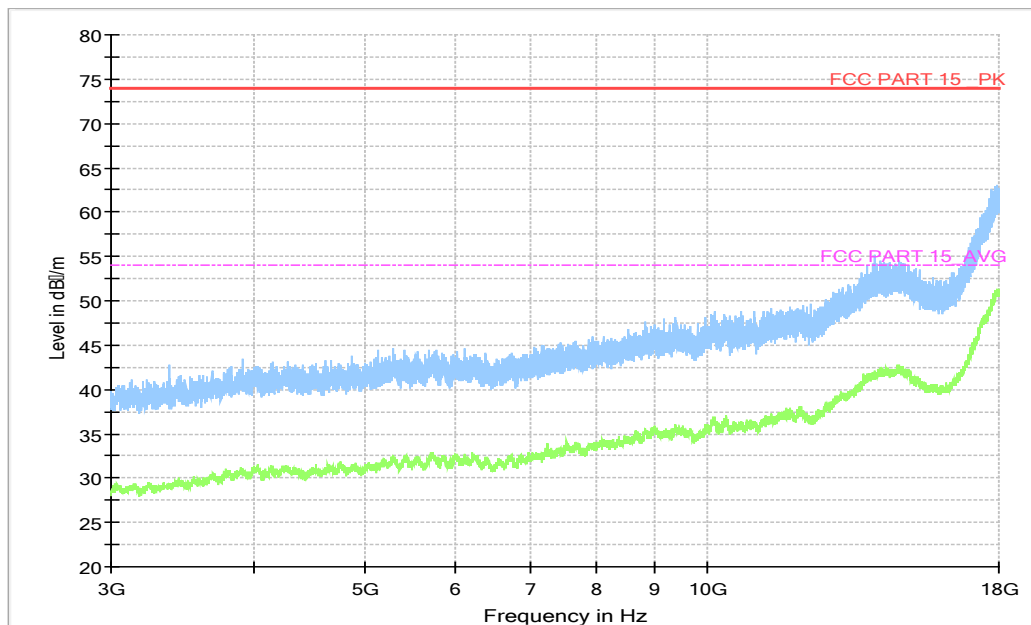


Fig.A.6.2.11 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 3 GHz-18 GHz)

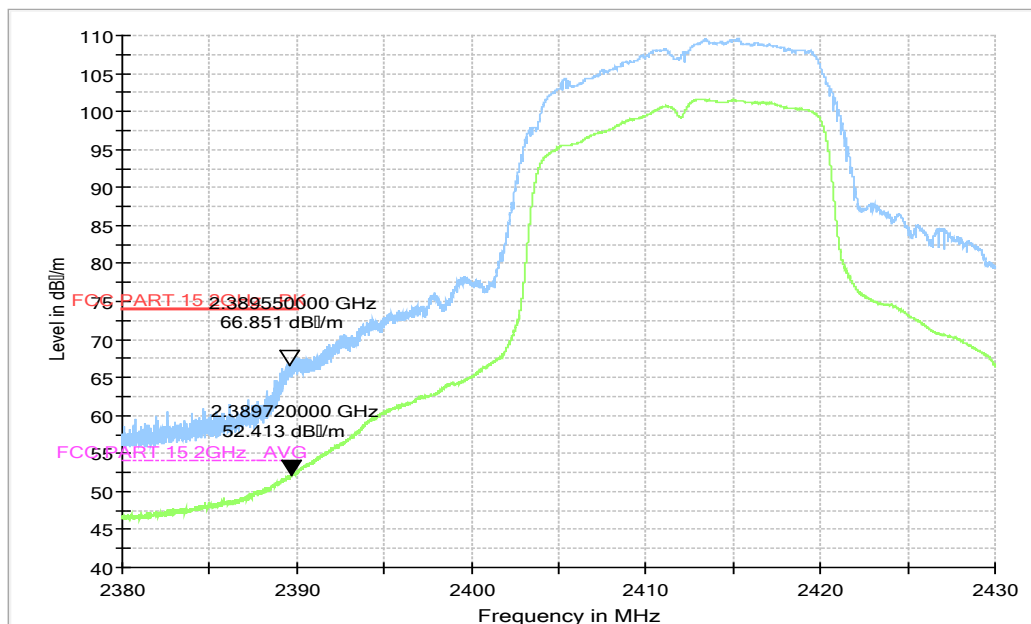


Fig.A.6.2.12 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

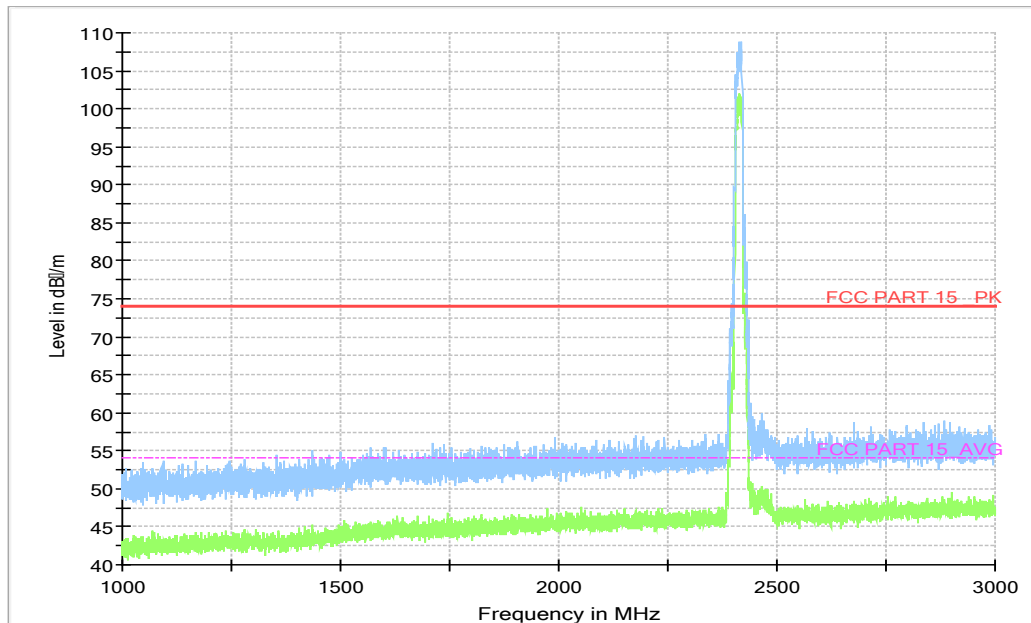


Fig.A.6.2.13 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 1 GHz-3 GHz)

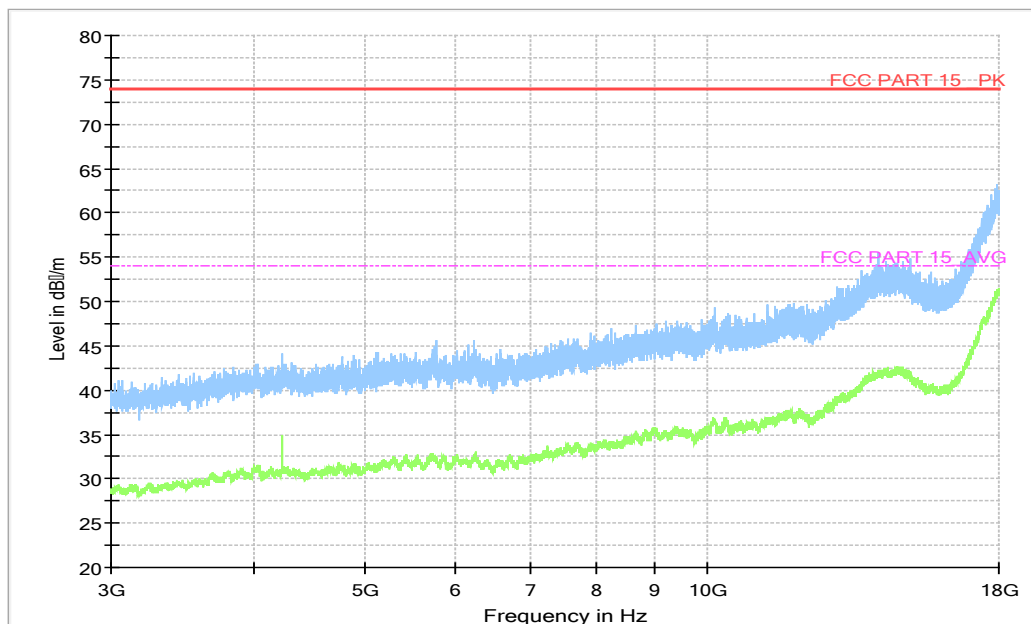


Fig.A.6.2.14 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 3 GHz-18 GHz)

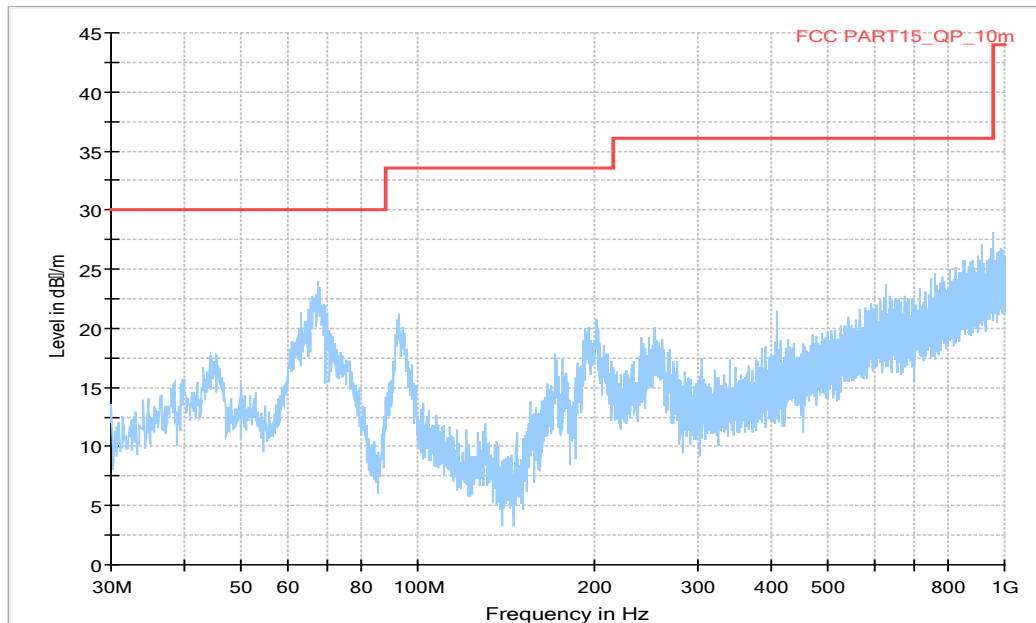


Fig.A.6.2.15 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 30 MHz-1 GHz)

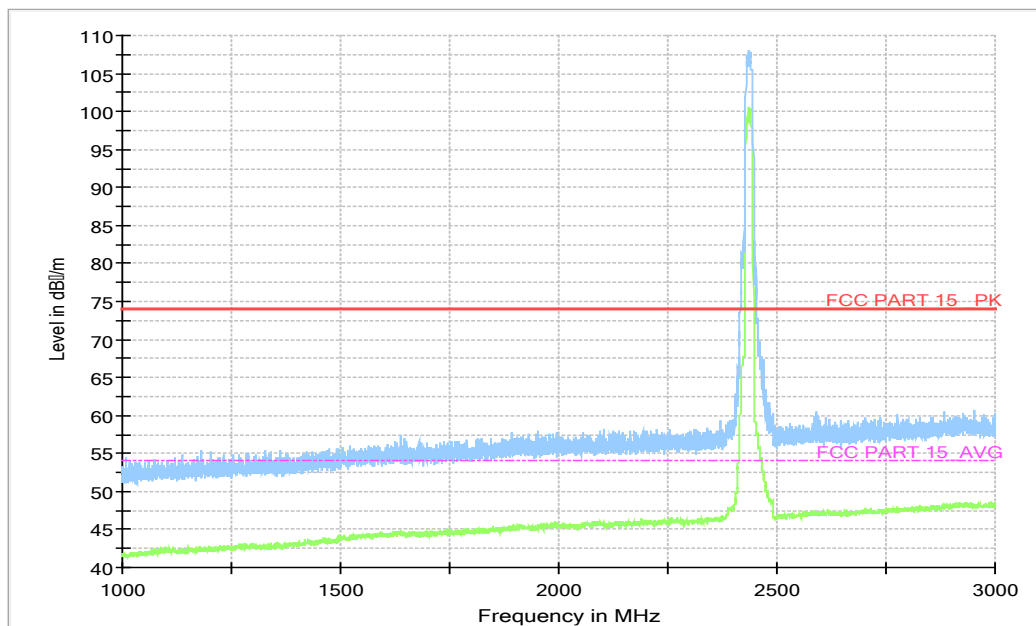


Fig.A.6.2.16 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 1 GHz-3 GHz)

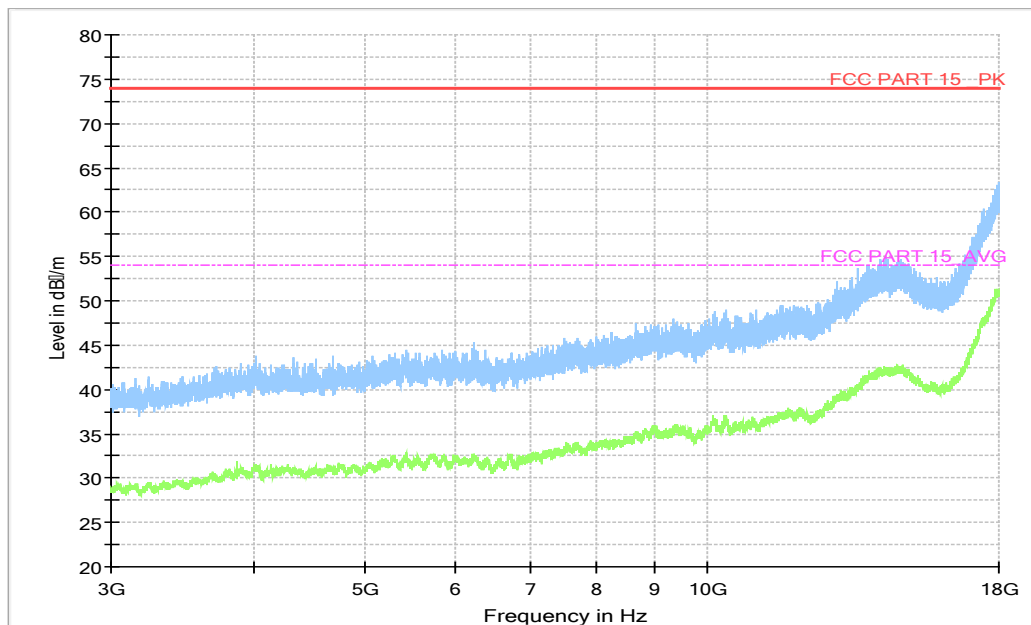


Fig.A.6.2.17 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 3 GHz-18 GHz)

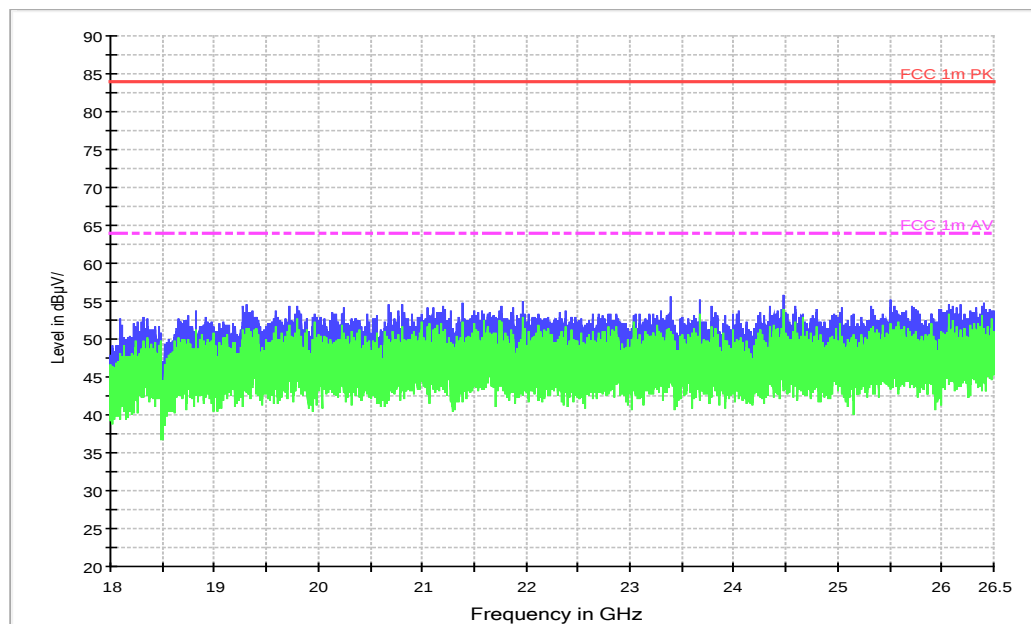


Fig.A.6.2.18 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 18GHz – 26.5GHz)

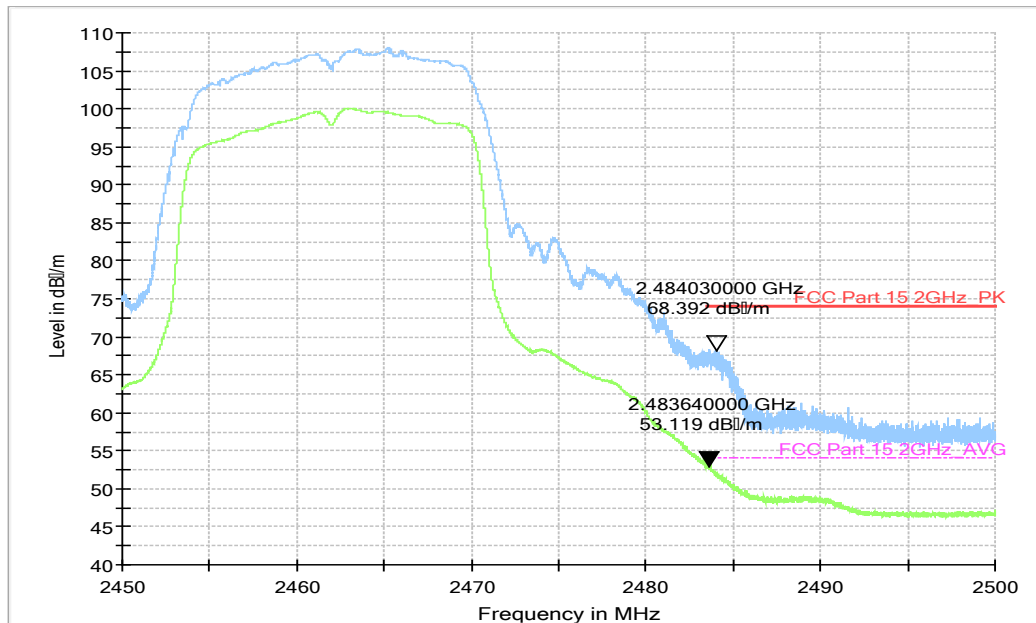


Fig.A.6.2.19 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

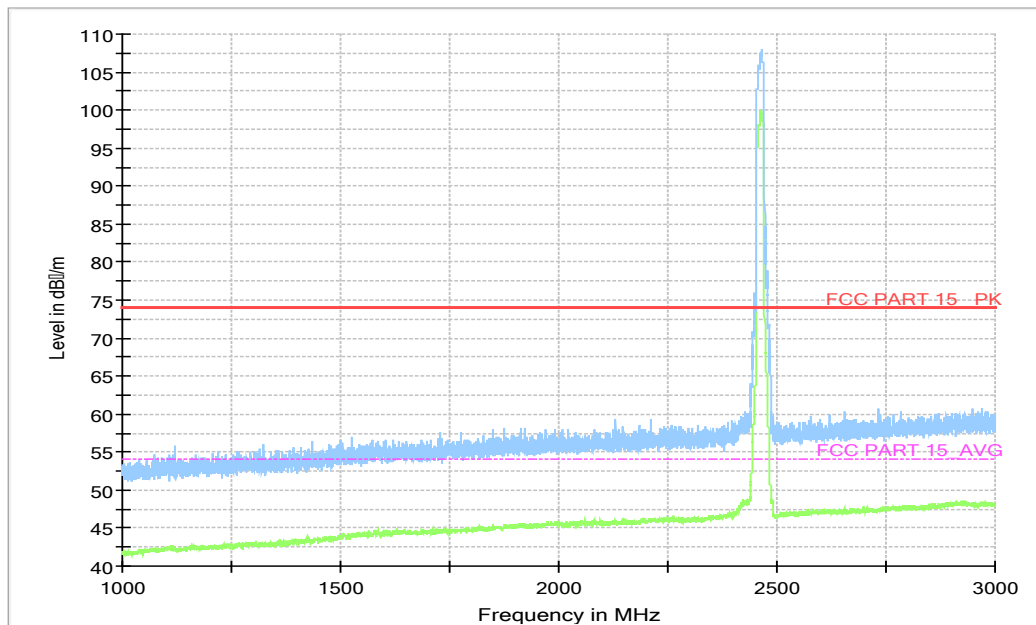


Fig.A.6.2.20 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 1 GHz-3 GHz)

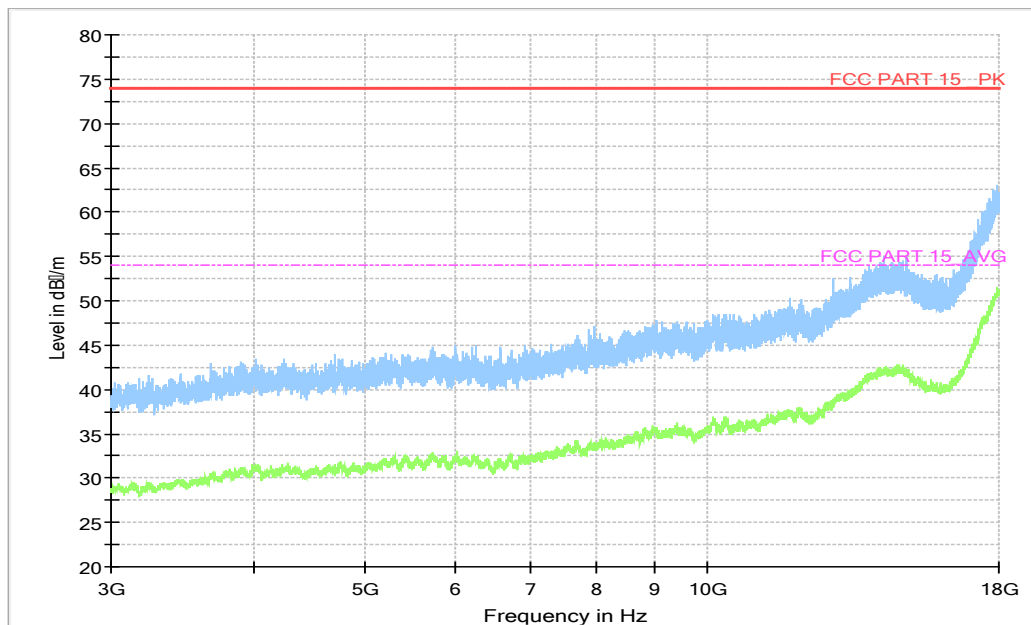


Fig.A.6.2.21 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 3 GHz-18 GHz)

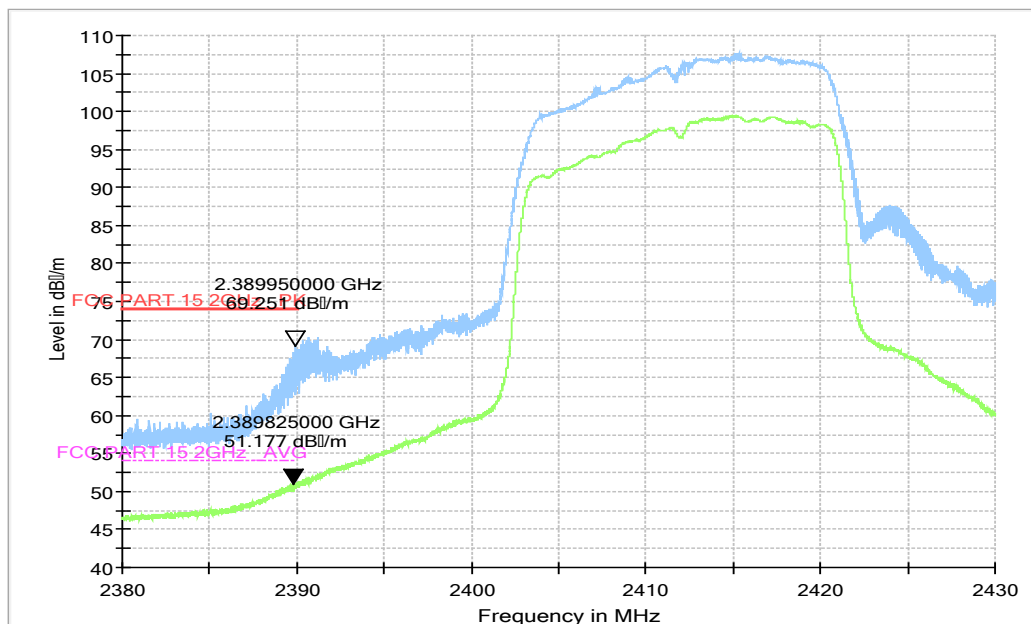


Fig.A.6.2.22 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

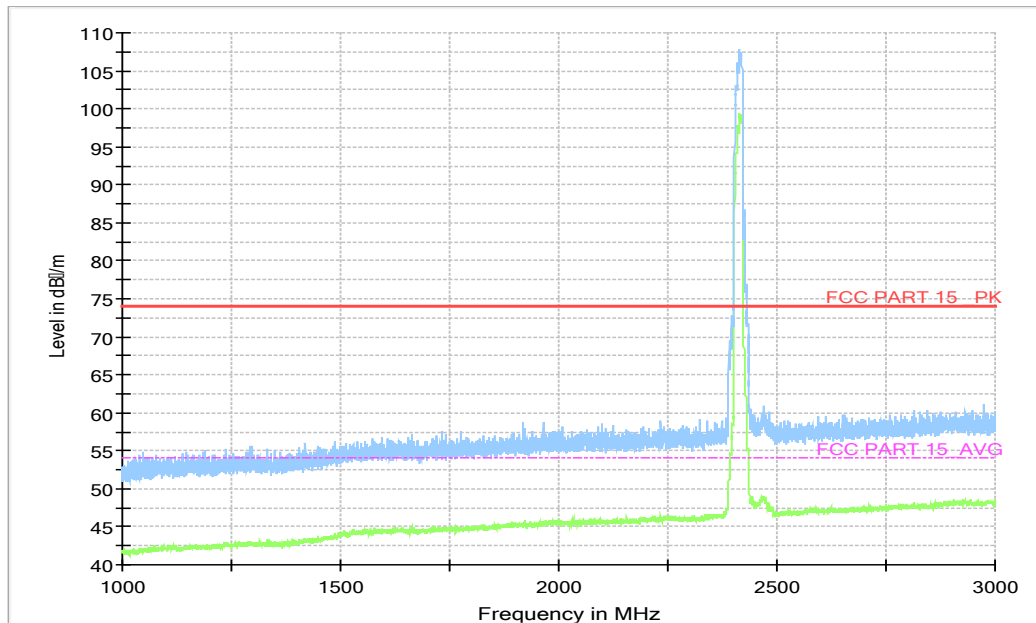


Fig.A.6.2.23 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 1 GHz-3 GHz)

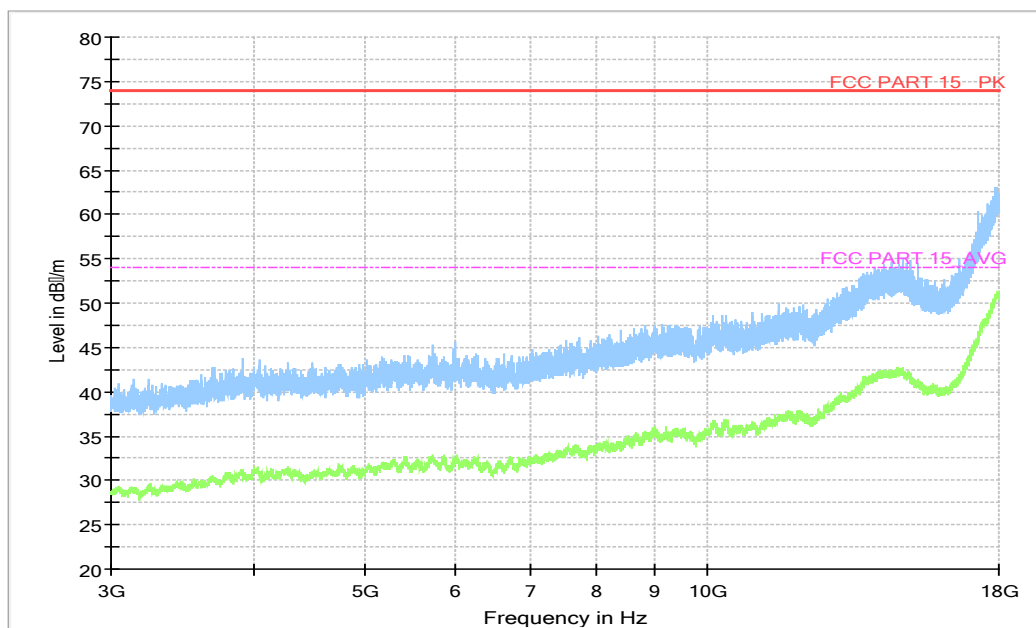


Fig.A.6.2.24 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 3 GHz-18 GHz)

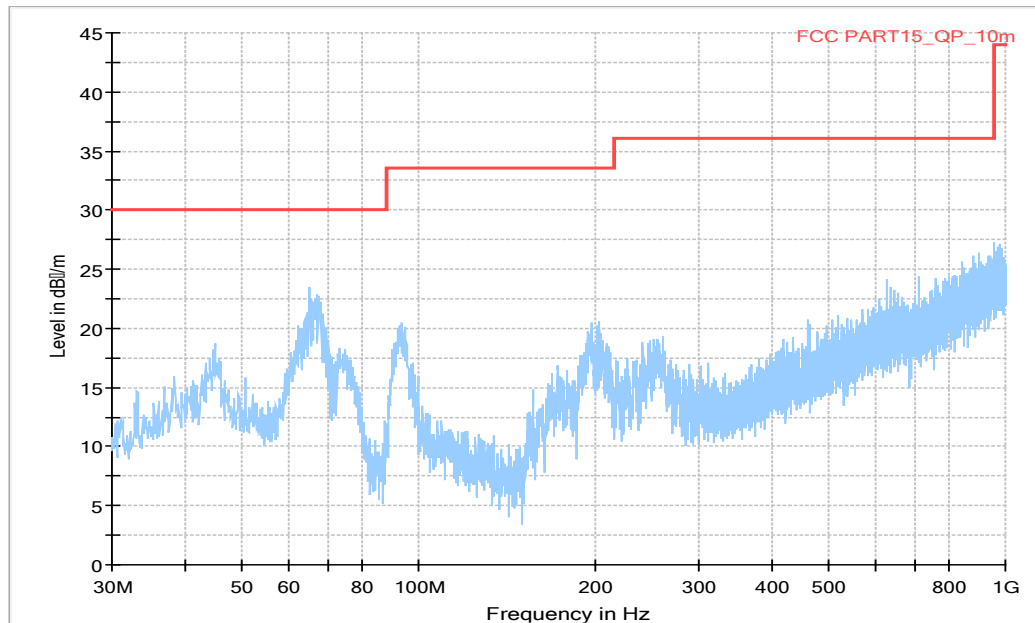


Fig.A.6.2.25 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 30 MHz-1 GHz)

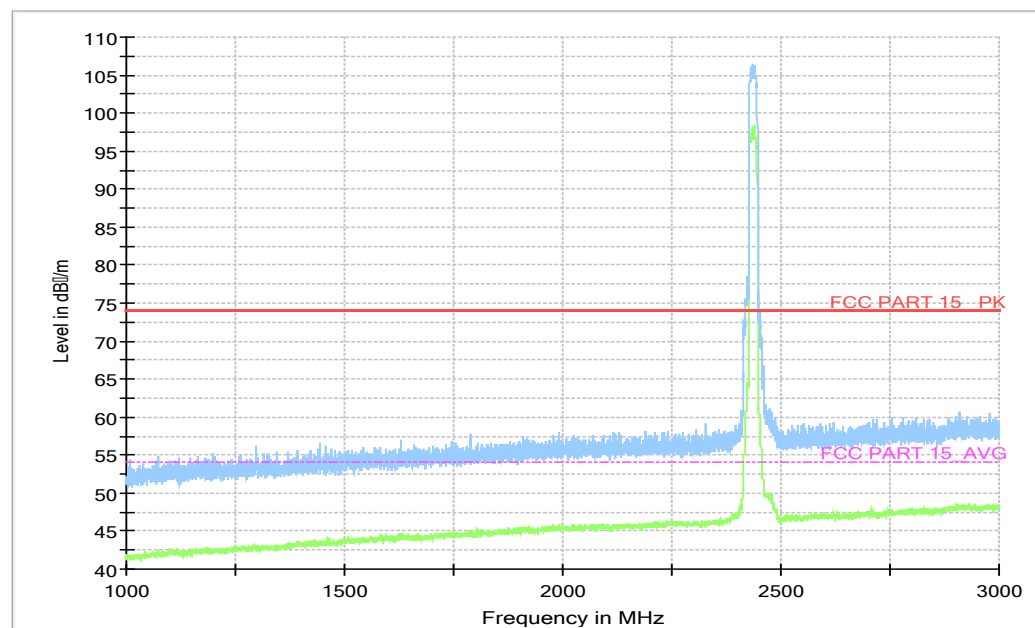


Fig.A.6.2.26 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 1 GHz-3 GHz)

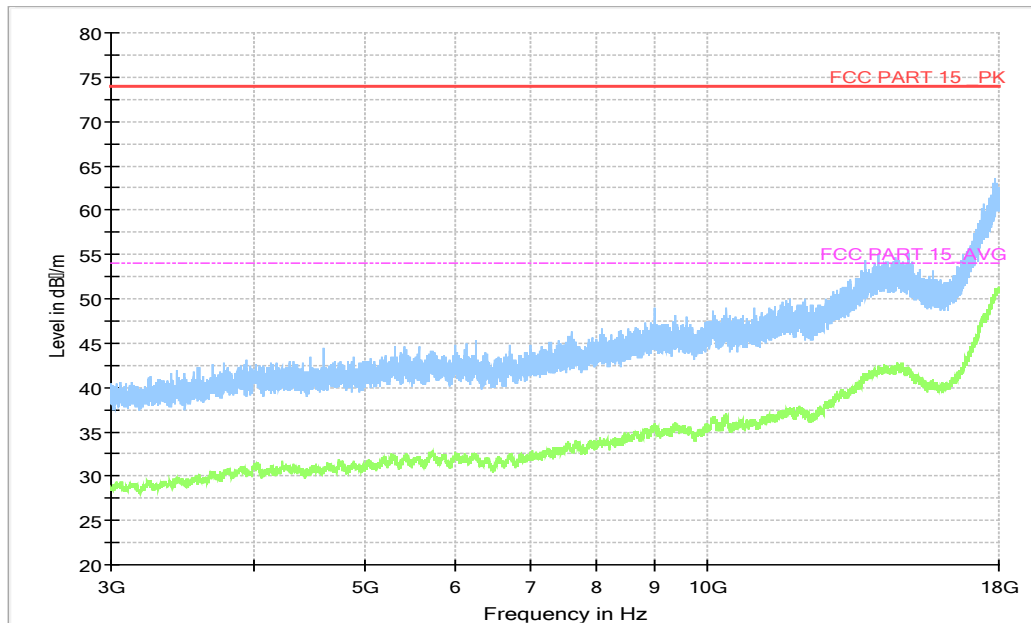


Fig.A.6.2.27 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 3 GHz-18 GHz)

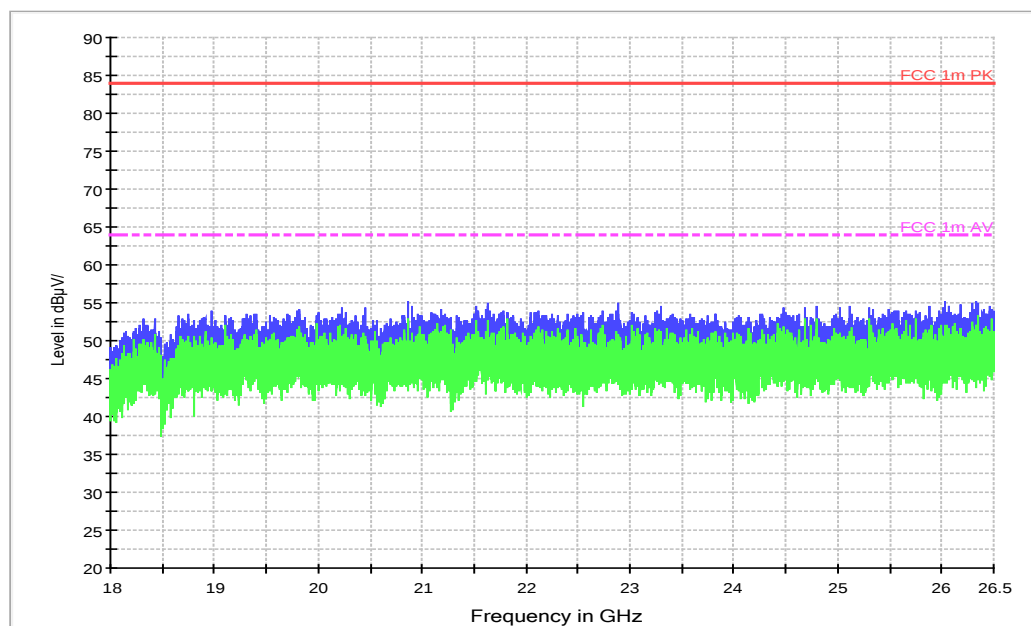


Fig.A.6.2.28 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 18GHz - 26.5GHz)

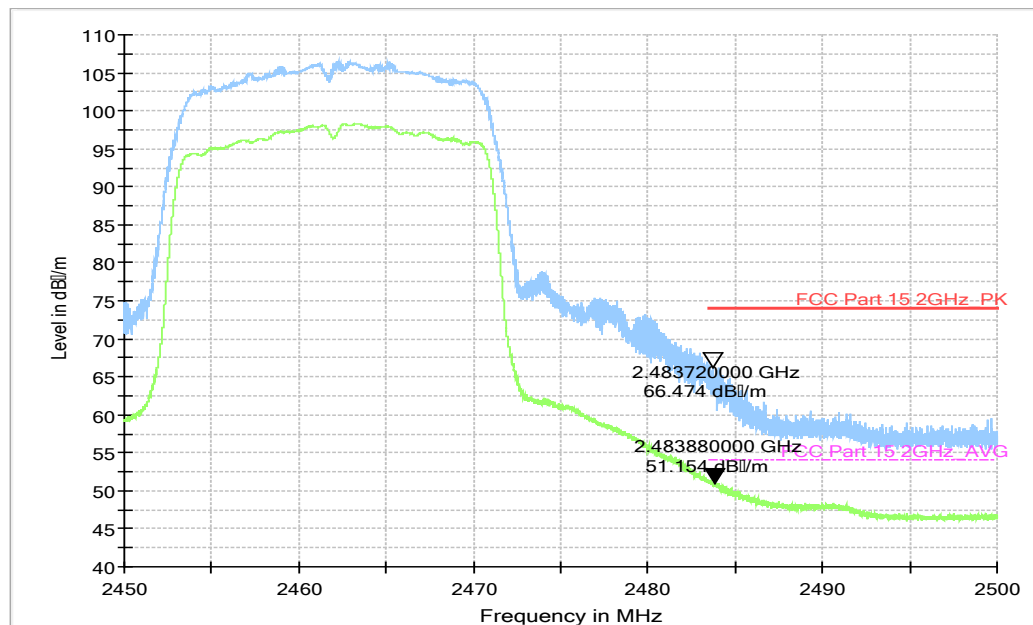


Fig.A.6.2.29 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

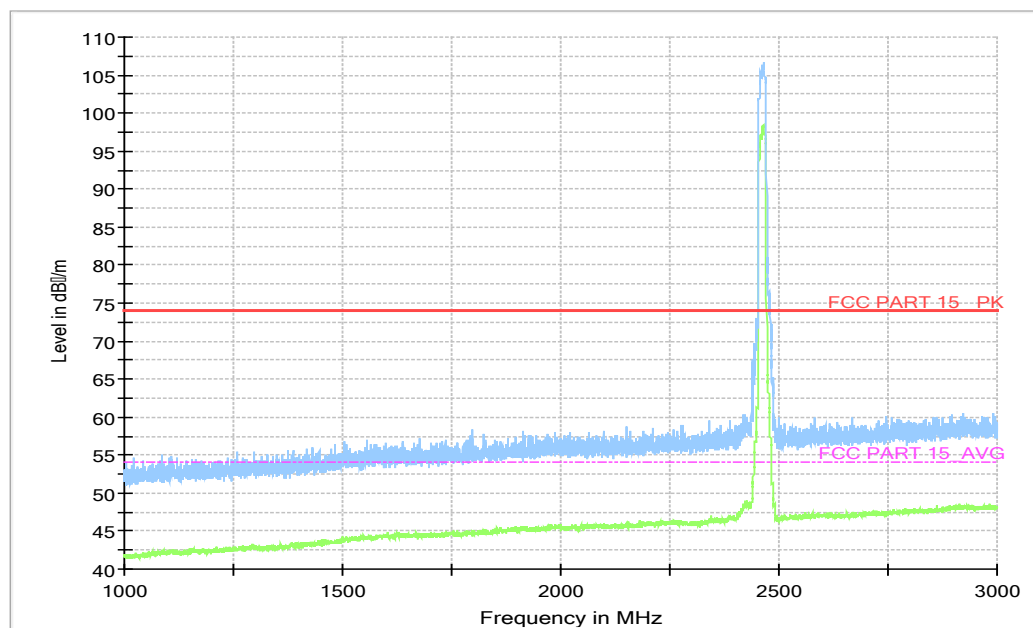


Fig.A.6.2.30 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 1 GHz-3 GHz)

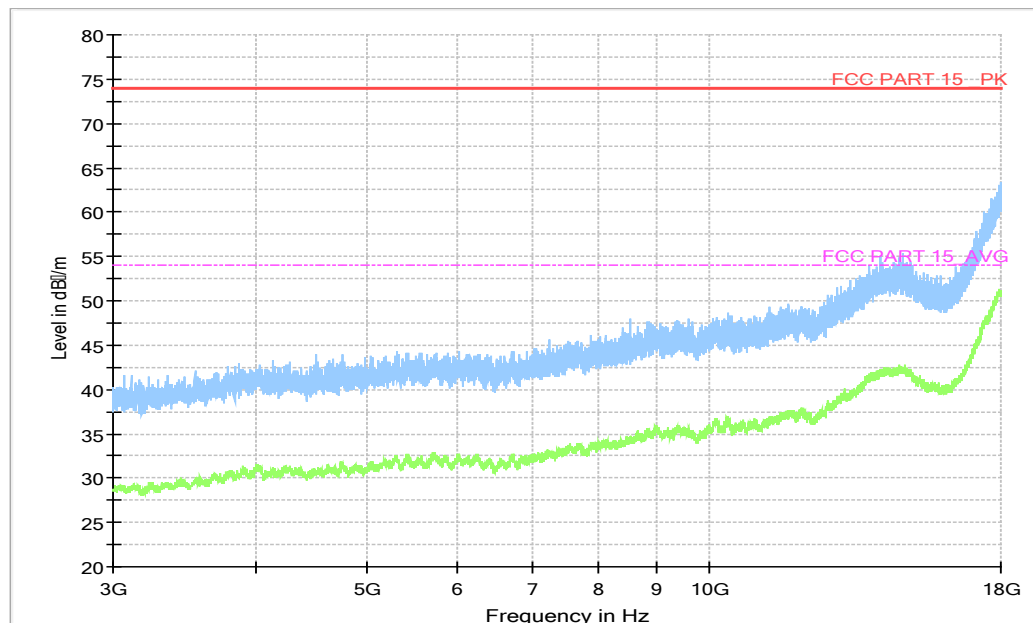


Fig.A.6.2.31 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 3 GHz-18 GHz)

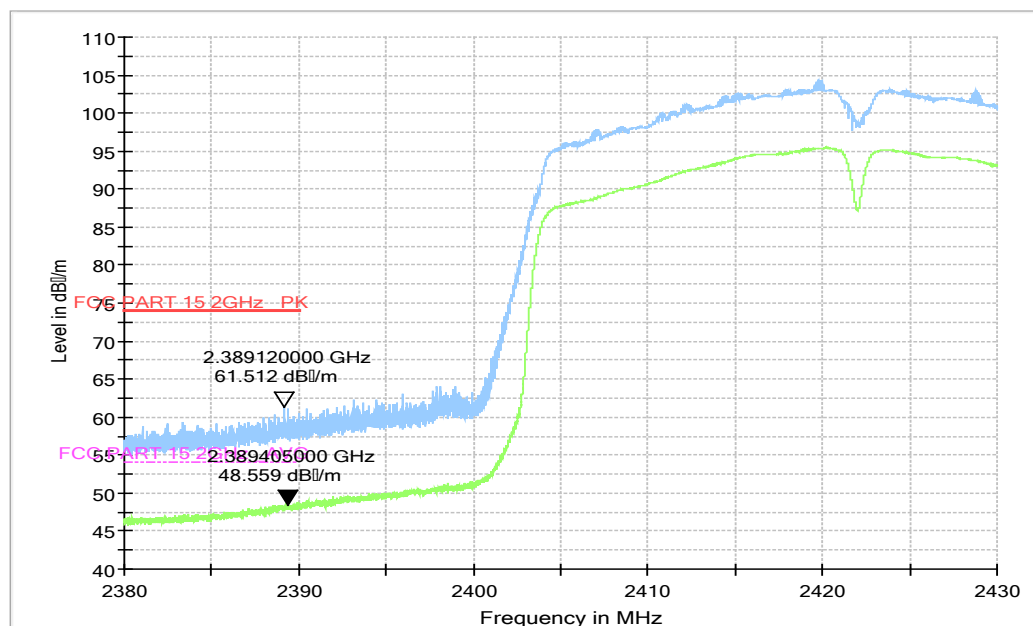


Fig.A.6.2.32 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz

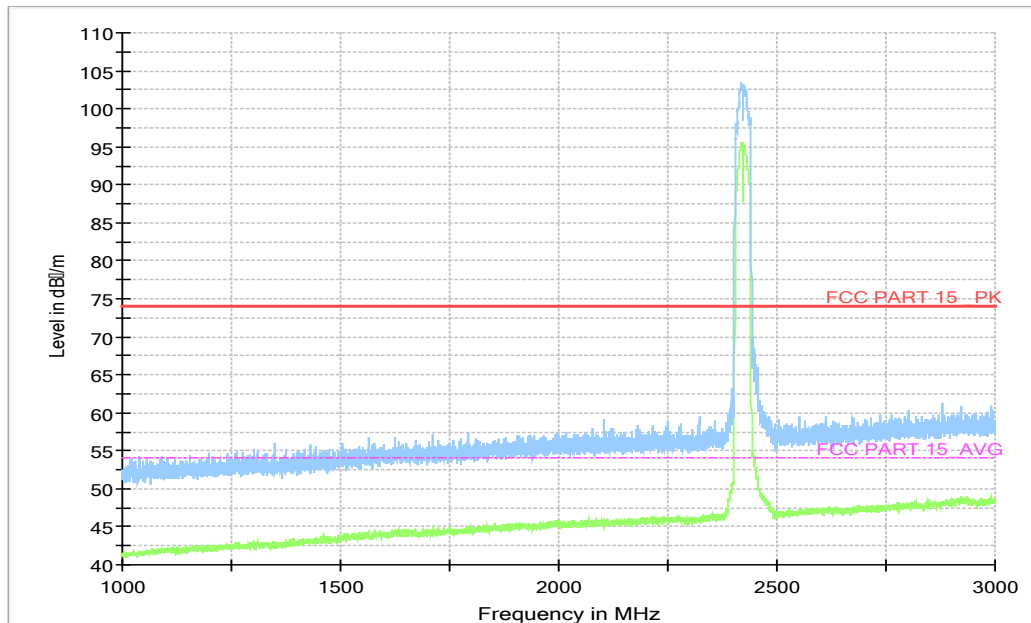


Fig.A.6.2.33 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 1 GHz-3 GHz)

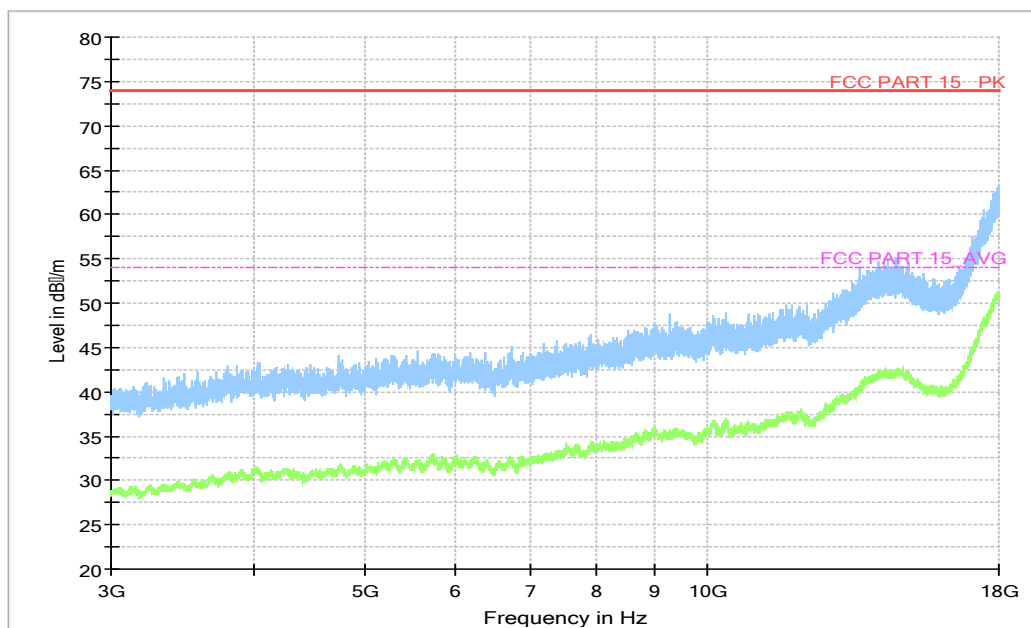


Fig.A.6.2.34 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 3 GHz-18 GHz)

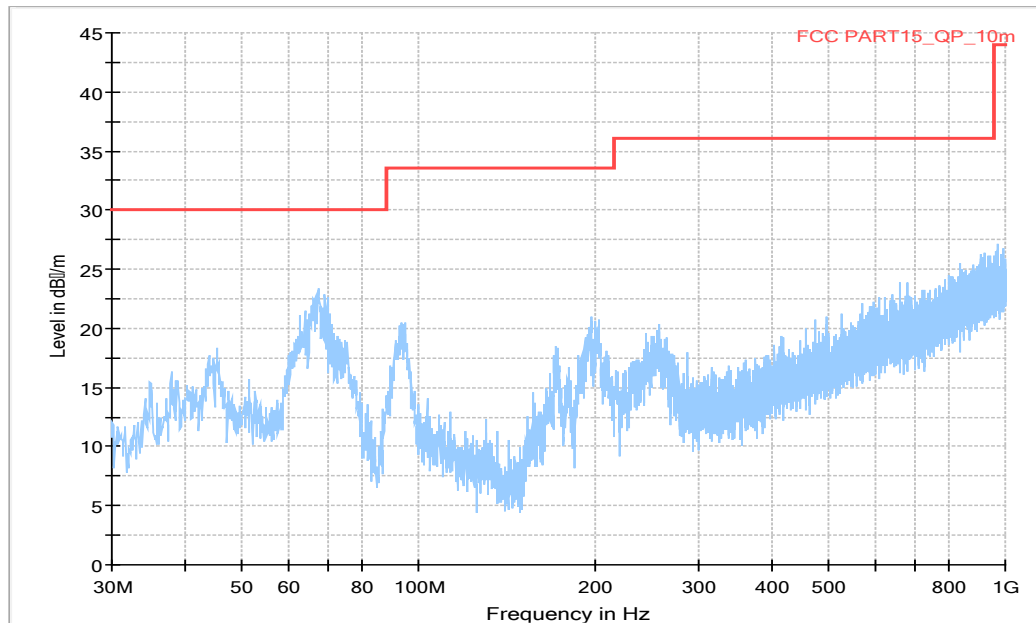


Fig.A.6.2.35 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 30 MHz-1 GHz)

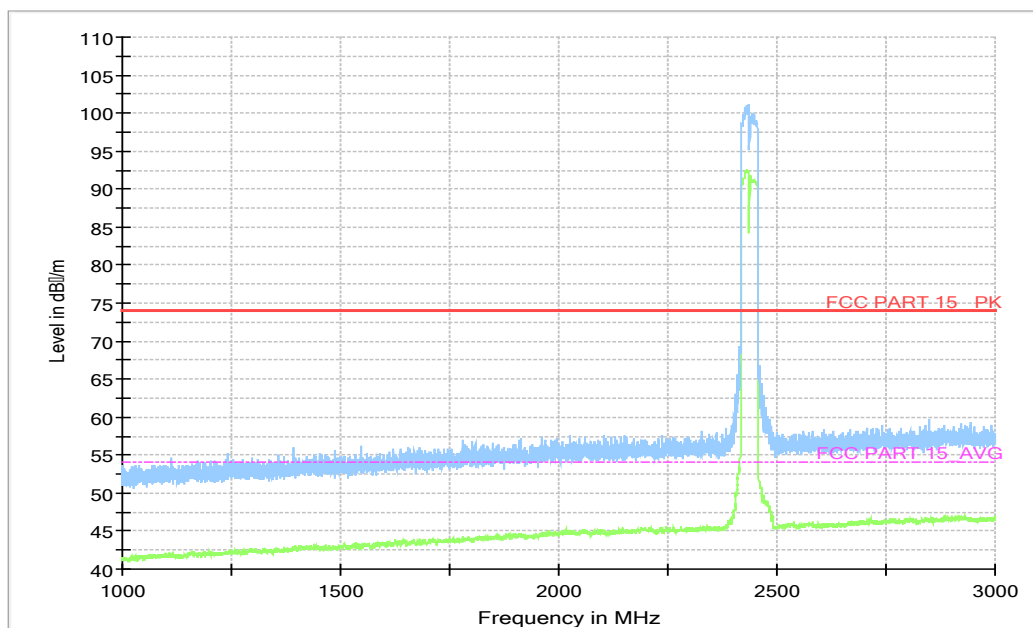


Fig.A.6.2.36 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 1 GHz-3 GHz)

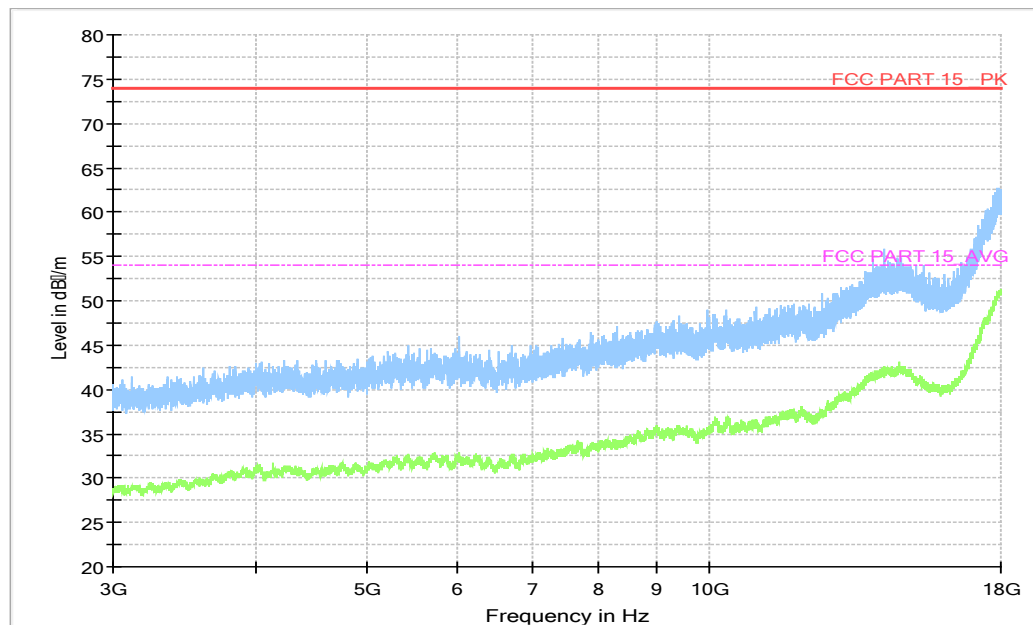


Fig.A.6.2.37 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 3 GHz-18 GHz)

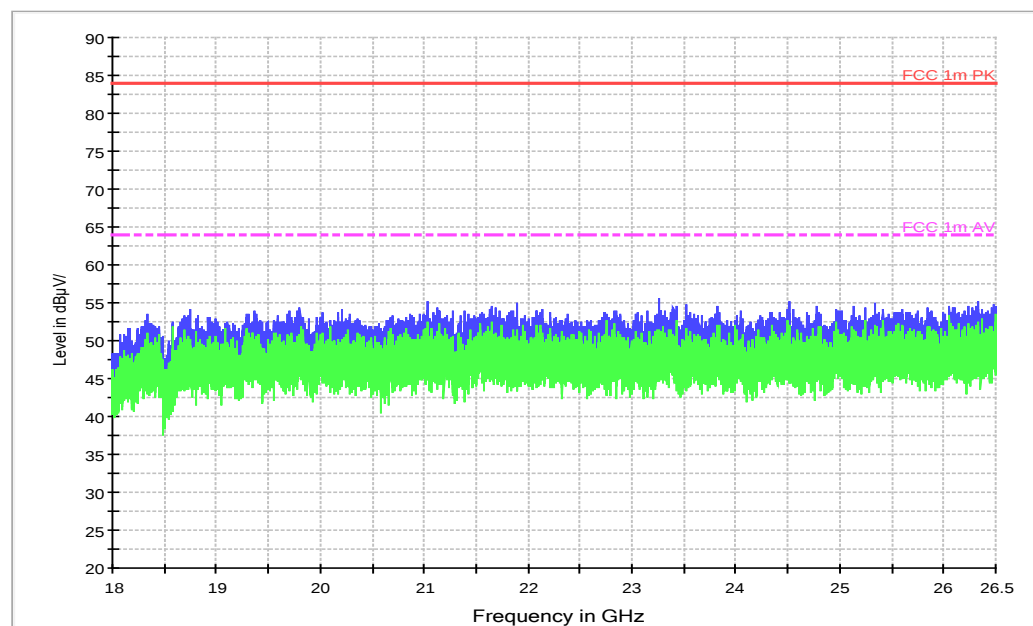


Fig.A.6.2.38 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 18GHz - 26.5GHz)

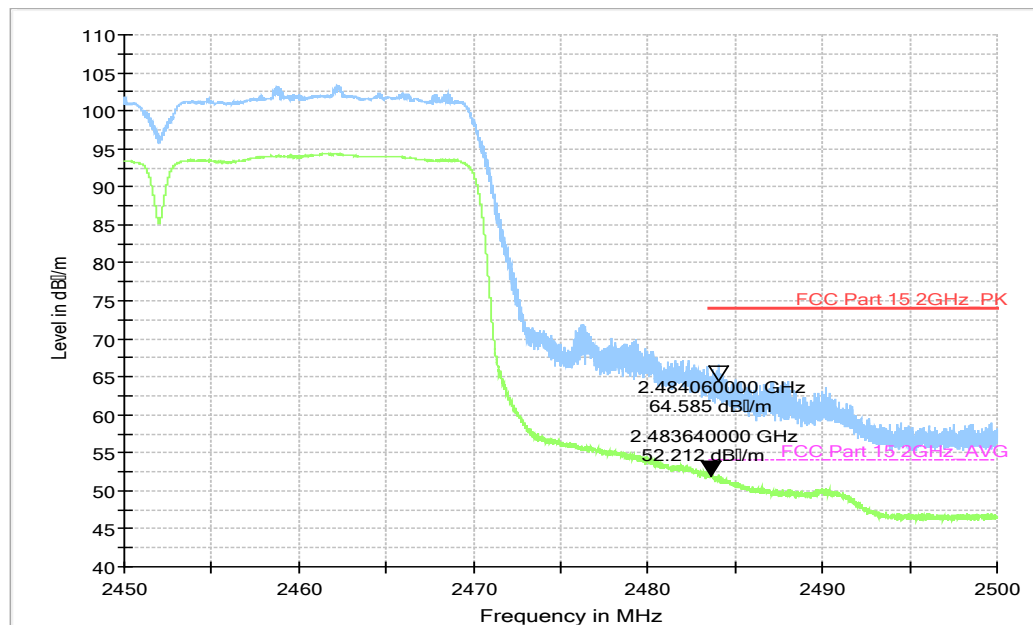


Fig.A.6.2.39 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

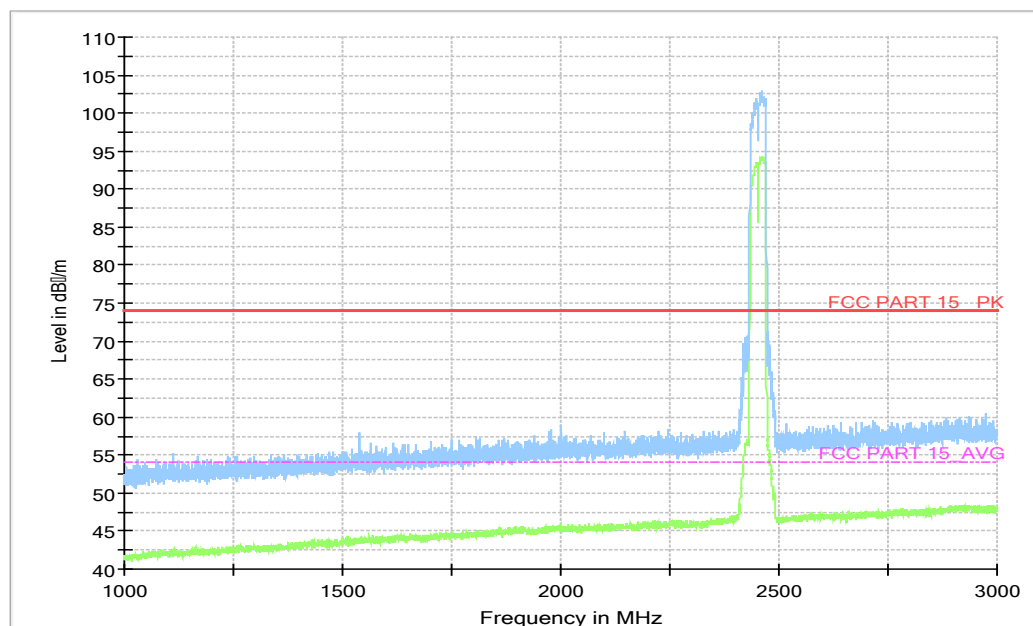


Fig.A.6.2.40 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 1 GHz-3 GHz)

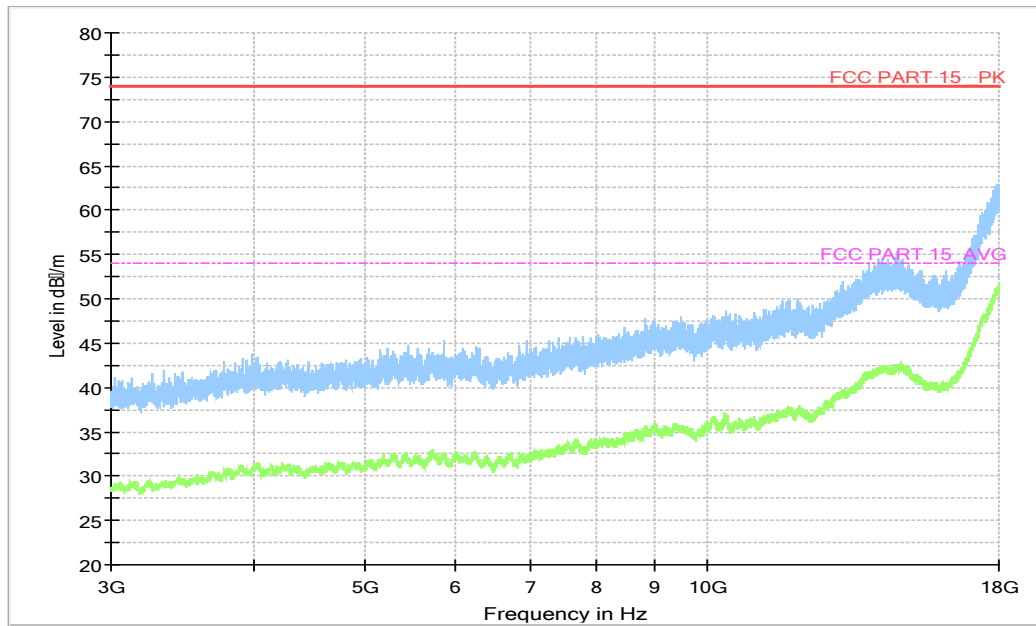


Fig.A.6.2.41 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 3 GHz-18 GHz)

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:

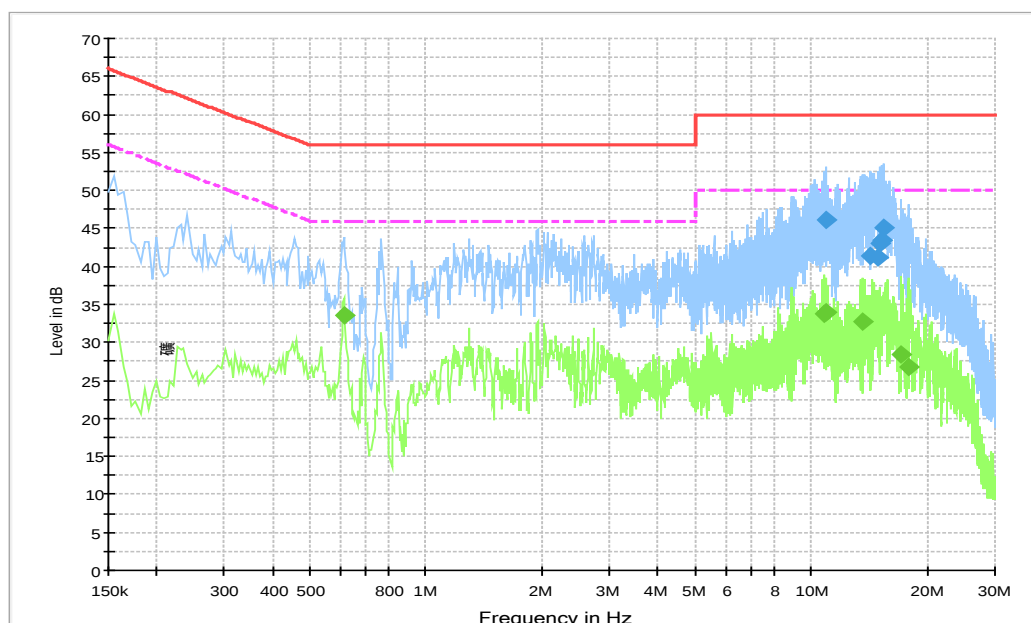


Fig.A.7.1 AC Powerline Conducted Emission-802.11b(CBA0059AGAC4)

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)
10.878001	46.1	GND	L1	10.7	13.9	60.0
14.293501	41.4	GND	L1	10.9	18.6	60.0
14.932501	41.1	GND	L1	11.0	18.9	60.0
15.094501	43.1	GND	L1	11.0	16.9	60.0
15.328501	43.4	GND	L1	11.0	16.6	60.0
15.423001	45.2	GND	L1	11.0	14.8	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.613501	33.6	GND	L1	10.3	12.4	46.0
10.801501	33.7	GND	L1	10.7	16.3	50.0
10.878001	33.9	GND	L1	10.7	16.1	50.0
13.659001	32.7	GND	L1	10.9	17.3	50.0
17.169001	28.4	GND	L1	11.1	21.6	50.0
17.857501	26.8	GND	L1	11.1	23.2	50.0

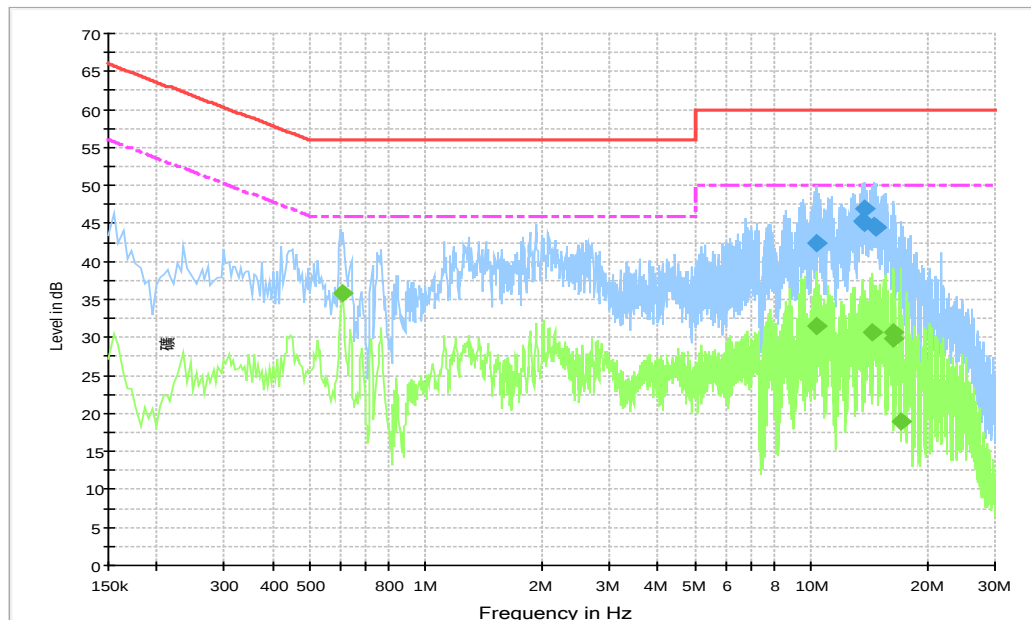


Fig.A.7.1 AC Powerline Conducted Emission-Idle(CBA0059AGAC4)

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
10.329001	42.4	GND	L1	10.7	17.6	60.0
13.618501	45.4	GND	L1	10.9	14.6	60.0
13.699501	47.0	GND	L1	10.9	13.0	60.0
13.794001	45.0	GND	L1	10.9	15.0	60.0
14.550001	44.7	GND	L1	10.9	15.3	60.0
14.703001	44.5	GND	L1	11.0	15.5	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.609001	35.9	GND	L1	10.3	10.1	46.0
10.329001	31.5	GND	L1	10.7	18.5	50.0
14.343001	30.6	GND	L1	10.9	19.4	50.0
16.291501	30.7	GND	L1	11.0	19.3	50.0
16.377001	29.9	GND	L1	11.0	20.1	50.0
17.056501	18.9	GND	L1	11.1	31.1	50.0

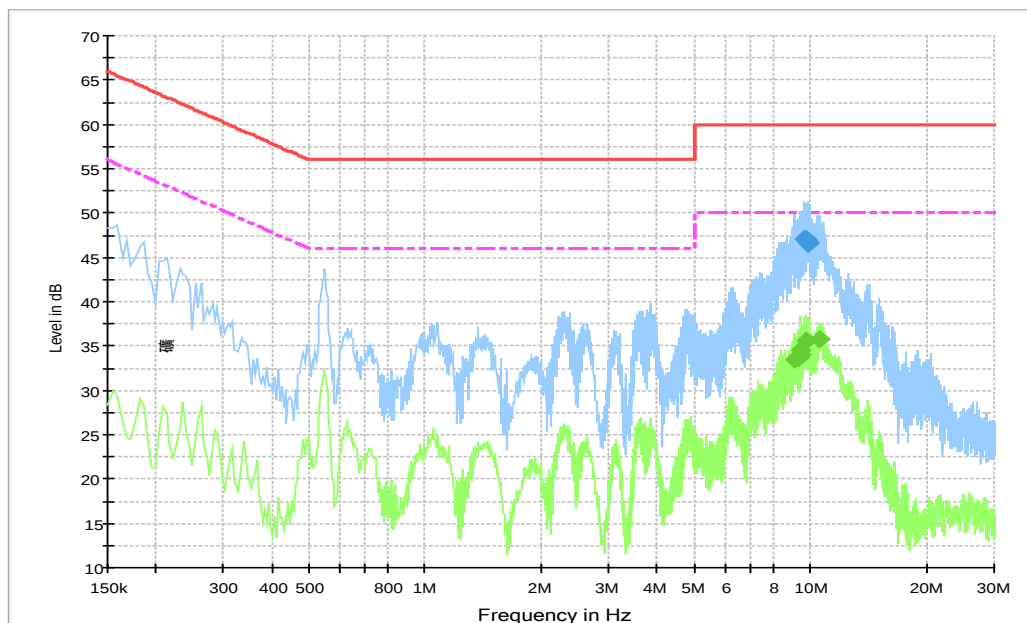


Fig.A.7.2 AC Powerline Conducted Emission-Idle(CBA0059AGAC2)

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
9.645001	47.1	GND	L1	10.7	12.9	60.0
9.748501	47.0	GND	L1	10.7	13.0	60.0
9.793501	46.9	GND	L1	10.7	13.1	60.0
9.825001	46.8	GND	L1	10.7	13.2	60.0
9.834001	46.7	GND	L1	10.7	13.3	60.0
9.852001	46.6	GND	L1	10.7	13.4	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
9.123001	33.4	GND	L1	10.7	16.6	50.0
9.294001	33.6	GND	L1	10.7	16.4	50.0
9.379501	34.0	GND	L1	10.7	16.0	50.0
9.474001	34.6	GND	L1	10.7	15.4	50.0
9.757501	35.6	GND	L1	10.7	14.4	50.0
10.567501	35.8	GND	L1	10.7	14.2	50.0

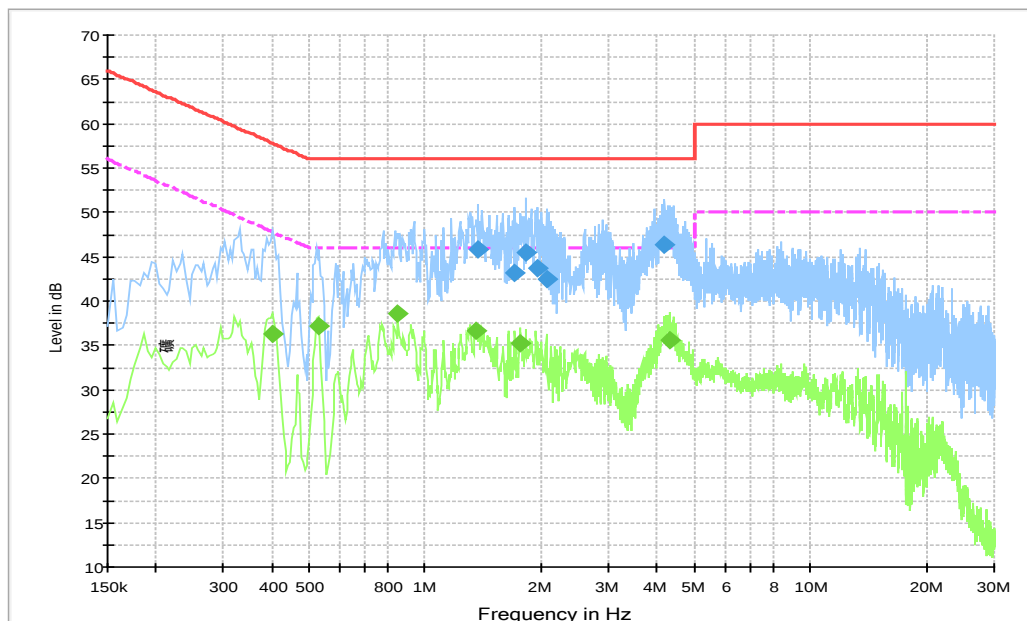


Fig.A.7.3 AC Powerline Conducted Emission-Idle(CBA0058AGAC2)

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)
1.369501	45.9	GND	L1	10.3	10.1	56.0
1.711501	43.2	GND	L1	10.3	12.8	56.0
1.833001	45.5	GND	L1	10.4	10.5	56.0
1.954501	43.7	GND	L1	10.4	12.3	56.0
2.062501	42.5	GND	L1	10.4	13.5	56.0
4.164001	46.4	GND	L1	10.5	9.6	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.402001	36.3	GND	N	10.3	11.5	47.8
0.528001	37.2	GND	N	10.3	8.8	46.0
0.852001	38.6	GND	N	10.3	7.4	46.0
1.360501	36.7	GND	N	10.3	9.3	46.0
1.765501	35.2	GND	L1	10.3	10.8	46.0
4.303501	35.6	GND	L1	10.5	10.4	46.0

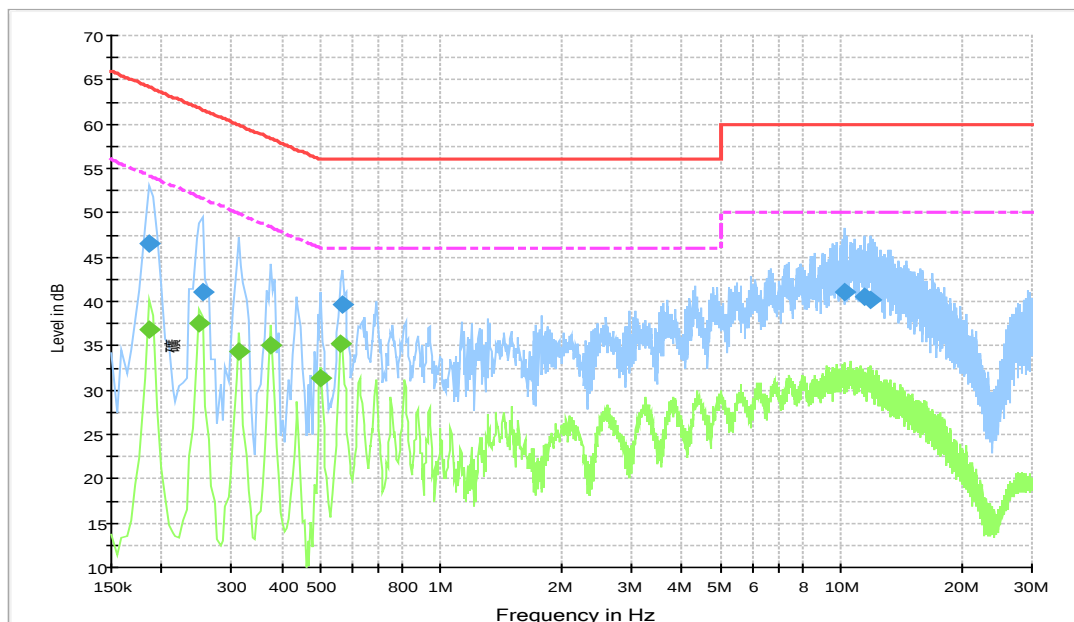


Fig.A.7.4 AC Powerline Conducted Emission-Idle(CBA0058AGAC3)

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.186001	46.4	GND	L1	10.3	17.8	64.2
0.253501	41.0	GND	L1	10.3	20.7	61.6
0.568501	39.7	GND	L1	10.3	16.3	56.0
10.203001	41.0	GND	L1	10.7	19.0	60.0
11.391001	40.5	GND	L1	10.8	19.5	60.0
11.872501	40.2	GND	L1	10.8	19.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.186001	36.8	GND	L1	10.3	17.4	54.2
0.249001	37.6	GND	L1	10.3	14.2	51.8
0.312001	34.3	GND	L1	10.3	15.6	49.9
0.375001	35.1	GND	L1	10.3	13.3	48.4
0.501001	31.3	GND	L1	10.3	14.7	46.0
0.564001	35.3	GND	L1	10.3	10.7	46.0

ANNEX B: Accreditation Certificate



The image shows a CNAS accreditation certificate. At the top, there are logos for ILAC-MRA and CNAS. The text identifies the accredited entity as 'Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT'. It lists three addresses: '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'. The certificate states it 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. It also states that the scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The certificate includes the date of issue (2015-11-13), date of expiry (2017-06-19), and date of initial accreditation (1998-07-03). It is signed on behalf of the China National Accreditation Service for Conformity Assessment. A small text at the bottom explains that CNAS is authorized by the Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment, and that the validity of the certificate can be checked on the CNAS website at <http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml>.

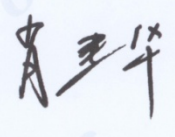
China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(Registration No. CNAS L0570)

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