

Fig.A.6.1.129 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

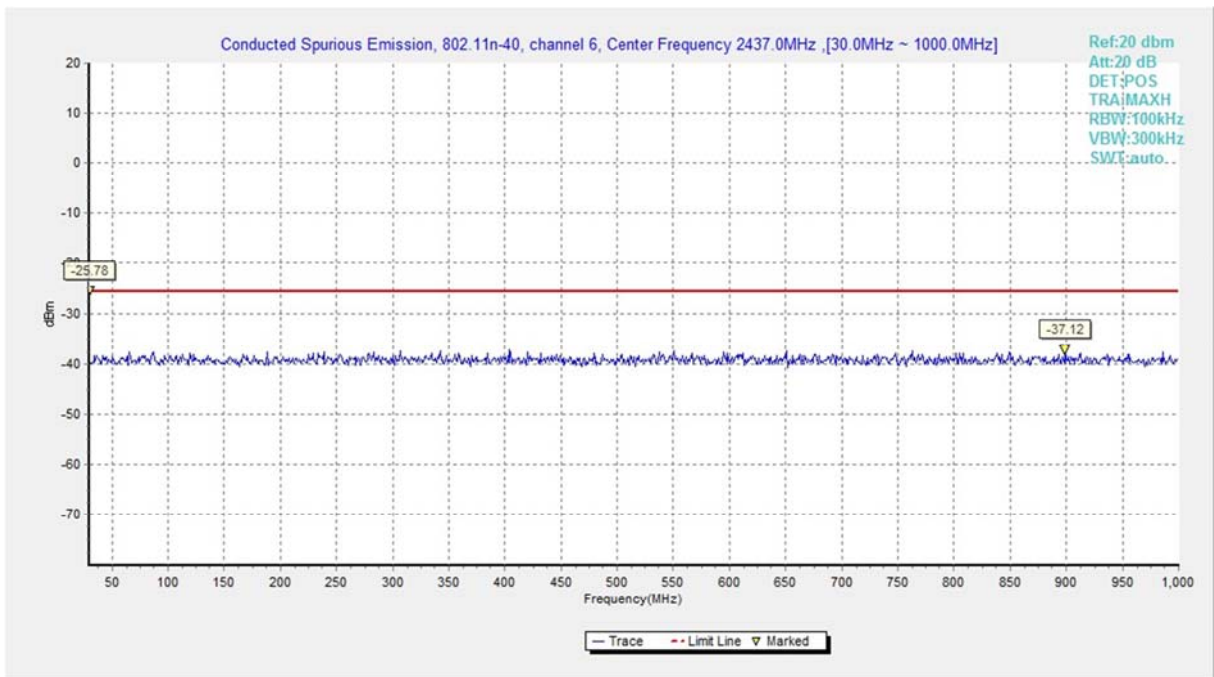


Fig.A.6.1.130 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

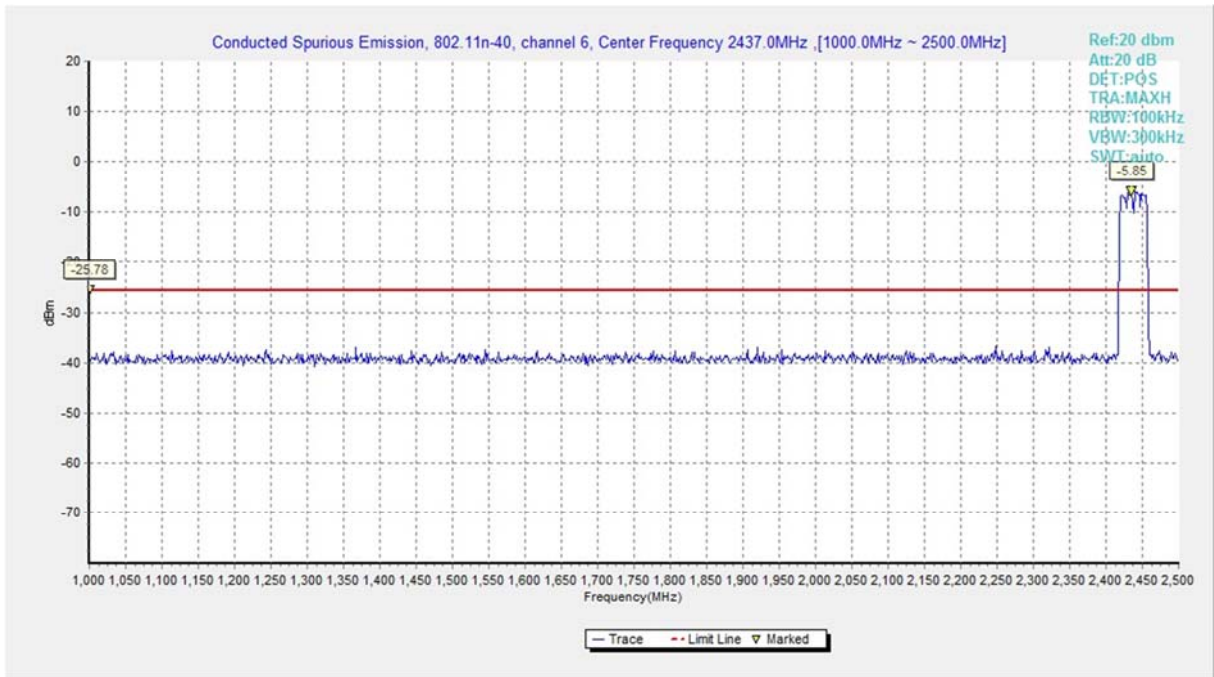


Fig.A.6.1.131 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

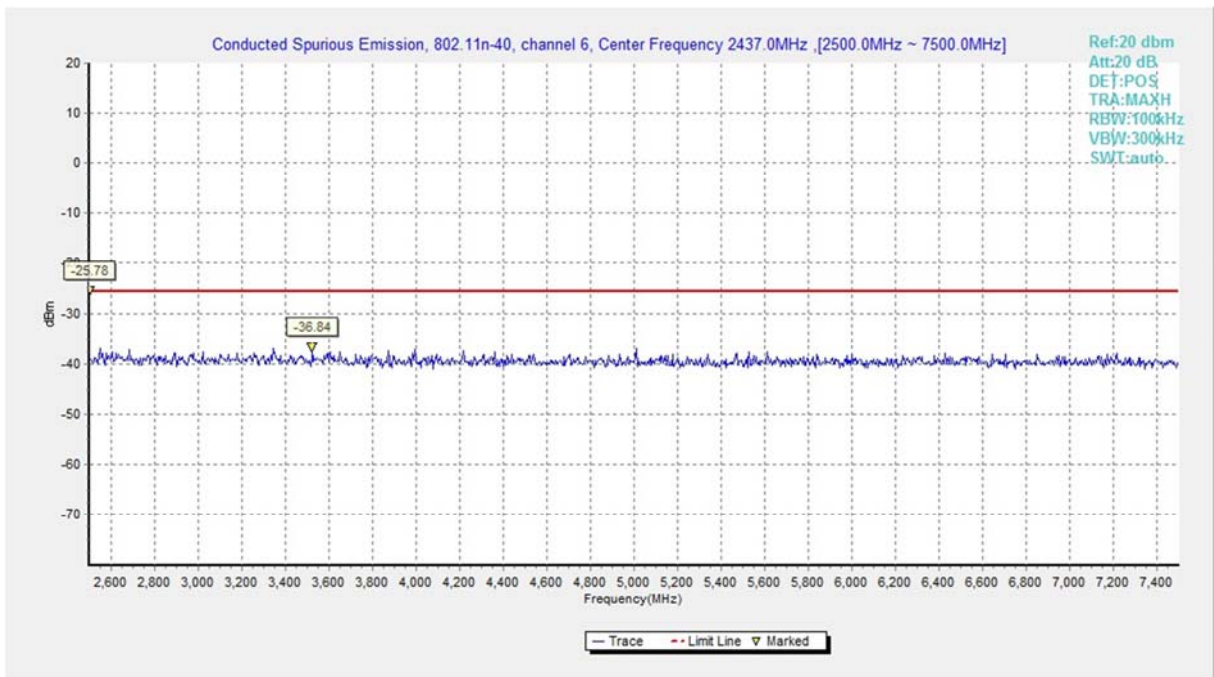


Fig.A.6.1.132 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

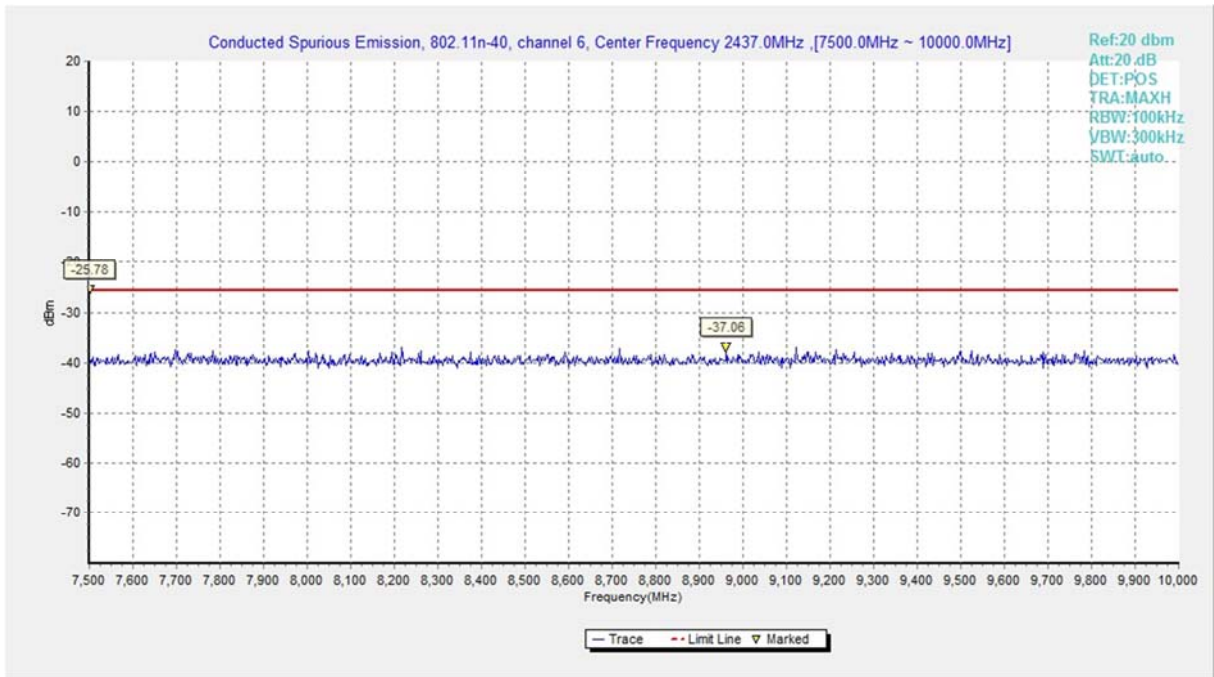


Fig.A.6.1.133 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

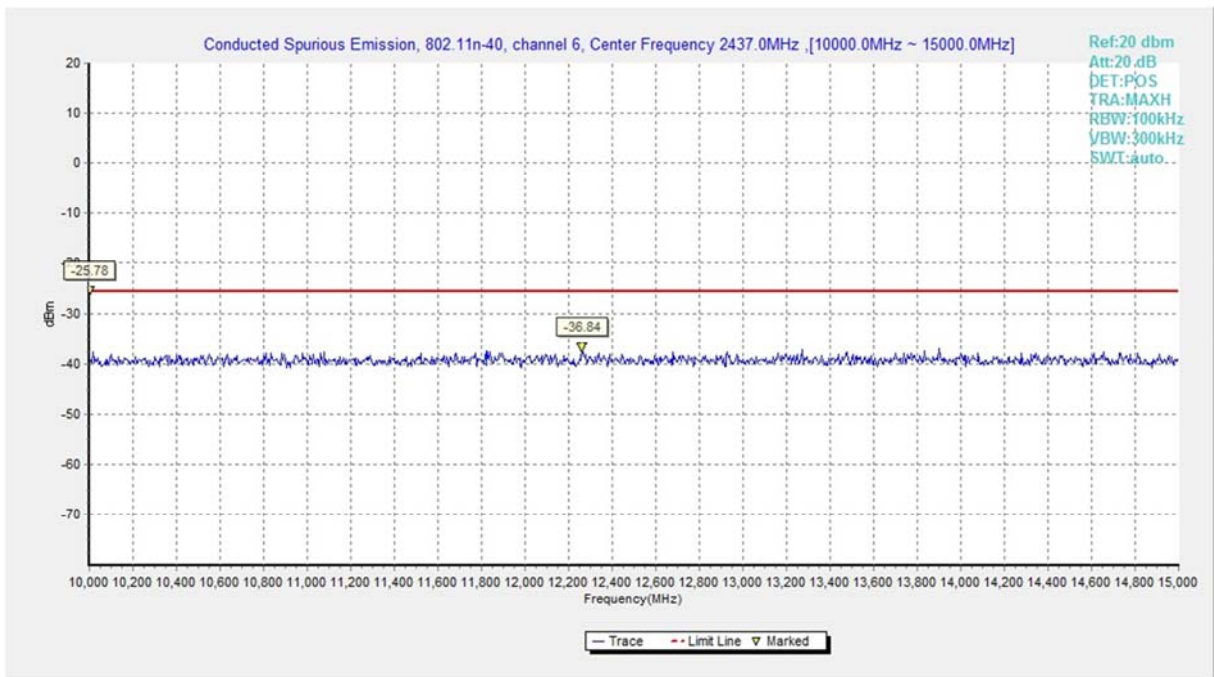


Fig.A.6.1.134 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

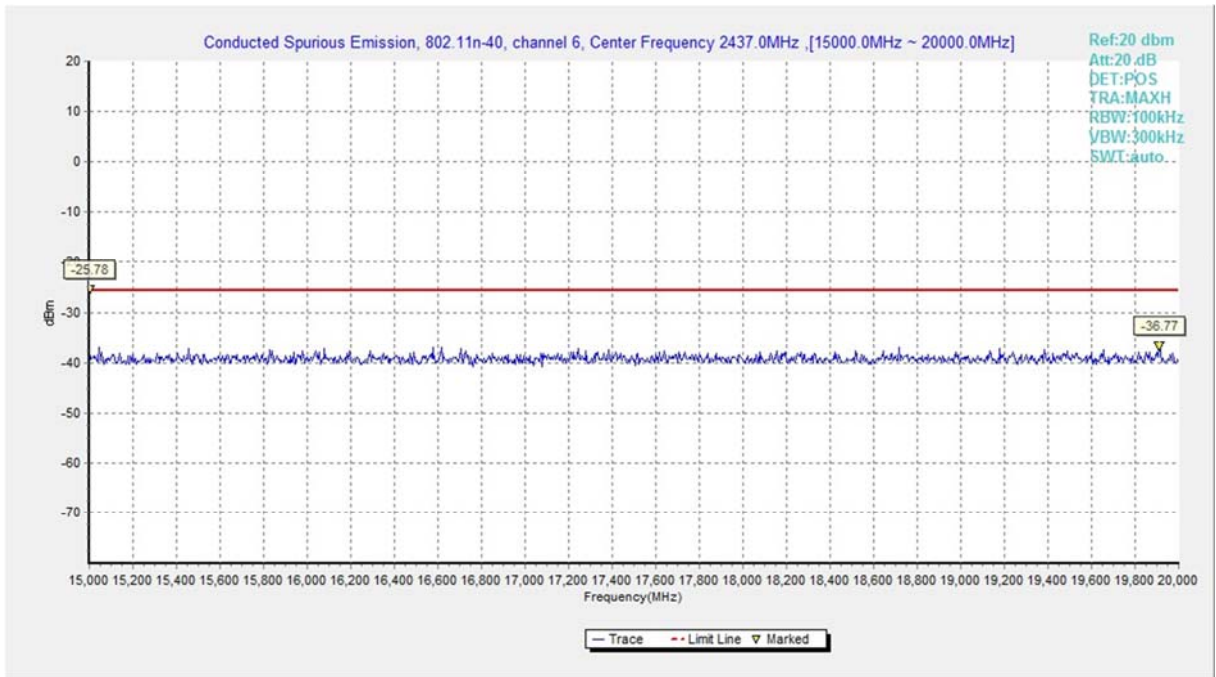


Fig.A.6.1.135 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

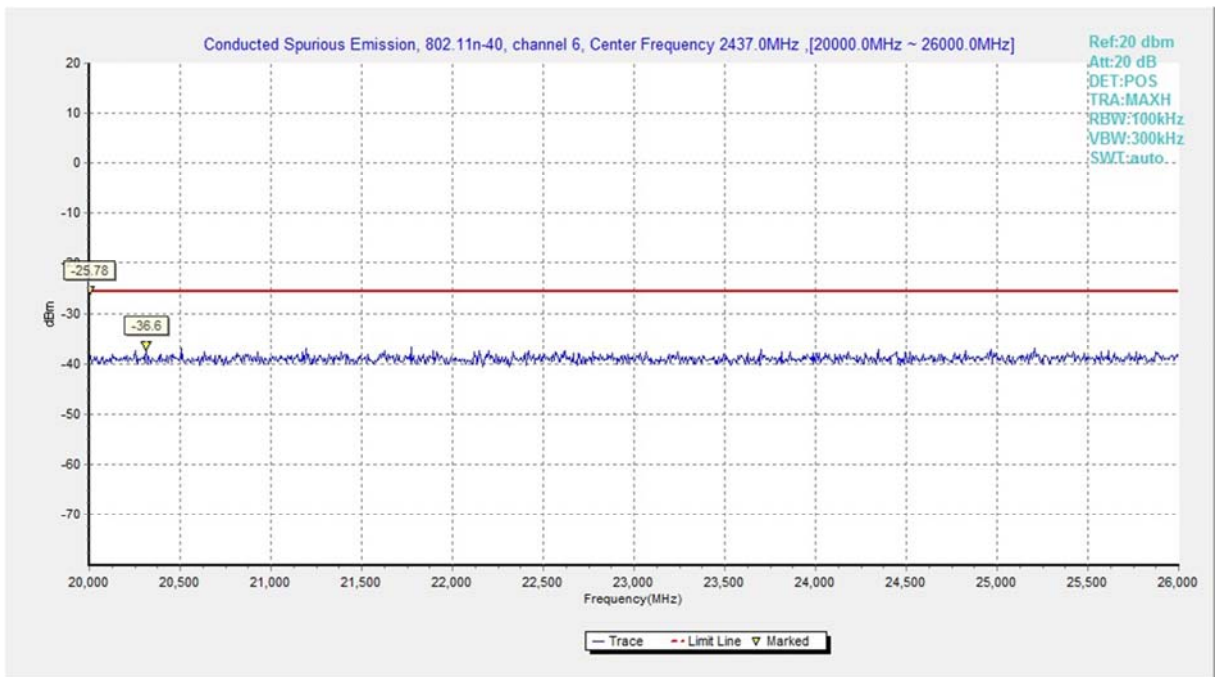


Fig.A.6.1.136 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

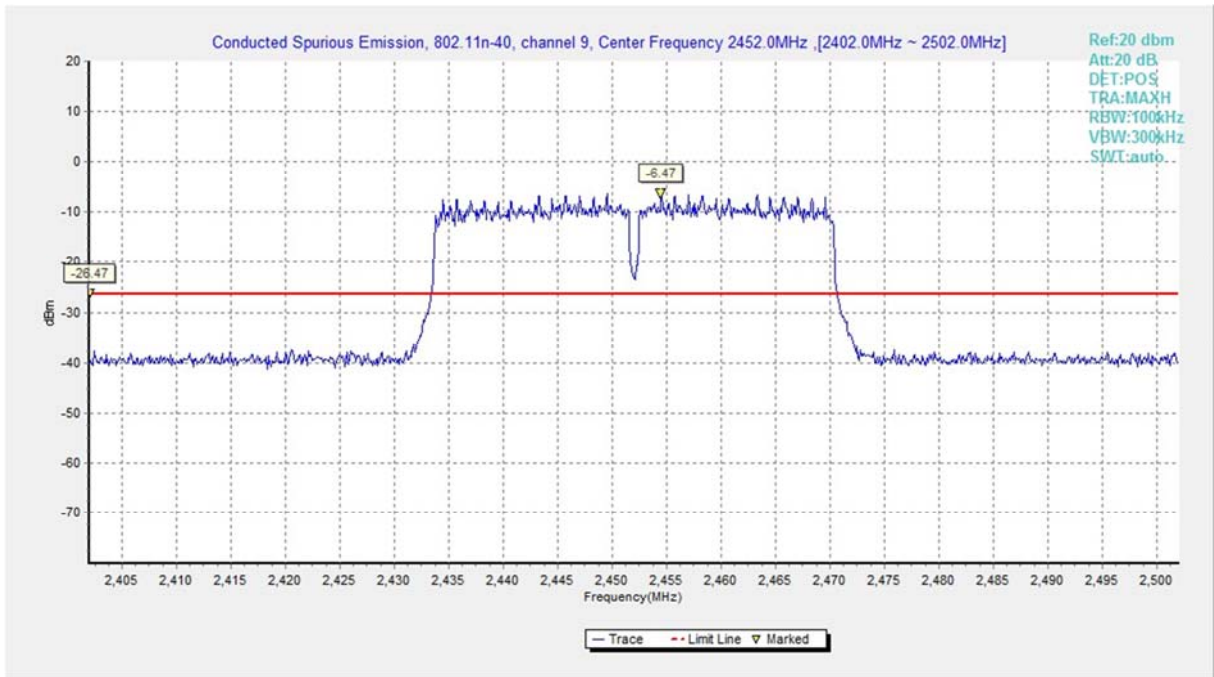


Fig.A.6.1.137 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

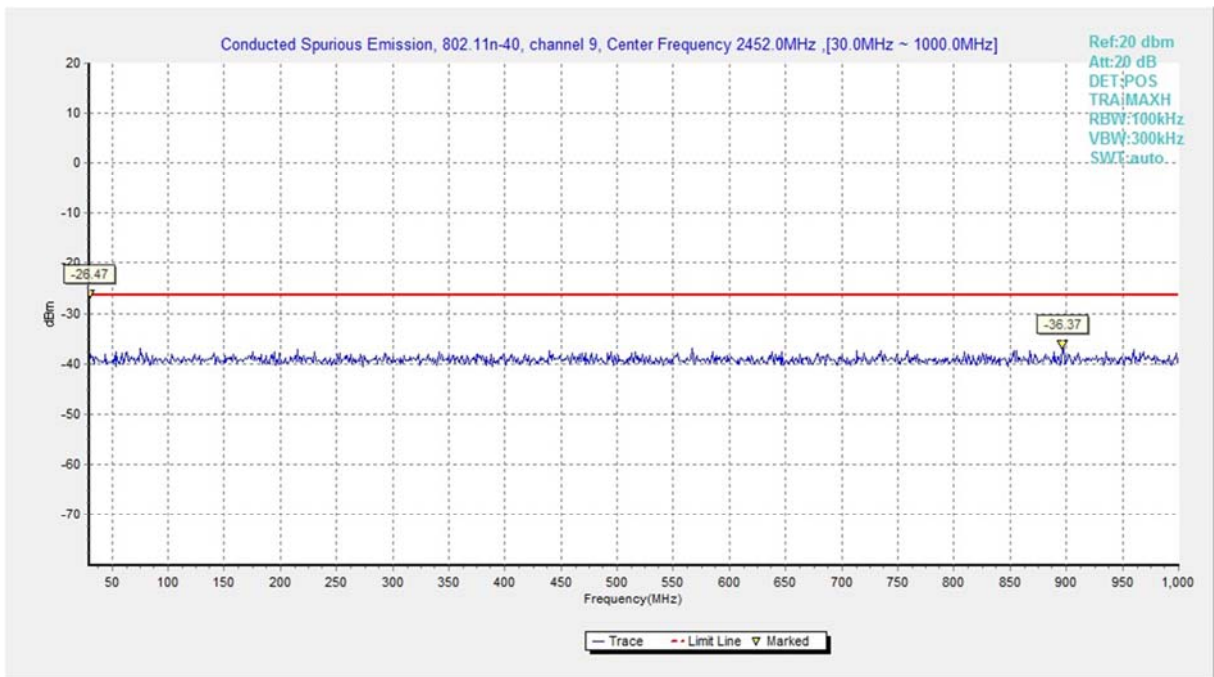


Fig.A.6.1.138 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

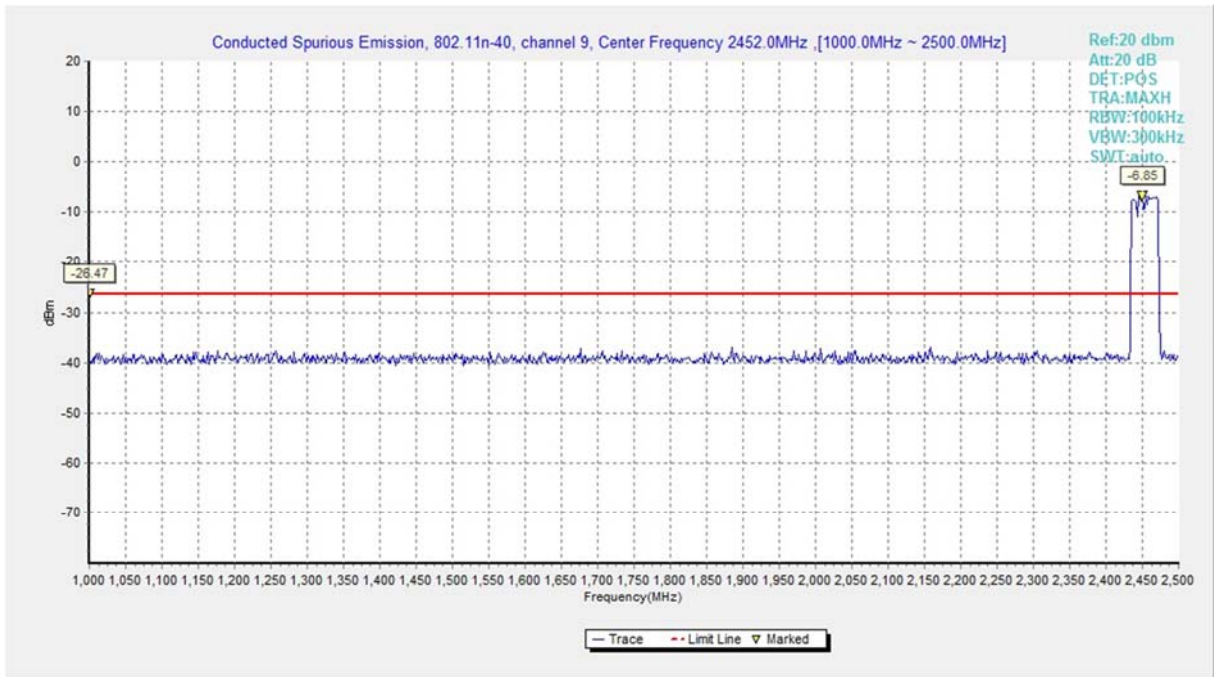


Fig.A.6.1.139 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

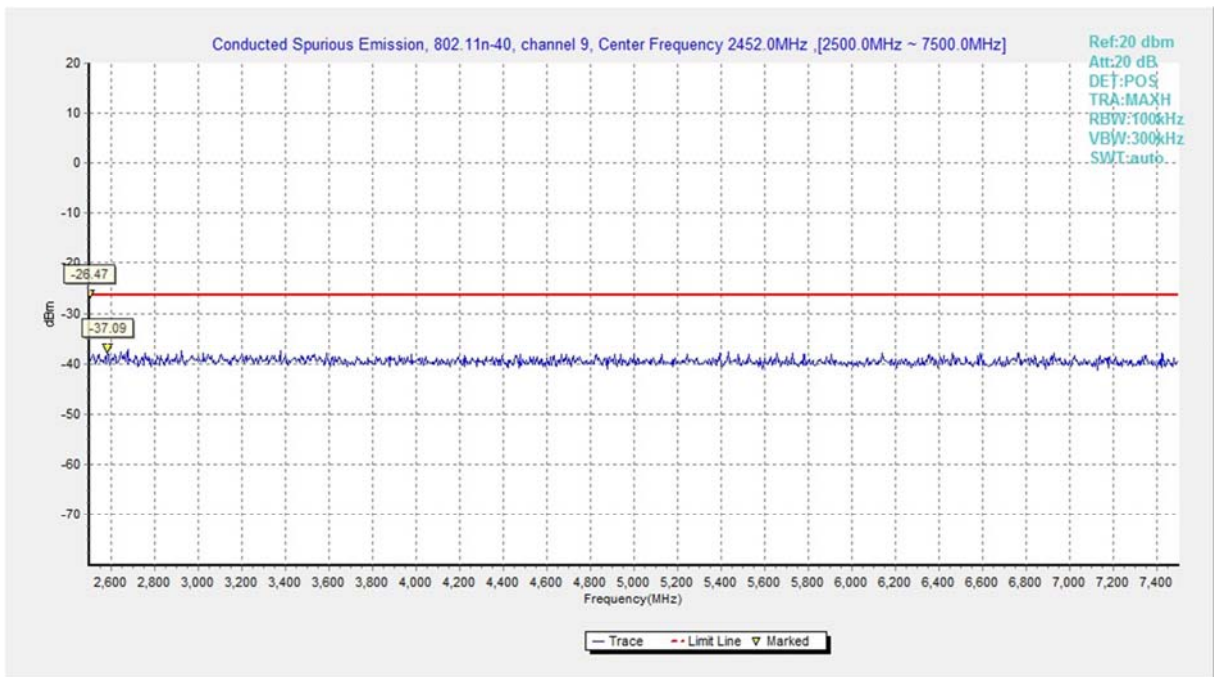


Fig.A.6.1.140 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

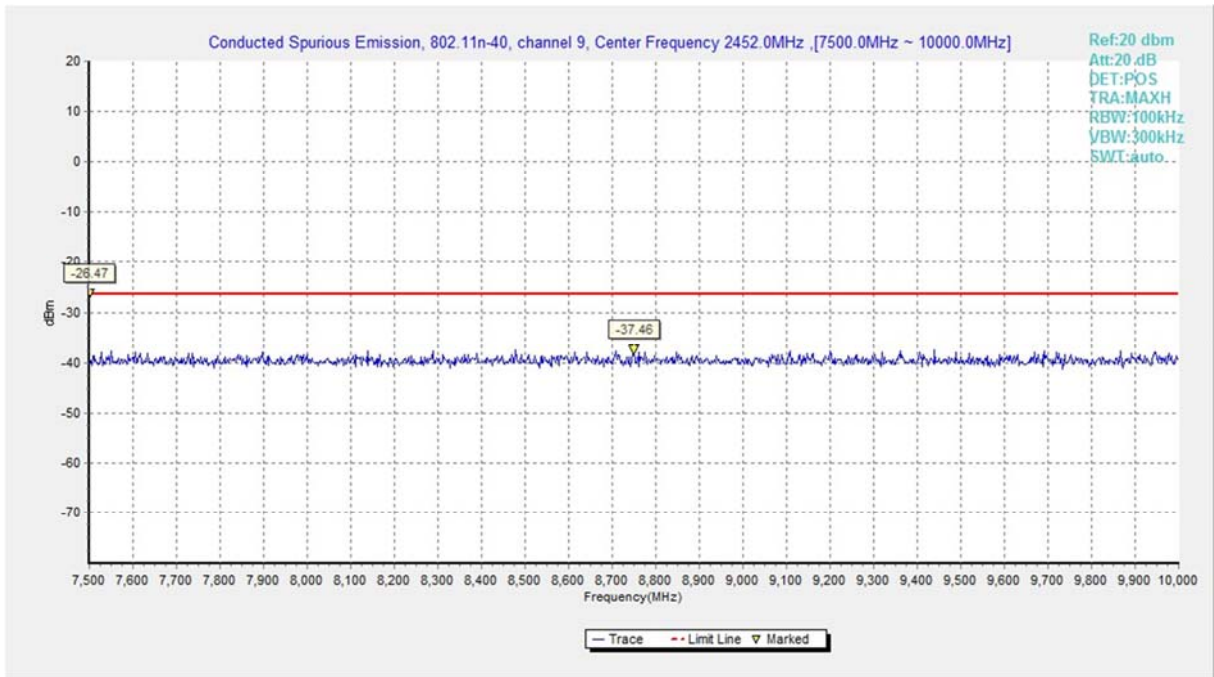


Fig.A.6.1.141 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

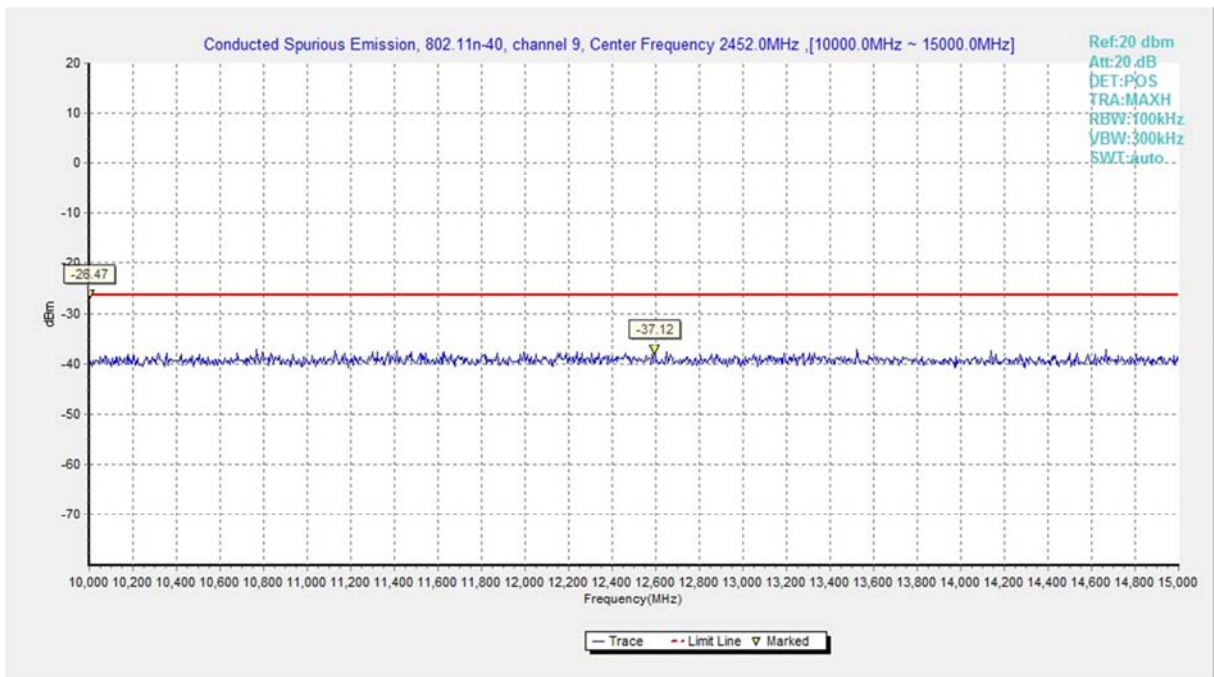


Fig.A.6.1.142 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

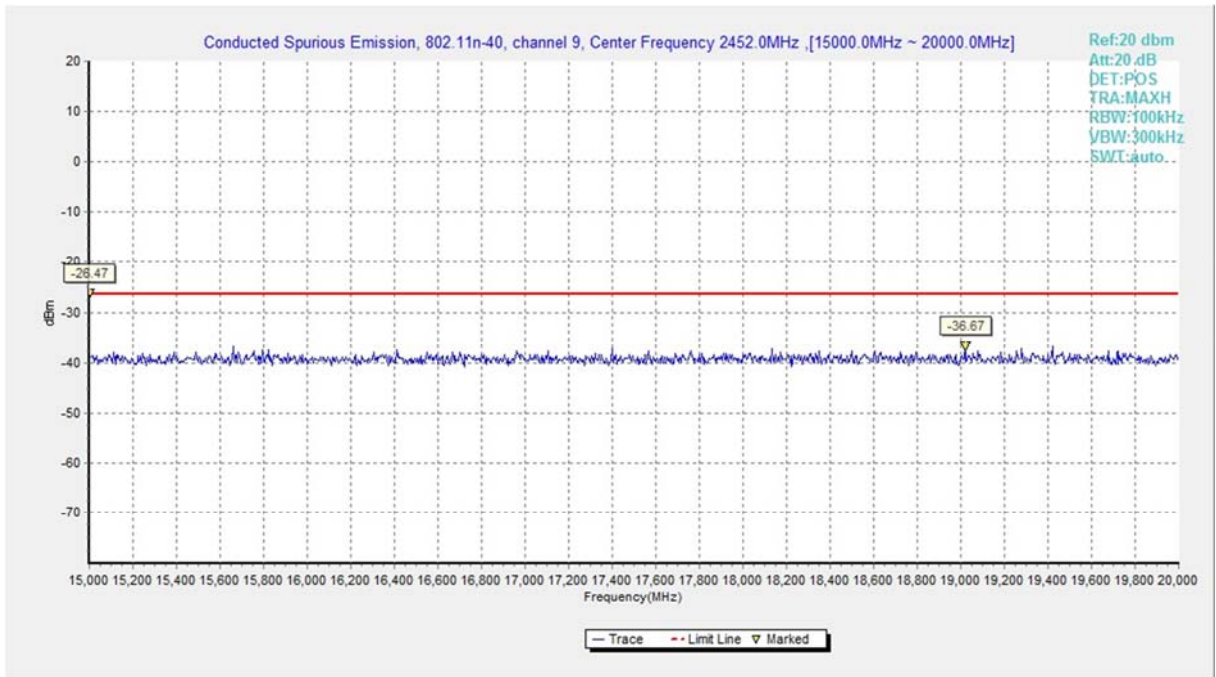


Fig.A.6.1.143 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

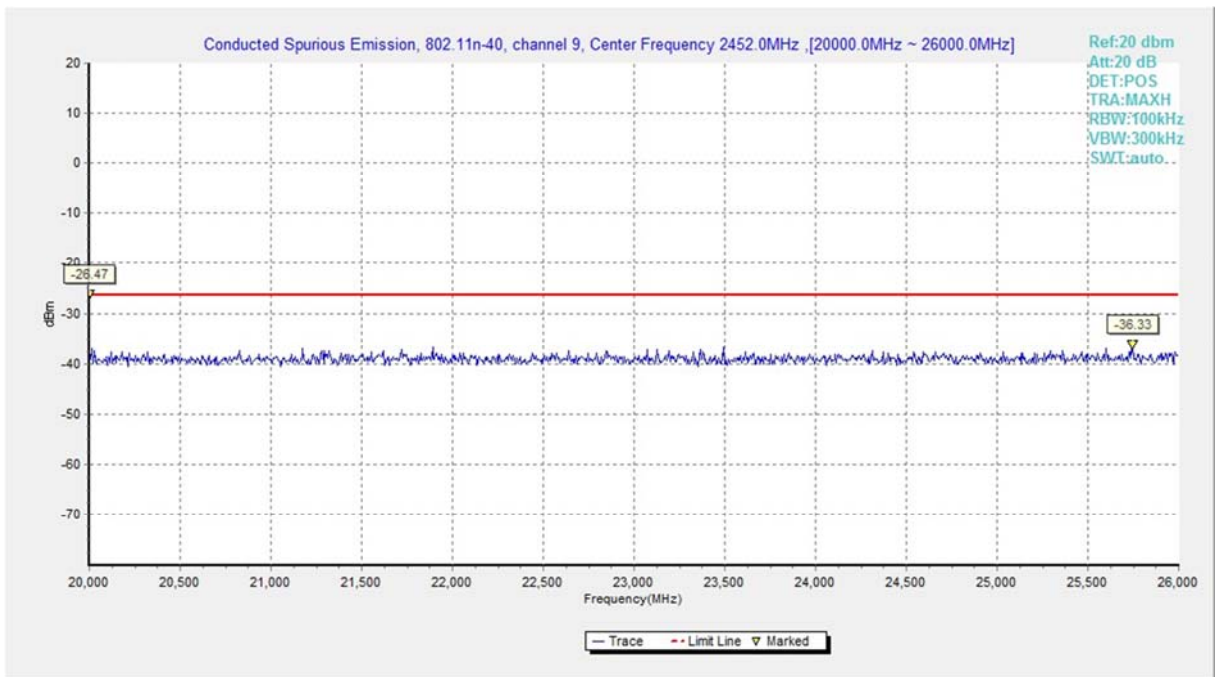


Fig.A.6.1.144 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

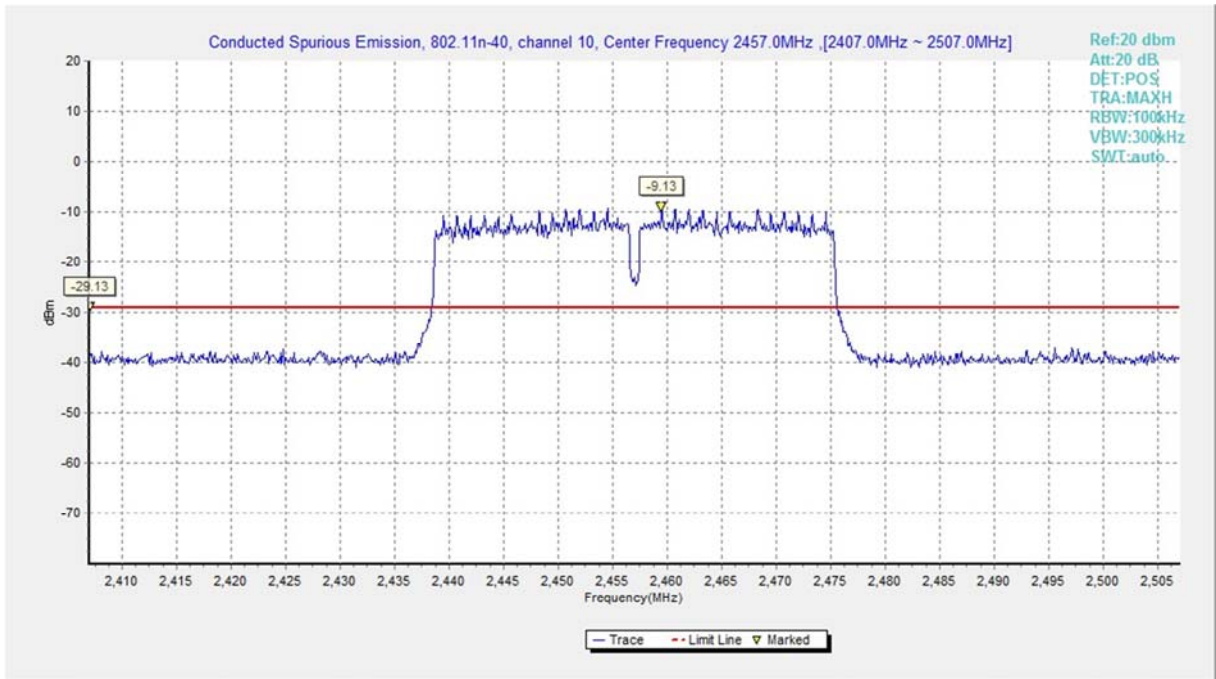


Fig.A.6.1.145 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, Center Frequency)

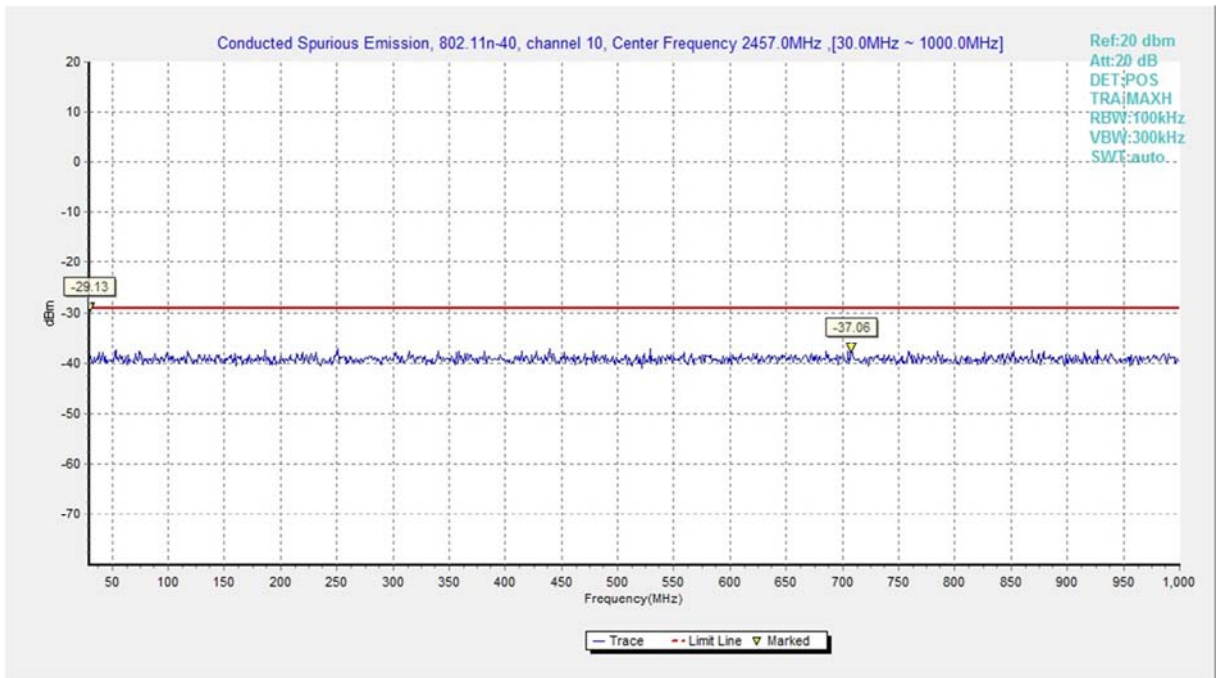


Fig.A.6.1.146 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 30 MHz-1 GHz)

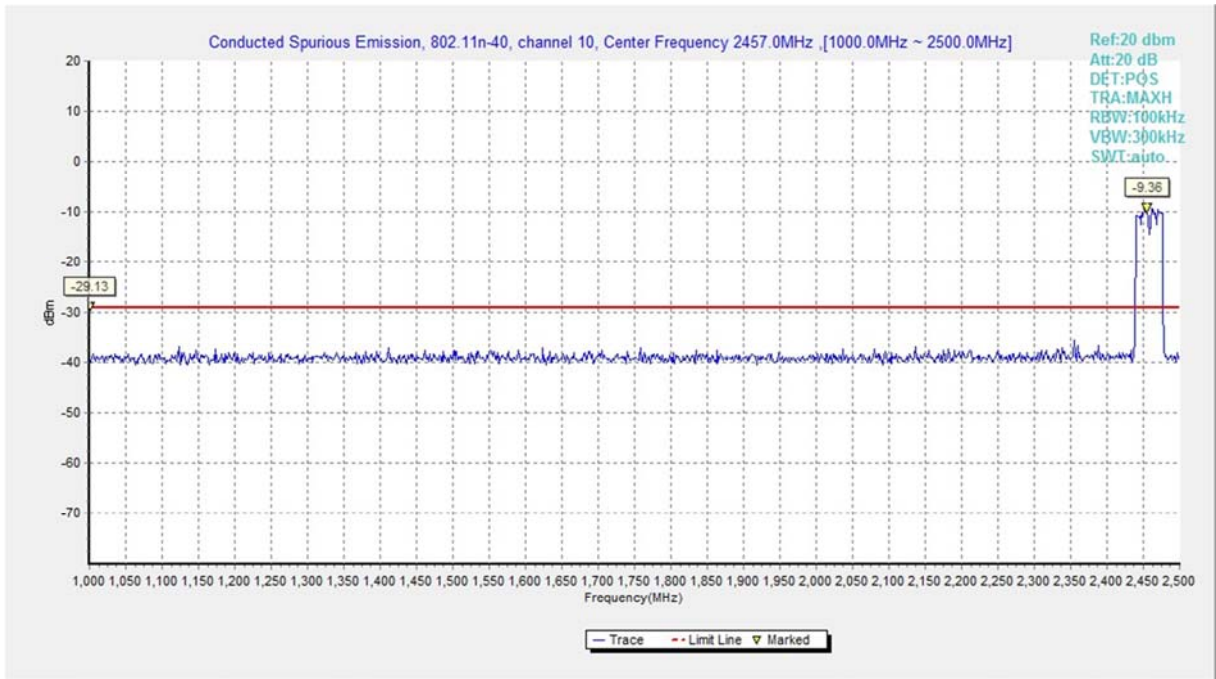


Fig.A.6.1.147 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 1 GHz-2.5 GHz)

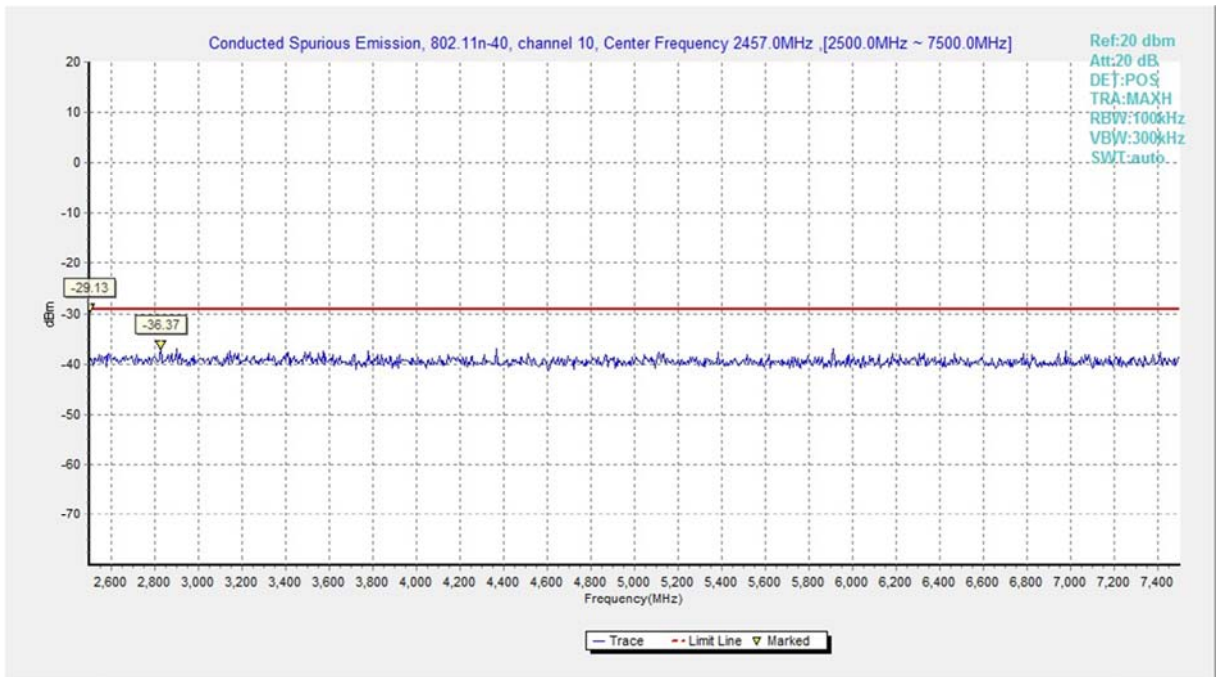


Fig.A.6.1.148 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 2.5 GHz-7.5 GHz)

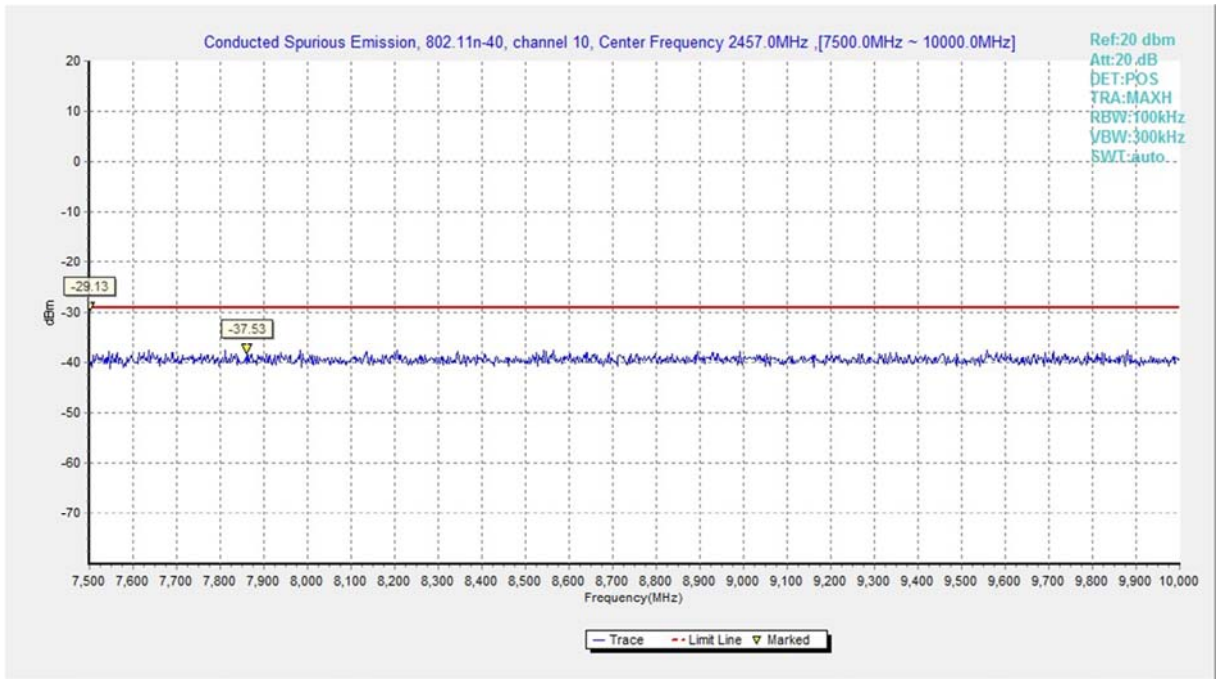


Fig.A.6.1.149 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 7.5 GHz-10 GHz)

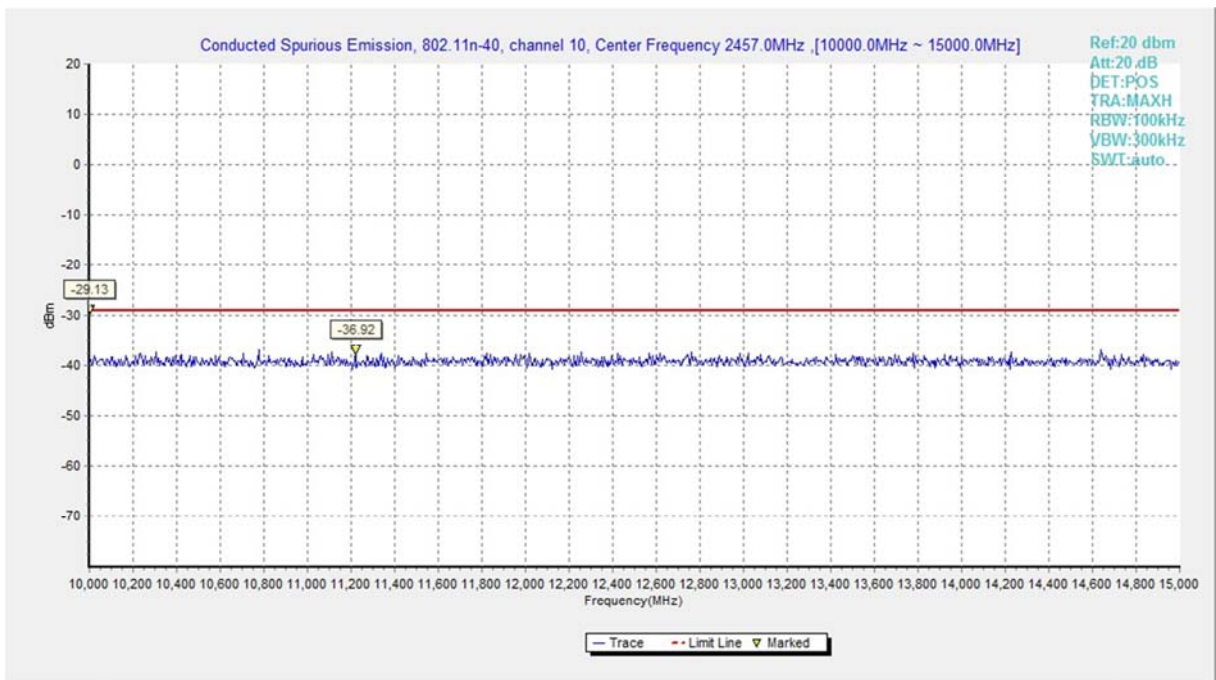


Fig.A.6.1.150 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 10 GHz-15 GHz)

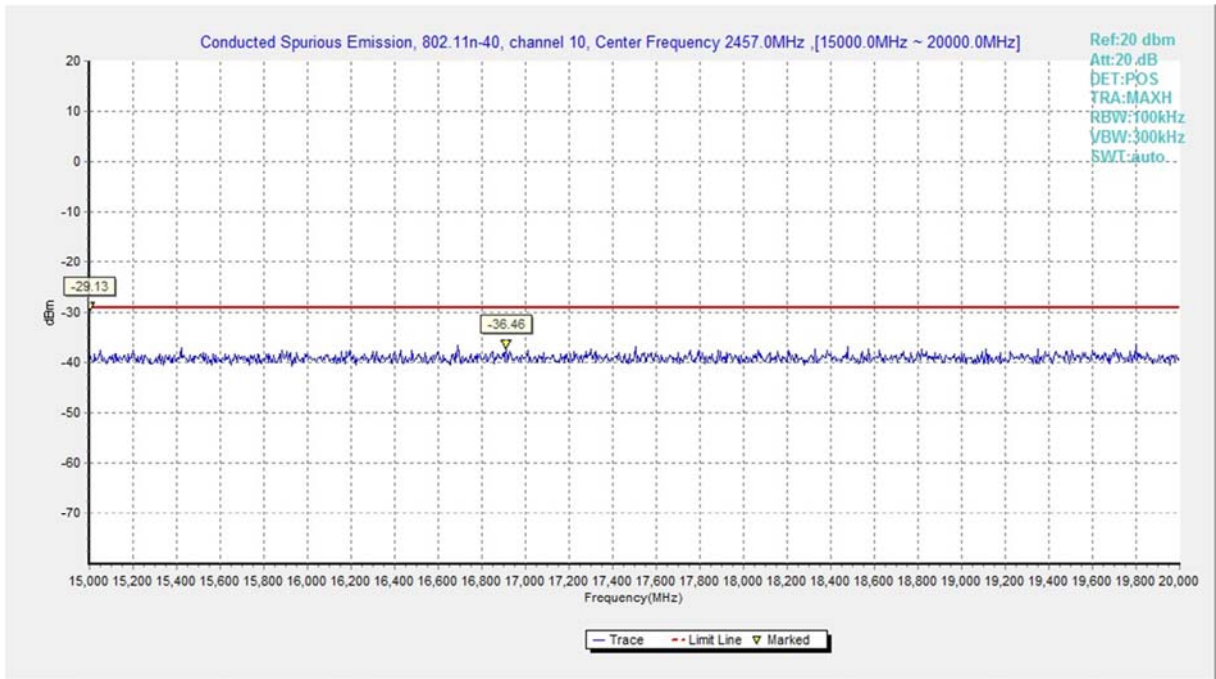


Fig.A.6.1.151 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 15 GHz-20 GHz)

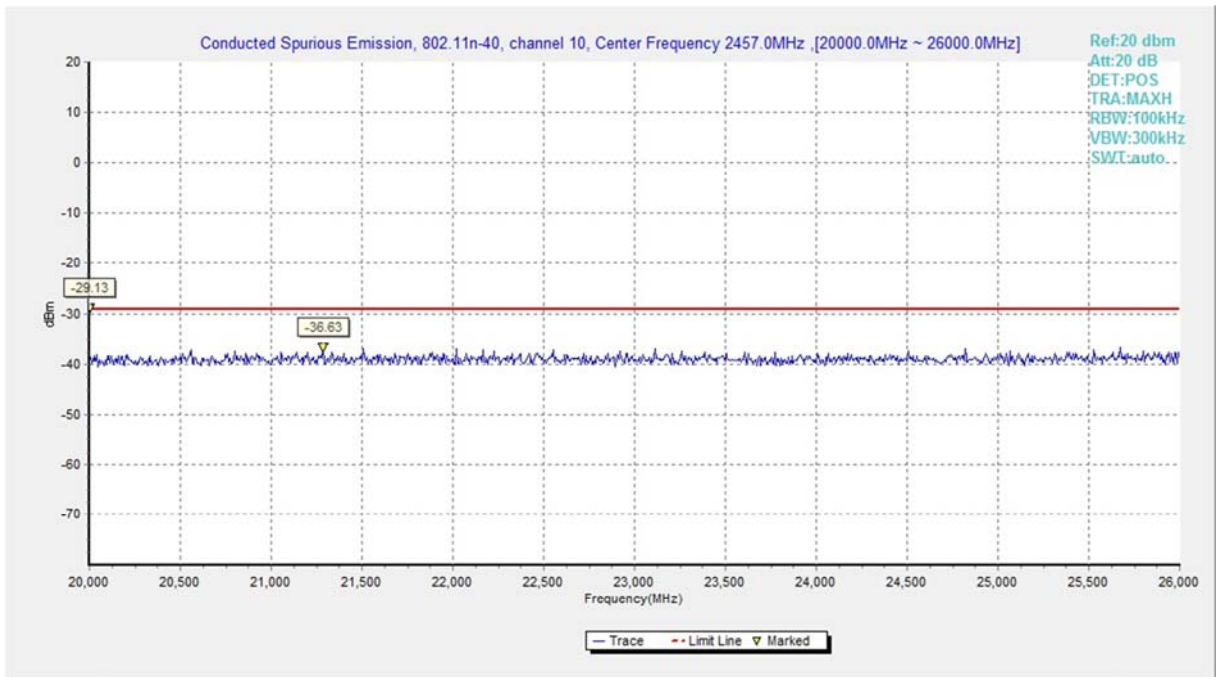


Fig.A.6.1.152 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch10, 20 GHz-26 GHz)

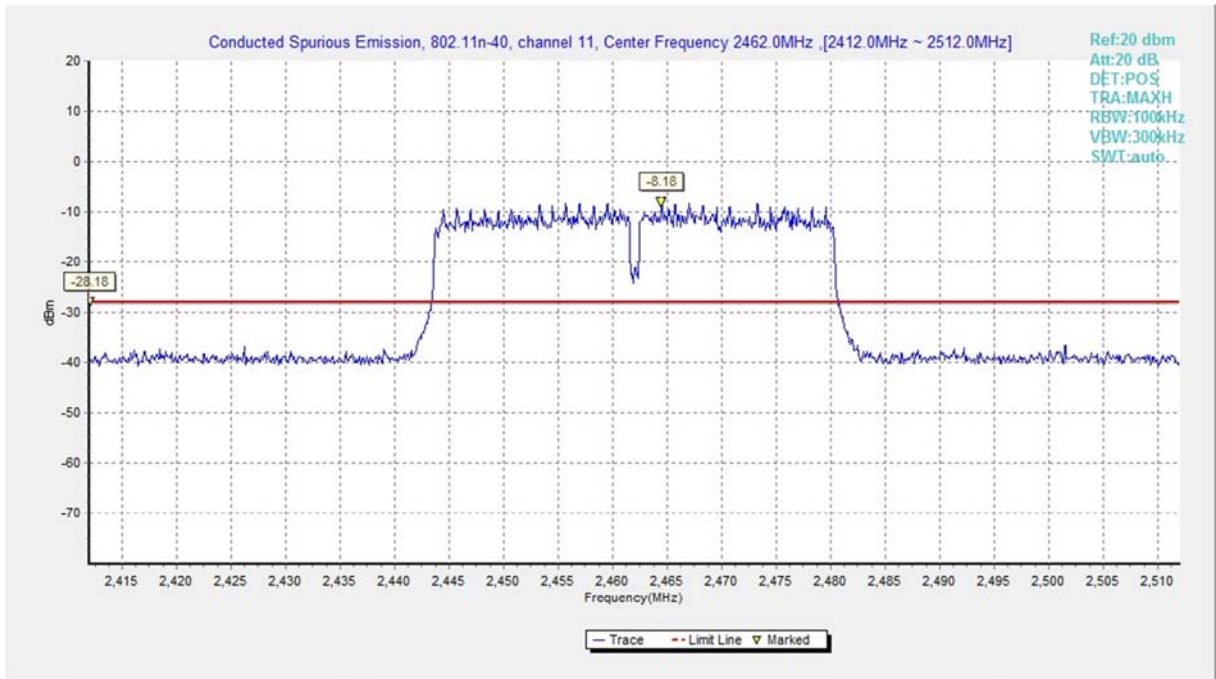


Fig.A.6.1.153 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, Center Frequency)

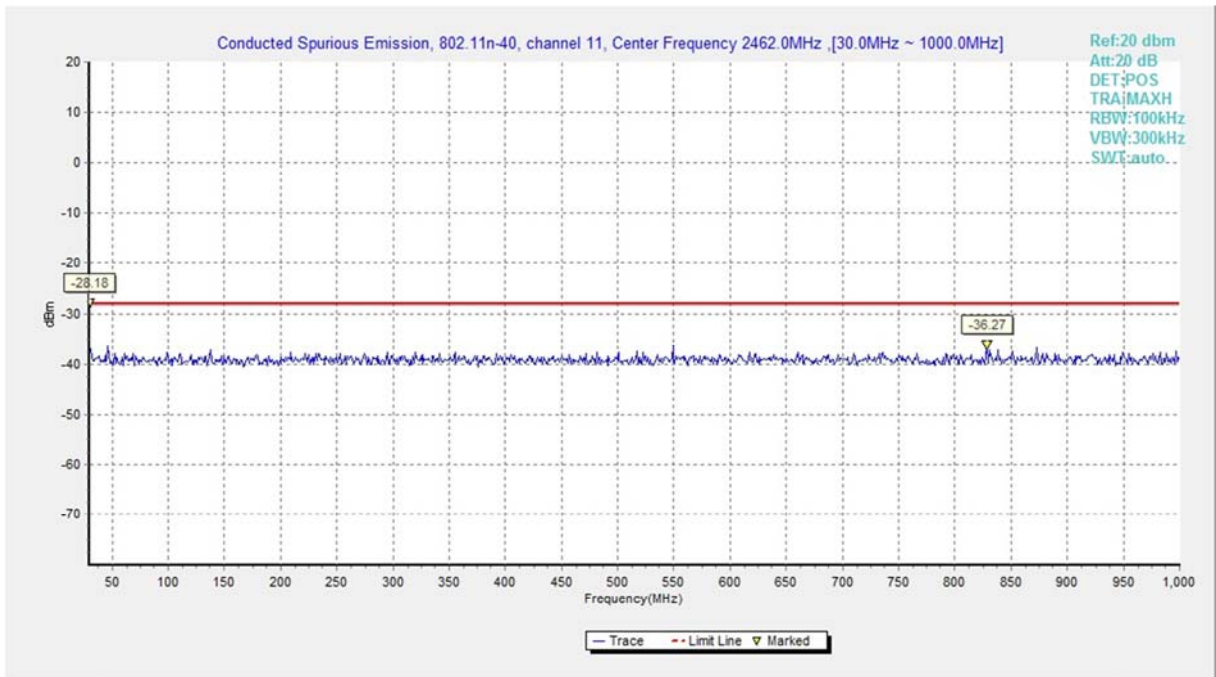


Fig.A.6.1.154 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 30 MHz-1 GHz)

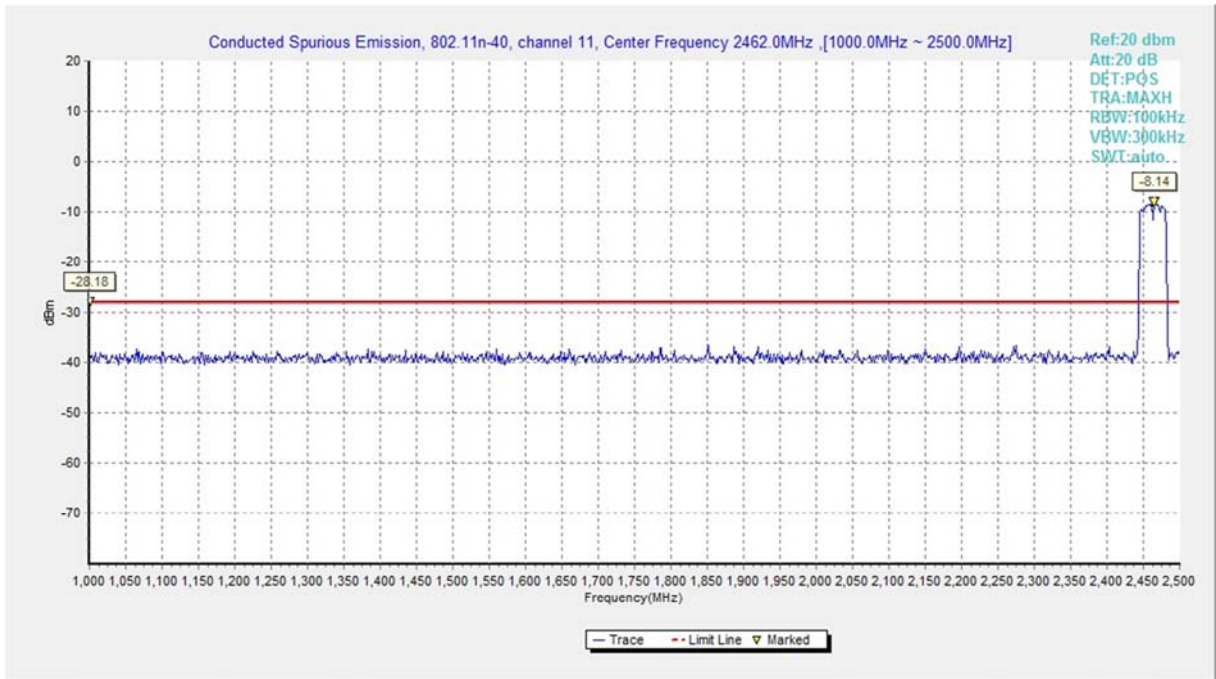


Fig.A.6.1.155 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 1 GHz-2.5 GHz)

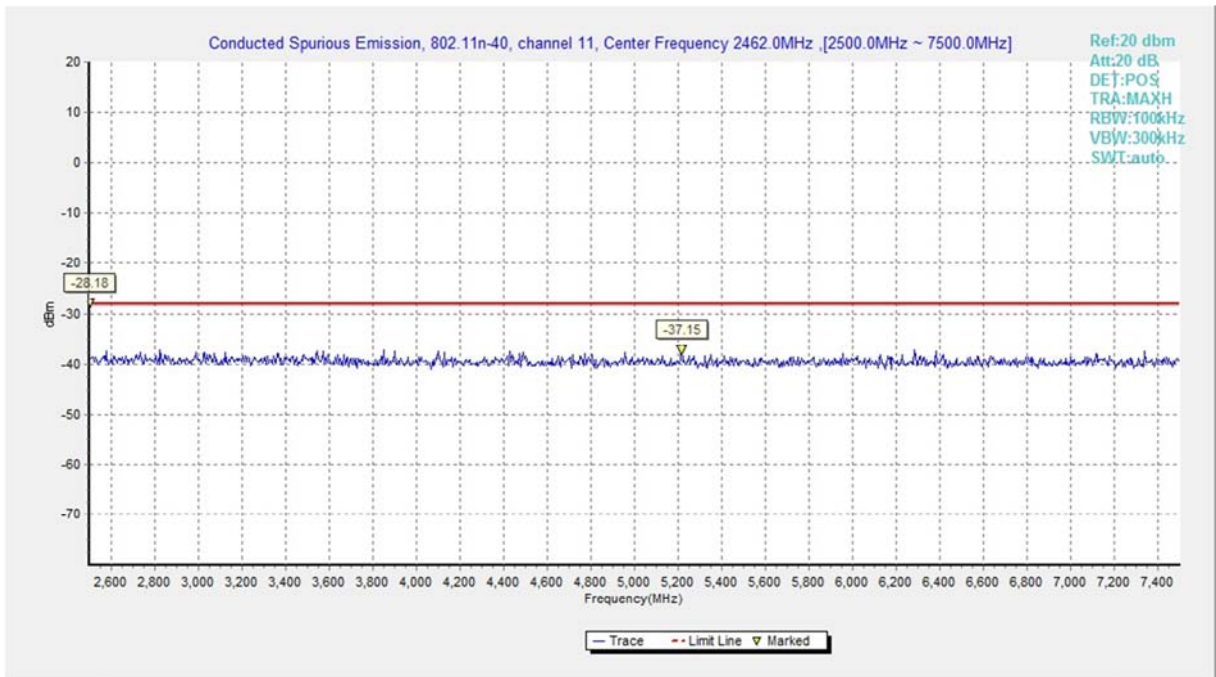


Fig.A.6.1.156 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 2.5 GHz-7.5 GHz)

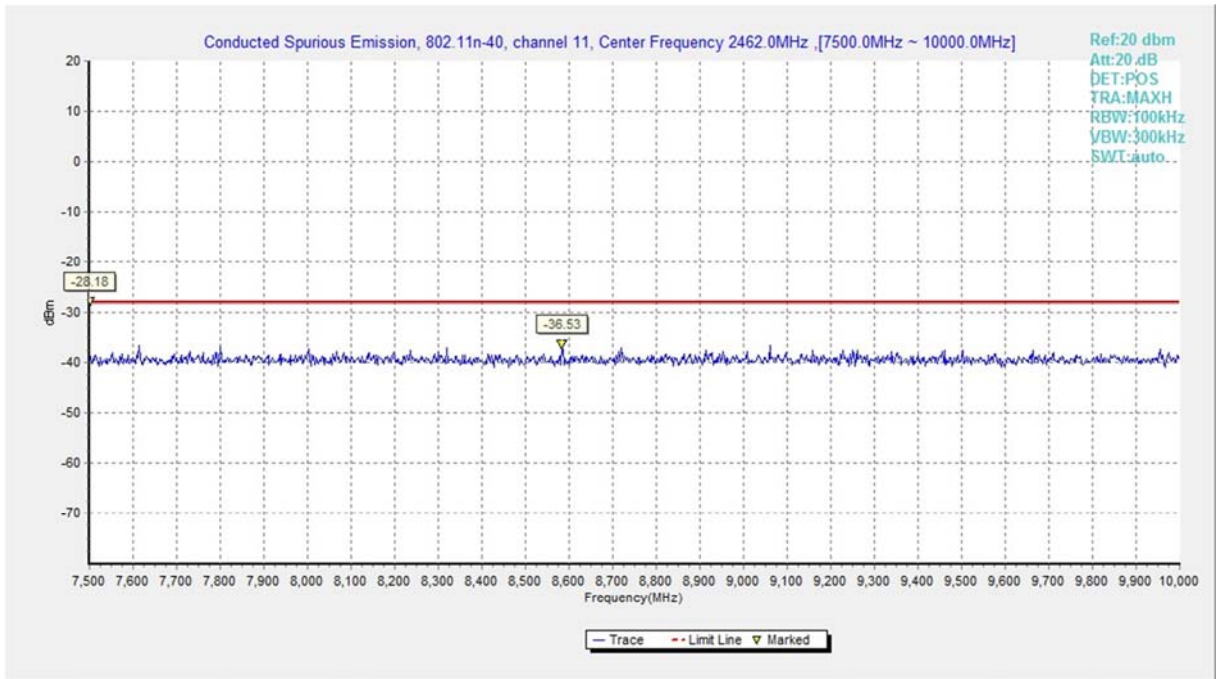


Fig.A.6.1.157 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 7.5 GHz-10 GHz)

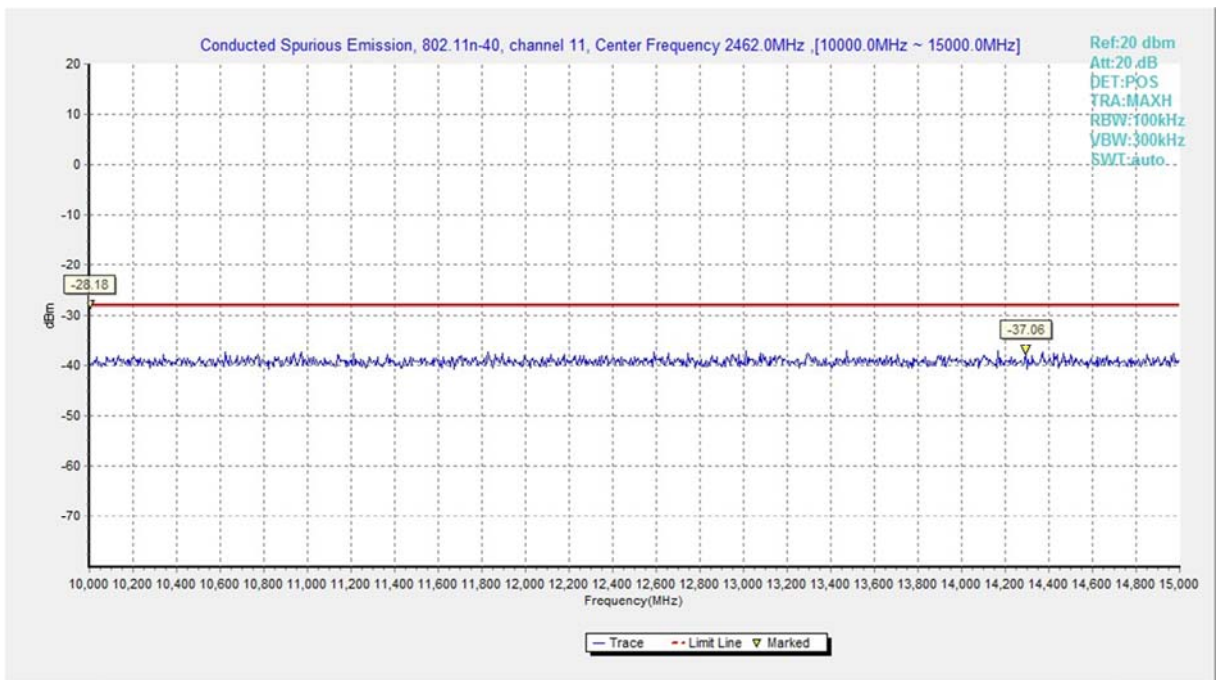


Fig.A.6.1.158 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 10 GHz-15 GHz)

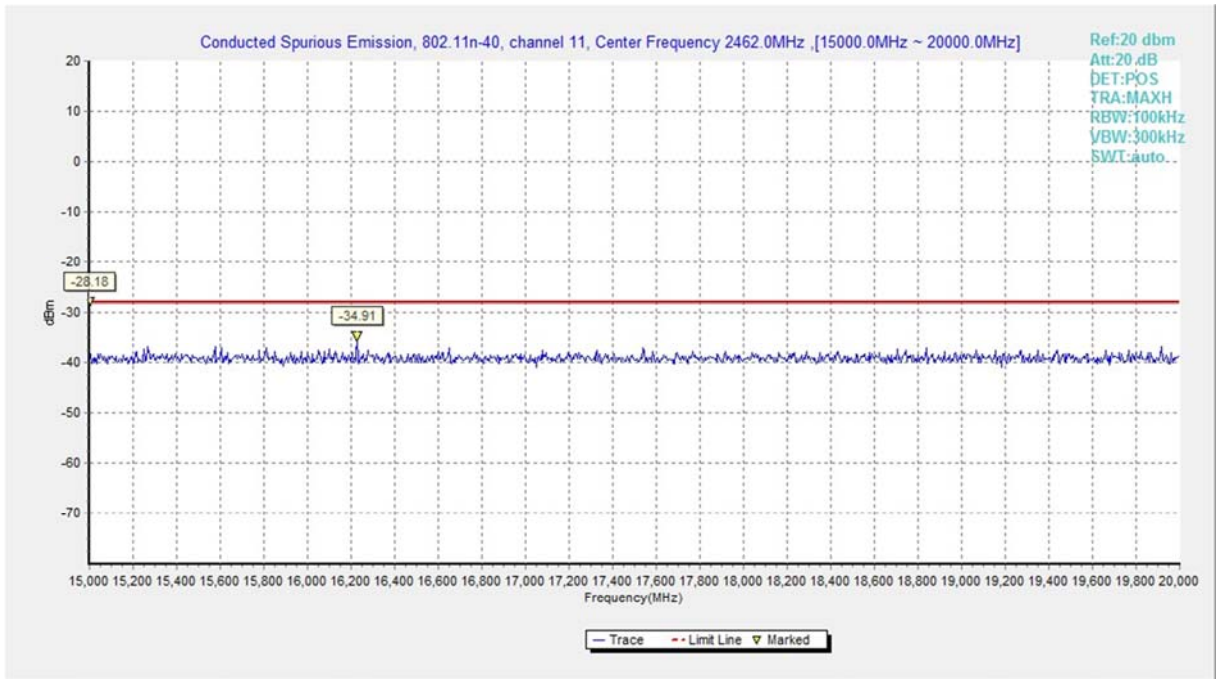


Fig.A.6.1.159 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 15 GHz-20 GHz)

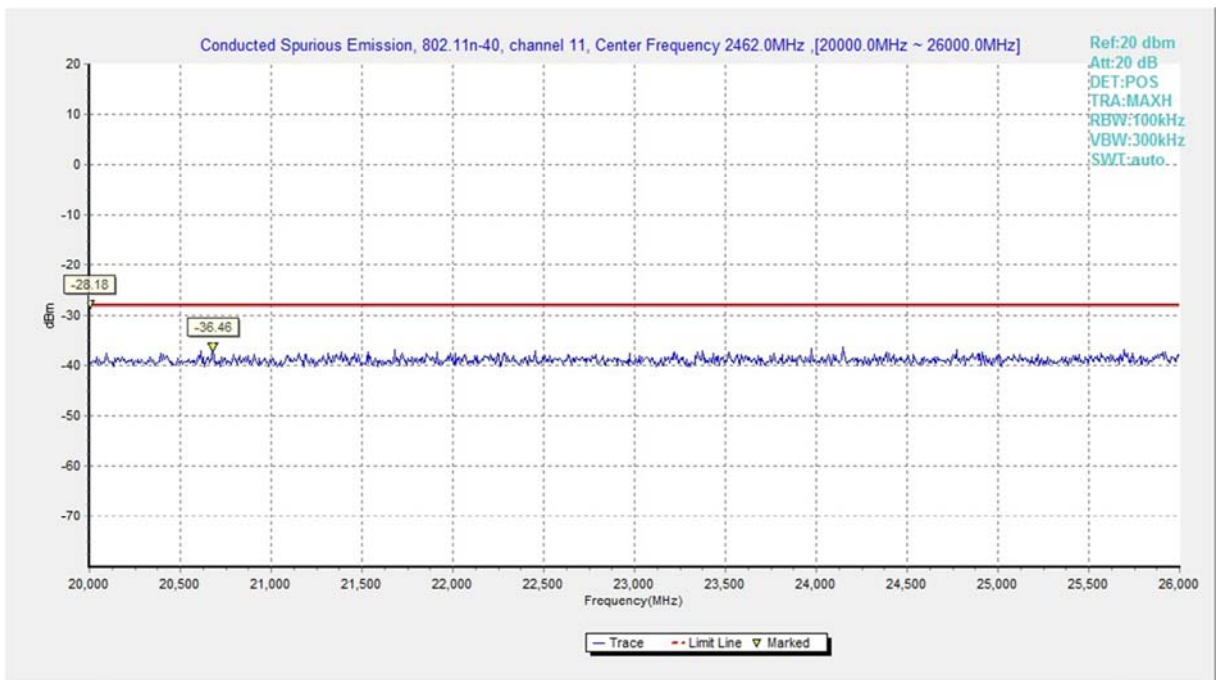


Fig.A.6.1.160 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch11, 20 GHz-26 GHz)

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(μ V/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(μ V/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	
	6	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	
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.12	P	
		12	1 GHz ~ 3 GHz	Fig.A.6.2.13	P
	12		3 GHz ~ 18 GHz	Fig.A.6.2.14	P
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.15	P
	13		1 GHz ~ 3 GHz	Fig.A.6.2.16	P
		13	3 GHz ~ 18 GHz	Fig.A.6.2.17	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.18	P	
	1	1 GHz ~ 3 GHz	Fig.A.6.2.19	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.20	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.21	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.22	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.23	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.24	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.25	P
		11	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	
		12	1 GHz ~ 3 GHz	Fig.A.6.2.29	P
	12		3 GHz ~ 18 GHz	Fig.A.6.2.30	P
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.31	P
	13		1 GHz ~ 3 GHz	Fig.A.6.2.32	P
		13	3 GHz ~ 18 GHz	Fig.A.6.2.33	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.34	P	
	1	1 GHz ~ 3 GHz	Fig.A.6.2.35	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.36	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.37	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.38	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.39	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.40	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.41	P
		11	1 GHz ~ 3 GHz	Fig.A.6.2.42	P
	3 GHz ~ 18 GHz		Fig.A.6.2.43	P	
	11	Power	2.45GHz ~2.5GHz	Fig.A.6.2.44	P
		12	1 GHz ~ 3 GHz	Fig.A.6.2.45	P
	12		3 GHz ~ 18 GHz	Fig.A.6.2.46	P
		12	Power	2.45GHz ~2.5GHz	Fig.A.6.2.47
	13		1 GHz ~ 3 GHz	Fig.A.6.2.48	P
		13	3 GHz ~ 18 GHz	Fig.A.6.2.49	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion	
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.50	P	
	3	1 GHz ~ 3 GHz	Fig.A.6.2.51	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.52	P	
	6	30 MHz ~1 GHz	Fig.A.6.2.53	P	
		1 GHz ~ 3 GHz	Fig.A.6.2.54	P	
		3 GHz ~ 18 GHz	Fig.A.6.2.55	P	
	6	18 GHz~ 26.5 GHz	Fig.A.6.2.56	P	
		Power	2.45GHz ~2.5GHz	Fig.A.6.2.57	P
		9	1 GHz ~ 3 GHz	Fig.A.6.2.58	P
	3 GHz ~ 18 GHz		Fig.A.6.2.59	P	
	9	Power	2.45GHz ~2.5GHz	Fig.A.6.2.60	P
		10	1 GHz ~ 3 GHz	Fig.A.6.2.61	P
	10		3 GHz ~ 18 GHz	Fig.A.6.2.62	P
		10	Power	2.45GHz ~2.5GHz	Fig.A.6.2.63
	11		1 GHz ~ 3 GHz	Fig.A.6.2.64	P
		11	3 GHz ~ 18 GHz	Fig.A.6.2.65	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:

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

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.215	60.9	-38.8	27.7	72.000	H
17814.750	60.6	-18.5	45.6	33.500	V
17810.250	60.6	-18.5	45.6	33.500	H
17831.250	60.6	-18.5	45.6	33.500	V
17856.000	60.6	-18.5	45.6	33.500	H
18000.000	60.5	-45.6	44.5	61.566	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17886.000	61.3	-18.5	45.6	34.200	H
17963.250	61.1	-17.7	45.6	33.200	H
18000.000	60.9	-45.6	44.5	61.966	V
17864.250	60.9	-18.5	45.6	33.800	V
17958.000	60.8	-17.7	45.6	32.900	V
17928.750	60.7	-17.7	45.6	32.800	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17709.750	60.7	-18.9	45.6	34.000	H
17787.000	60.7	-18.5	45.6	33.600	H
17982.750	60.6	-17.7	45.6	32.700	V
17999.250	60.5	-17.7	45.6	32.600	H
17994.750	60.5	-17.7	45.6	32.600	V
17952.750	60.4	-17.7	45.6	32.500	H

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17751.750	61.2	-18.5	45.6	34.100	V
17787.750	60.9	-18.5	45.6	33.800	H
17953.500	60.6	-17.7	45.6	32.700	V
17904.000	60.5	-18.5	45.6	33.400	H
17818.500	60.4	-18.5	45.6	33.300	H
17906.250	60.4	-18.5	45.6	33.300	H

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2485.650	62.0	-38.9	27.7	73.200	V
17977.500	61.1	-17.7	45.6	33.200	H
17885.250	60.9	-18.5	45.6	33.800	H
17894.250	60.7	-18.5	45.6	33.600	H
17820.750	60.6	-18.5	45.6	33.500	V
17689.500	60.5	-18.9	45.6	33.800	H

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.855	64.9	-38.8	27.7	76.000	H
17933.250	60.9	-17.7	45.6	33.000	H
17912.250	60.9	-18.5	45.6	33.800	V
17895.750	60.8	-18.5	45.6	33.700	V
17867.250	60.7	-18.5	45.6	33.600	V
17935.500	60.6	-17.7	45.6	32.700	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17970.750	61.6	-17.7	45.6	33.700	H
17877.000	60.8	-18.5	45.6	33.700	H
17778.000	60.8	-18.5	45.6	33.700	V
17794.500	60.7	-18.5	45.6	33.600	V
17935.500	60.6	-17.7	45.6	32.700	V
18000.000	60.5	-45.6	44.5	61.566	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17793.750	61.5	-18.5	45.6	34.400	H
17946.750	61.3	-17.7	45.6	33.400	V
17925.000	60.9	-17.7	45.6	33.000	H
17923.500	60.7	-17.7	45.6	32.800	H
17895.750	60.6	-18.5	45.6	33.500	H
17919.750	60.6	-17.7	45.6	32.700	V

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17979.000	61.4	-17.7	45.6	33.500	V
17991.000	61.2	-17.7	45.6	33.300	V
17992.500	61.2	-17.7	45.6	33.300	V
17610.750	61.1	-18.9	45.6	34.400	V
17908.500	60.8	-18.5	45.6	33.700	H
17454.000	60.6	-19.2	41.5	38.300	H

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2497.655	61.7	-38.9	27.7	72.900	V
17907.750	61.2	-18.5	45.6	34.100	V
17771.250	60.8	-18.5	45.6	33.700	V
17887.500	60.7	-18.5	45.6	33.600	H
17822.250	60.7	-18.5	45.6	33.600	H
17928.000	60.7	-17.7	45.6	32.800	V

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.575	70.4	-38.8	27.7	81.500	V
17882.250	61.4	-18.5	45.6	34.300	V
17795.250	60.8	-18.5	45.6	33.700	H
17965.500	60.8	-17.7	45.6	32.900	V
17947.500	60.7	-17.7	45.6	32.800	H
17847.750	60.7	-18.5	45.6	33.600	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17992.500	61.4	-17.7	45.6	33.500	H
17906.250	61.3	-18.5	45.6	34.200	H
17858.250	61.0	-18.5	45.6	33.900	H
17956.500	60.9	-17.7	45.6	33.000	H
17887.500	60.8	-18.5	45.6	33.700	V
17970.000	60.7	-17.7	45.6	32.800	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17967.000	61.9	-17.7	45.6	34.000	H
17907.000	61.3	-18.5	45.6	34.200	V
17939.250	61.2	-17.7	45.6	33.300	H
17988.750	60.9	-17.7	45.6	33.000	H
17888.250	60.8	-18.5	45.6	33.700	V
17728.500	60.7	-18.9	45.6	34.000	H

Ch12

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17880.750	61.9	-18.5	45.6	34.800	H
17994.000	60.6	-17.7	45.6	32.700	H
17864.250	60.6	-18.5	45.6	33.500	V
17965.500	60.6	-17.7	45.6	32.700	H
17976.000	60.6	-17.7	45.6	32.700	V
17981.250	60.4	-17.7	45.6	32.500	H

Ch13

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2485.655	60.7	-38.9	27.7	71.900	H
17929.500	61.3	-17.7	45.6	33.400	H
17977.500	60.8	-17.7	45.6	32.900	V
17926.500	60.8	-17.7	45.6	32.900	V
17958.000	60.7	-17.7	45.6	32.800	V
17880.750	60.6	-18.5	45.6	33.500	V

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2381.435	60.7	-38.8	27.7	71.800	H
17925.000	62.1	-17.7	45.6	34.200	H
17992.500	61.5	-17.7	45.6	33.600	V
17963.250	61.3	-17.7	45.6	33.400	V
17882.250	61.2	-18.5	45.6	34.100	V
17832.750	60.8	-18.5	45.6	33.700	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17910.750	61.7	-18.5	45.6	34.600	H
17812.500	61.1	-18.5	45.6	34.000	V
17946.750	61.0	-17.7	45.6	33.100	V
17986.500	61.0	-17.7	45.6	33.100	V
17937.750	60.9	-17.7	45.6	33.000	V
17493.750	60.9	-19.2	41.5	38.600	V

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2485.285	60.3	-38.9	27.7	71.500	H
17817.750	61.8	-18.5	45.6	34.700	V
17958.000	61.5	-17.7	45.6	33.600	H
17887.500	60.8	-18.5	45.6	33.700	V
17948.250	60.7	-17.7	45.6	32.800	V
17958.750	60.6	-17.7	45.6	32.700	H

Ch10

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2487.860	67.8	-26.8	32.4	62.162	V
17703.000	58.4	-23.4	41.2	40.572	V
17661.750	58.2	-23.4	41.2	40.372	V
17726.250	58.2	-23.4	41.2	40.372	V
17748.000	57.9	-23.4	41.2	40.072	H
17633.250	57.9	-23.4	41.2	40.072	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.400	70.6	-27.4	32.4	65.572	H
17622.750	58.1	-23.9	41.2	40.753	H
17667.000	58.0	-23.4	41.2	40.172	V
17718.750	57.8	-23.4	41.2	39.972	V
17709.750	57.8	-23.4	41.2	39.972	H
17673.750	57.8	-23.4	41.2	39.972	V

Test graphs as below:

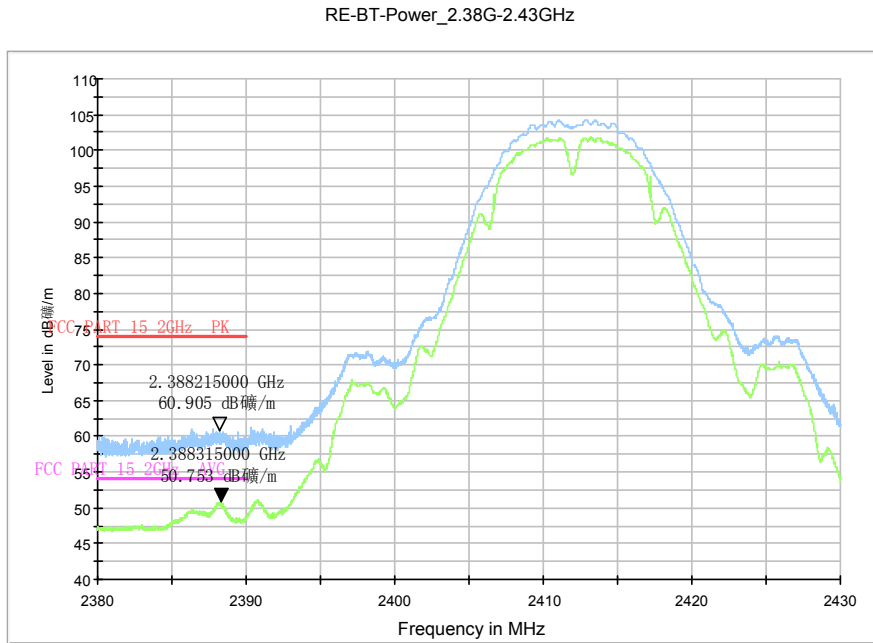


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

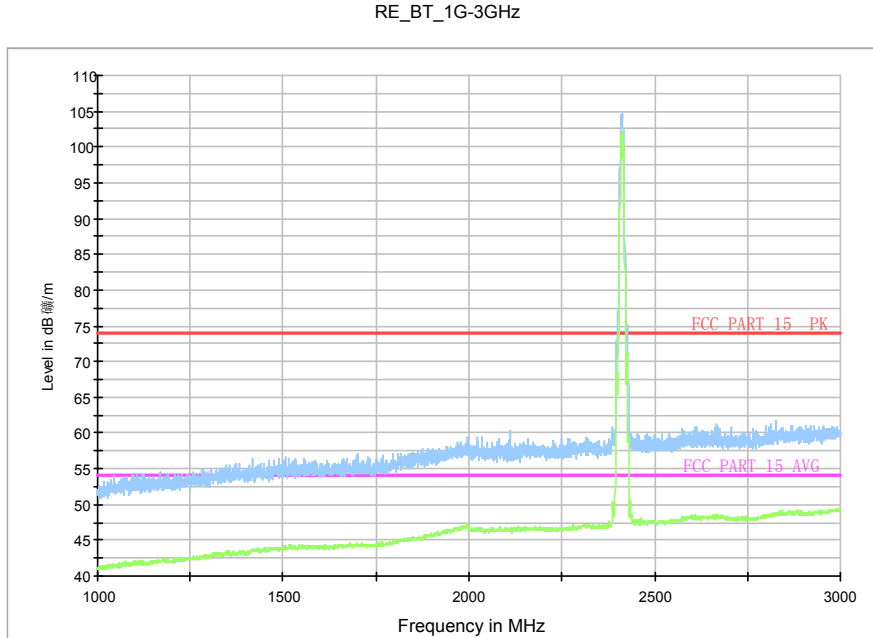


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 1 GHz-3 GHz)

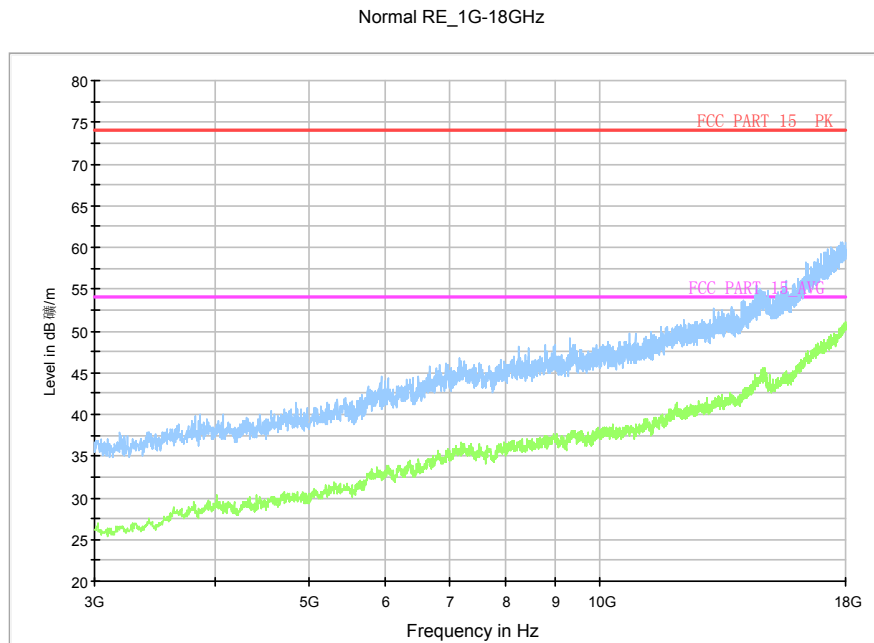


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 3 GHz-18 GHz)

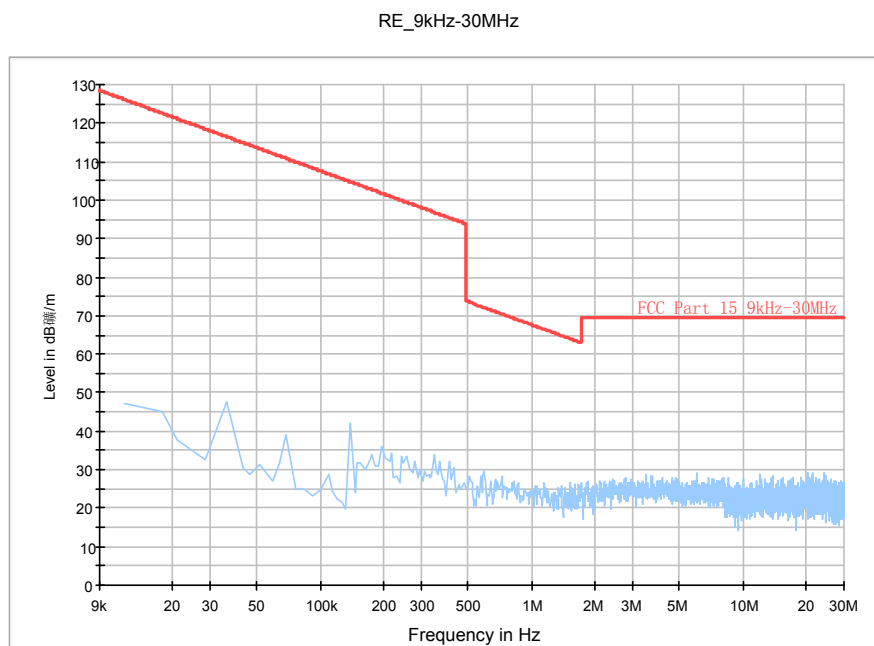


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 9kHz-30 MHz)

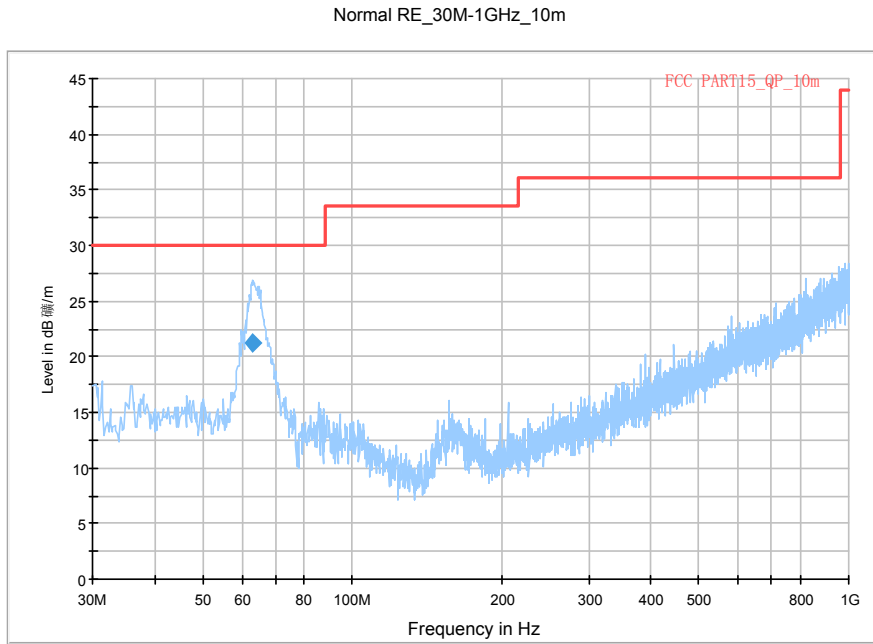


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 30 MHz-1 GHz)

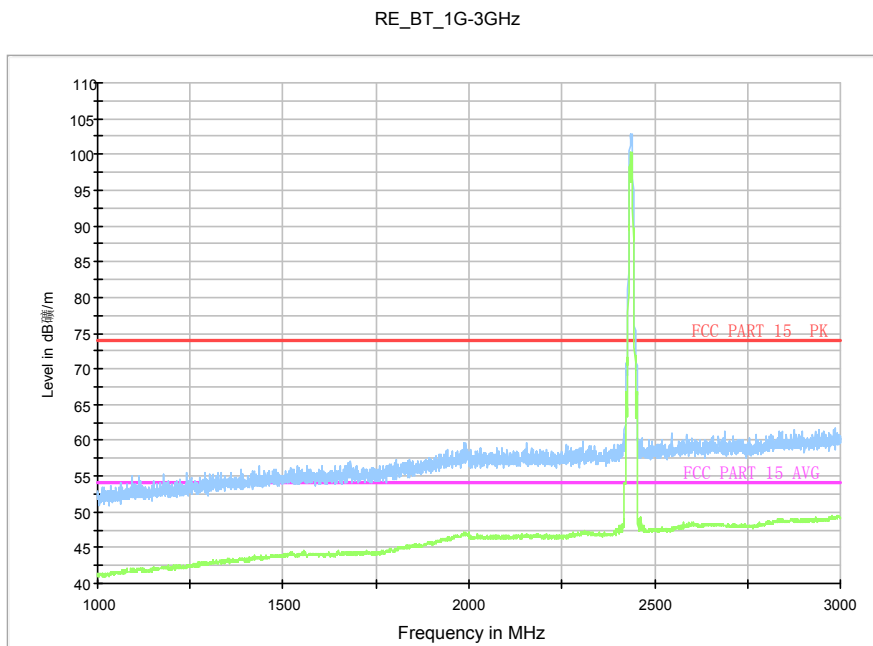


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 1 GHz-3 GHz)

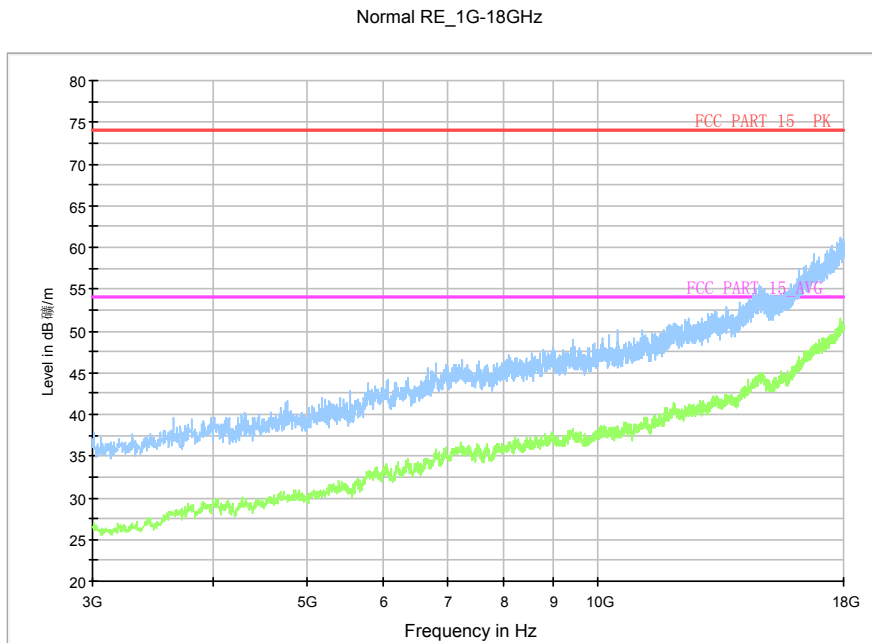


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 3 GHz-18 GHz)

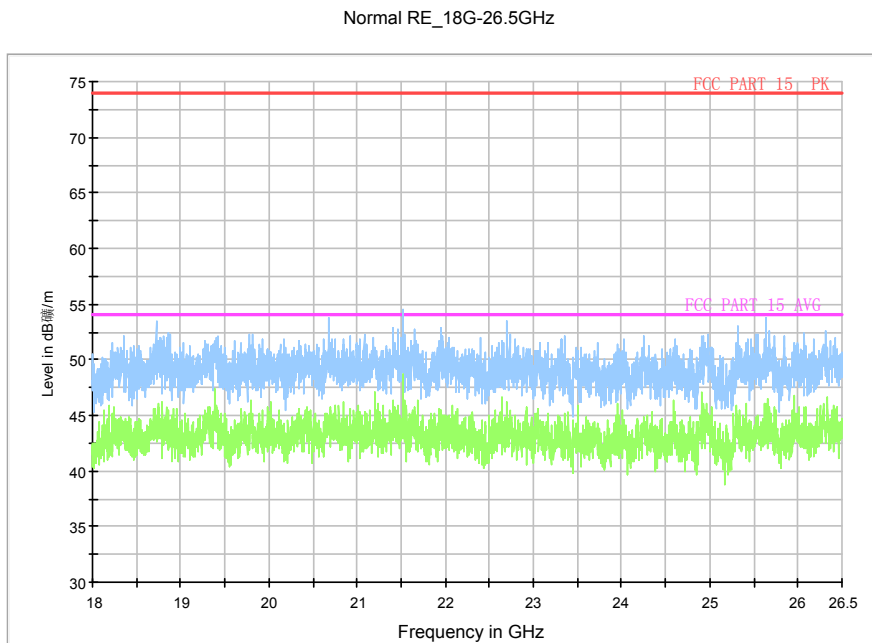


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

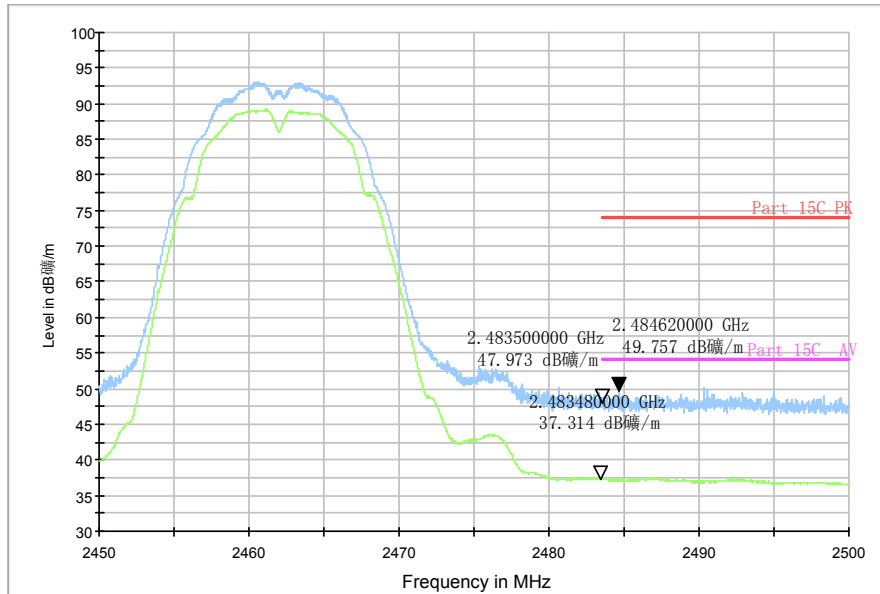


Fig.A.6.2.9 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

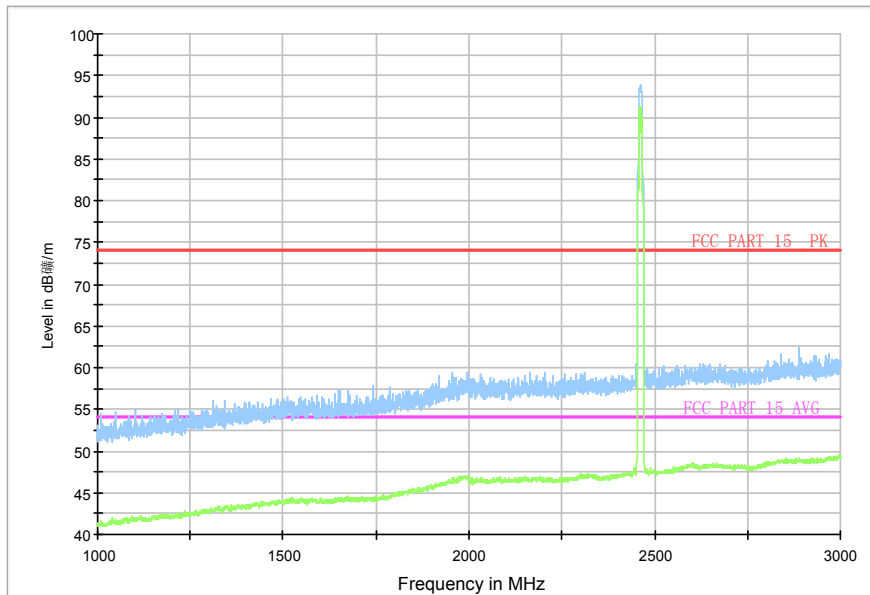


Fig.A.6.2.10 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 1 GHz-3 GHz)

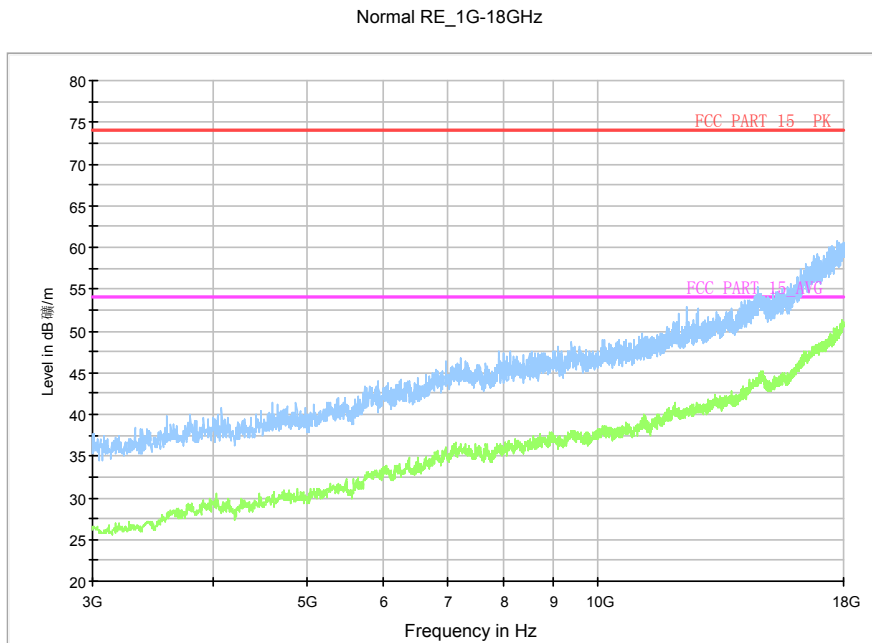


Fig.A.6.2.11 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 3 GHz-18 GHz)

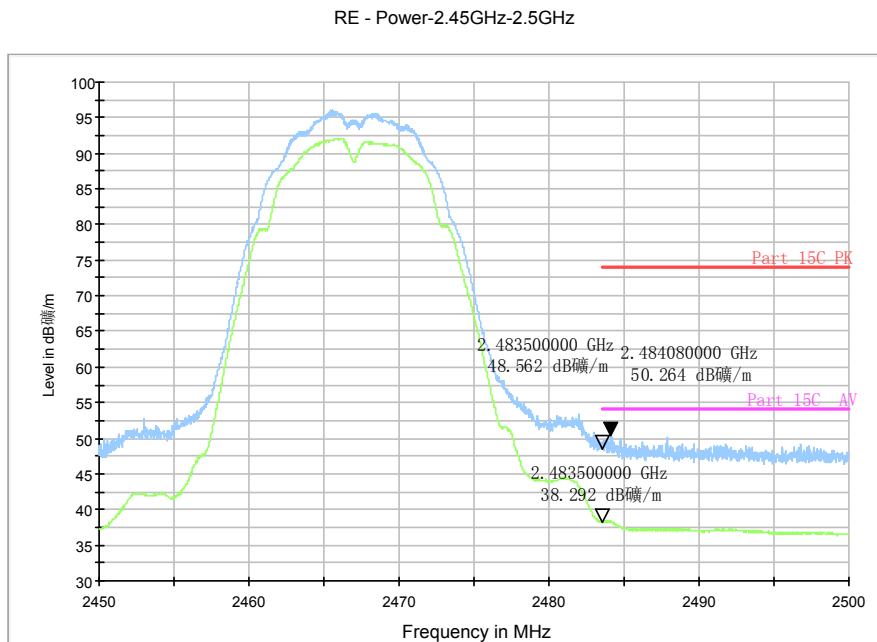


Fig.A.6.2.12 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch12, 2.45 GHz - 2.50GHz

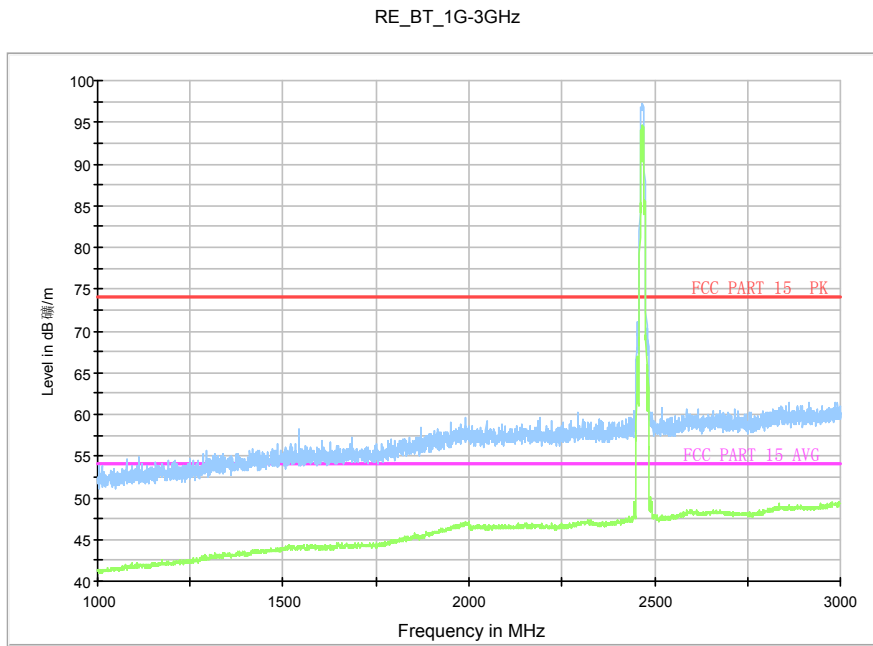


Fig.A.6.2.13 Transmitter Spurious Emission - Radiated (802.11b, Ch12, 1 GHz-3 GHz)

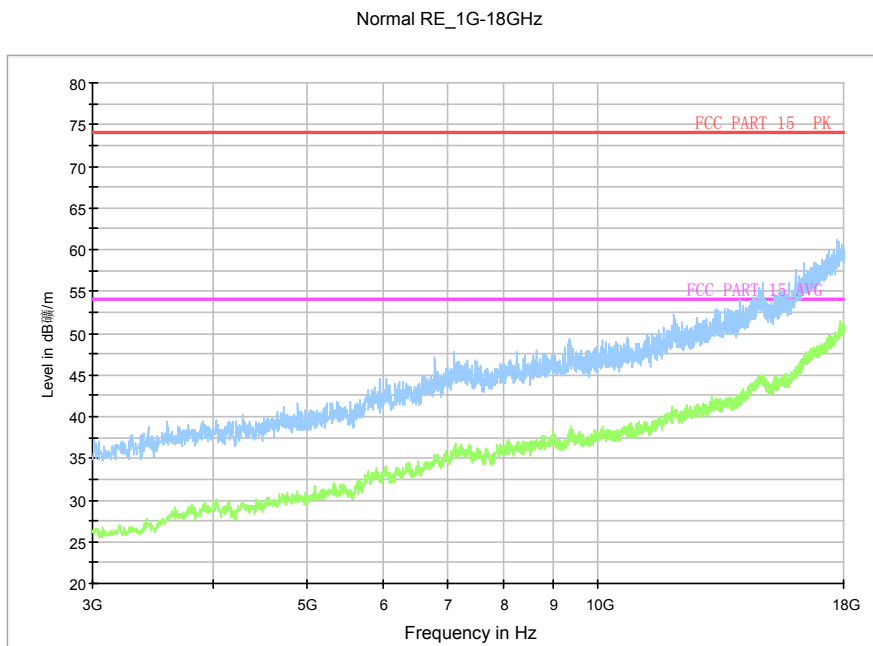


Fig.A.6.2.14 Transmitter Spurious Emission - Radiated (802.11b, Ch12, 3 GHz-18 GHz)

RE-BT-Power_2.45G-2.5GHz

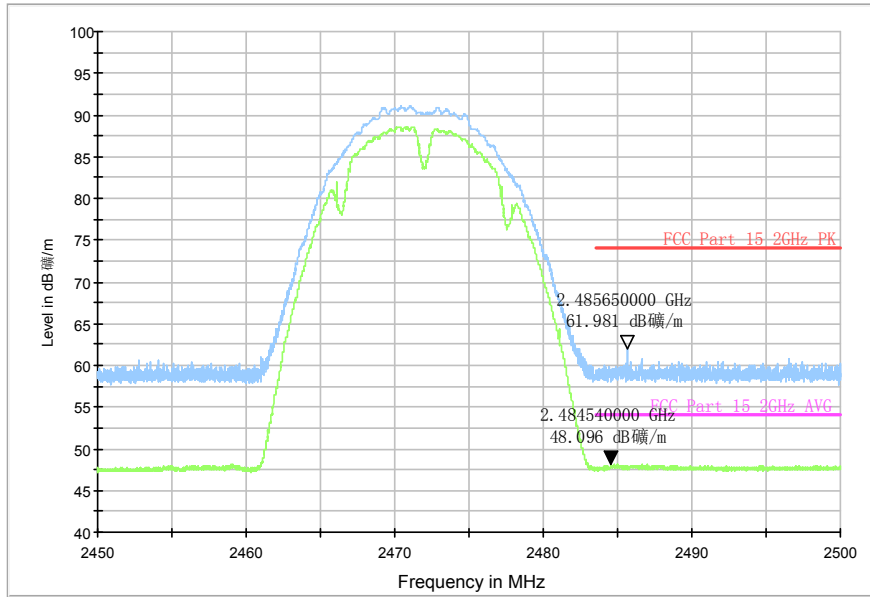


Fig.A.6.2.15 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch13, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

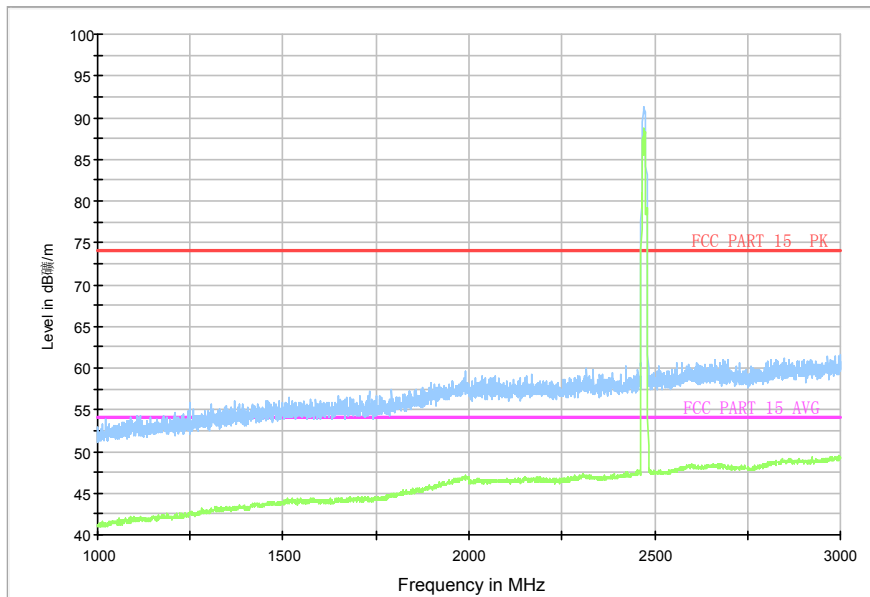


Fig.A.6.2.16 Transmitter Spurious Emission - Radiated (802.11b, Ch13, 1 GHz-3 GHz)

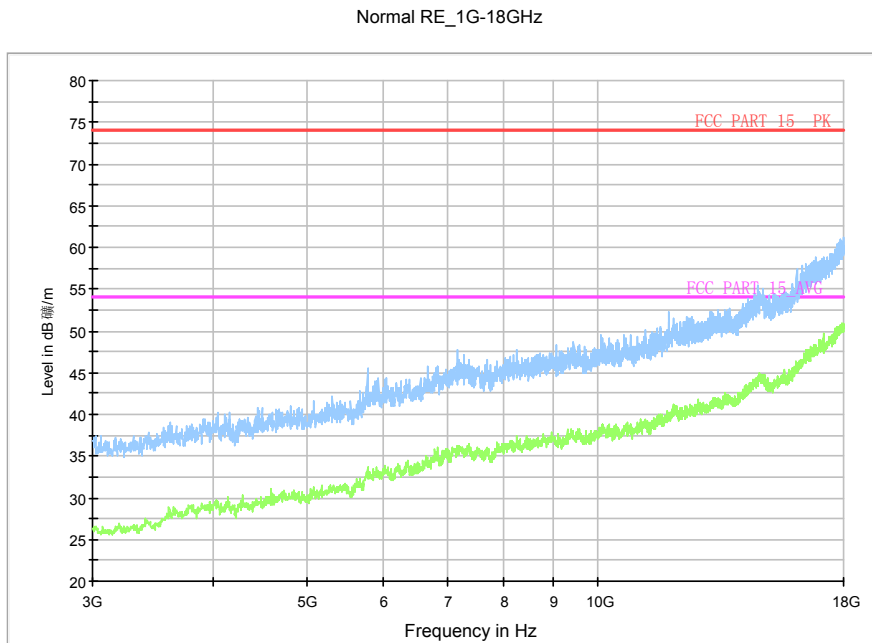


Fig.A.6.2.17 Transmitter Spurious Emission - Radiated (802.11b, Ch13, 3 GHz-18 GHz)

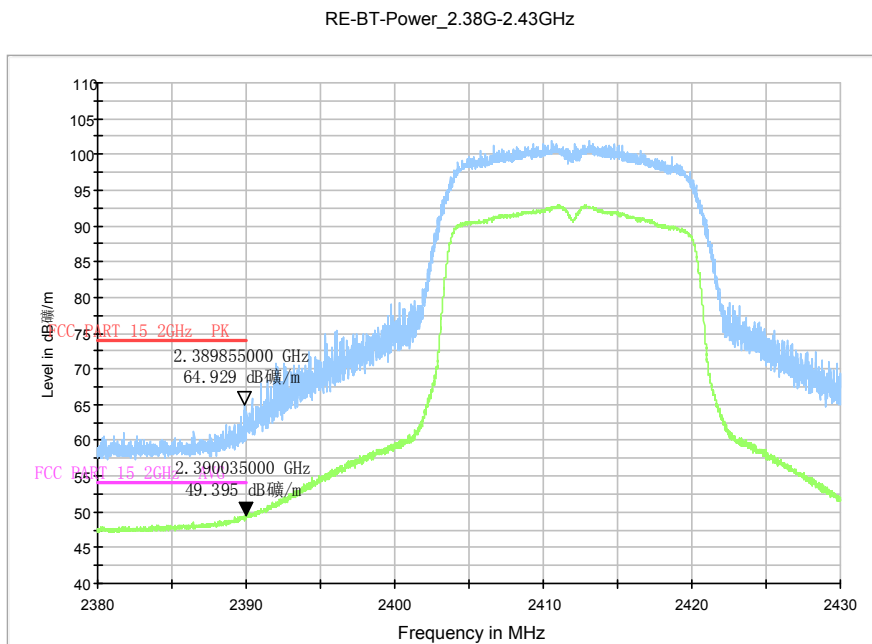


Fig.A.6.2.18 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

RE_BT_1G-3GHz

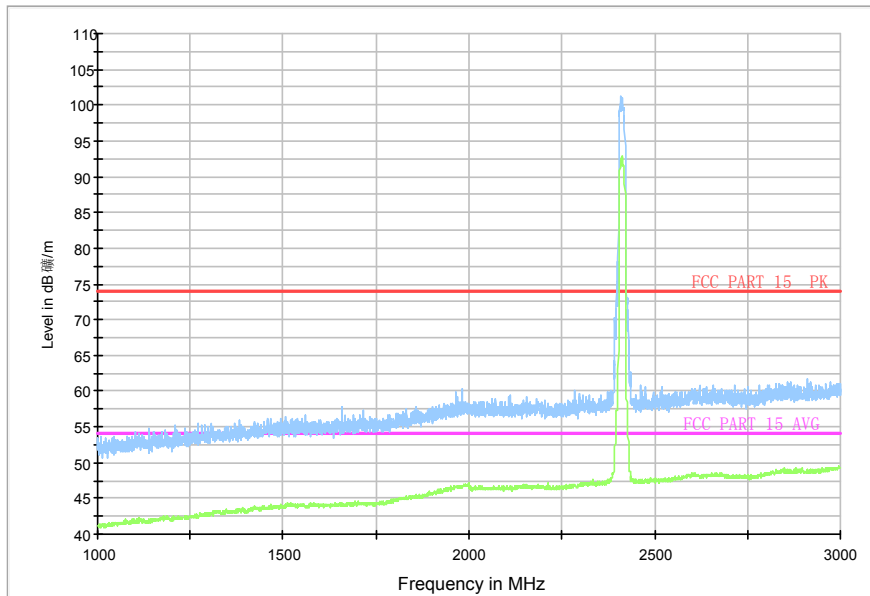


Fig.A.6.2.19 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 1 GHz-3 GHz)

Normal RE_1G-18GHz

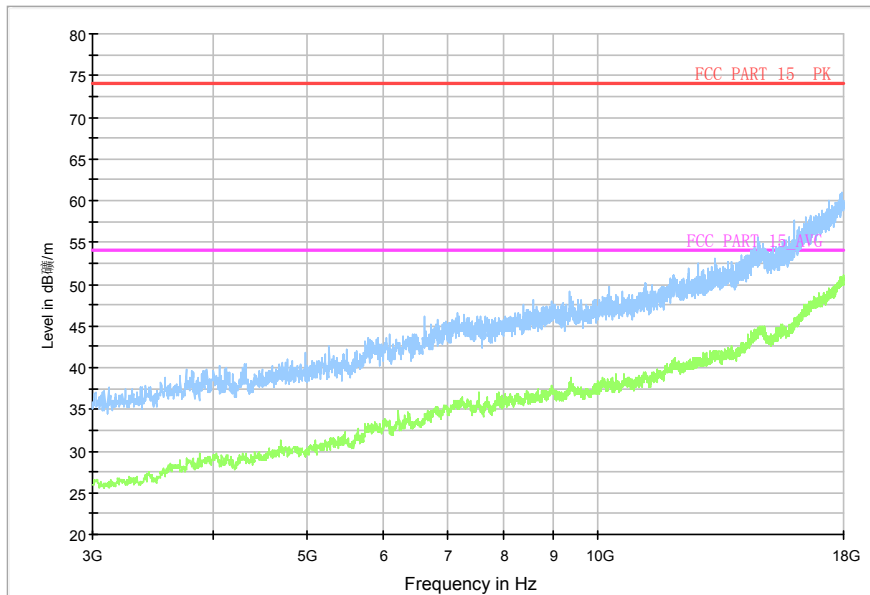


Fig.A.6.2.20 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 3 GHz-18 GHz)

Normal RE_30M-1GHz_10m

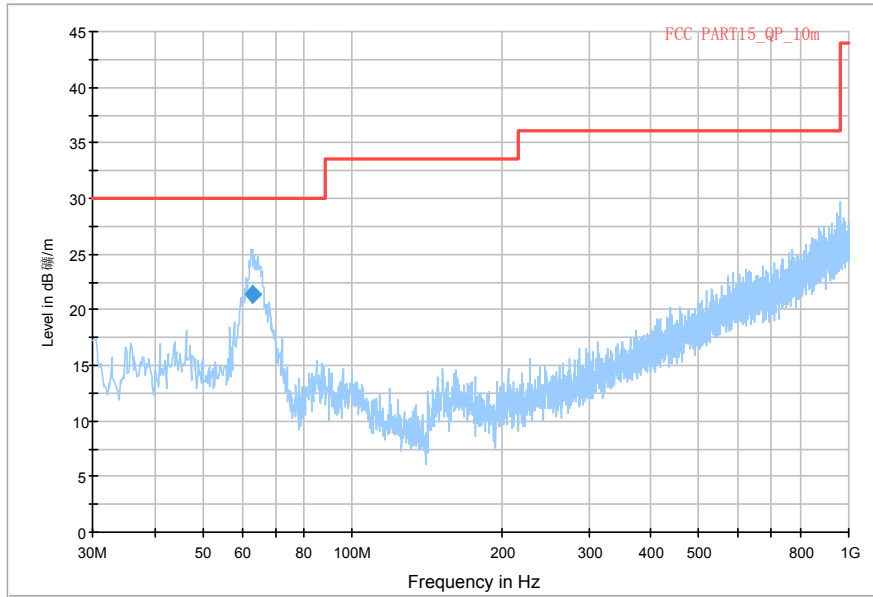


Fig.A.6.2.21 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 30 MHz-1 GHz)

RE_BT_1G-3GHz

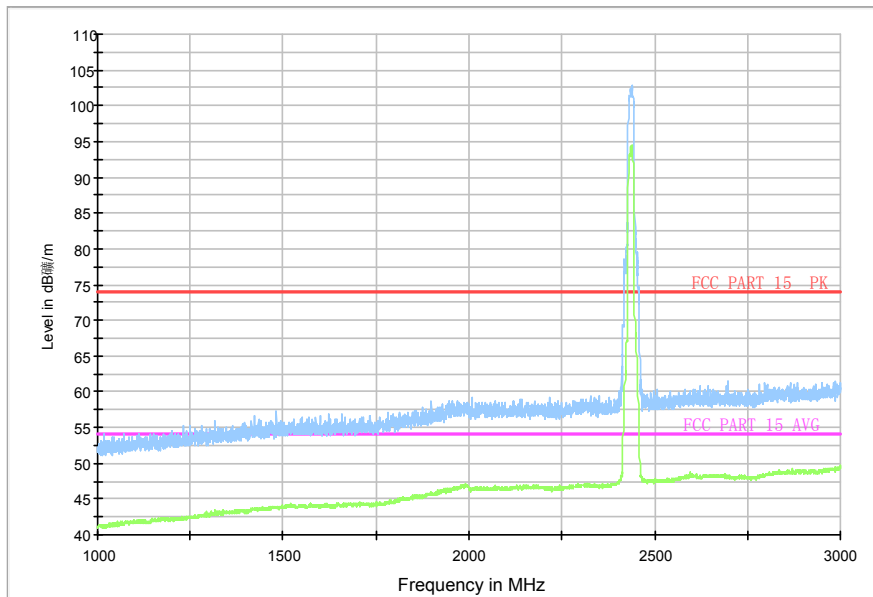


Fig.A.6.2.22 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 1 GHz-3 GHz)

Normal RE_1G-18GHz

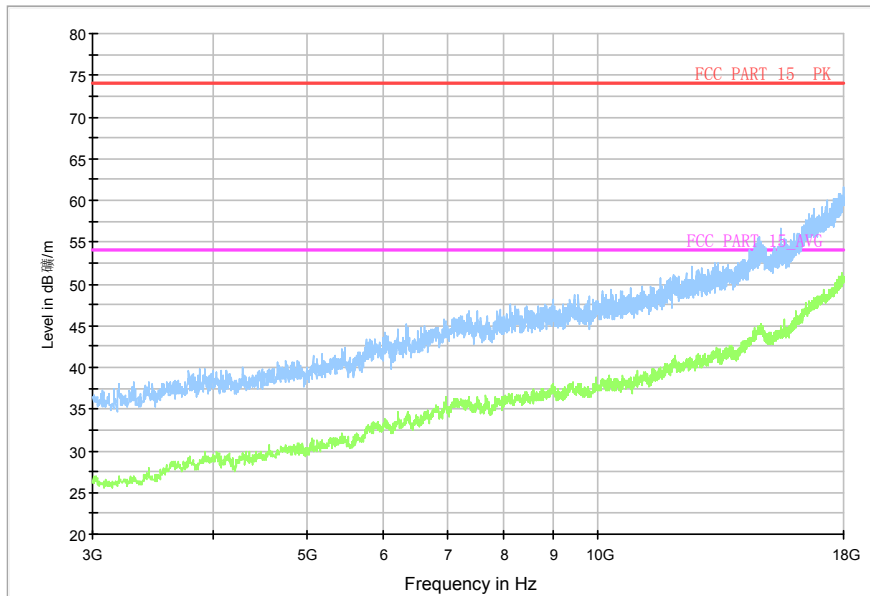


Fig.A.6.2.23 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 3 GHz-18 GHz)

Normal RE_18G-26.5GHz

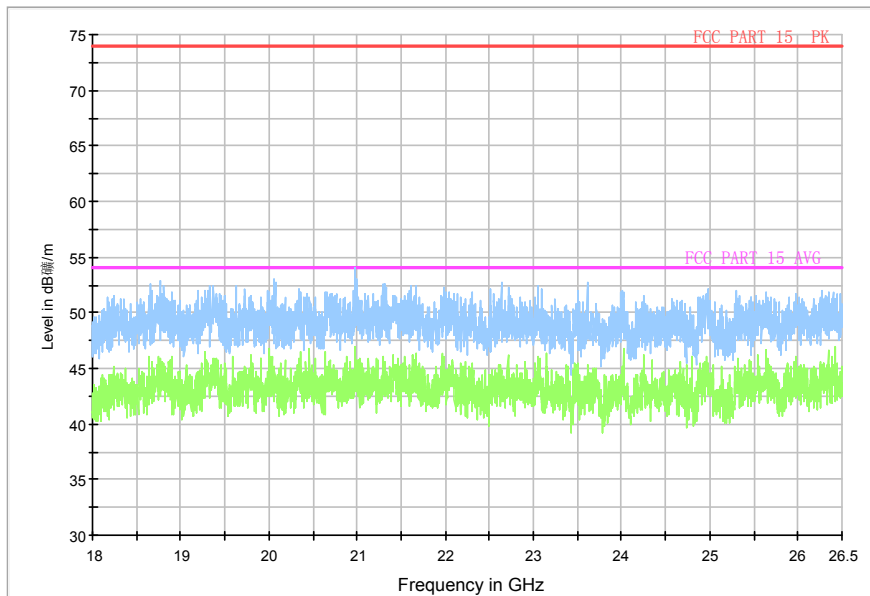


Fig.A.6.2.24 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

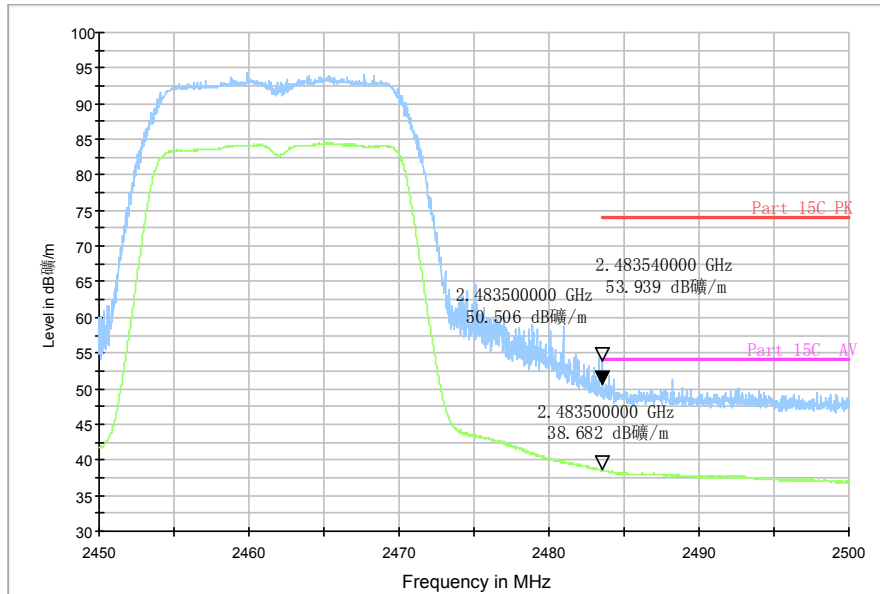


Fig.A.6.2.25 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

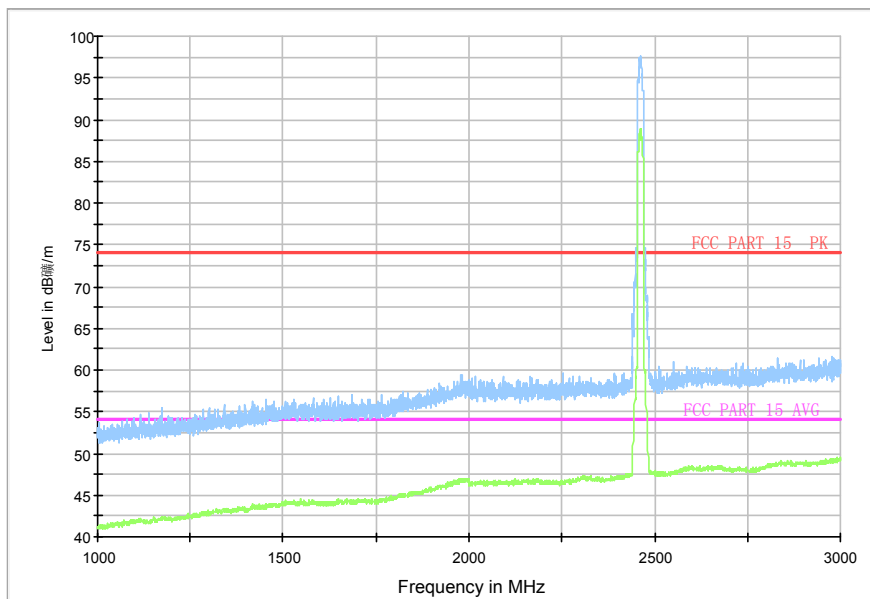


Fig.A.6.2.26 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 1 GHz-3 GHz)

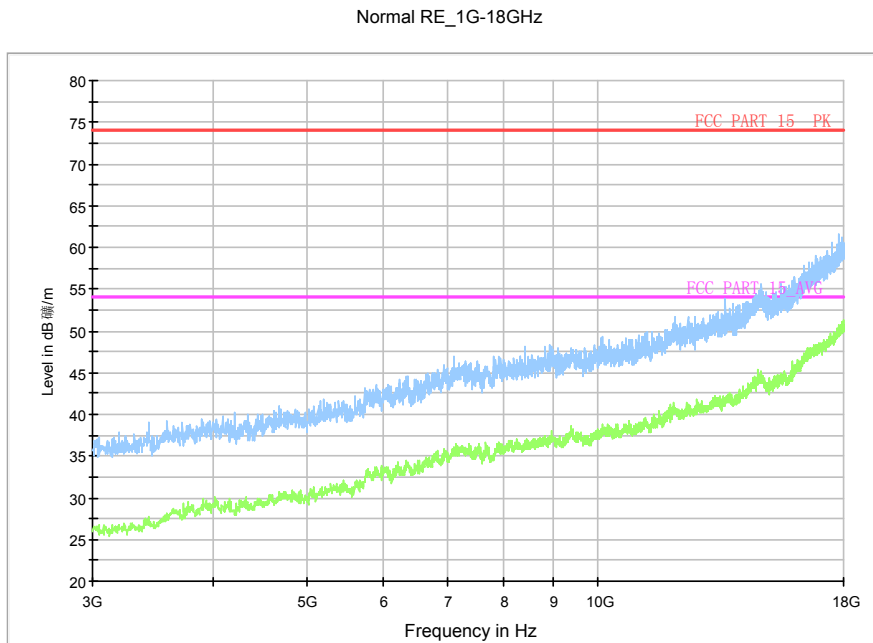


Fig.A.6.2.27 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 3 GHz-18 GHz)

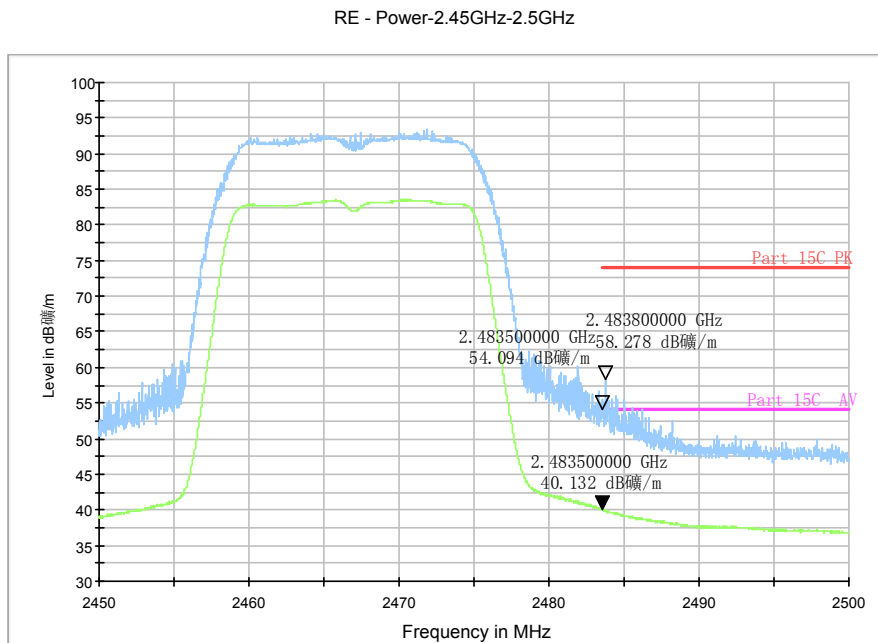


Fig.A.6.2.28 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch12, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

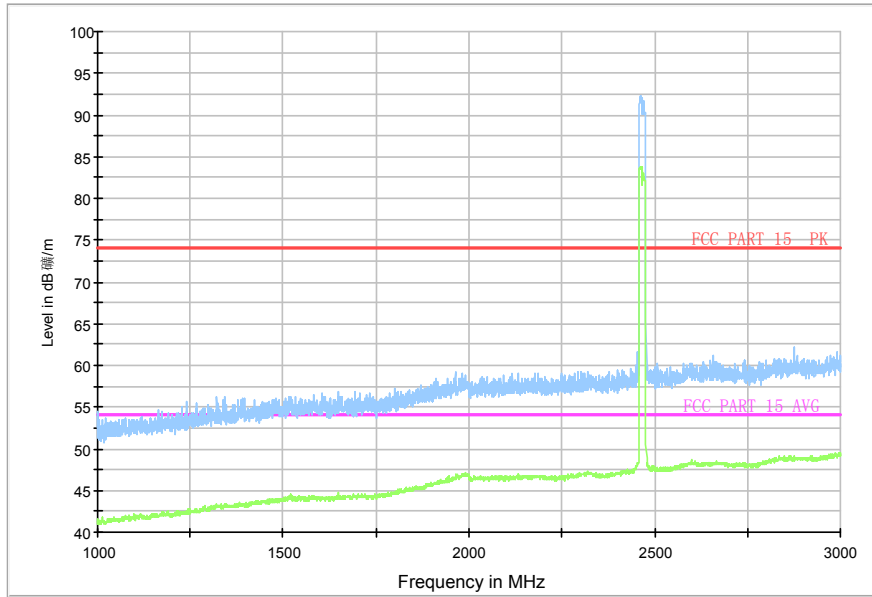


Fig.A.6.2.29 Transmitter Spurious Emission - Radiated (802.11g, Ch12, 1 GHz-3 GHz)

Normal RE_1G-18GHz

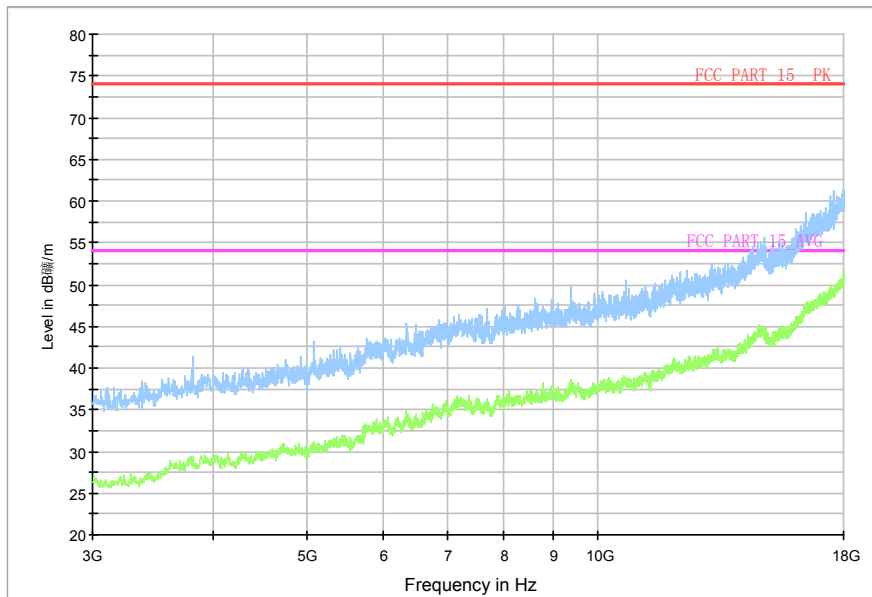


Fig.A.6.2.30 Transmitter Spurious Emission - Radiated (802.11g, Ch12, 3 GHz-18 GHz)

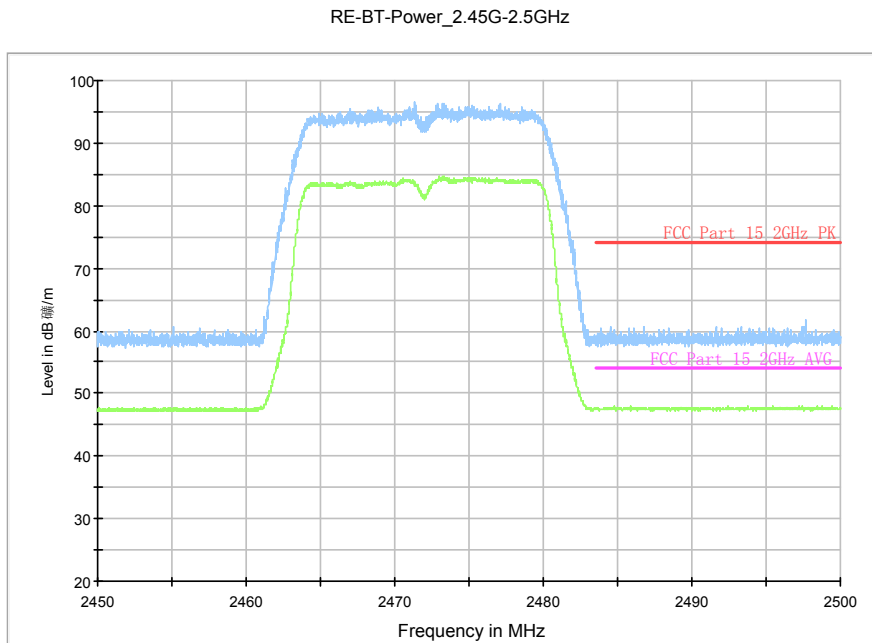


Fig.A.6.2.31 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch13, 2.45 GHz - 2.50GHz

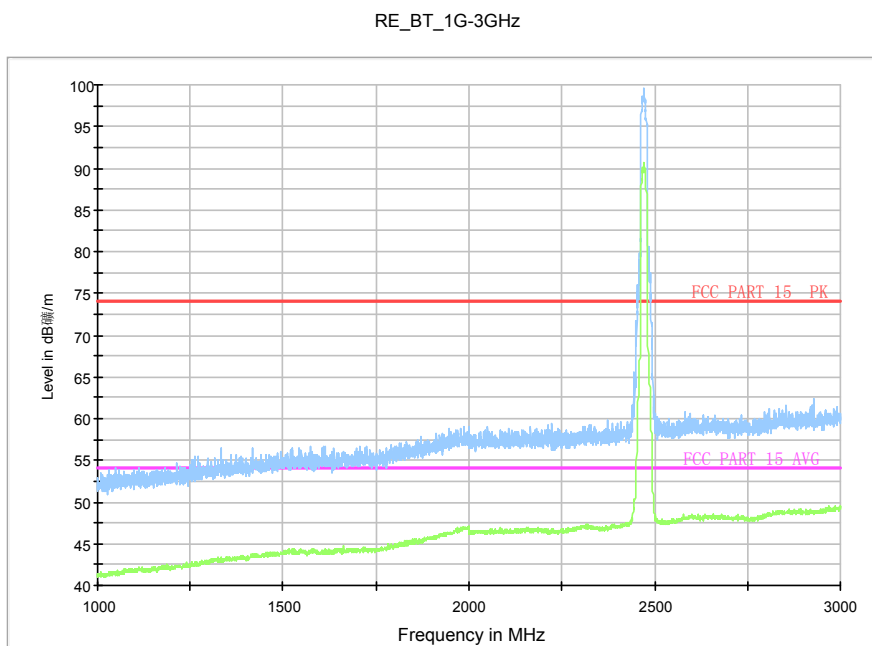


Fig.A.6.2.32 Transmitter Spurious Emission - Radiated (802.11g, Ch13, 1 GHz-3 GHz)

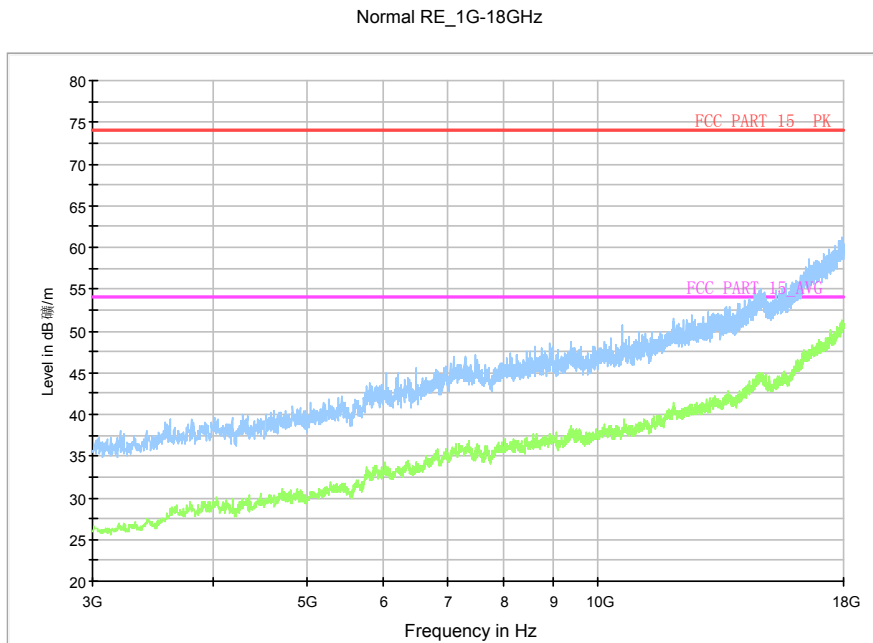


Fig.A.6.2.33 Transmitter Spurious Emission - Radiated (802.11g, Ch13, 3 GHz-18 GHz)

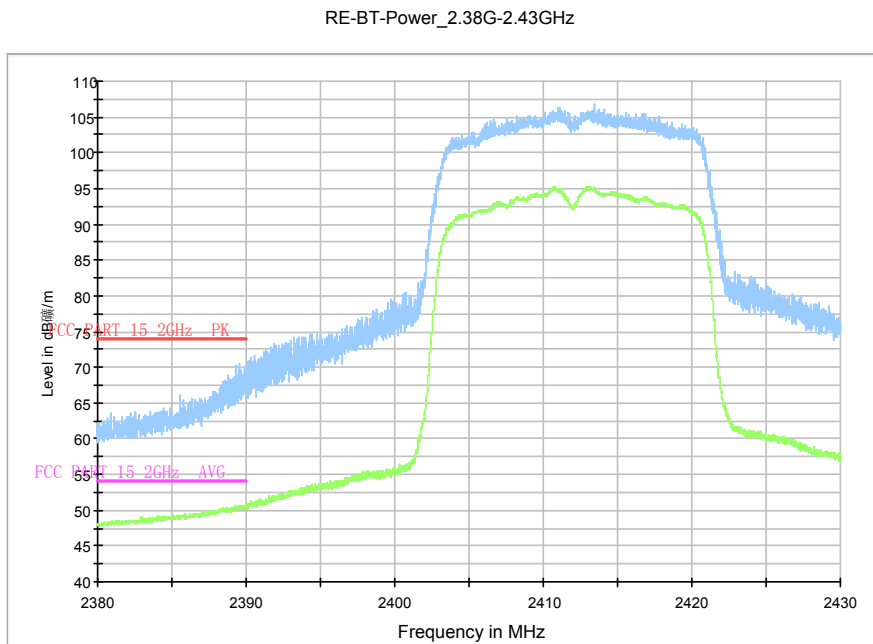


Fig.A.6.2.34 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

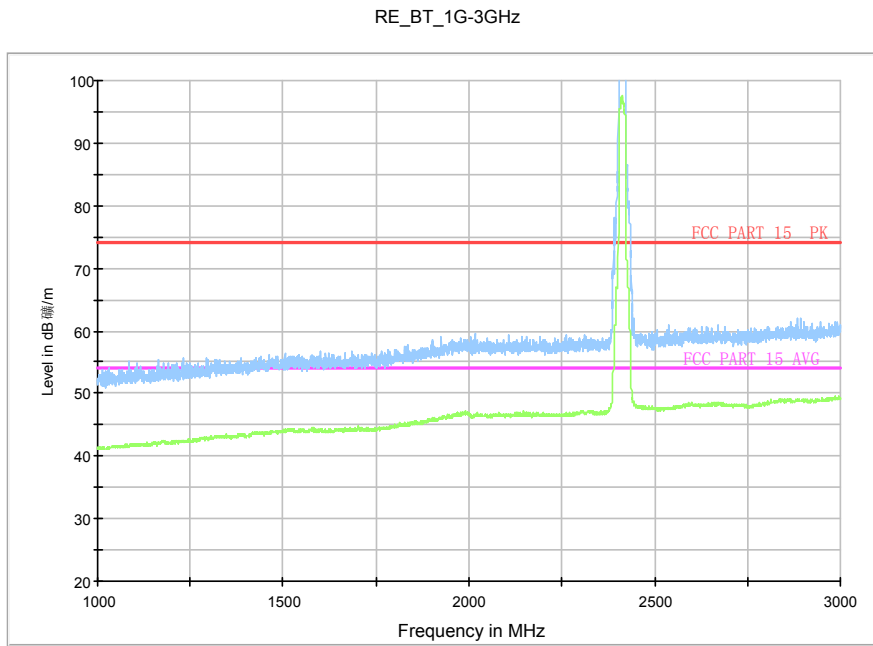


Fig.A.6.2.35 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 1 GHz-3 GHz)

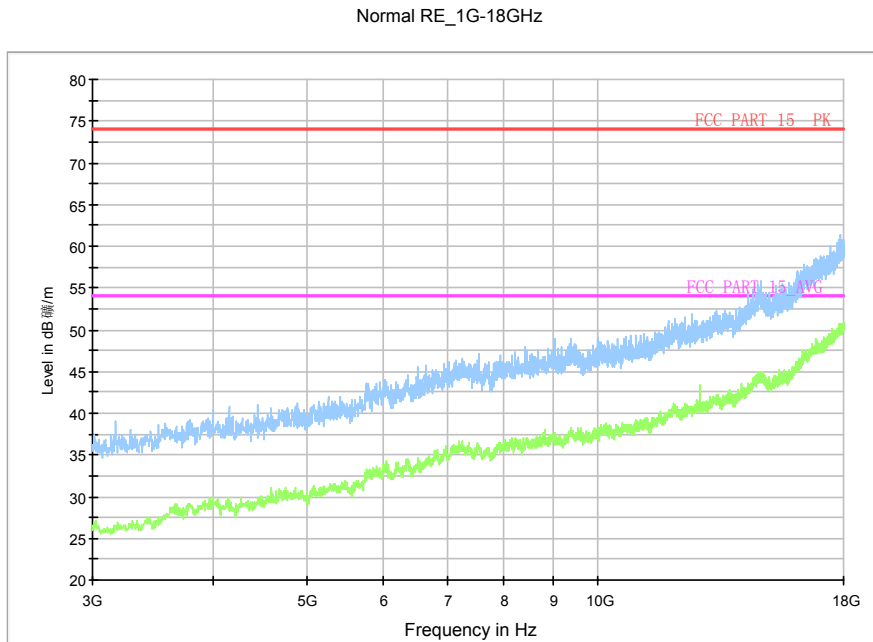


Fig.A.6.2.36 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 3 GHz-18 GHz)

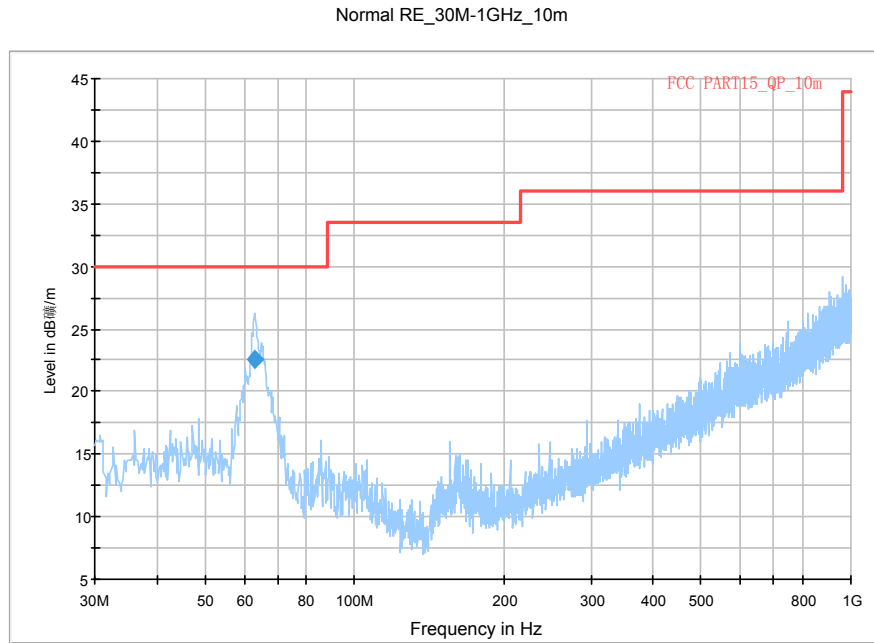


Fig.A.6.2.37 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 30 MHz-1 GHz)

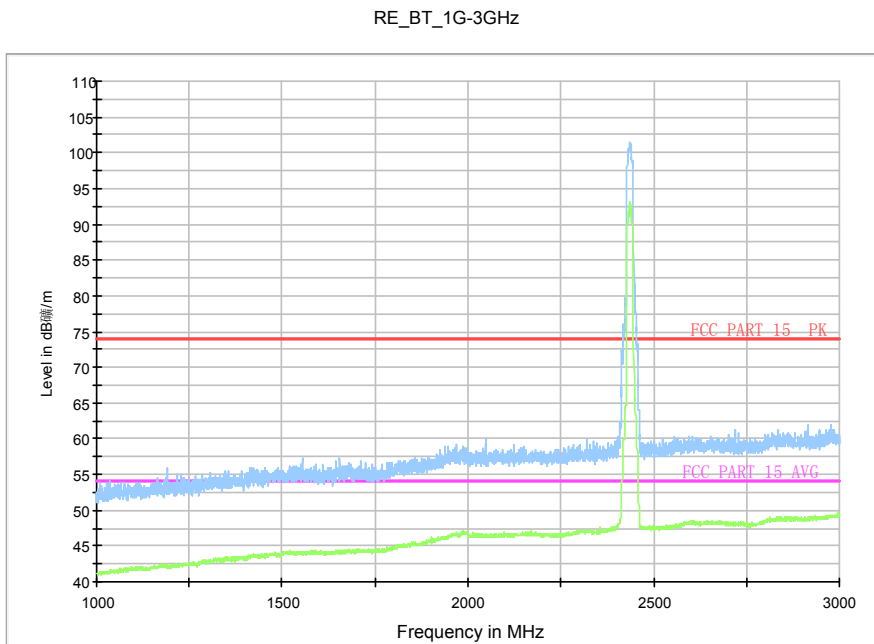


Fig.A.6.2.38 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 1 GHz-3 GHz)

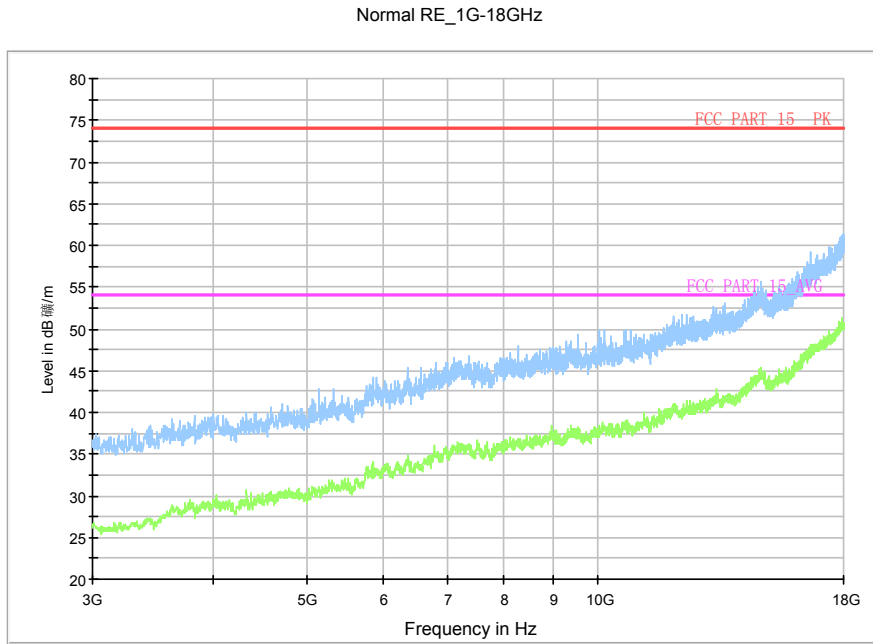


Fig.A.6.2.39 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 3 GHz-18 GHz)

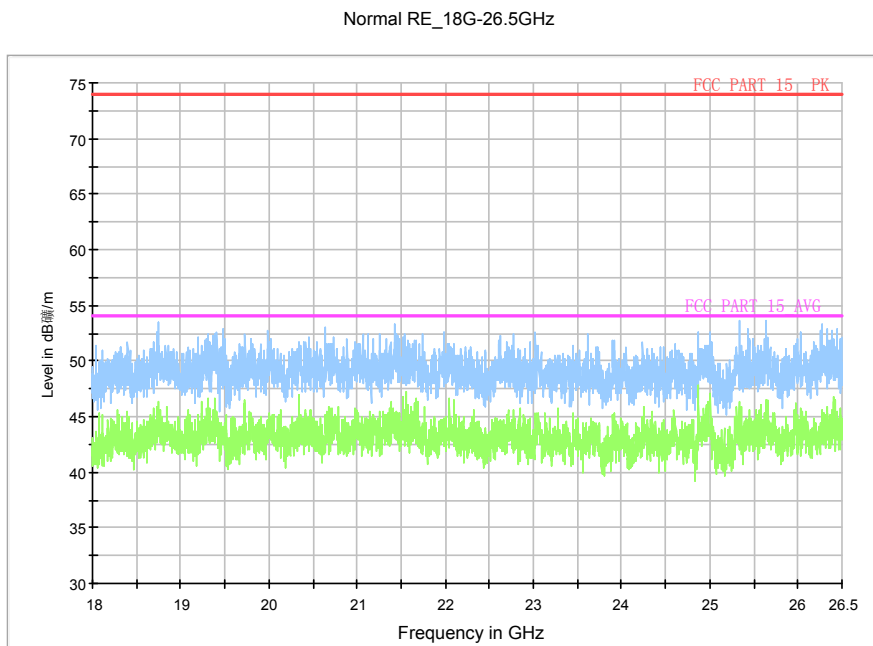


Fig.A.6.2.40 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 18GHz – 26.5GHz)

RE - Power-2.45GHz-2.5GHz

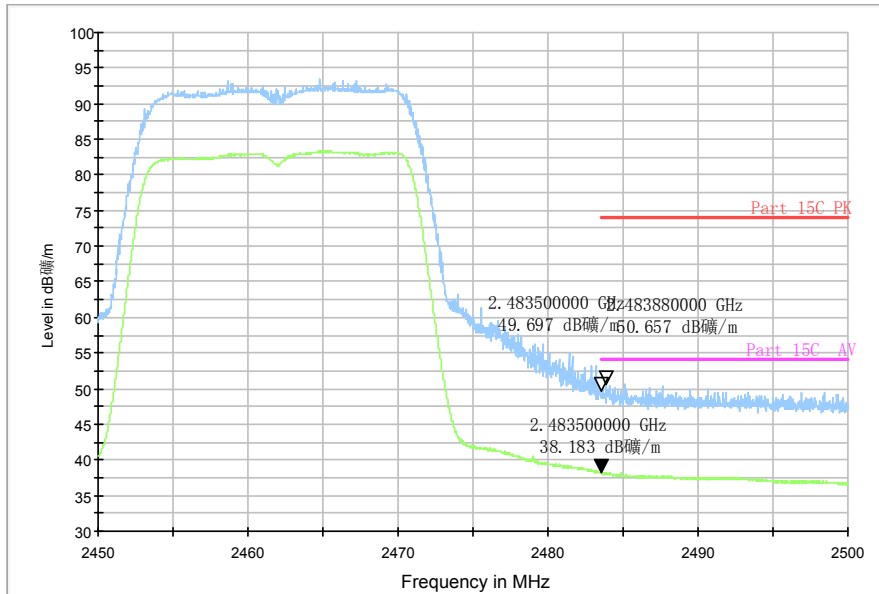


Fig.A.6.2.41 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

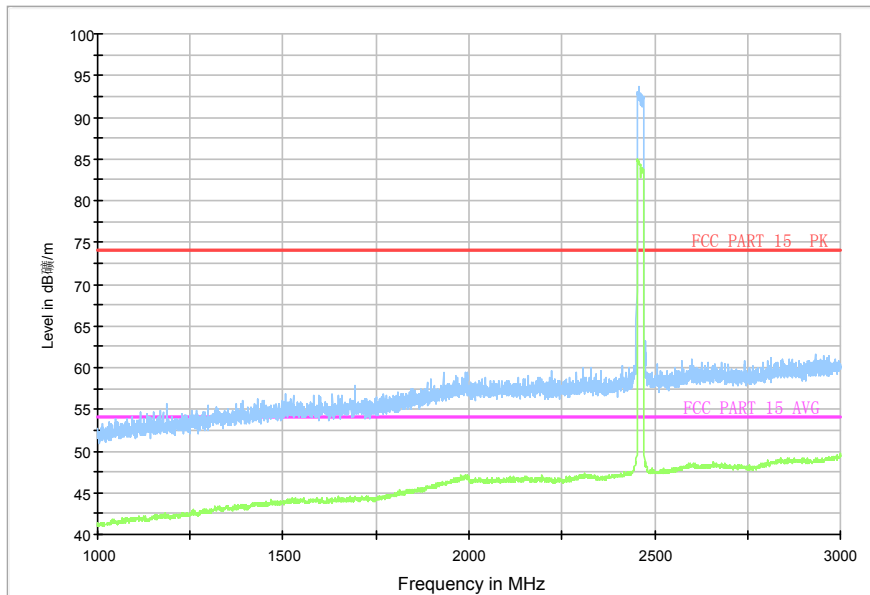


Fig.A.6.2.42 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 1 GHz-3 GHz)

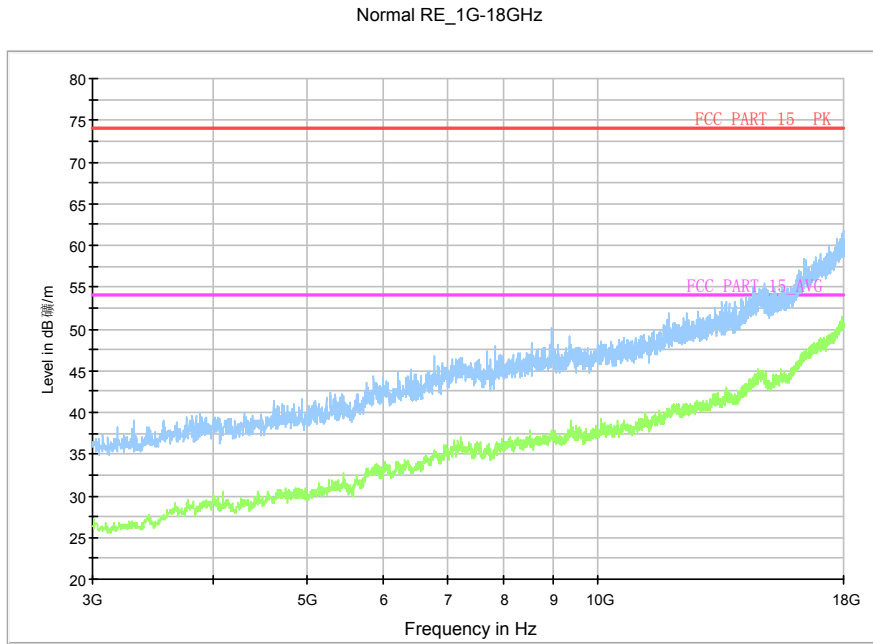


Fig.A.6.2.43 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 3 GHz-18 GHz)

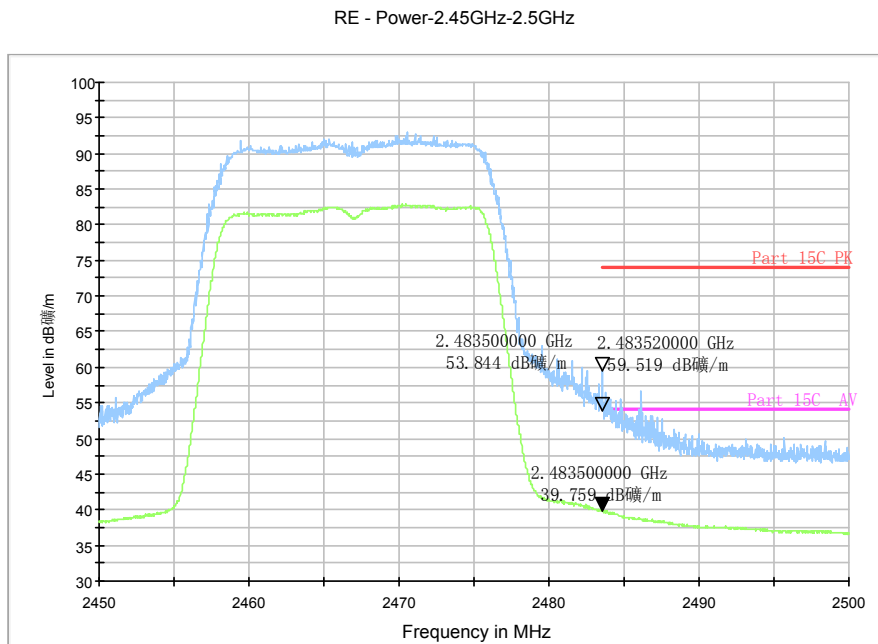


Fig.A.6.2.44 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch12, 2.45 GHz - 2.50GHz

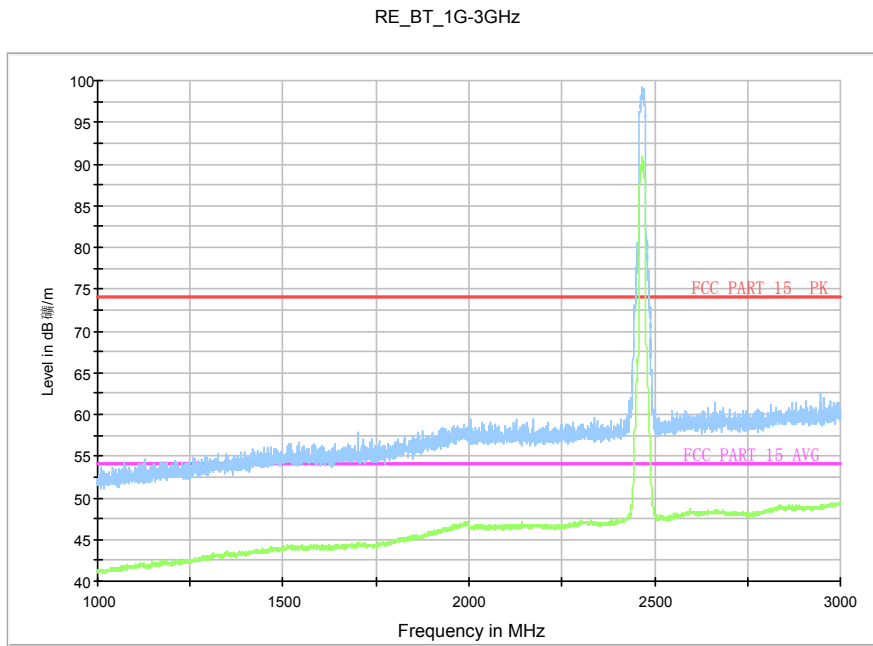


Fig.A.6.2.45 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch12, 1 GHz-3 GHz)

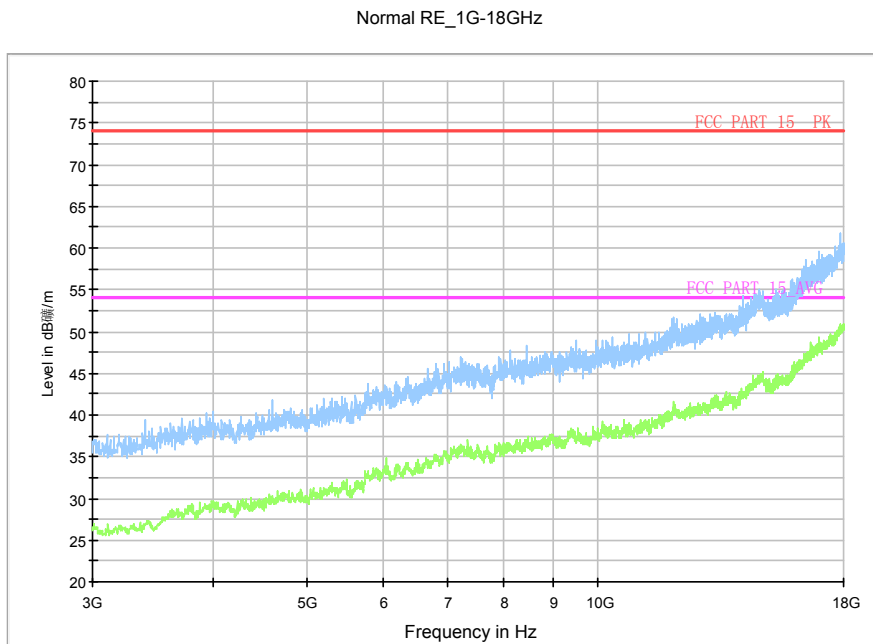


Fig.A.6.2.46 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch12, 3 GHz-18 GHz)

RE-BT-Power_2.45G-2.5GHz

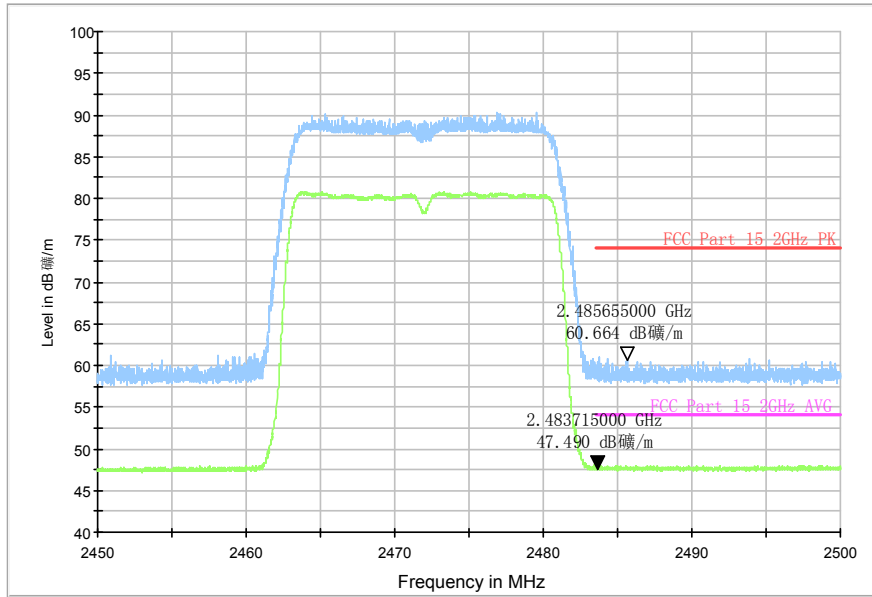


Fig.A.6.2.47 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch13, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

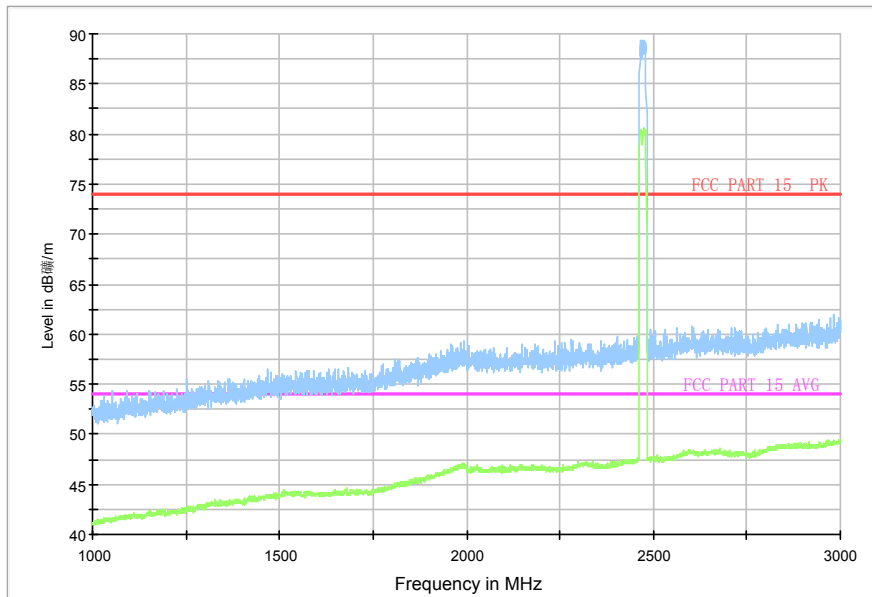


Fig.A.6.2.48 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch13, 1 GHz-3 GHz)

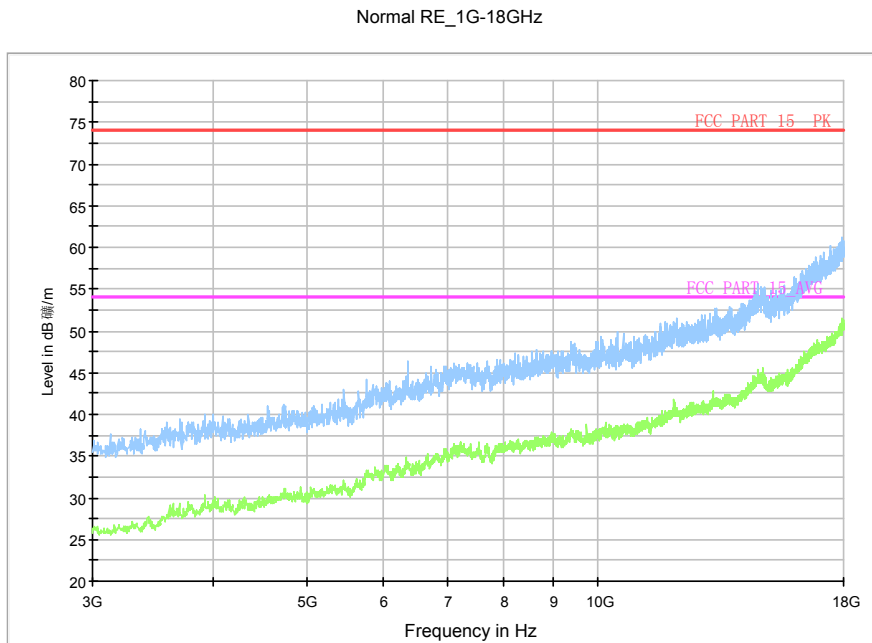


Fig.A.6.2.49 Transmitter Spurious Emission - Radiated (802.11 n-HT20, Ch13, 3 GHz-18 GHz)

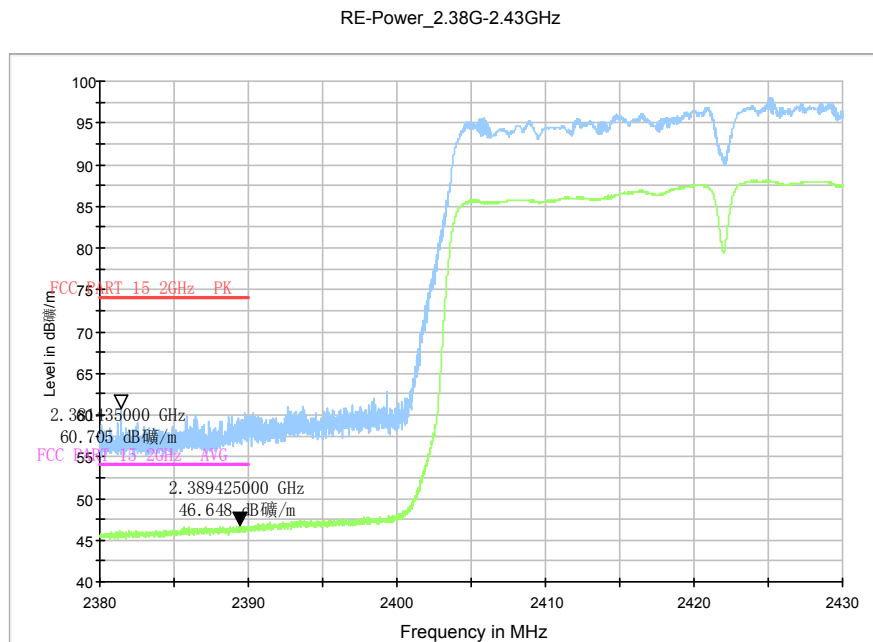


Fig.A.6.2.50 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz

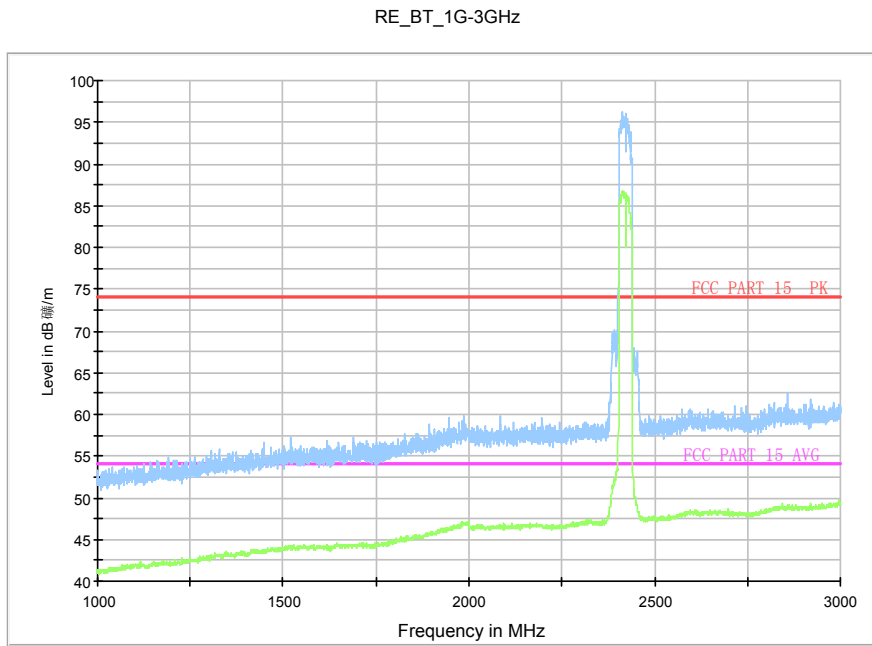


Fig.A.6.2.51 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 1 GHz-3 GHz)

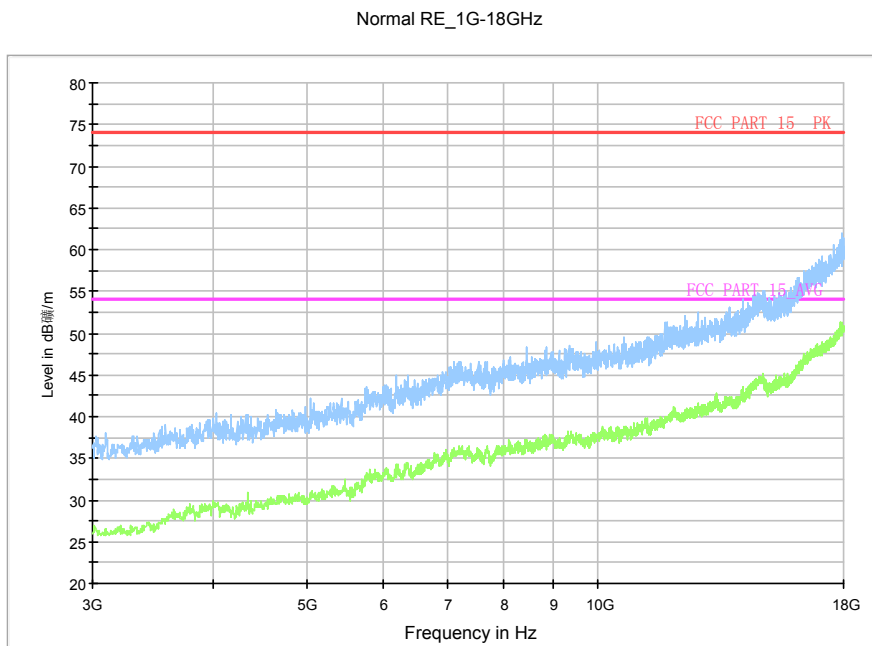


Fig.A.6.2.52 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch3, 3 GHz-18 GHz)

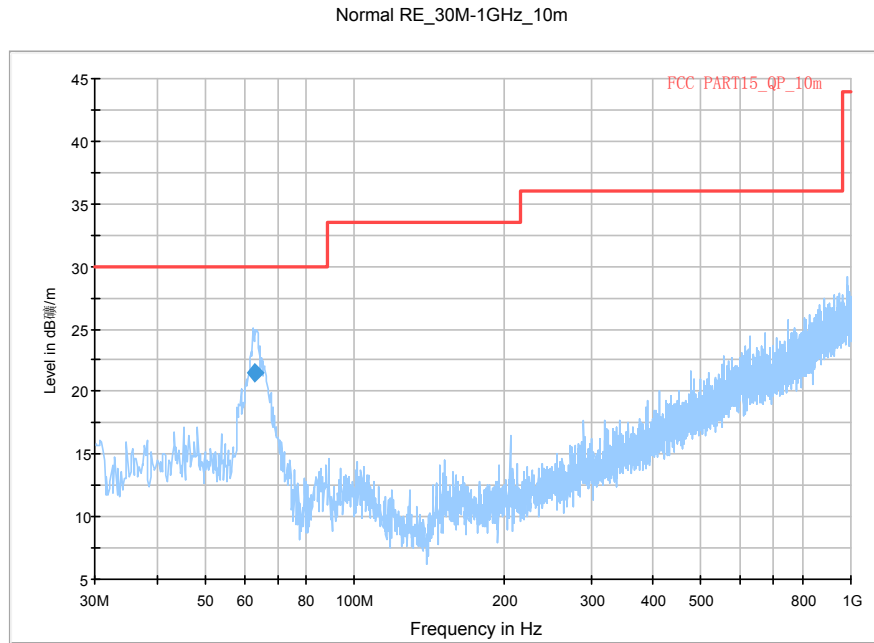


Fig.A.6.2.53 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 30 MHz-1 GHz)

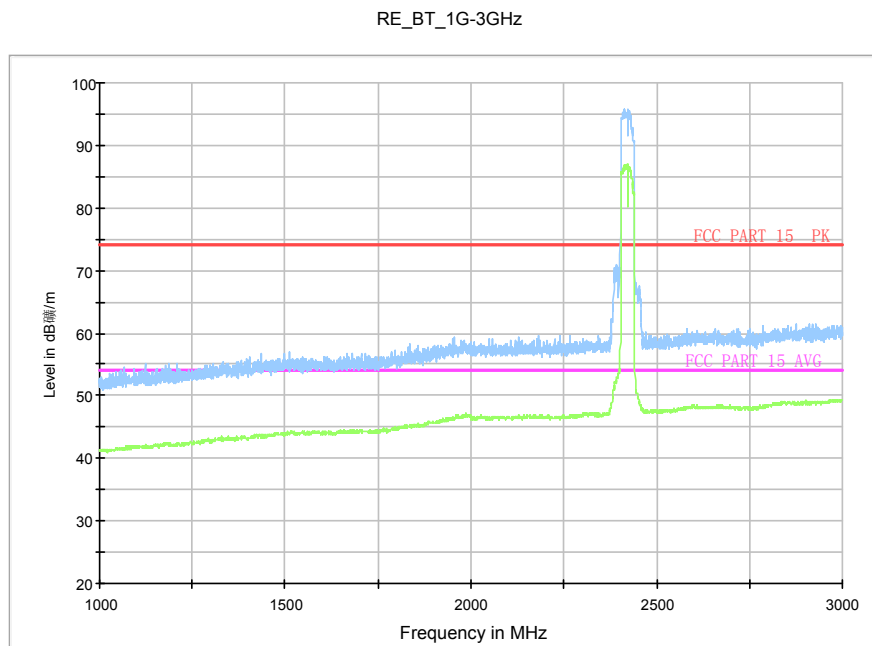


Fig.A.6.2.54 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 1 GHz-3 GHz)

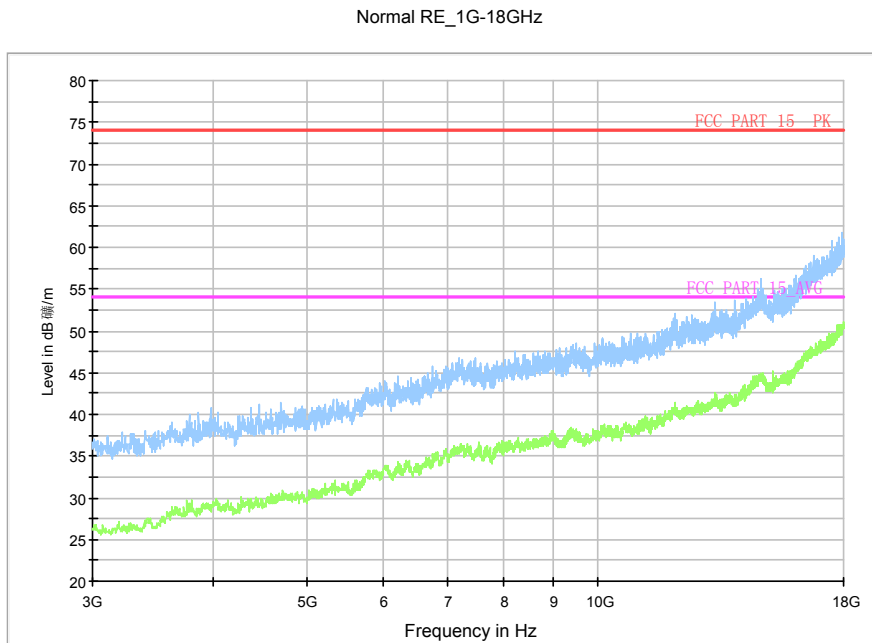


Fig.A.6.2.55 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 3 GHz-18 GHz)

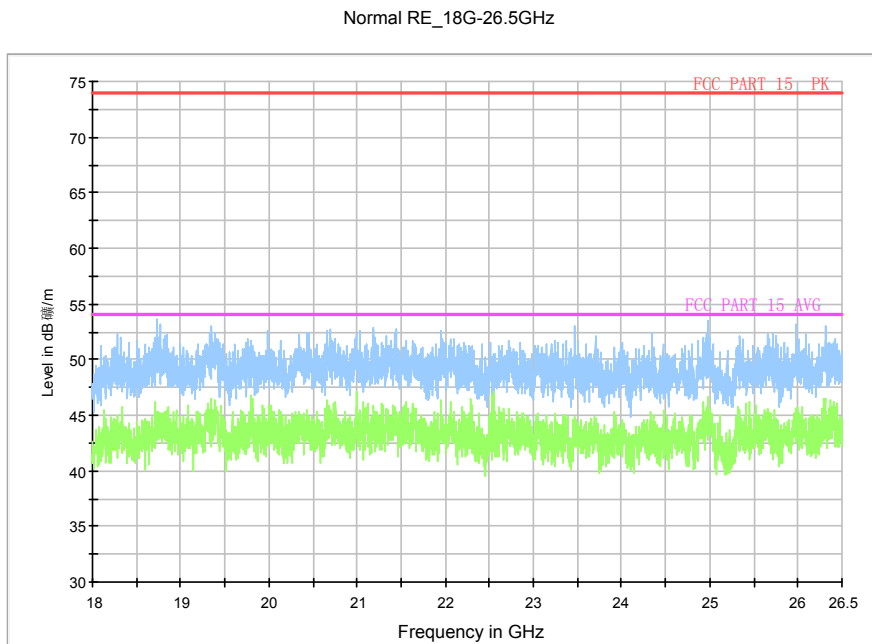


Fig.A.6.2.56 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch6, 18GHz – 26.5GHz)

RE-BT-Power_2.45G-2.5GHz

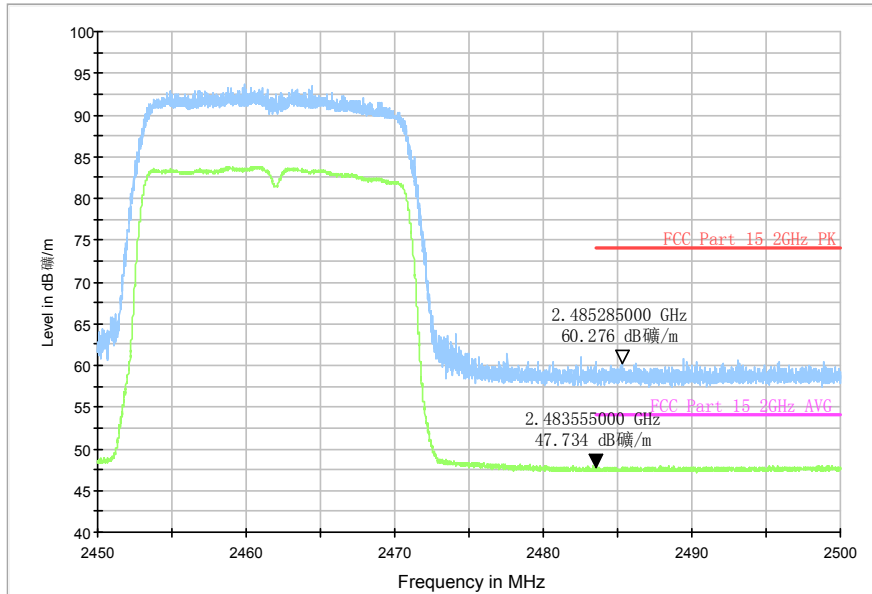


Fig.A.6.257 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

RE_BT_1G-3GHz

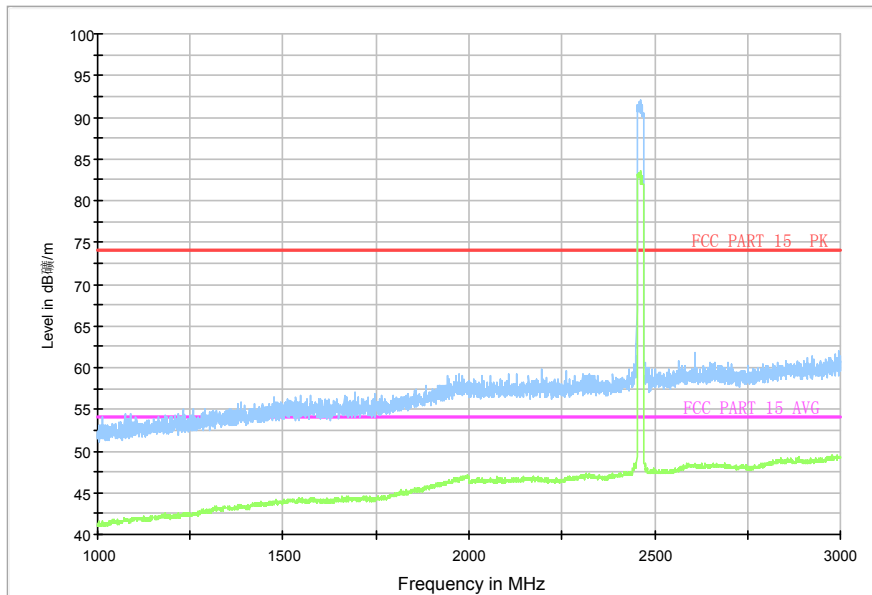


Fig.A.6.258 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 1 GHz-3 GHz)

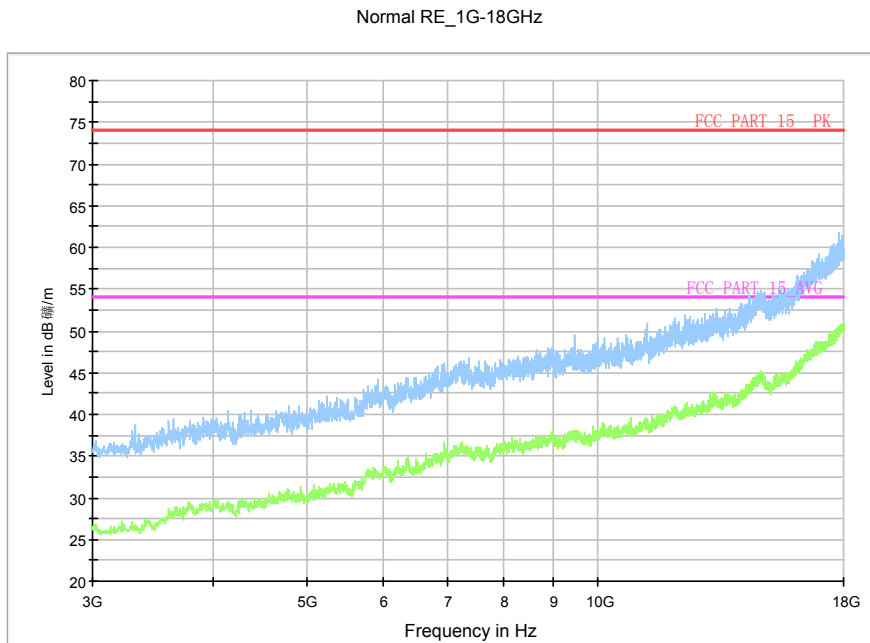


Fig.A.6.2.59 Transmitter Spurious Emission - Radiated (802.11n-HT40, ch9, 3 GHz-18 GHz)

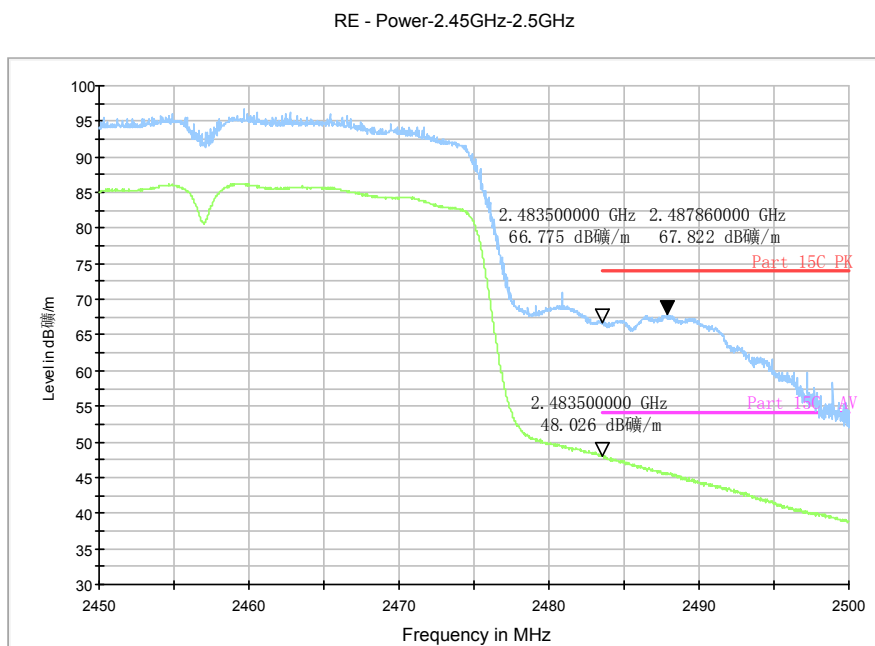


Fig.A.6.2.60 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch10, 2.45 GHz - 2.50GHz

RE - 1GHz-3GHz

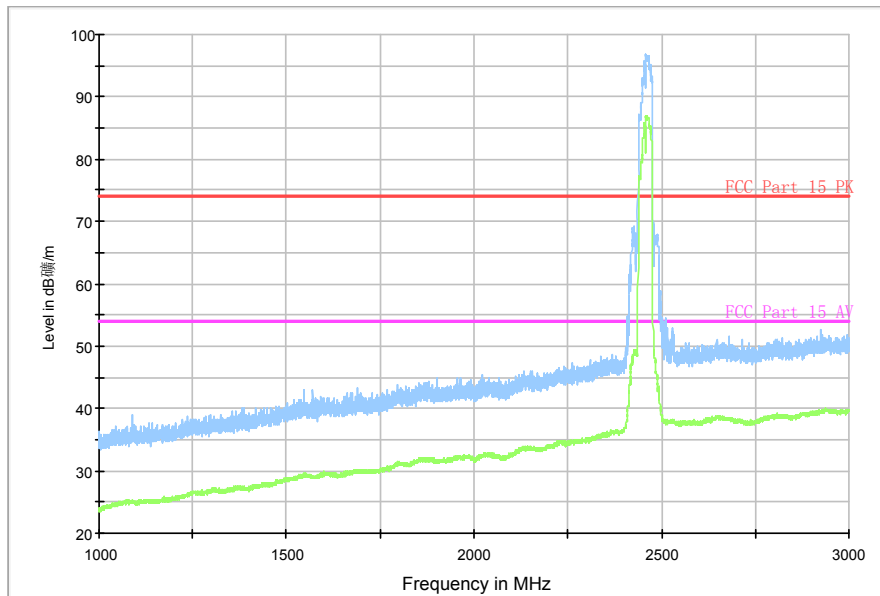


Fig.A.6.2.61 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch10 1 GHz-3 GHz)

RE - 3GHz-18GHz

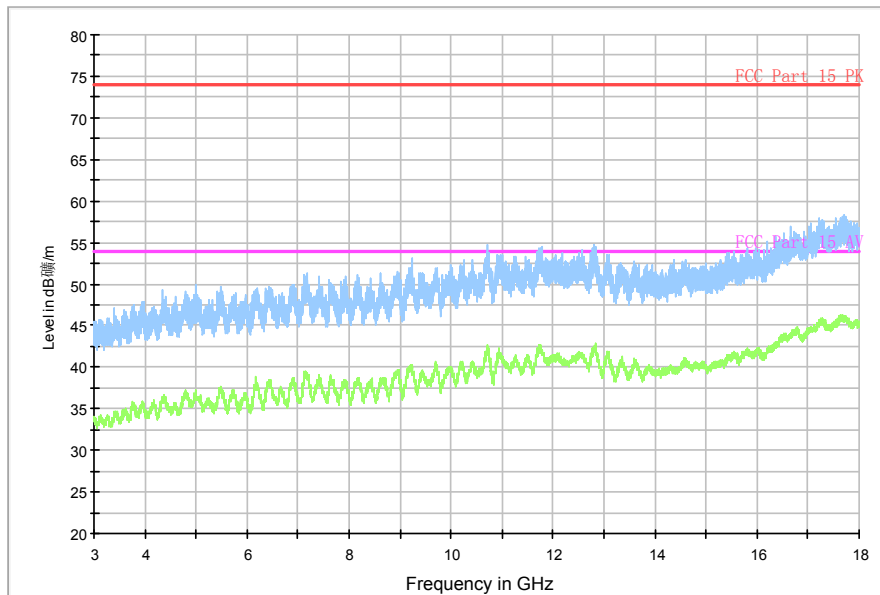


Fig.A.6.2.62 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch10, 3 GHz-18 GHz)

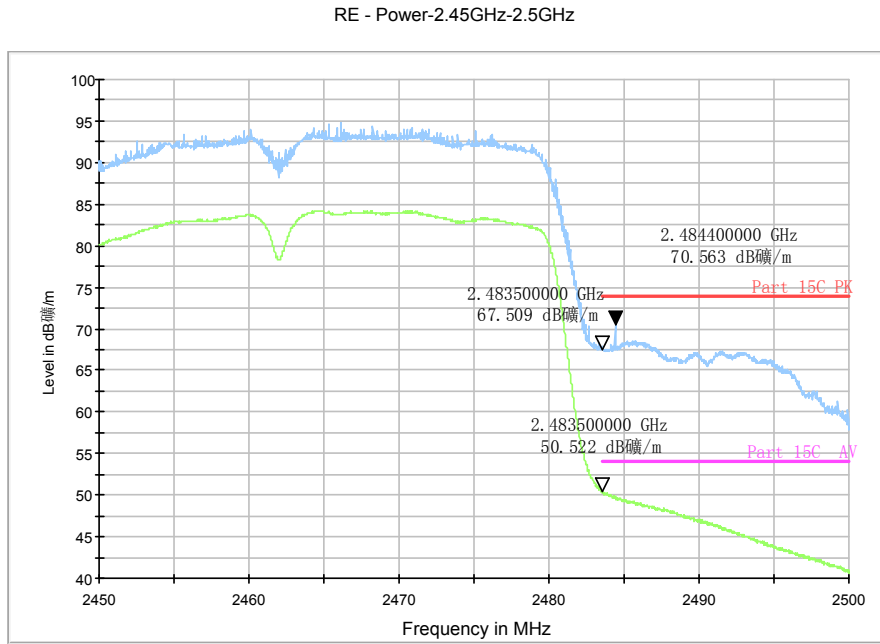


Fig.A.6.2.63 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch11, 2.45 GHz - 2.50GHz

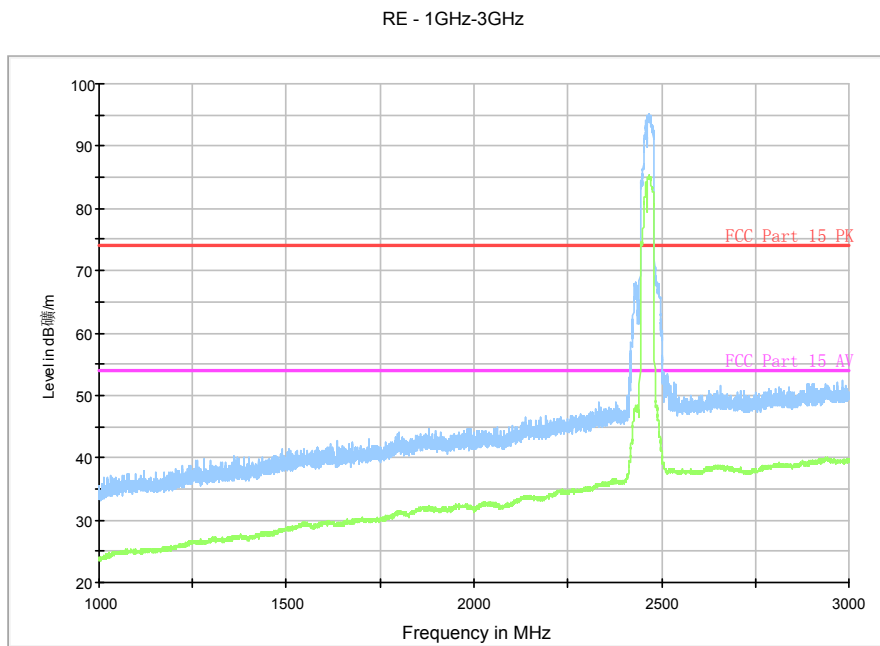


Fig.A.6.2.64 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch11 1 GHz-3 GHz)

RE - 3GHz-18GHz

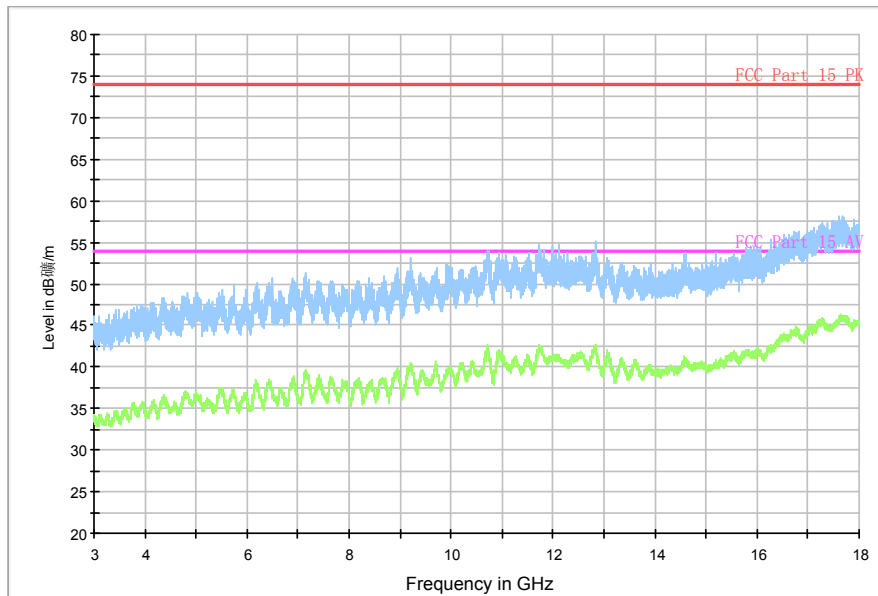


Fig.A.6.2.65 Transmitter Spurious Emission - Radiated (802.11n-HT40, Ch11, 3 GHz-18 GHz)

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 (dB μ V)	Result (dB μ V)		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 (dB μ V)	Result (dB μ V)		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:

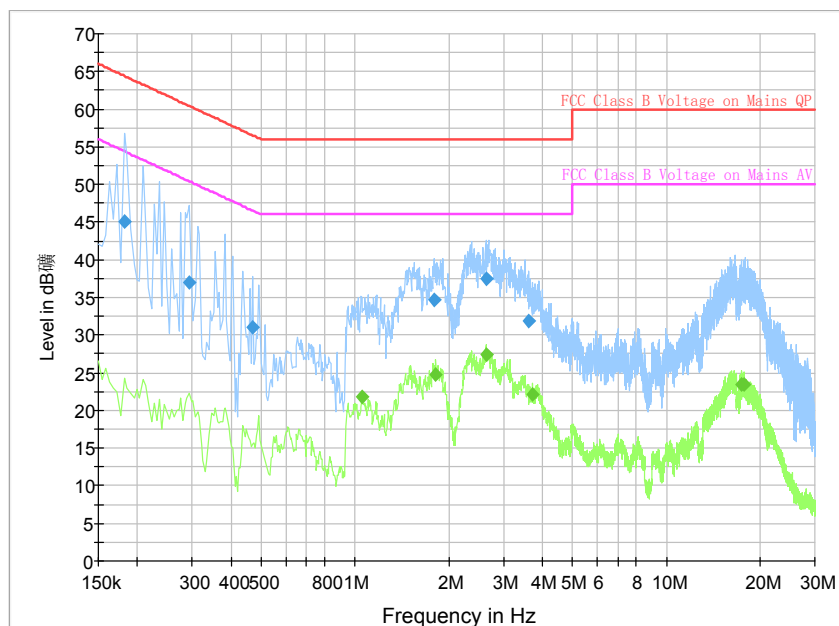


Fig.A.7.1 AC Powerline Conducted Emission-802.11b-ch6-11Mbps

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)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.181500	45.0	2000.0	9.000	On	L1	19.8	19.4	64.4
0.294000	37.0	2000.0	9.000	On	L1	19.8	23.4	60.4
0.469500	31.0	2000.0	9.000	On	L1	19.9	25.5	56.5
1.797000	34.6	2000.0	9.000	On	L1	19.7	21.4	56.0
2.634000	37.5	2000.0	9.000	On	L1	19.3	18.5	56.0
3.610500	31.9	2000.0	9.000	On	L1	19.5	24.1	56.0

Final Result 2

Frequency (MHz)	CAverage (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.054500	21.8	2000.0	9.000	On	L1	19.7	24.2	46.0
1.819500	24.8	2000.0	9.000	On	L1	19.7	21.2	46.0
2.634000	27.4	2000.0	9.000	On	L1	19.3	18.6	46.0
3.718500	22.2	2000.0	9.000	On	L1	19.5	23.8	46.0
17.394000	23.5	2000.0	9.000	On	L1	20.0	26.5	50.0
17.691000	23.4	2000.0	9.000	On	L1	20.0	26.6	50.0

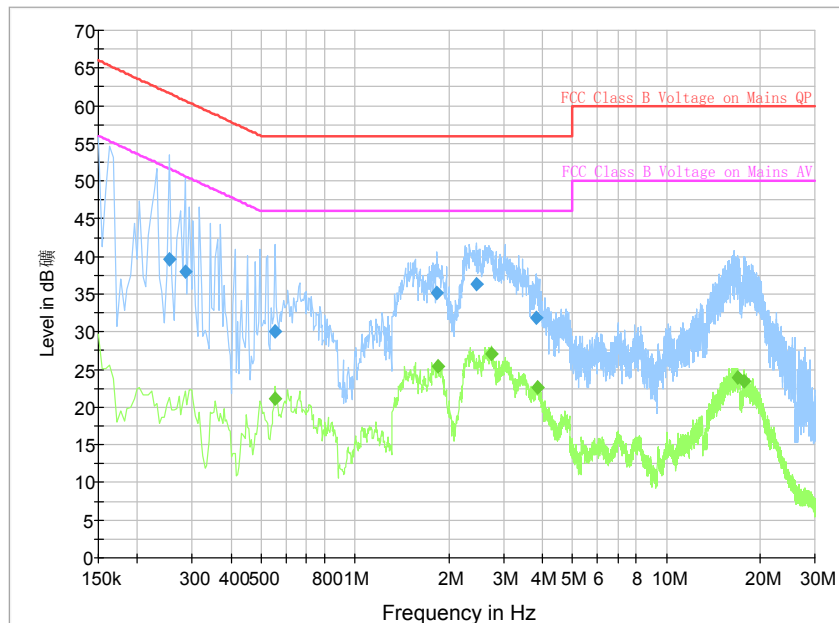


Fig.A.7.2 AC Powerline Conducted Emission-Idle-ch6-11Mbps

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)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.253500	39.7	2000.	9.000	On	N	19.8	22.0	61.6
0.285000	38.0	2000.	9.000	On	L1	19.8	22.7	60.7
0.555000	30.1	2000.	9.000	On	L1	19.9	25.9	56.0
1.837500	35.1	2000.	9.000	On	L1	19.7	20.9	56.0
2.463000	36.3	2000.	9.000	On	L1	19.1	19.7	56.0
3.831000	31.9	2000.	9.000	On	L1	19.5	24.1	56.0

Final Result 2

Frequency (MHz)	CAverage (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.555000	21.2	2000.0	9.000	On	L1	19.9	24.8	46.0
1.851000	25.4	2000.0	9.000	On	L1	19.7	20.6	46.0
2.746500	27.0	2000.0	9.000	On	L1	19.1	19.0	46.0
3.871500	22.6	2000.0	9.000	On	L1	19.5	23.4	46.0
16.921500	23.9	2000.0	9.000	On	L1	20.0	26.1	50.0
17.700000	23.4	2000.0	9.000	On	L1	20.0	26.6	50.0

ANNEX B: Accreditation Certificate

 
China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(No. CNAS L0570)
Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT <u>No.52, Huayuan North Road, Haidian District, Beijing, China</u> <u>No.51, Xueyuan Road, Haidian District, Beijing, China</u>
<i>to 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 in the field of testing and calibration.</i> <i>The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.</i>
Date of Issue: 2014-10-29 Date of Expiry: 2017-06-19 Date of Initial Accreditation: 1998-07-03

Signed on behalf of China National Accreditation Service for Conformity Assessment
<small>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 the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).</small>
No.CNAS AL 2 0011149

END OF REPORT