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

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

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2383.660	58.0	-38.8	27.7	69.100	H
17970.000	57.0	-17.7	45.6	29.100	H
17967.000	56.8	-17.7	45.6	28.900	V
17769.000	56.7	-18.5	45.6	29.600	H
17961.000	56.6	-17.7	45.6	28.700	H
17976.000	56.6	-17.7	45.6	28.700	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17910.000	57.9	-18.5	45.6	30.800	H
17991.000	57.4	-17.7	45.6	29.500	H
17925.000	56.8	-17.7	45.6	28.900	V
17964.000	56.7	-17.7	45.6	28.800	H
17889.000	56.6	-18.5	45.6	29.500	H
17952.000	56.4	-17.7	45.6	28.500	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2489.425	58.0	-38.9	27.7	69.200	H
17967.000	57.8	-17.7	45.6	29.900	H
17883.000	56.6	-18.5	45.6	29.500	V
17859.000	56.5	-18.5	45.6	29.400	H
17976.000	56.4	-17.7	45.6	28.500	H
17898.000	56.4	-18.5	45.6	29.300	H

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2389.900	68.4	-38.8	27.7	79.500	H
17973.000	57.2	-17.7	45.6	29.300	H
17913.000	56.8	-18.5	45.6	29.700	V
17985.000	56.6	-17.7	45.6	28.700	H
17946.000	56.5	-17.7	45.6	28.600	H
17967.000	56.4	-17.7	45.6	28.500	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17958.000	56.7	-17.7	45.6	28.800	H
17901.000	56.5	-18.5	45.6	29.400	H
18000.000	56.4	-45.6	44.5	57.466	V
17823.000	56.3	-18.5	45.6	29.200	H
17880.000	56.3	-18.5	45.6	29.200	H
17976.000	56.3	-17.7	45.6	28.400	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2483.830	62.6	-38.9	27.7	73.800	H
17973.000	56.8	-17.7	45.6	28.900	H
17919.000	56.8	-17.7	45.6	28.900	V
17961.000	56.5	-17.7	45.6	28.600	H
17982.000	56.4	-17.7	45.6	28.500	H
17850.000	56.4	-18.5	45.6	29.300	H

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2388.805	66.6	-38.8	27.7	77.700	H
17994.000	56.7	-17.7	45.6	28.800	H
17889.000	56.6	-18.5	45.6	29.500	V
17970.000	56.5	-17.7	45.6	28.600	H
17952.000	56.4	-17.7	45.6	28.500	H
17934.000	56.4	-17.7	45.6	28.500	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
17970.000	58.3	-17.7	45.6	30.400	H
17997.000	57.1	-17.7	45.6	29.200	H
17922.000	57.0	-17.7	45.6	29.100	V
17991.000	56.8	-17.7	45.6	28.900	H
17907.000	56.7	-18.5	45.6	29.600	H
17961.000	56.6	-17.7	45.6	28.700	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2483.900	71.9	-38.9	27.7	83.100	H
17898.000	57.4	-18.5	45.6	30.300	H
17937.000	57.2	-17.7	45.6	29.300	V
17874.000	57.0	-18.5	45.6	29.900	H
17994.000	56.9	-17.7	45.6	29.000	H
17952.000	56.9	-17.7	45.6	29.000	H

Test graphs as below:

RE-Power_2.38G-2.43GHz

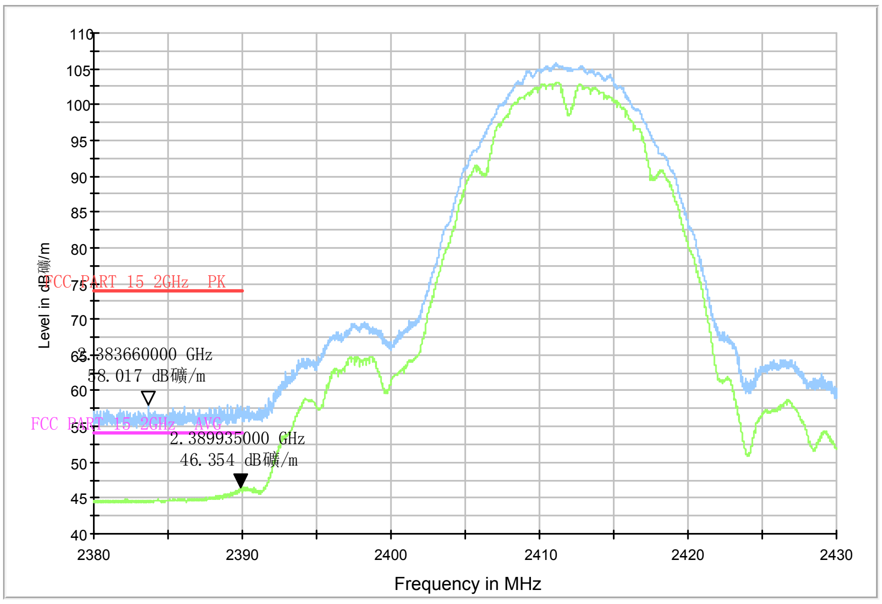

Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

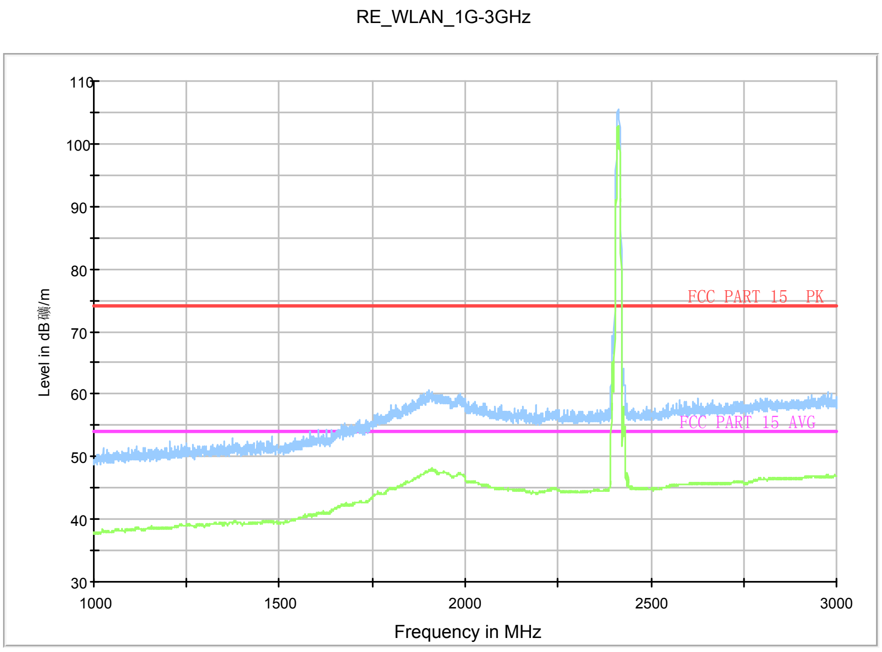

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 1 GHz-3 GHz)

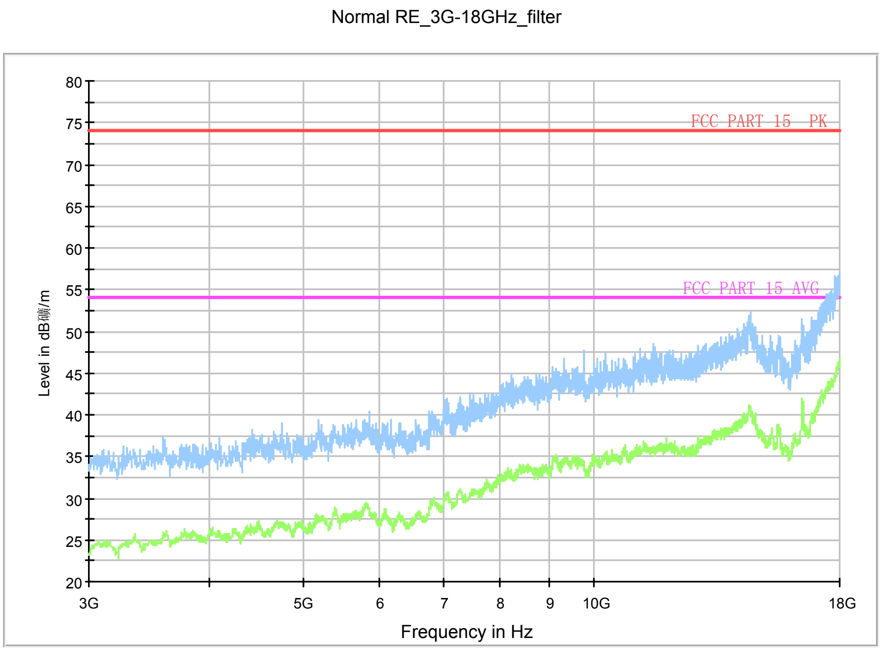

Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (802.11b, Ch1, 3 GHz-18 GHz)

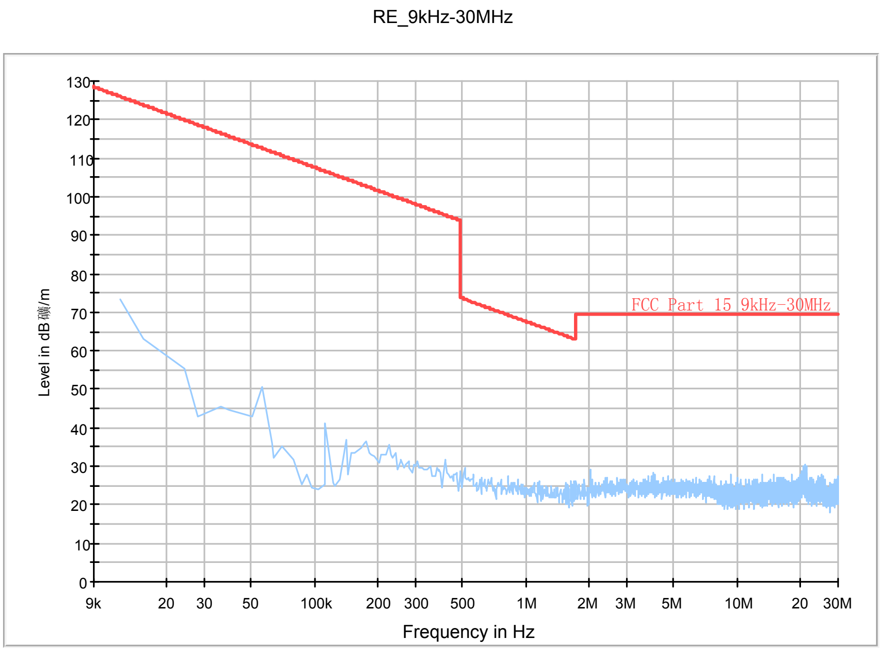

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 9kHz-30 MHz)

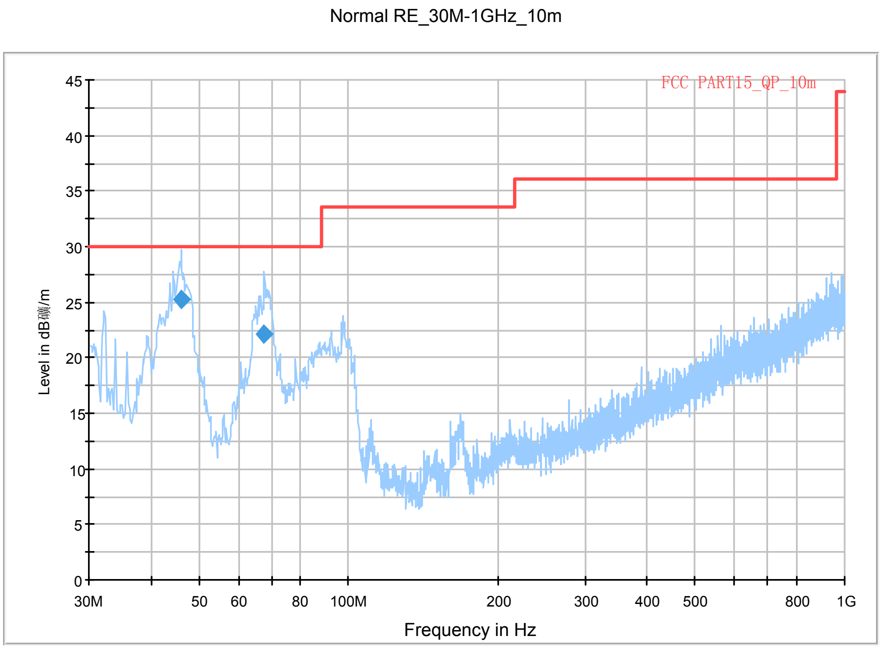

Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 30 MHz-1 GHz)

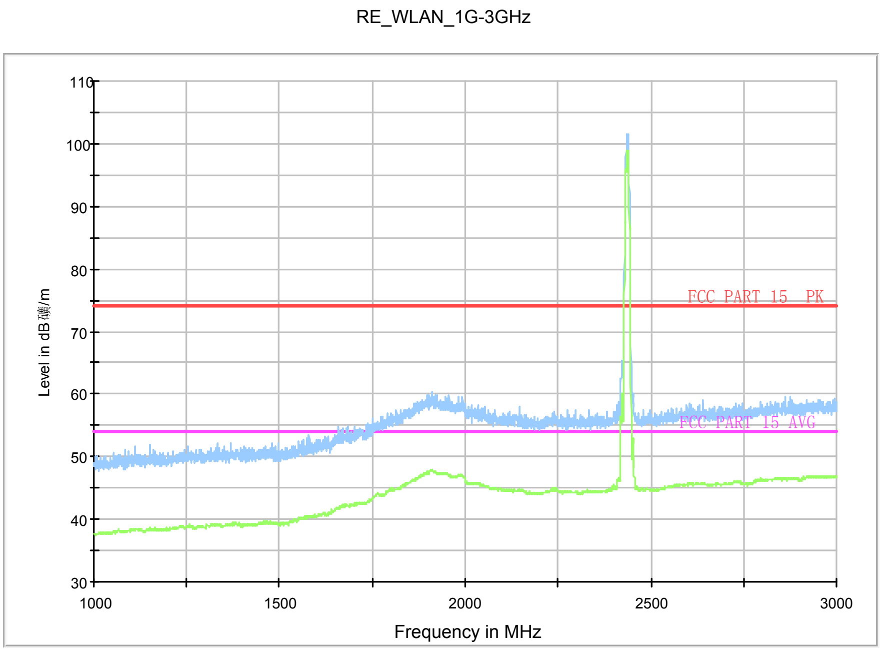

Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 1 GHz-3 GHz)

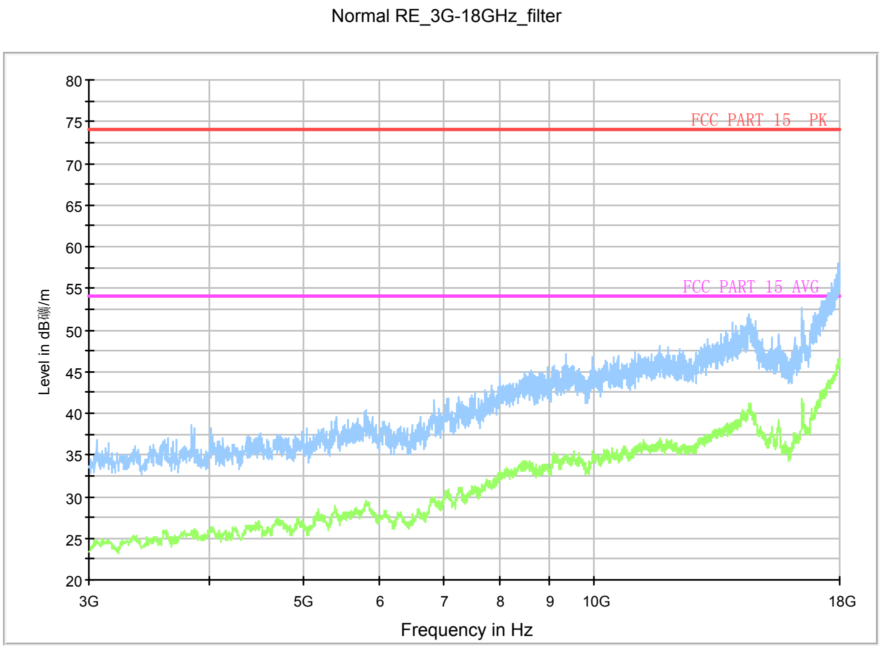

Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 3 GHz-18 GHz)

Normal RE_18G-26.5GHz

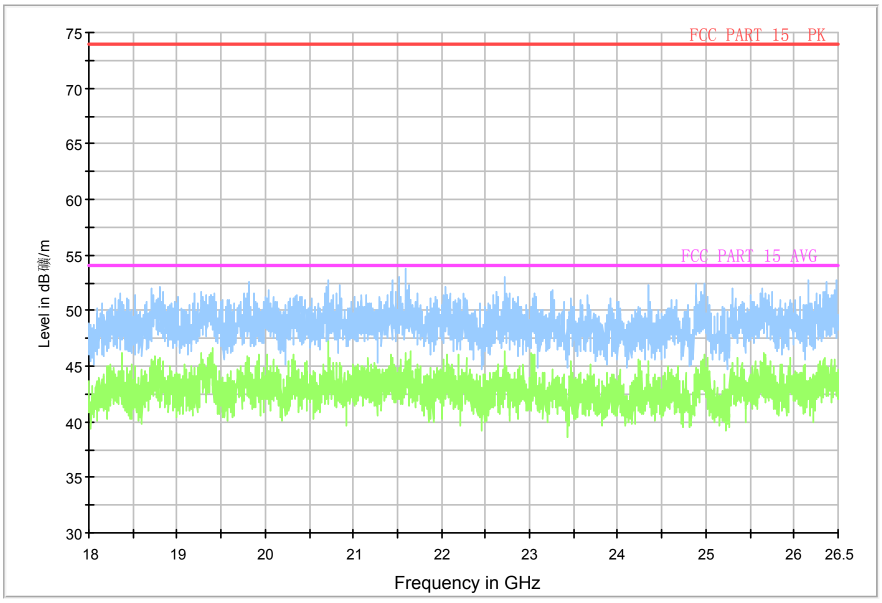

Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 18GHz – 26.5GHz)

RE-Power_2.45G-2.5GHz

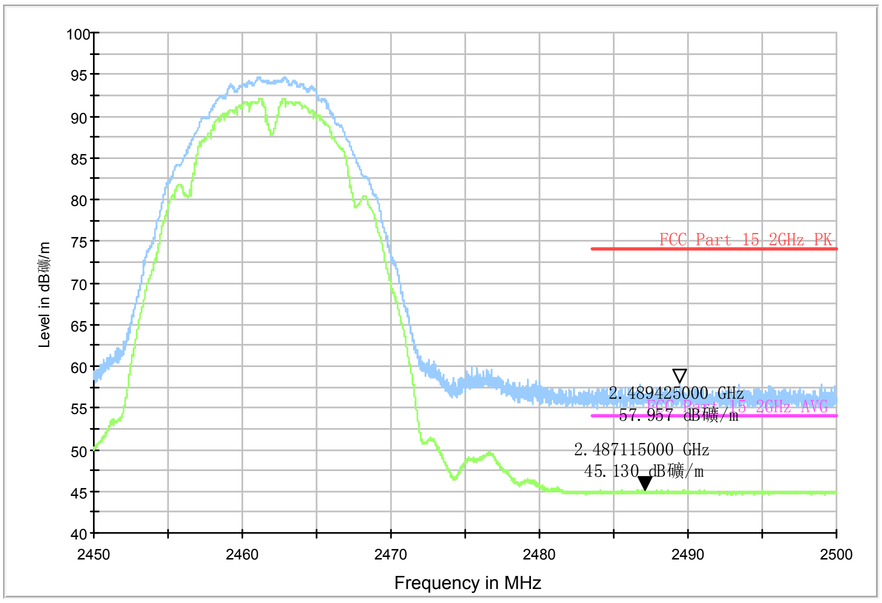

Fig.A.6.2.9 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE_WLAN_1G-3GHz

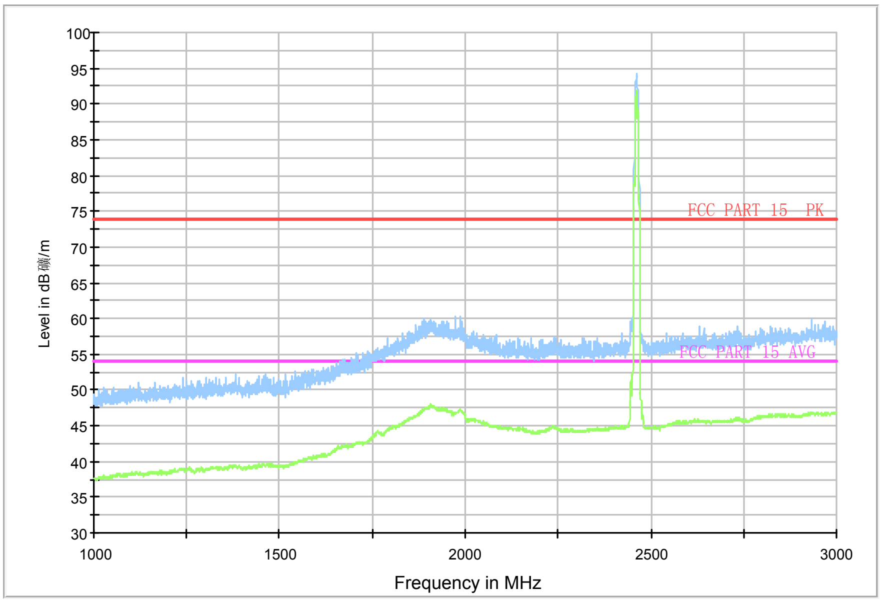

Fig.A.6.2.10 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 1 GHz-3 GHz)

Normal RE_3G-18GHz_filter

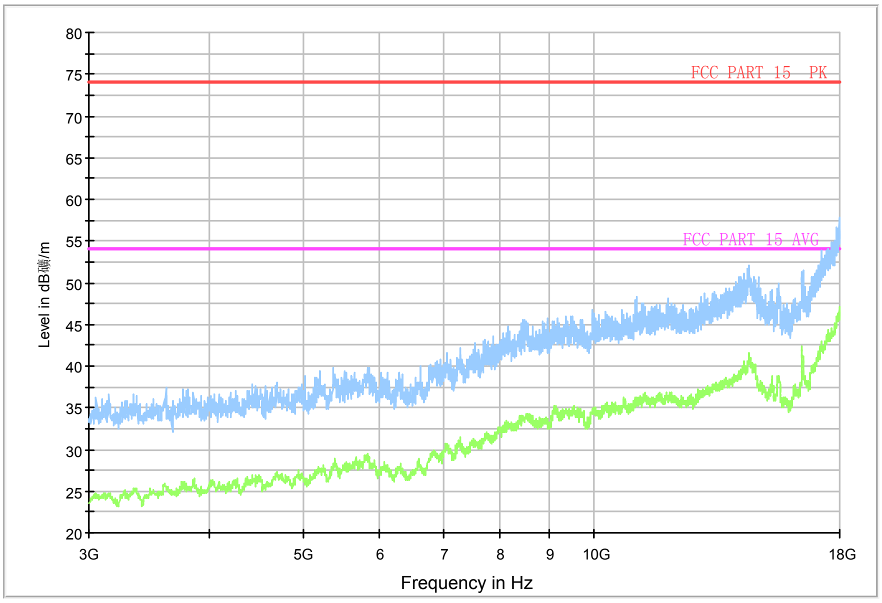

Fig.A.6.2.11 Transmitter Spurious Emission - Radiated (802.11b, Ch11, 3 GHz-18 GHz)

RE-Power_2.38G-2.43GHz

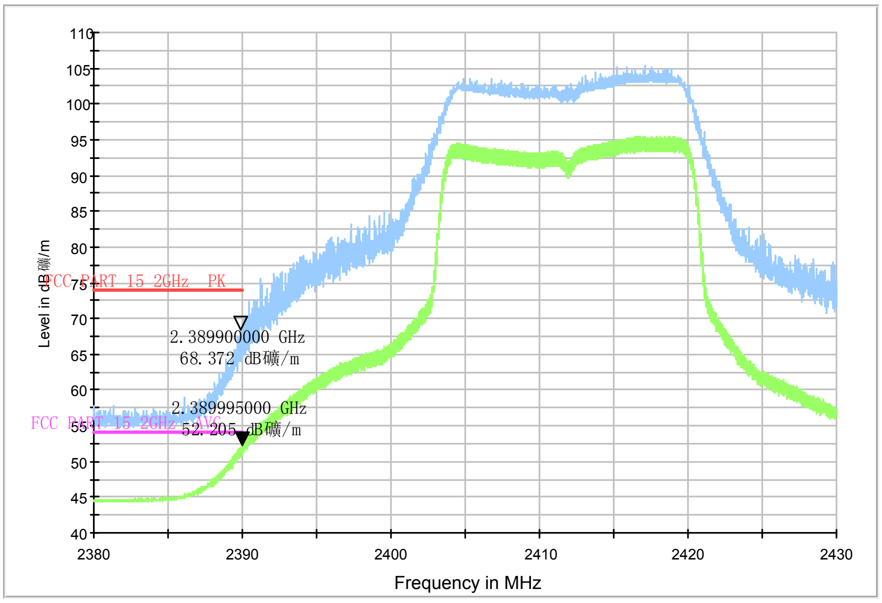

Fig.A.6.2.12 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

RE_WLAN_1G-3GHz

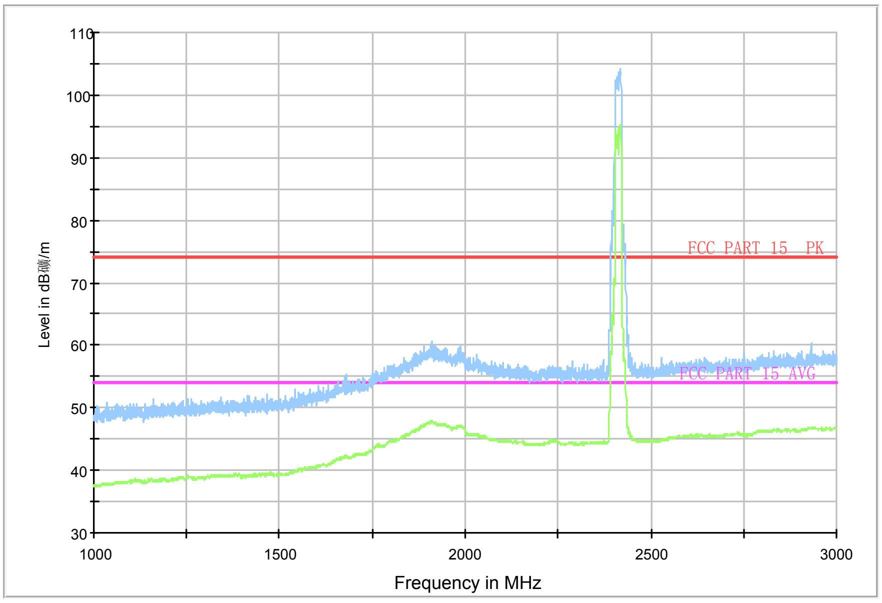

Fig.A.6.2.13 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 1 GHz-3 GHz)

Normal RE_3G-18GHz_filter

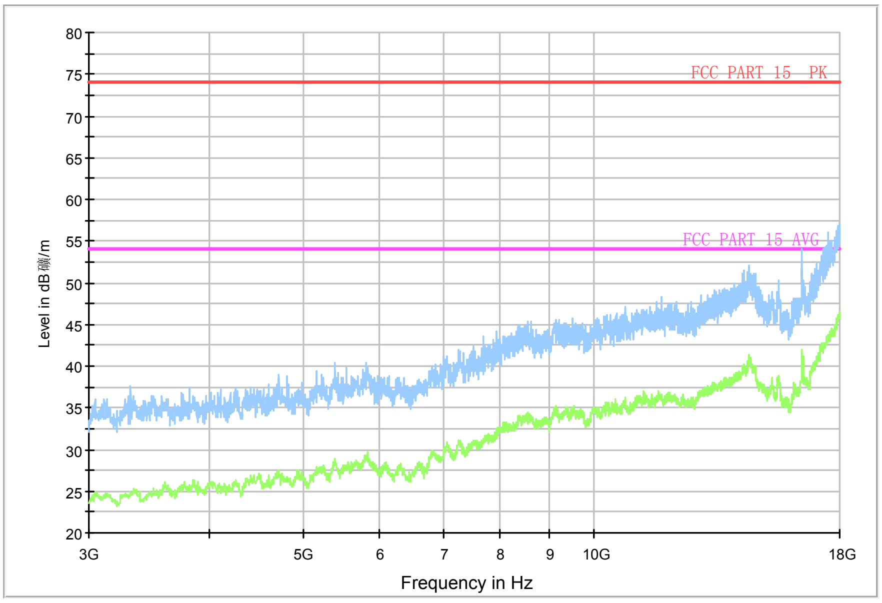

Fig.A.6.2.14 Transmitter Spurious Emission - Radiated (802.11g, Ch1, 3 GHz-18 GHz)

Normal RE_30M-1GHz_10m

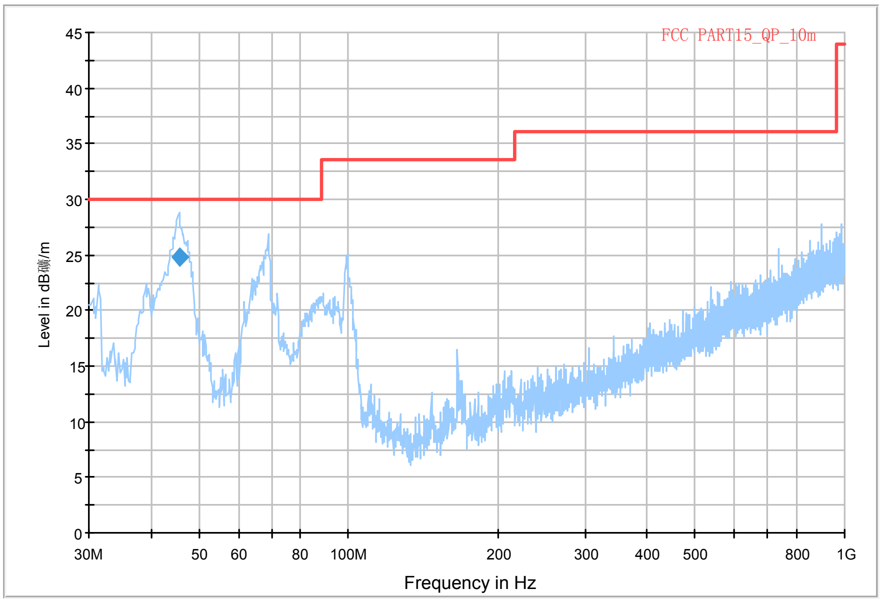

Fig.A.6.2.15 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 30 MHz-1 GHz)

RE_WLAN_1G-3GHz

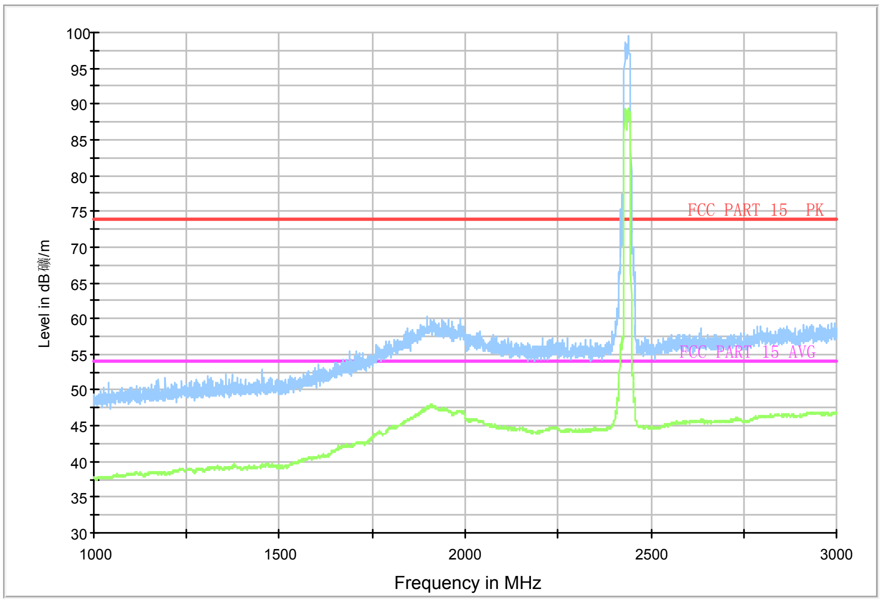

Fig.A.6.2.16 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 1 GHz-3 GHz)

Normal RE_3G-18GHz_filter

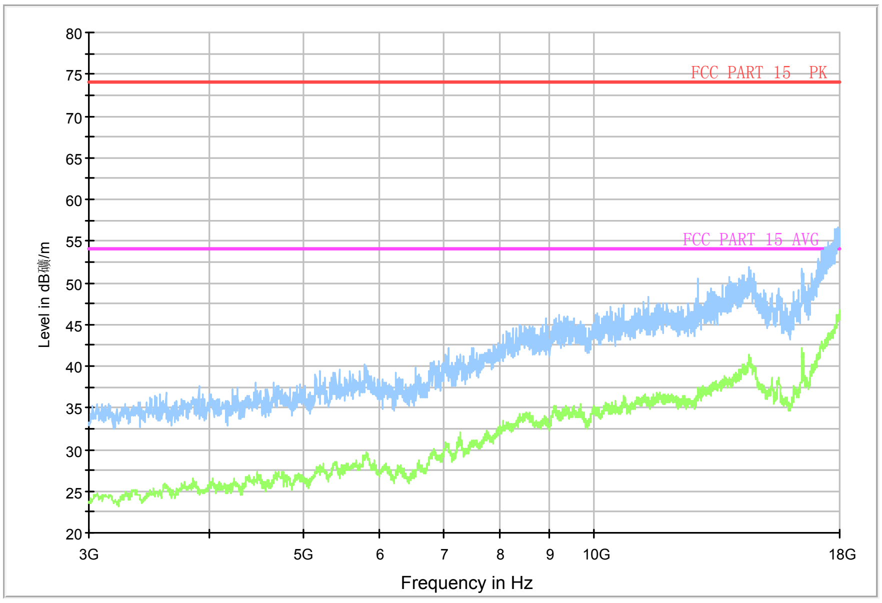

Fig.A.6.2.17 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 3 GHz-18 GHz)

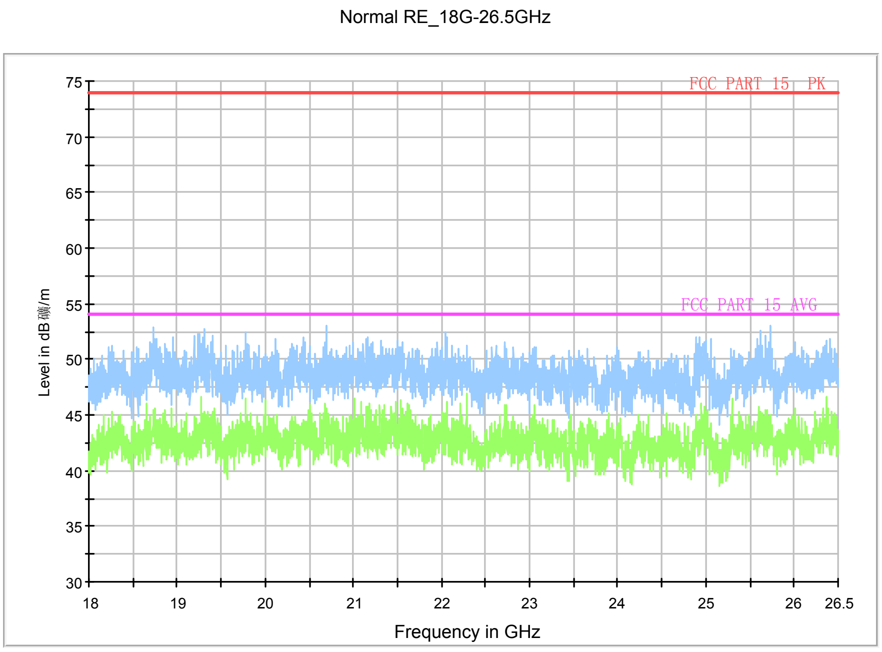

Fig.A.6.2.18 Transmitter Spurious Emission - Radiated (802.11g, Ch6, 18GHz – 26.5GHz)

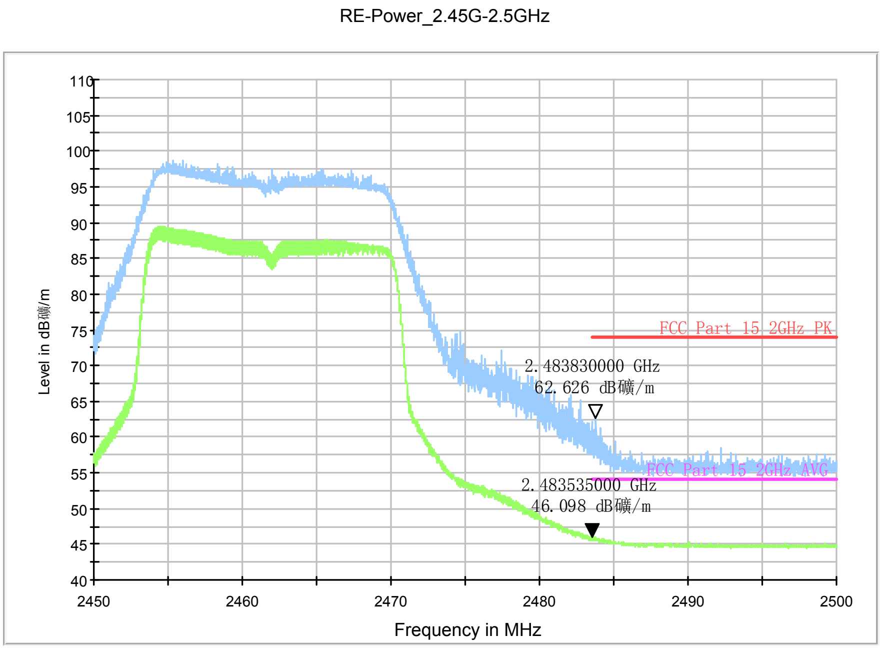

Fig.A.6.2.19 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

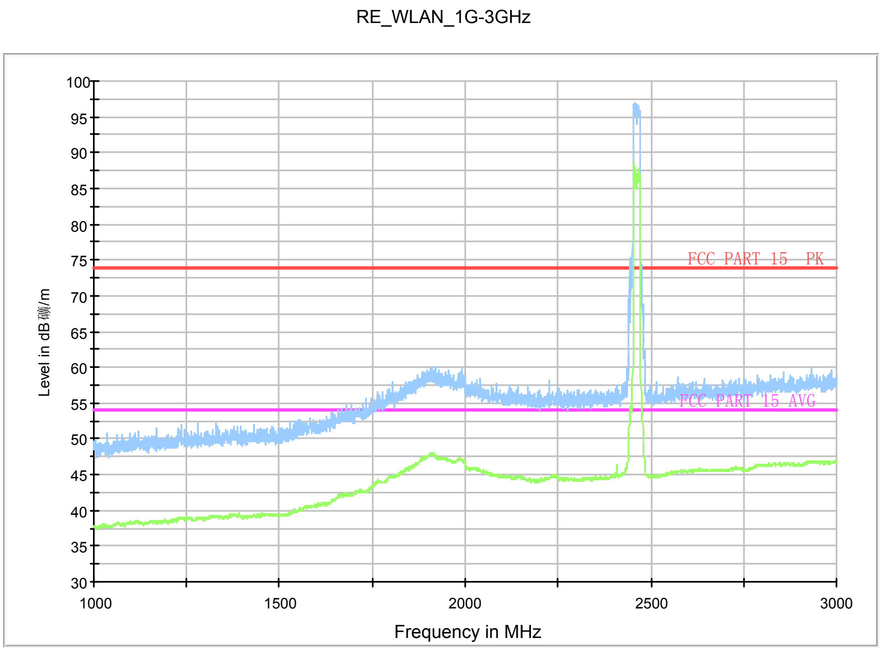

Fig.A.6.2.20 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 1 GHz-3 GHz)

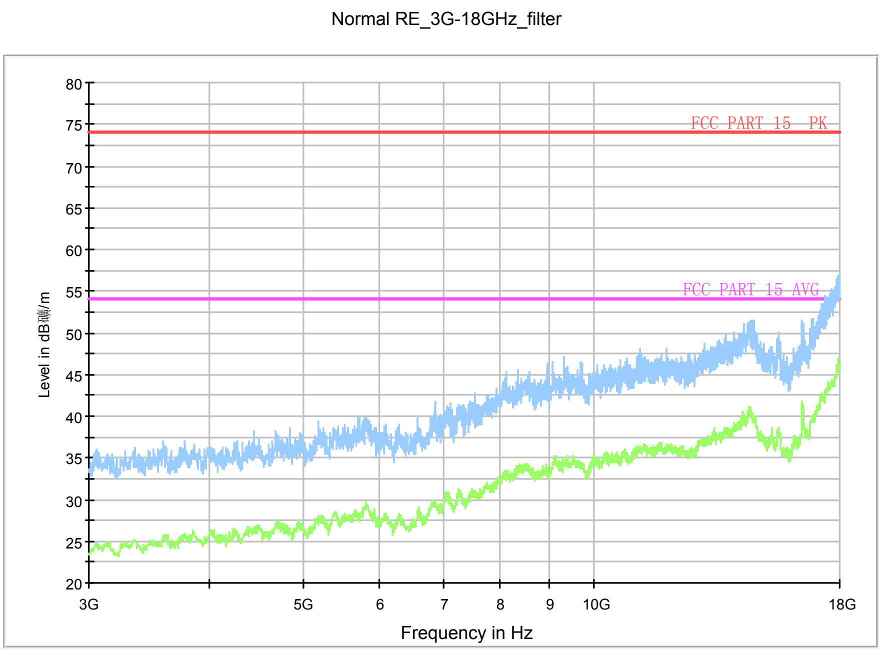

Fig.A.6.2.21 Transmitter Spurious Emission - Radiated (802.11g, Ch11, 3 GHz-18 GHz)

RE-Power_2.38G-2.43GHz

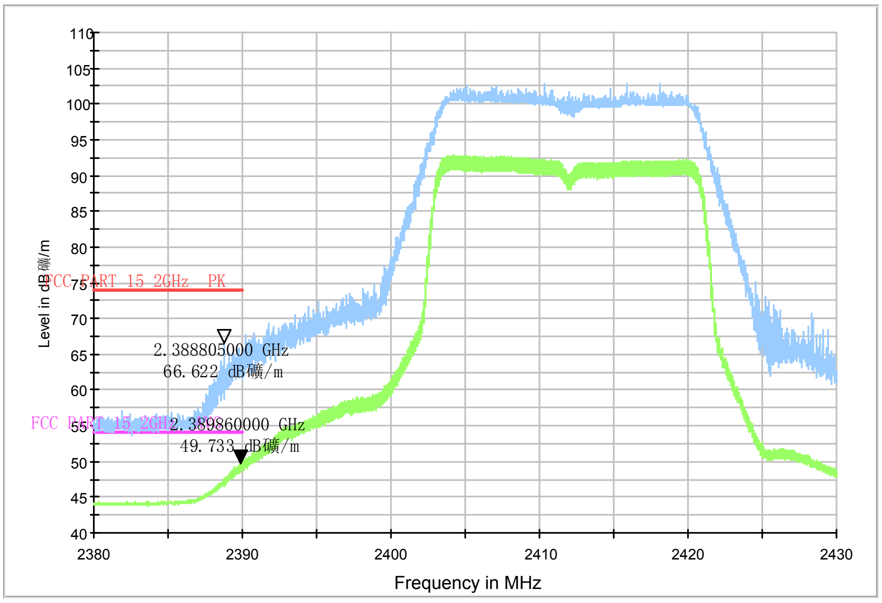

Fig.A.6.2.22 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

RE_WLAN_1G-3GHz

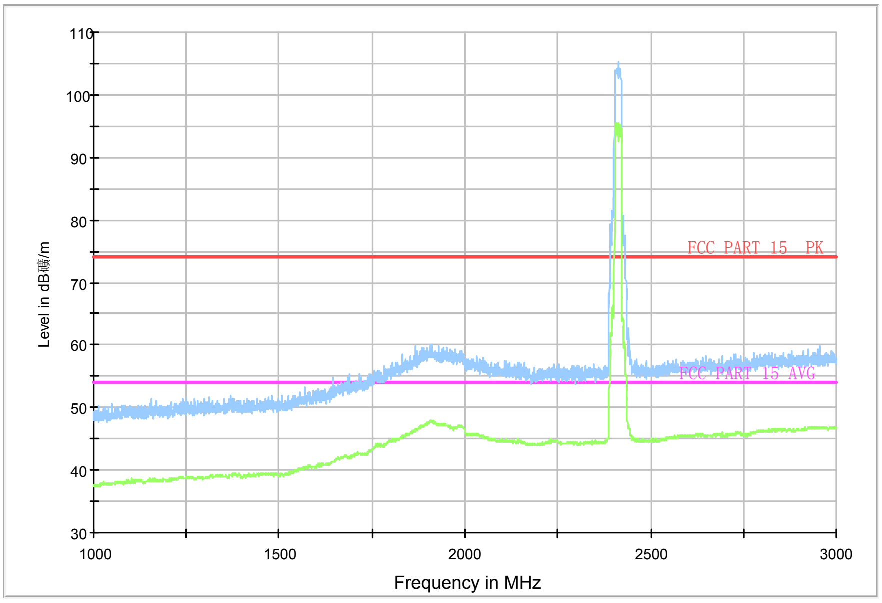

Fig.A.6.2.23 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 1 GHz-3 GHz)

Normal RE_3G-18GHz_filter

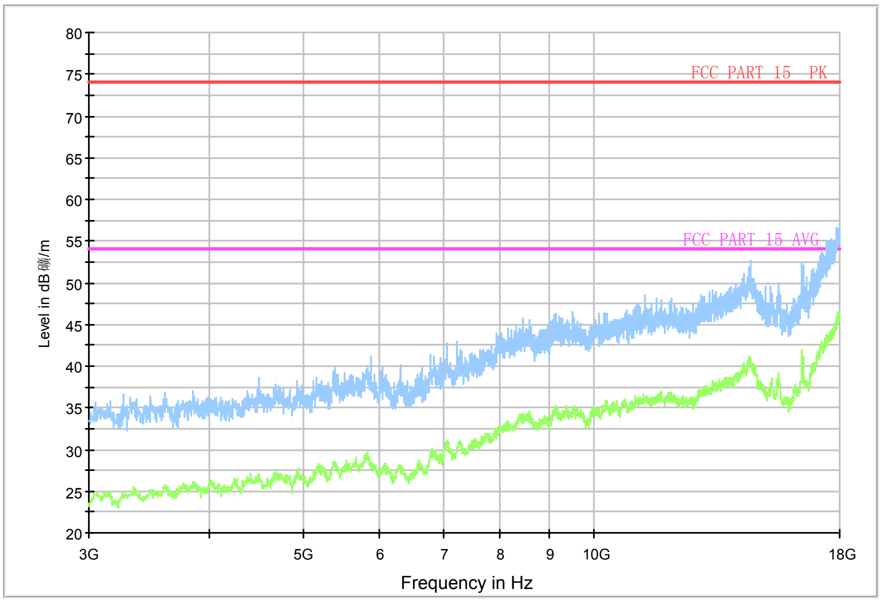

Fig.A.6.2.24 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch1, 3 GHz-18 GHz)

Normal RE_30M-1GHz_10m

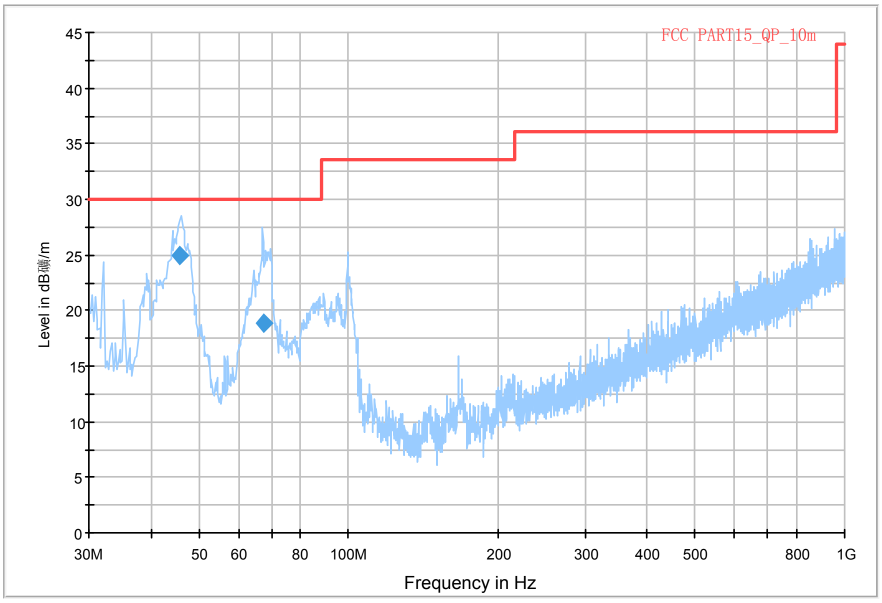

Fig.A.6.2.25 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 30 MHz-1 GHz)

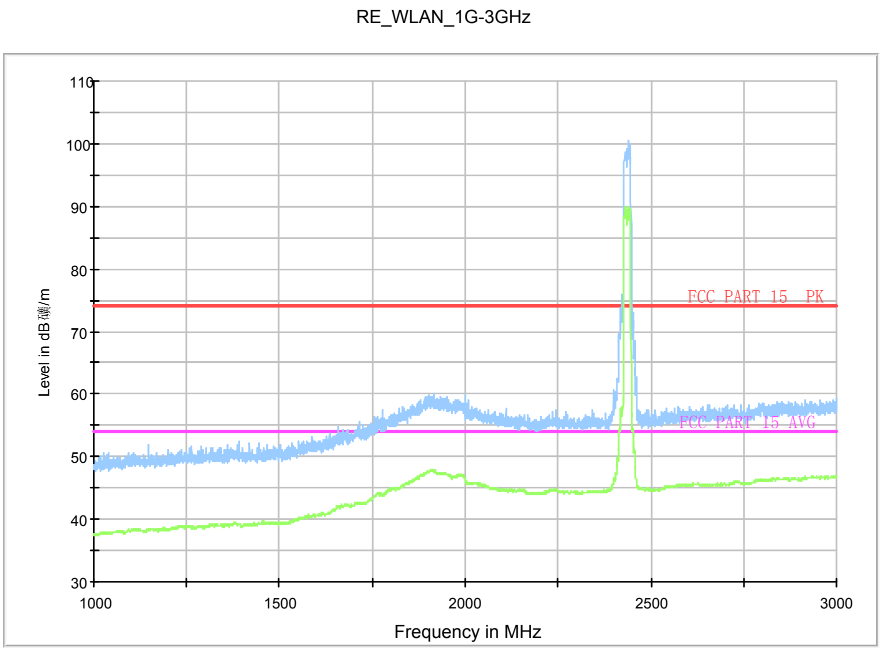

Fig.A.6.2.26 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 1 GHz-3 GHz)

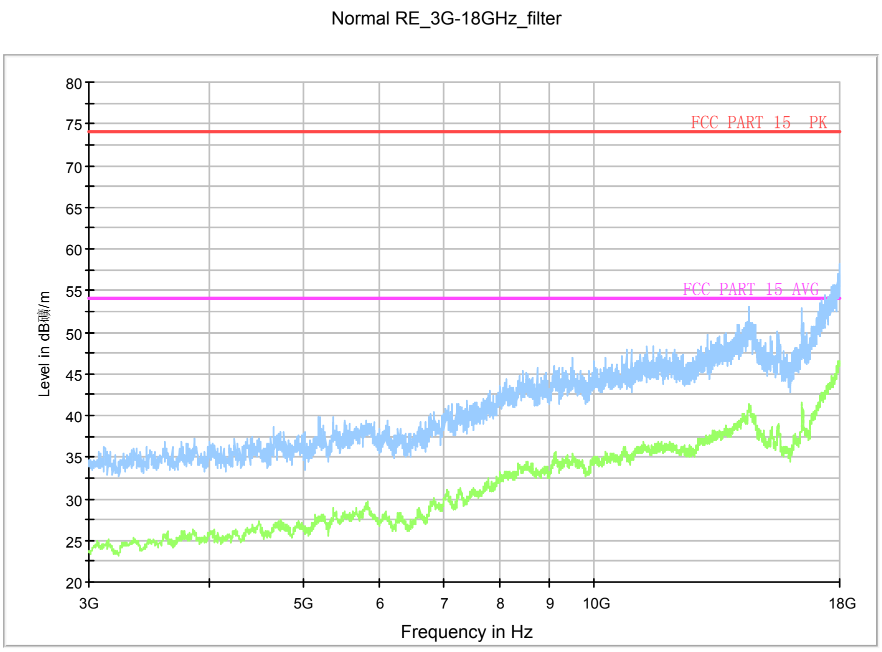

Fig.A.6.2.27 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 3 GHz-18 GHz)

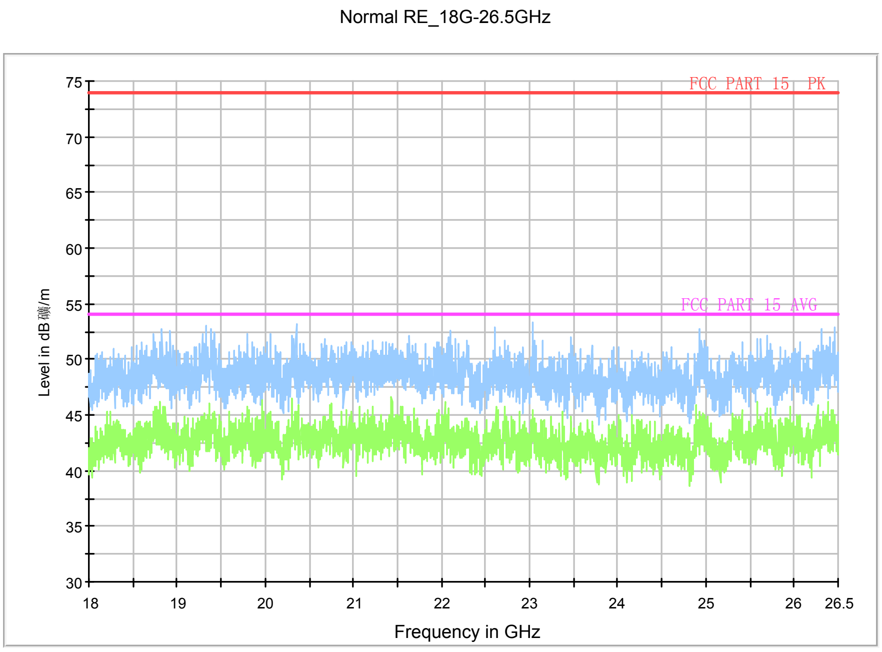

Fig.A.6.2.28 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch6, 18GHz – 26.5GHz)

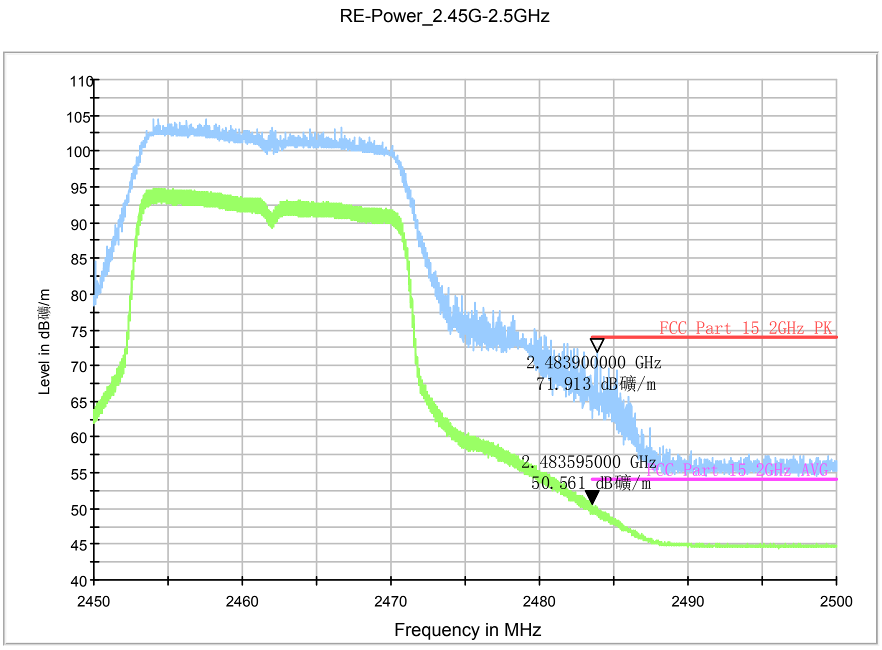

Fig.A.6.2.29 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

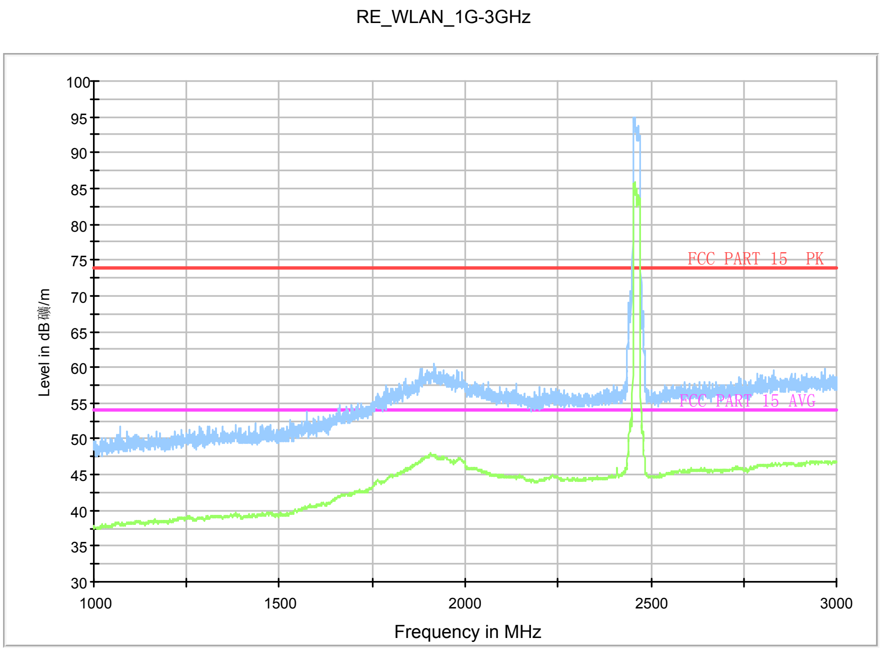

Fig.A.6.2.30 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 1 GHz-3 GHz)

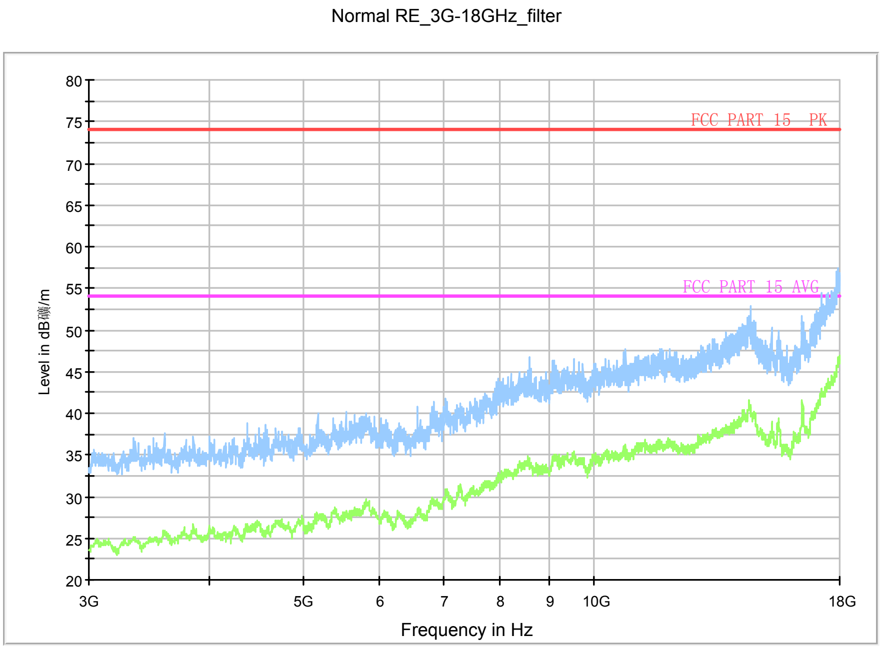

Fig.A.6.2.31 Transmitter Spurious Emission - Radiated (802.11n-HT20, Ch11, 3 GHz-18 GHz)

A.7. AC Power-line Conducted Emission

Method of Measurement: See ANSI C63.10-2009-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) With charger 802.11b	Idle	Conclusion
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) With charger 802.11b	Idle	Conclusion
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:

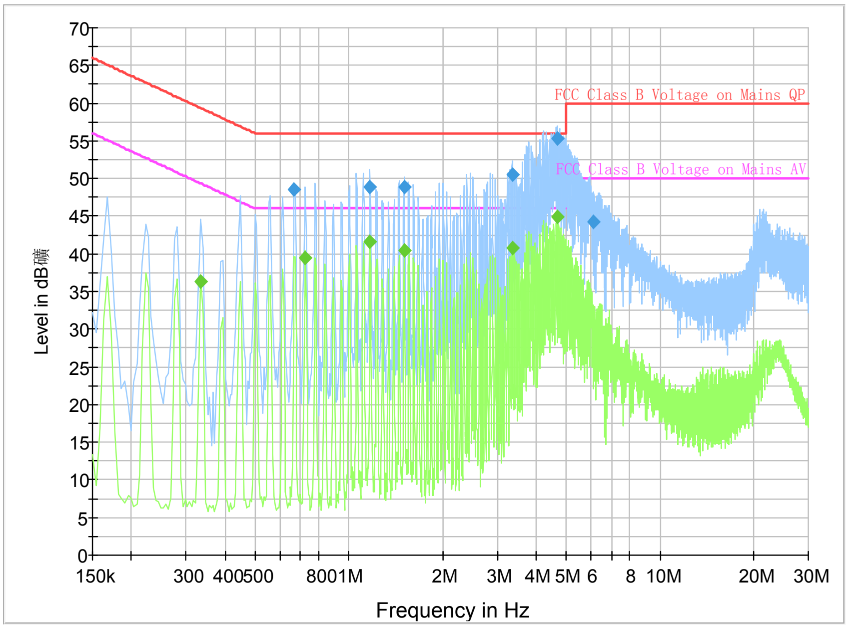

Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.667500	48.6	1000.0	9.000	On	L1	19.8	7.4	56.0
1.171500	48.8	1000.0	9.000	On	L1	19.6	7.2	56.0
1.504500	48.8	1000.0	9.000	On	L1	19.6	7.2	56.0
3.345000	50.5	1000.0	9.000	On	L1	19.7	5.5	56.0
4.681500	55.3	1000.0	9.000	On	L1	19.7	0.7	56.0
6.135000	44.2	1000.0	9.000	On	L1	19.7	15.8	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.334500	36.4	1000.0	9.000	On	N	19.8	13.0	49.3
0.726000	39.5	1000.0	9.000	On	L1	19.8	6.5	46.0
1.171500	41.6	1000.0	9.000	On	L1	19.6	4.4	46.0
1.504500	40.4	1000.0	9.000	On	L1	19.6	5.6	46.0
3.345000	40.8	1000.0	9.000	On	L1	19.7	5.2	46.0
4.681500	45.0	1000.0	9.000	On	L1	19.7	1.0	46.0

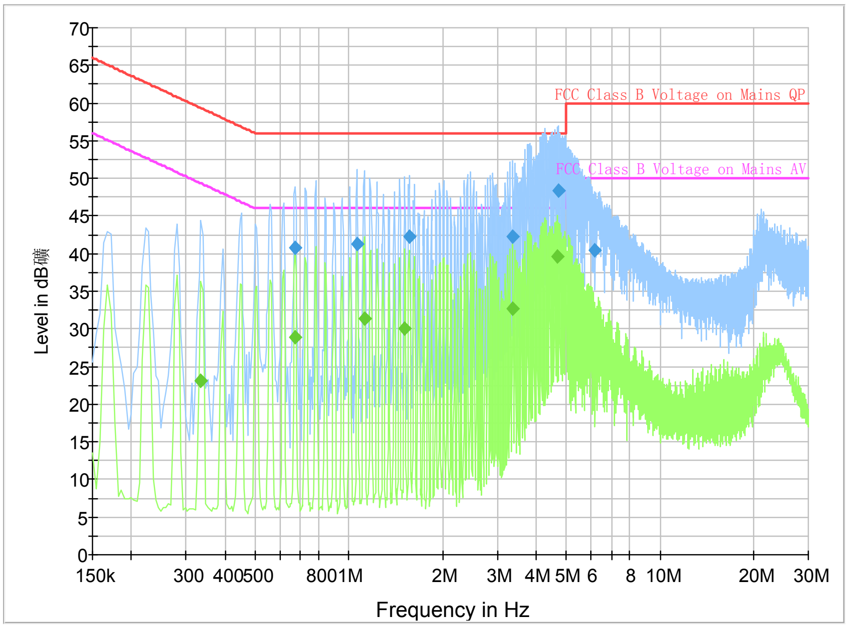

Fig.A.7.2 AC Powerline Conducted Emission-Idle

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)
0.672000	40.8	1000.0	9.000	On	L1	19.8	15.2	56.0
1.063500	41.2	1000.0	9.000	On	N	19.7	14.8	56.0
1.567500	42.2	1000.0	9.000	On	N	19.7	13.8	56.0
3.354000	42.3	1000.0	9.000	On	L1	19.7	13.7	56.0
4.708500	48.3	1000.0	9.000	On	N	19.7	7.7	56.0
6.171000	40.4	1000.0	9.000	On	N	19.7	19.6	60.0

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.334500	23.1	1000.0	9.000	On	L1	19.8	26.3	49.3
0.672000	28.8	1000.0	9.000	On	L1	19.8	17.2	46.0
1.122000	31.4	1000.0	9.000	On	N	19.7	14.6	46.0
1.509000	30.0	1000.0	9.000	On	L1	19.6	16.0	46.0
3.354000	32.7	1000.0	9.000	On	L1	19.7	13.3	46.0
4.695000	39.6	1000.0	9.000	On	L1	19.7	6.4	46.0

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

No.52, Huayuan North Road, Haidian District, Beijing, China

No.51, Xueyuan Road, Haidian District, Beijing, China

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.*

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.

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

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).

No.CNAS AL 2 0011149

*****END OF REPORT*****