

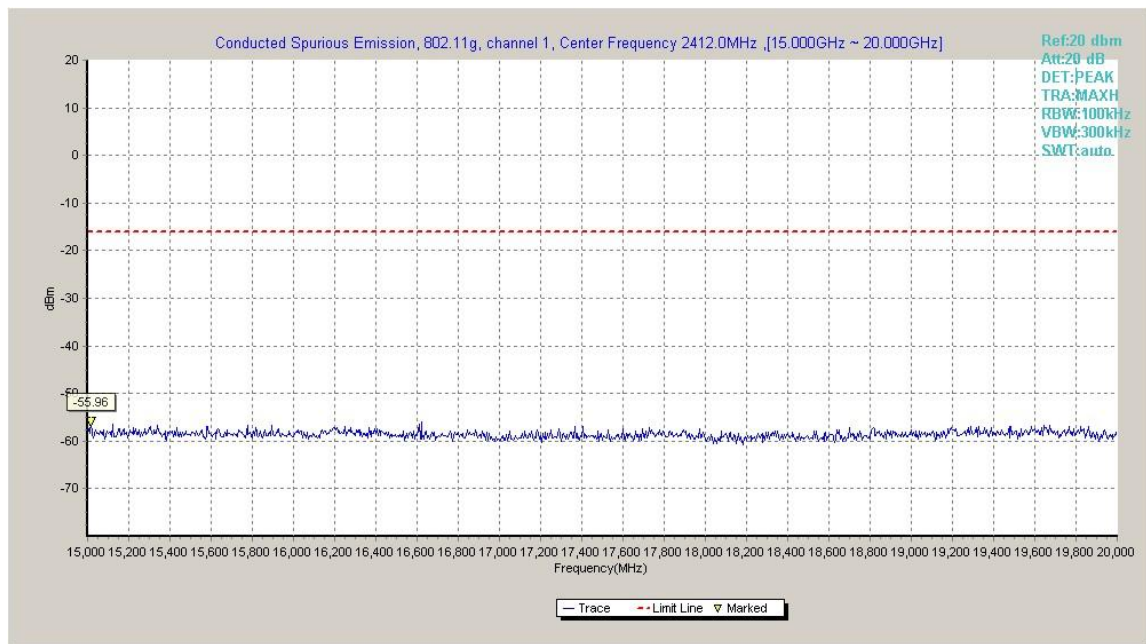


Fig.A.6.1.31 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 15 GHz-20 GHz)

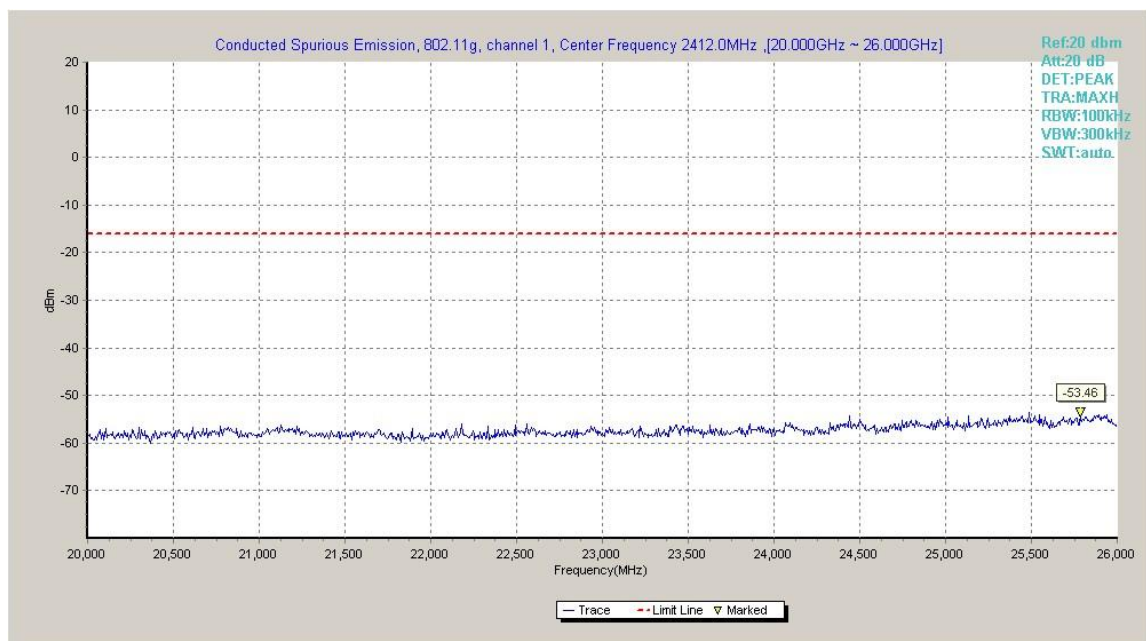


Fig.A.6.1.32 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 20 GHz-26 GHz)

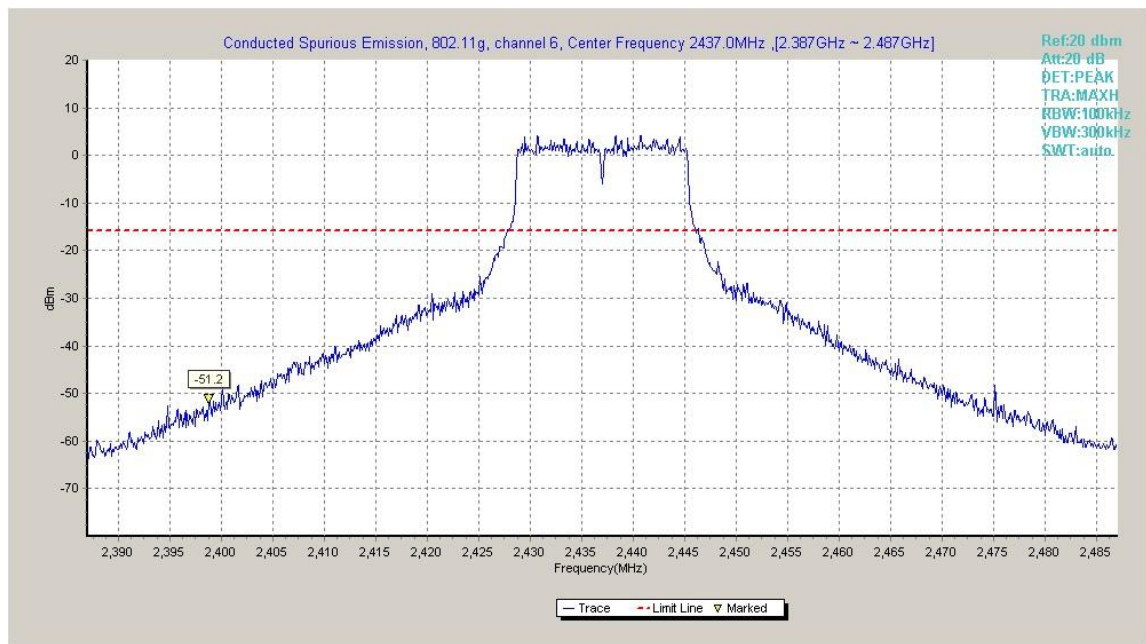


Fig.A.6.1.33 Transmitter Spurious Emission - Conducted (802.11g, Ch6, Center Frequency)

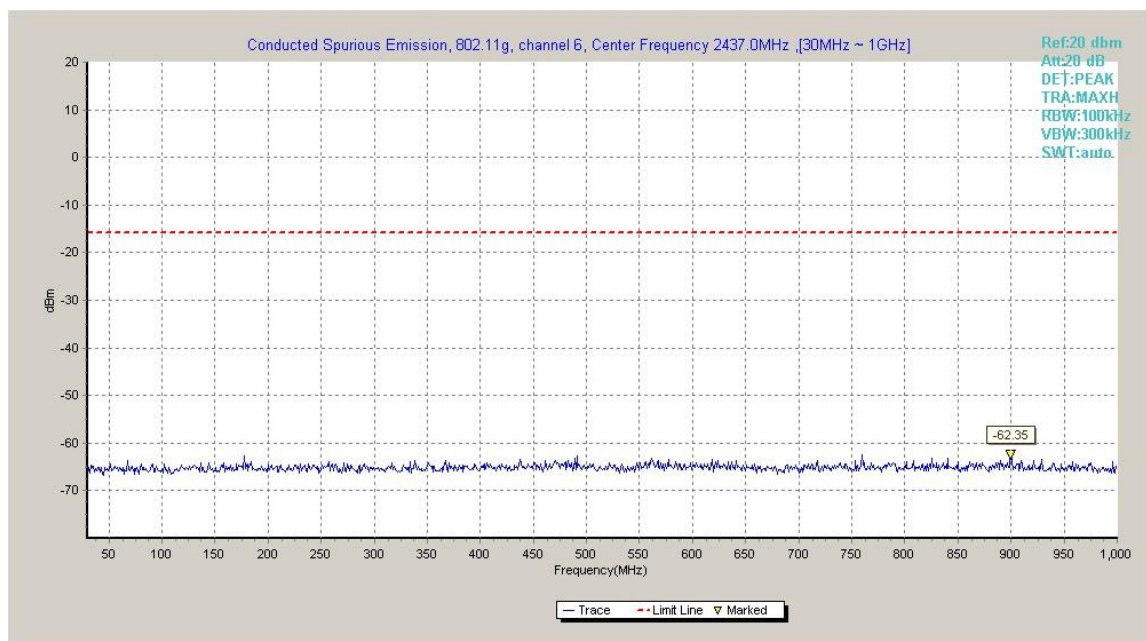


Fig.A.6.1.34 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 30 MHz-1 GHz)

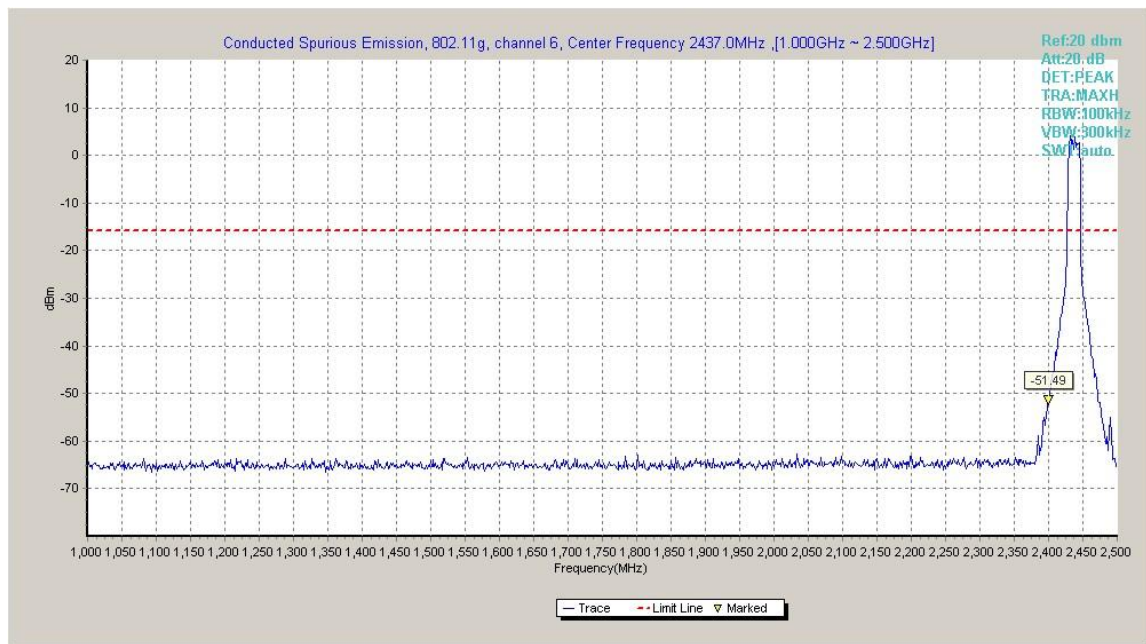


Fig.A.6.1.35 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 1 GHz-2.5 GHz)

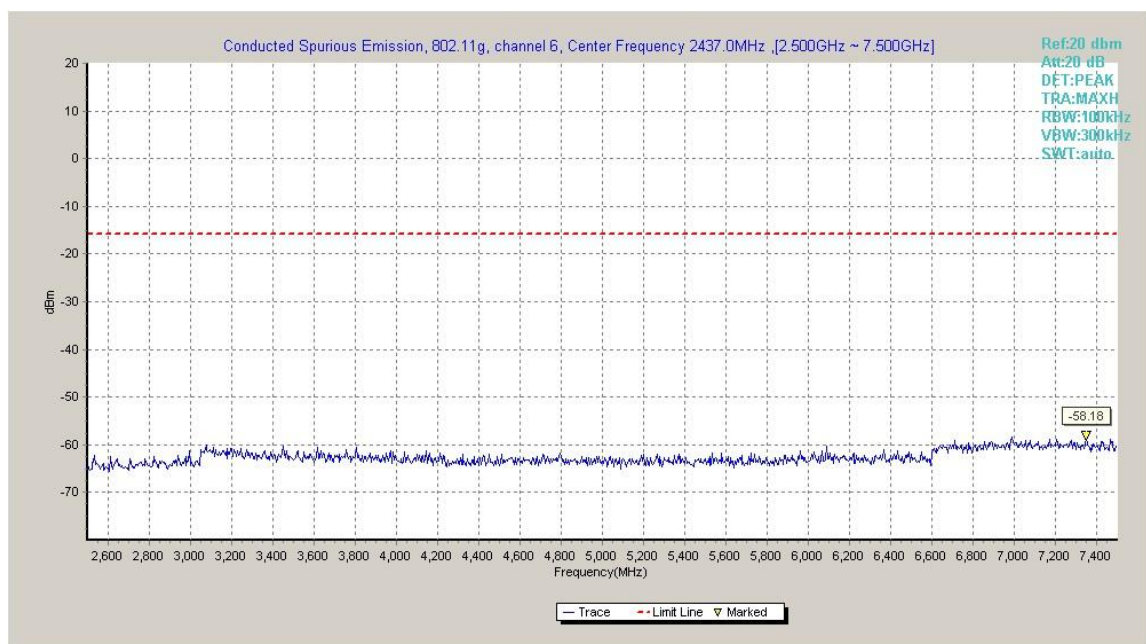


Fig.A.6.1.36 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 2.5 GHz-7.5 GHz)

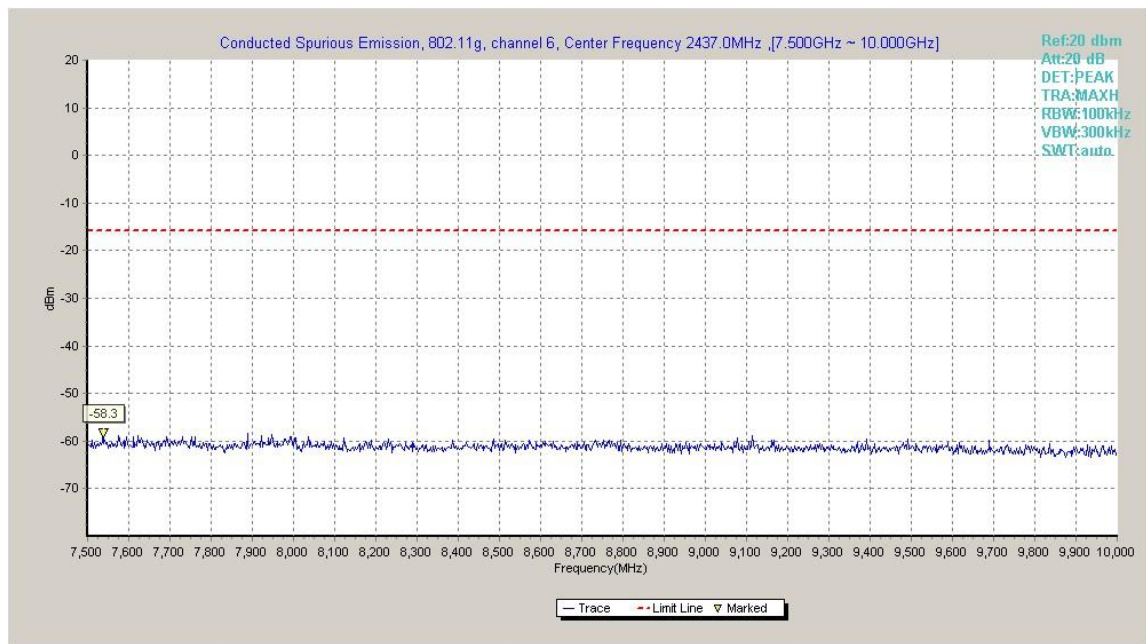


Fig.A.6.1.37 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 7.5 GHz-10 GHz)

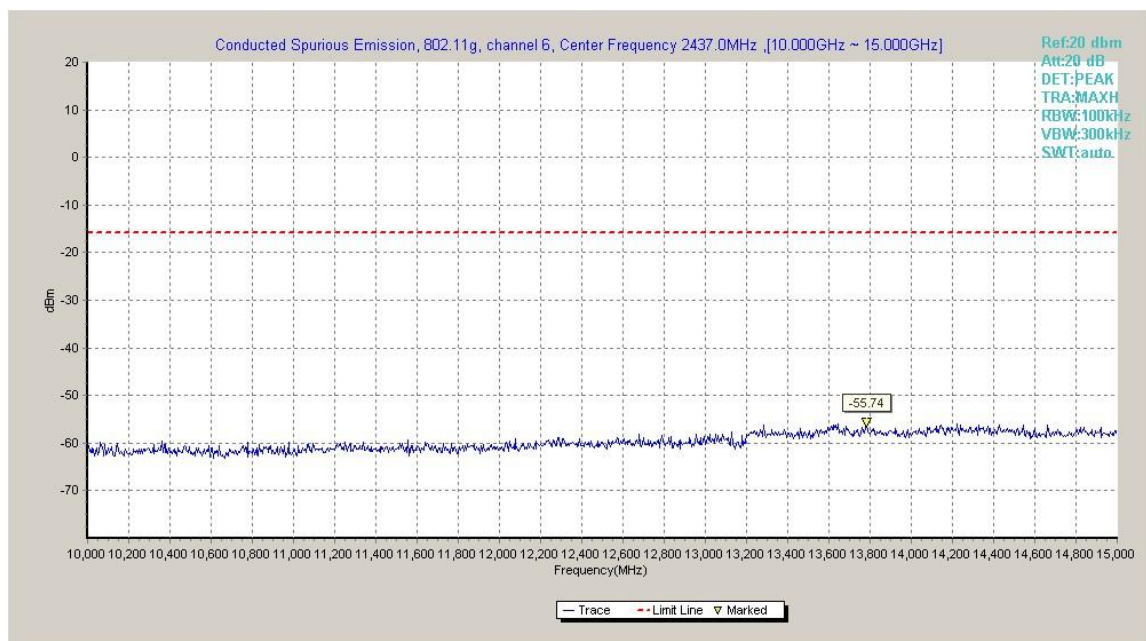


Fig.A.6.1.38 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 10 GHz-15 GHz)

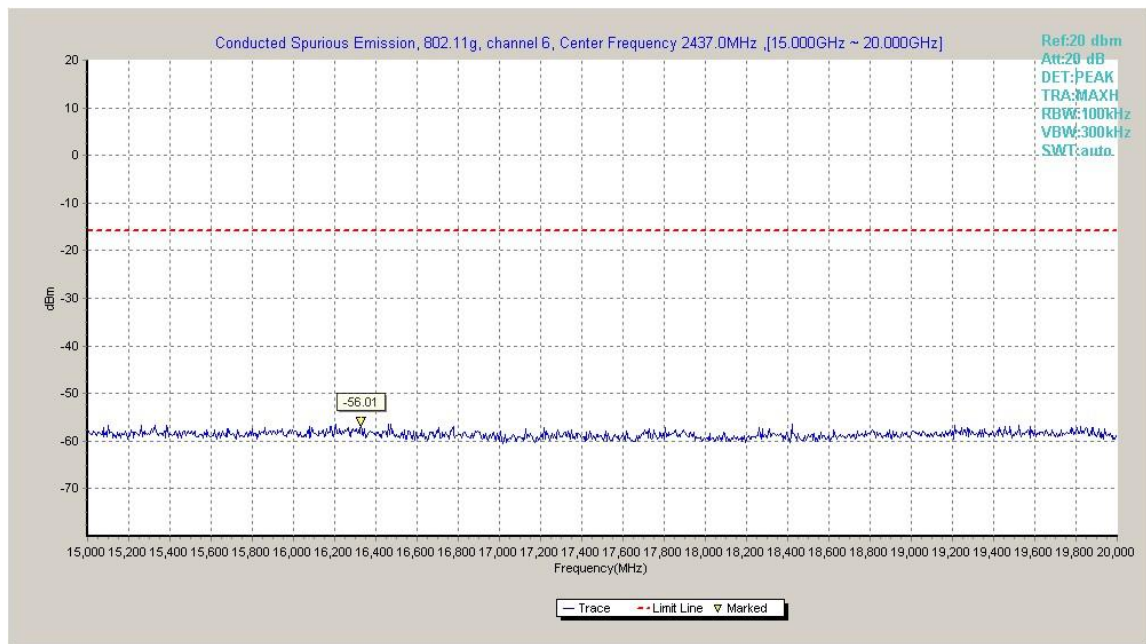


Fig.A.6.1.39 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 15 GHz-20 GHz)

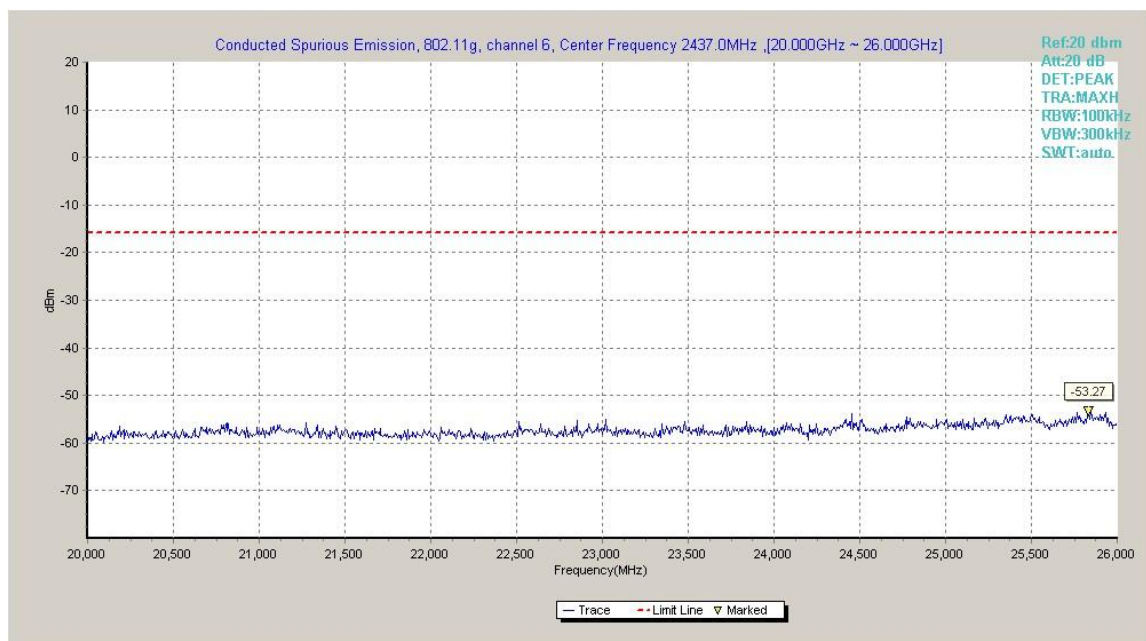


Fig.A.6.1.40 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 20 GHz-26 GHz)

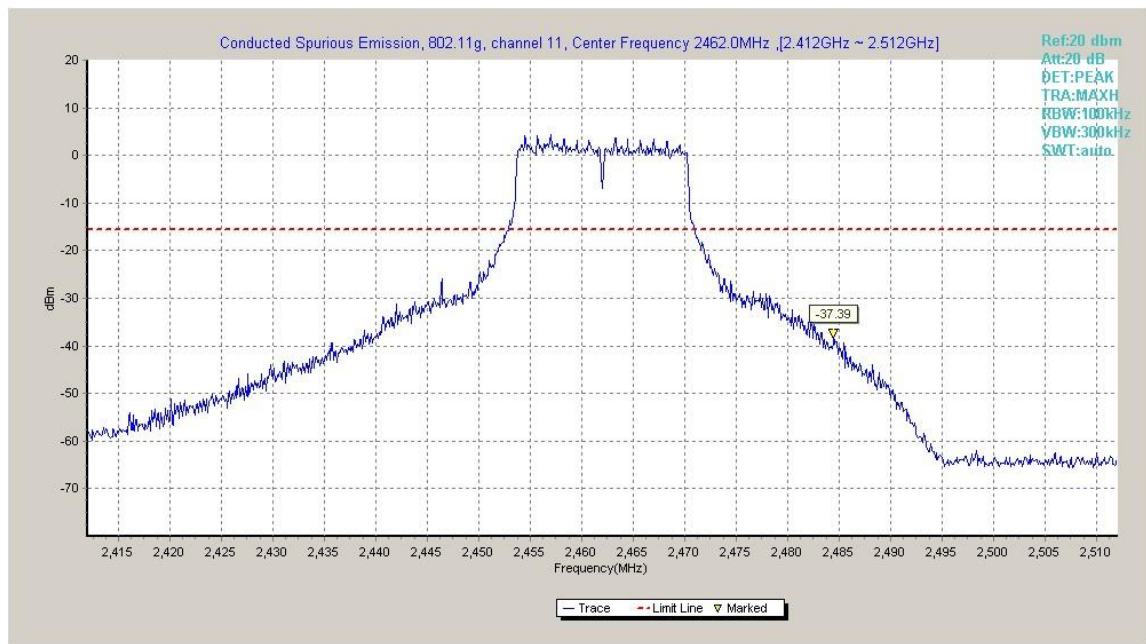


Fig.A.6.1.41 Transmitter Spurious Emission - Conducted (802.11g, Ch11, Center Frequency)

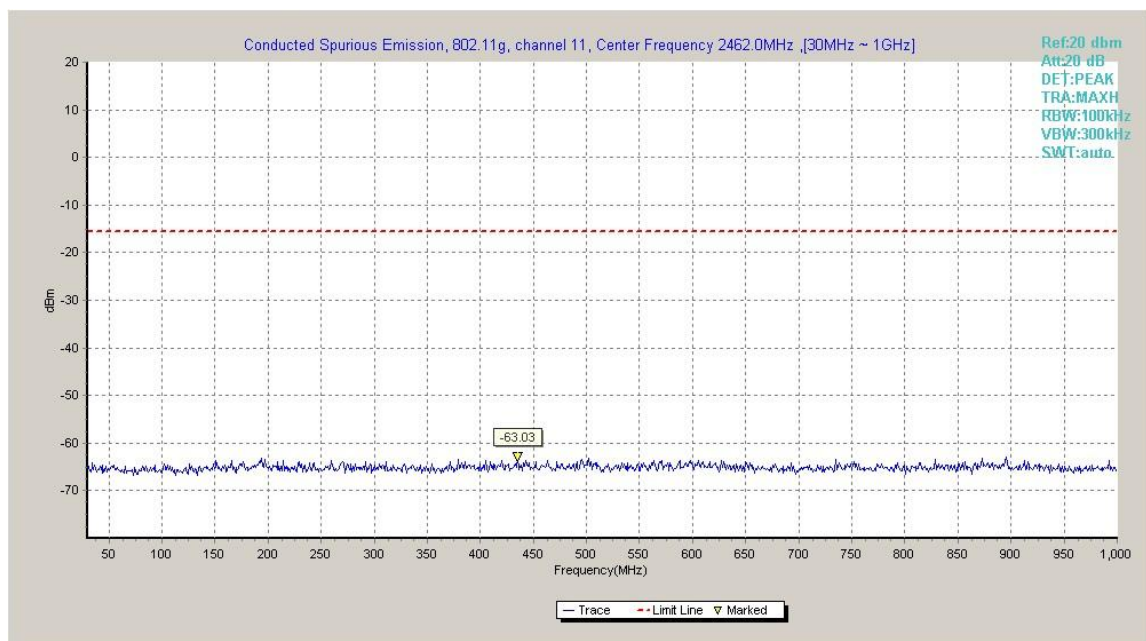


Fig.A.6.1.42 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 30 MHz-1 GHz)

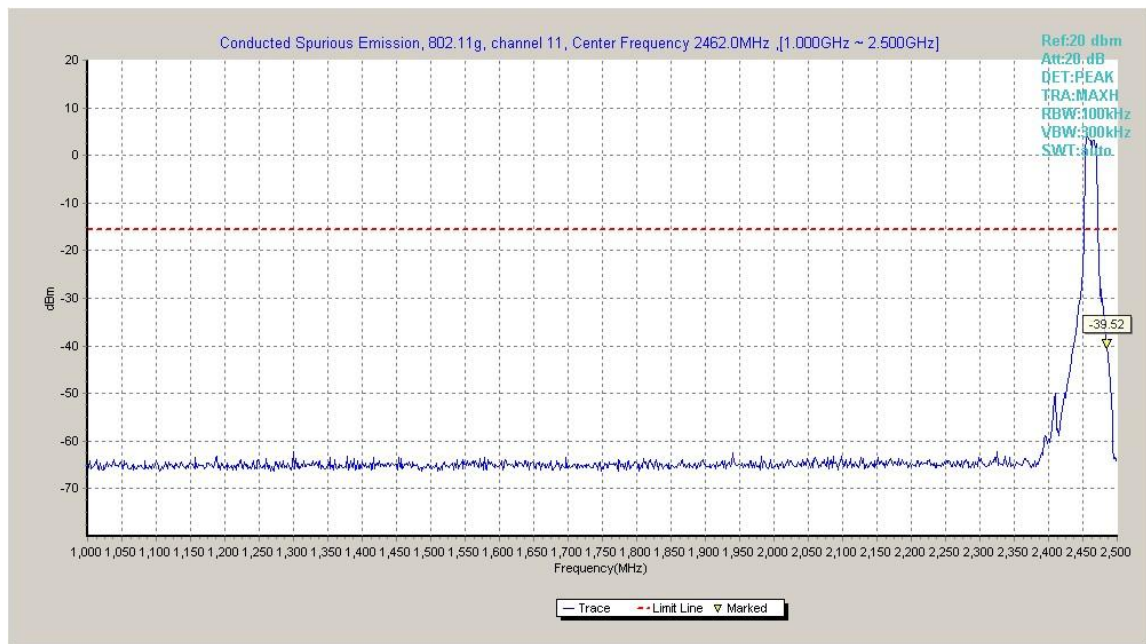


Fig.A.6.1.43 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 1 GHz-2.5 GHz)

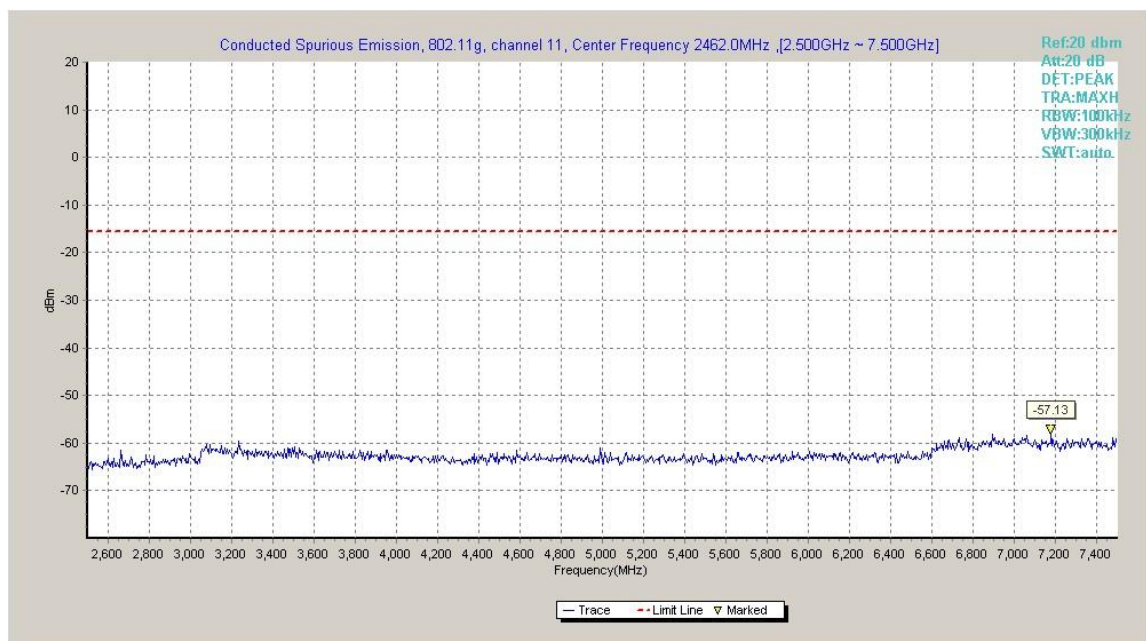


Fig.A.6.1.44 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 2.5 GHz-7.5 GHz)

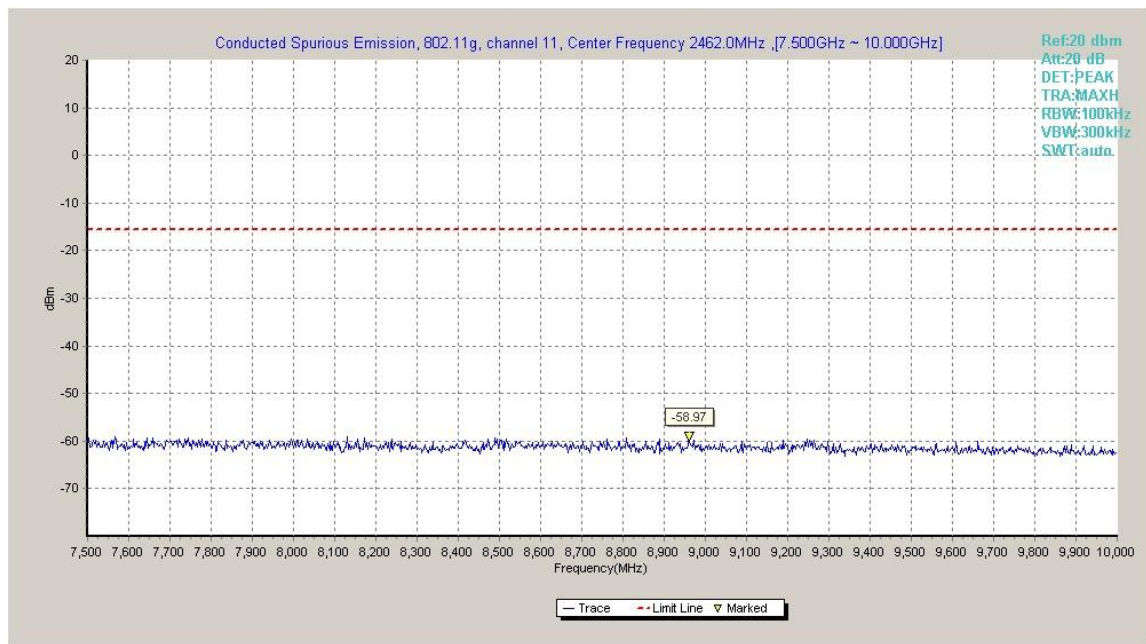


Fig.A.6.1.45 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 7.5 GHz-10 GHz)

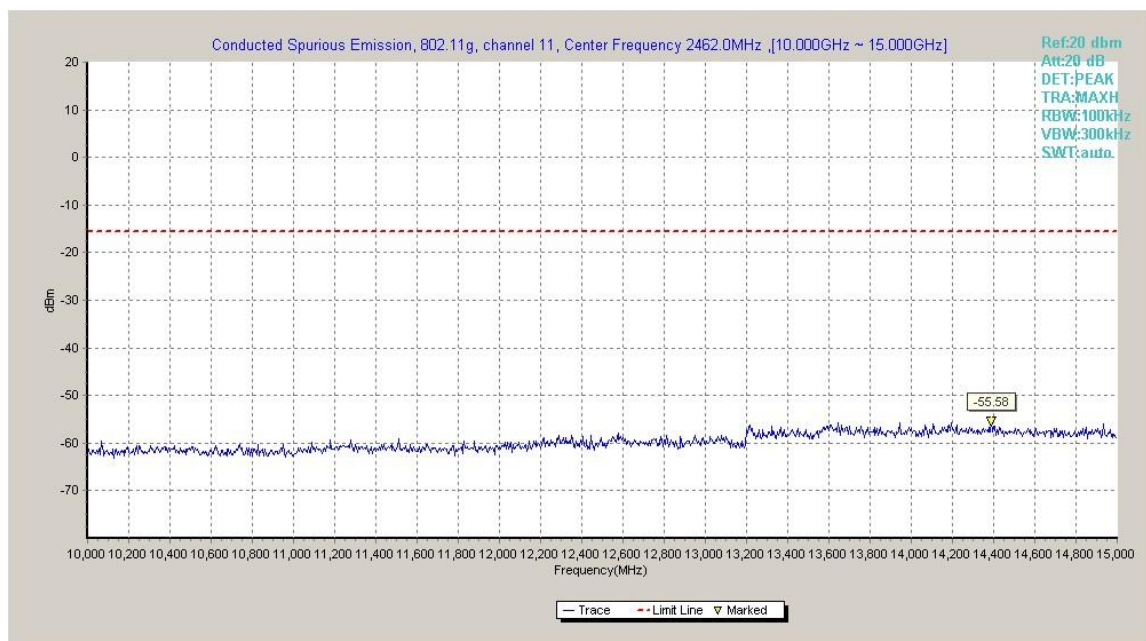


Fig.A.6.1.46 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 10 GHz-15 GHz)

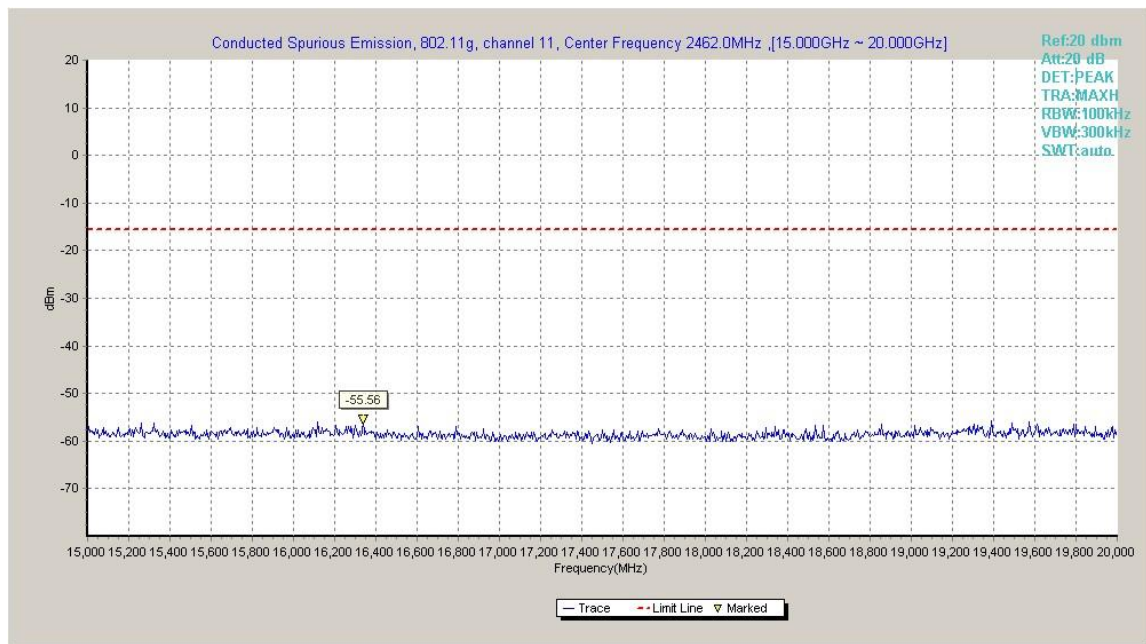


Fig.A.6.1.47 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 15 GHz-20 GHz)

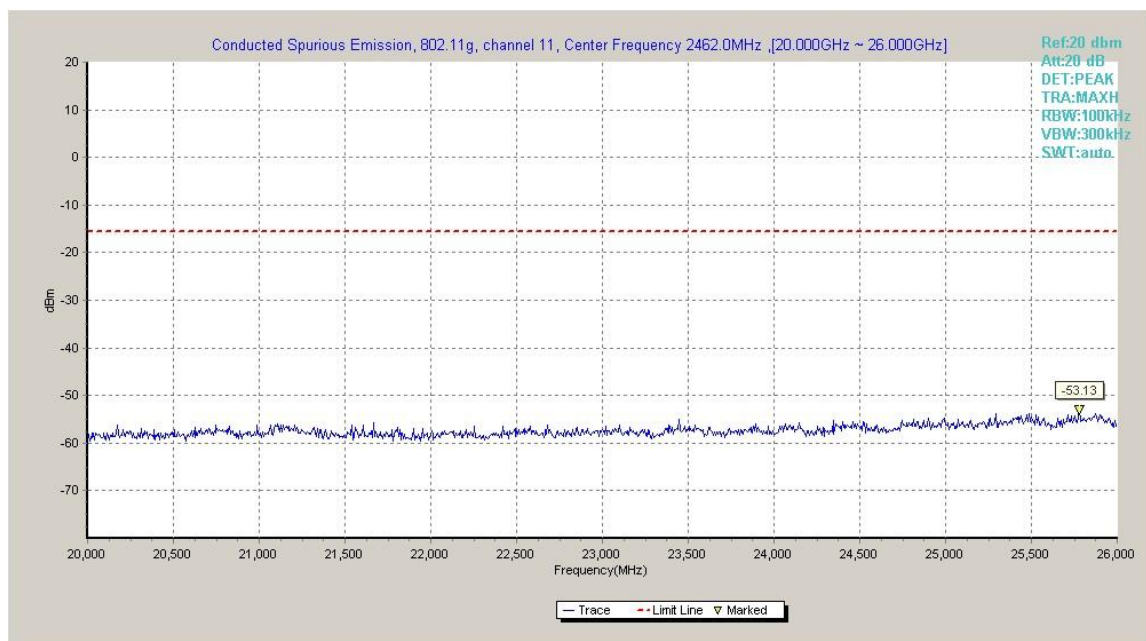


Fig.A.6.1.48 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 20 GHz-26 GHz)

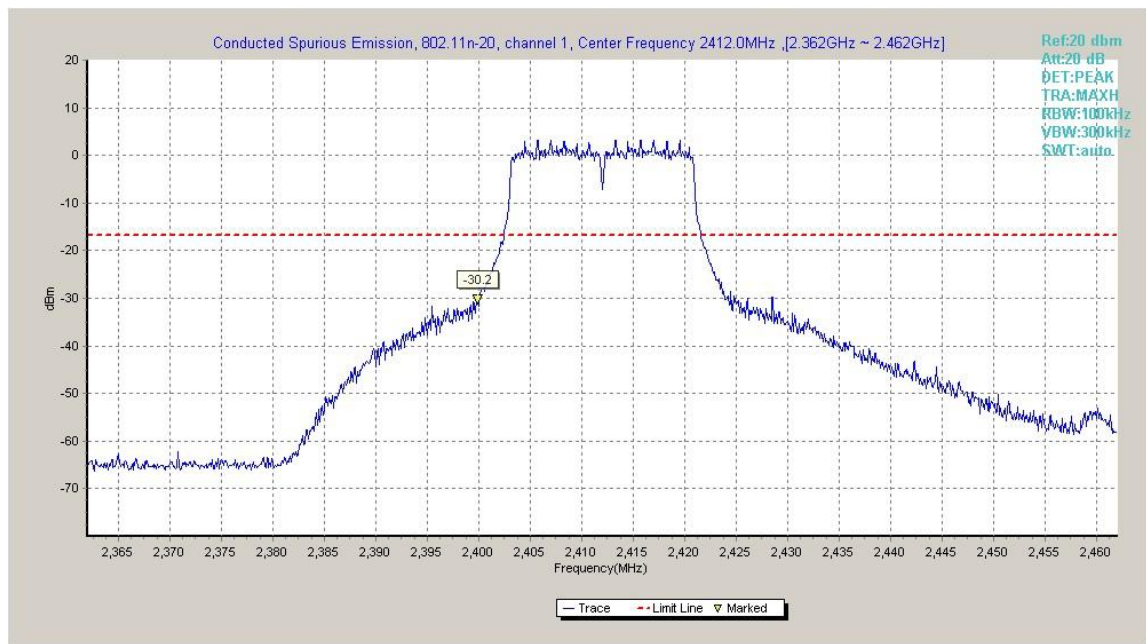


Fig.A.6.1.49 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, Center Frequency)

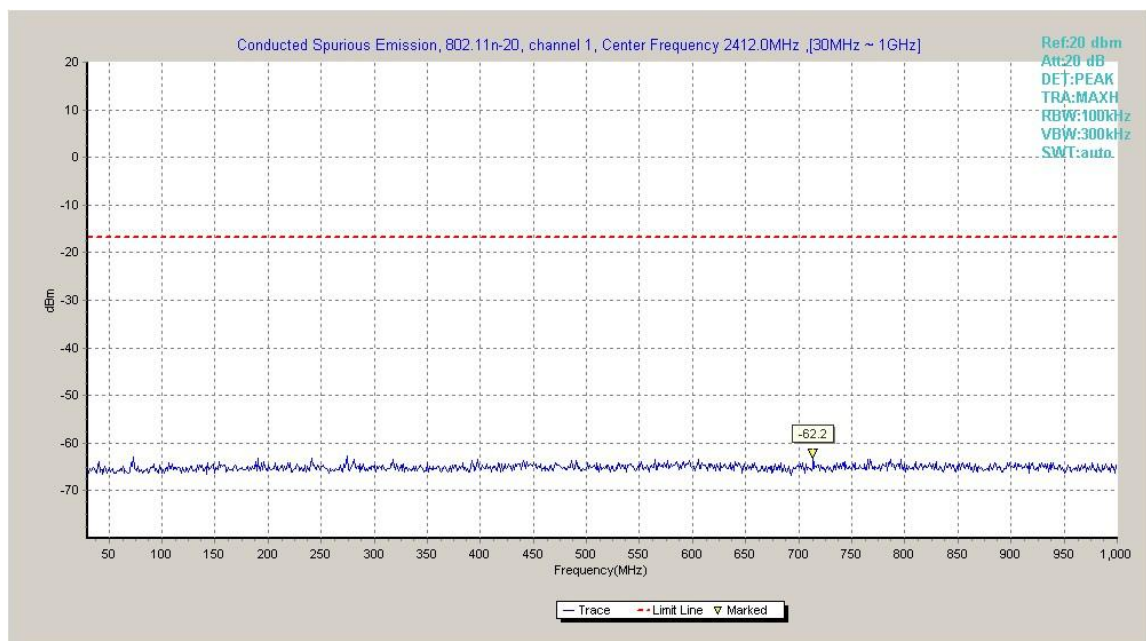


Fig.A.6.1.50 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 30 MHz-1 GHz)

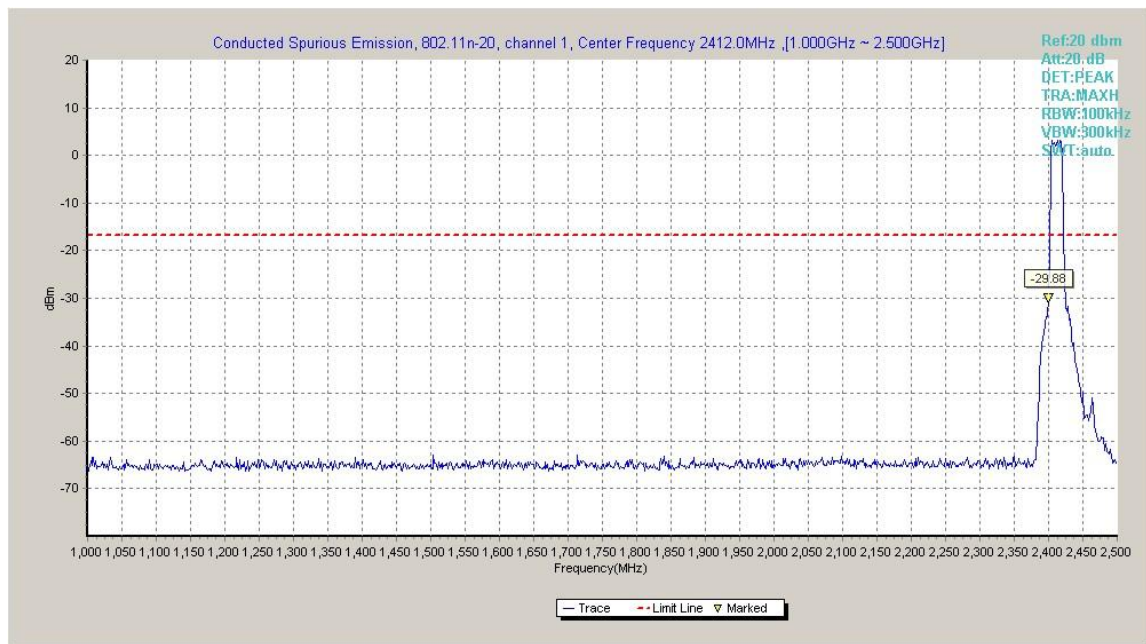


Fig.A.6.1.51 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)

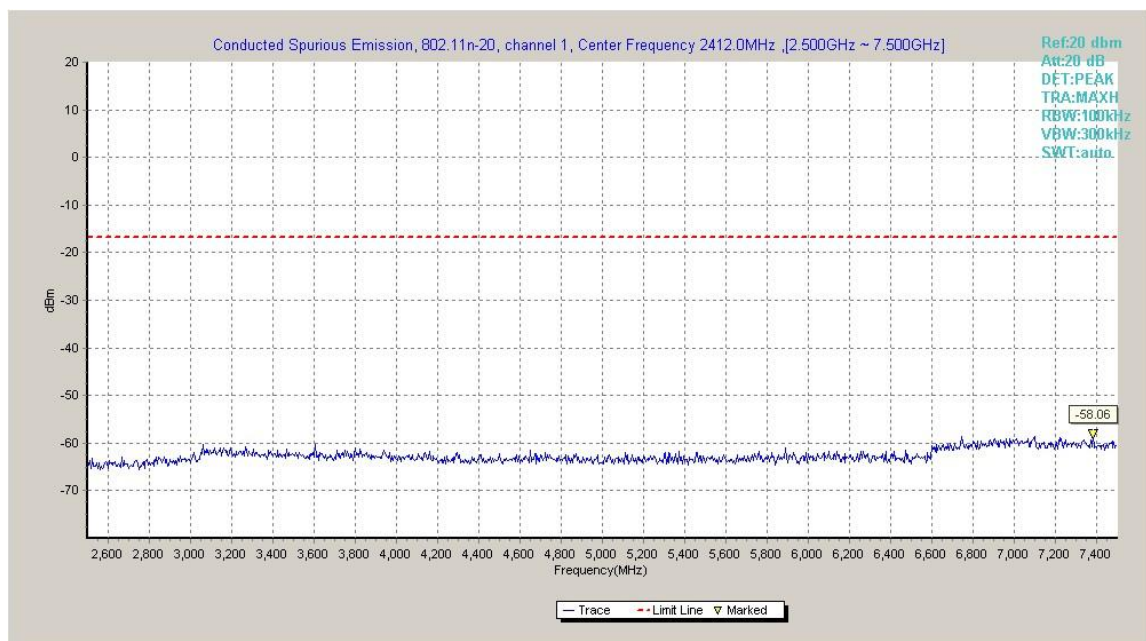


Fig.A.6.1.52 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)

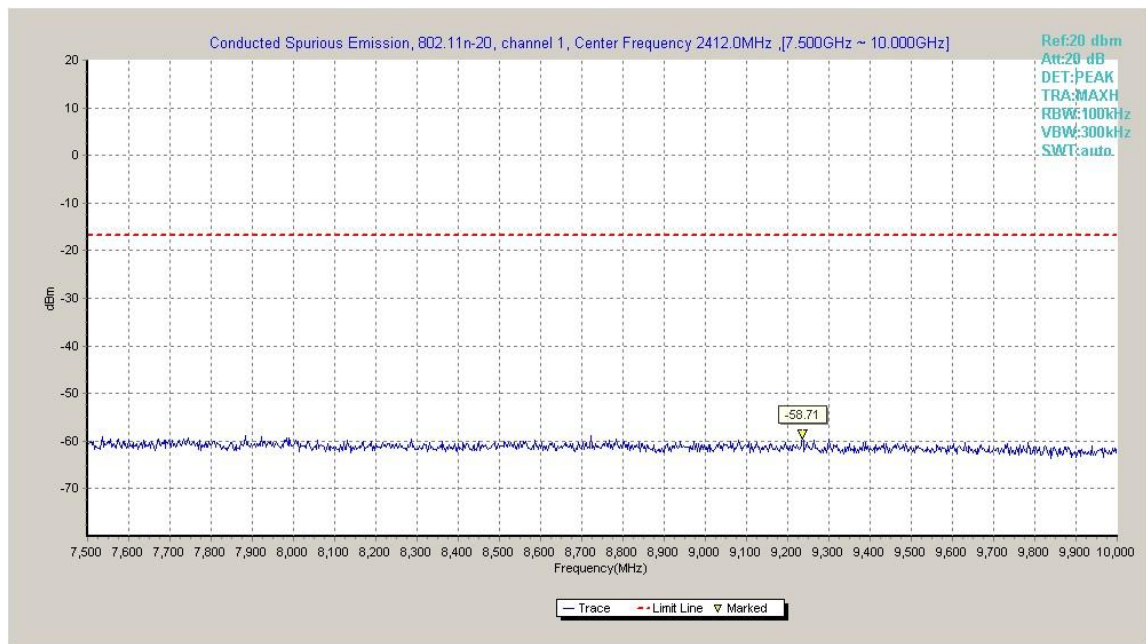


Fig.A.6.1.53 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 7.5 GHz-10 GHz)

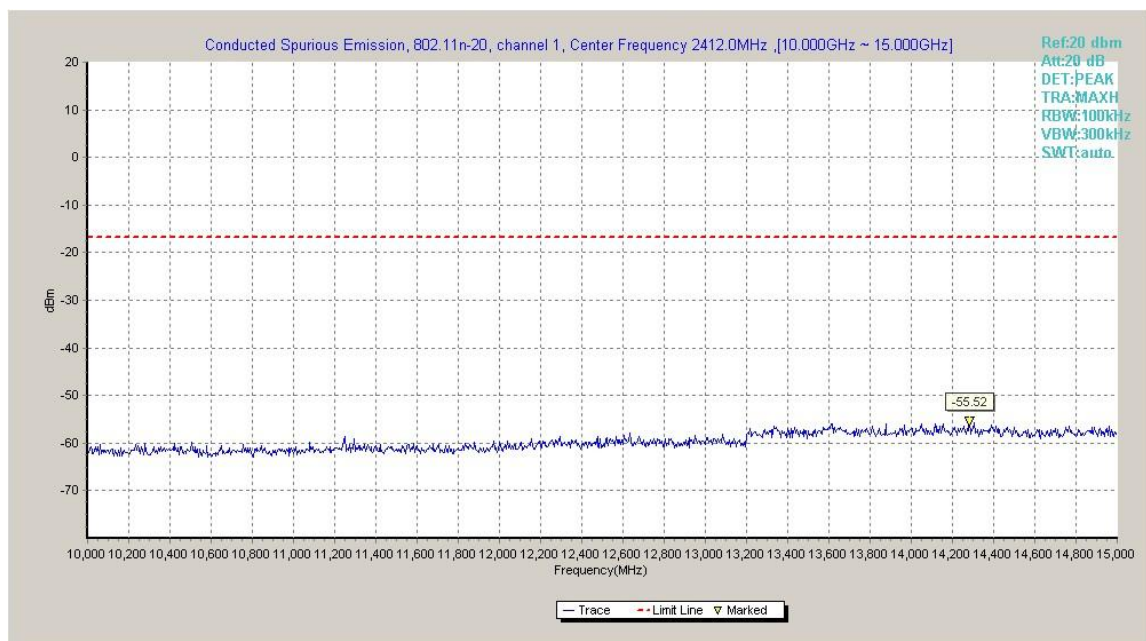


Fig.A.6.1.54 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 10 GHz-15 GHz)

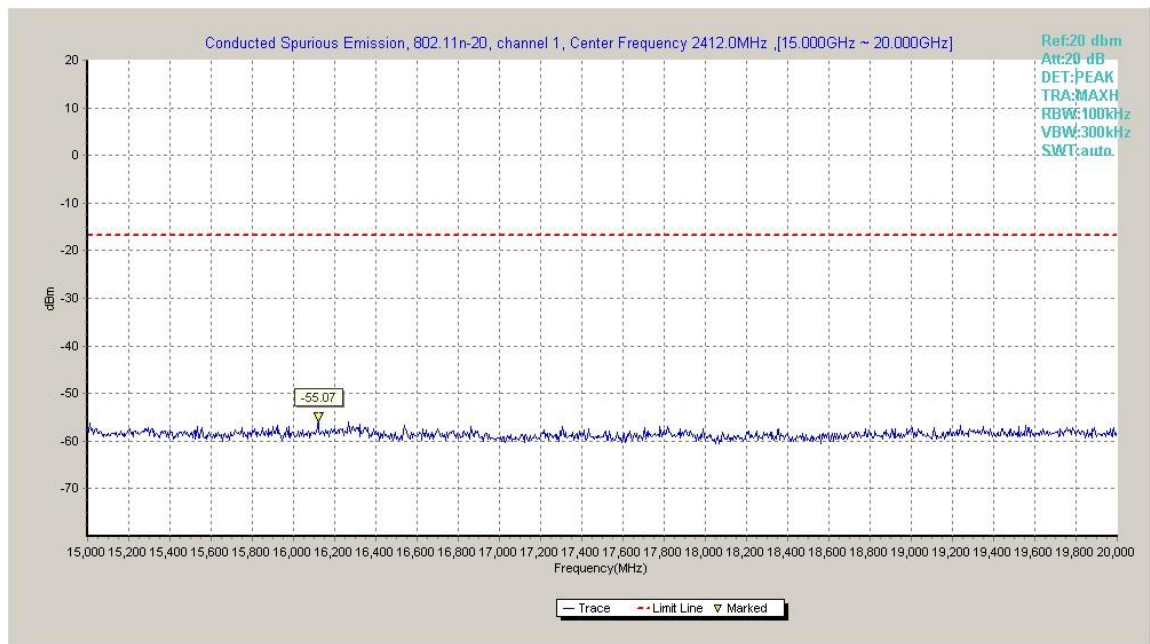


Fig.A.6.1.55 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 15 GHz-20 GHz)

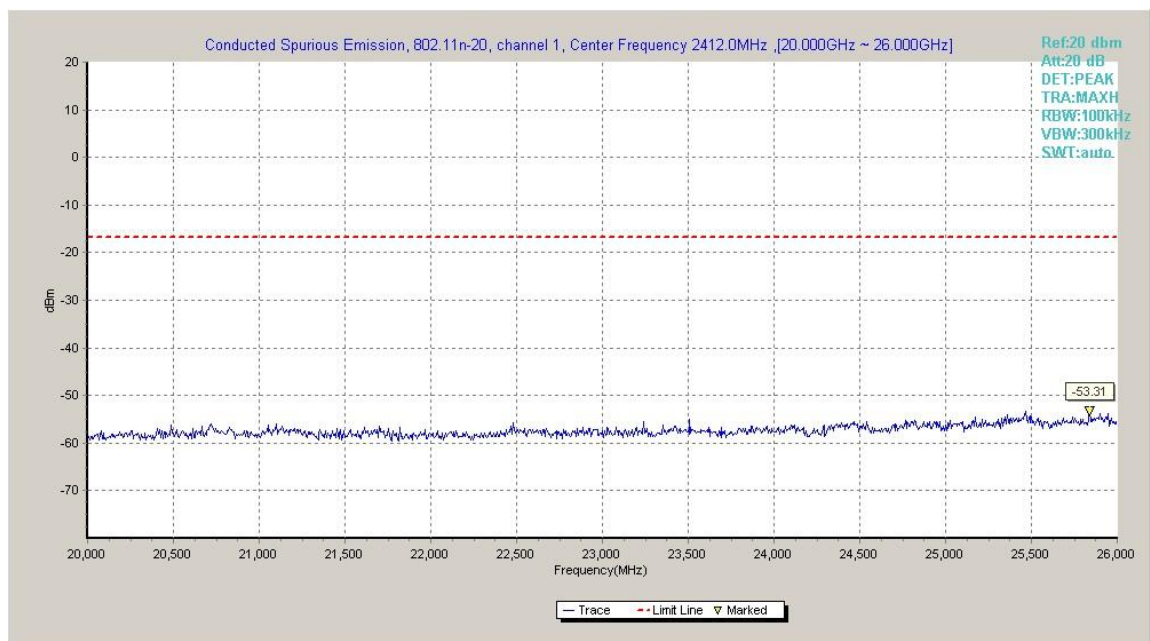


Fig.A.6.1.56 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 20 GHz-26 GHz)

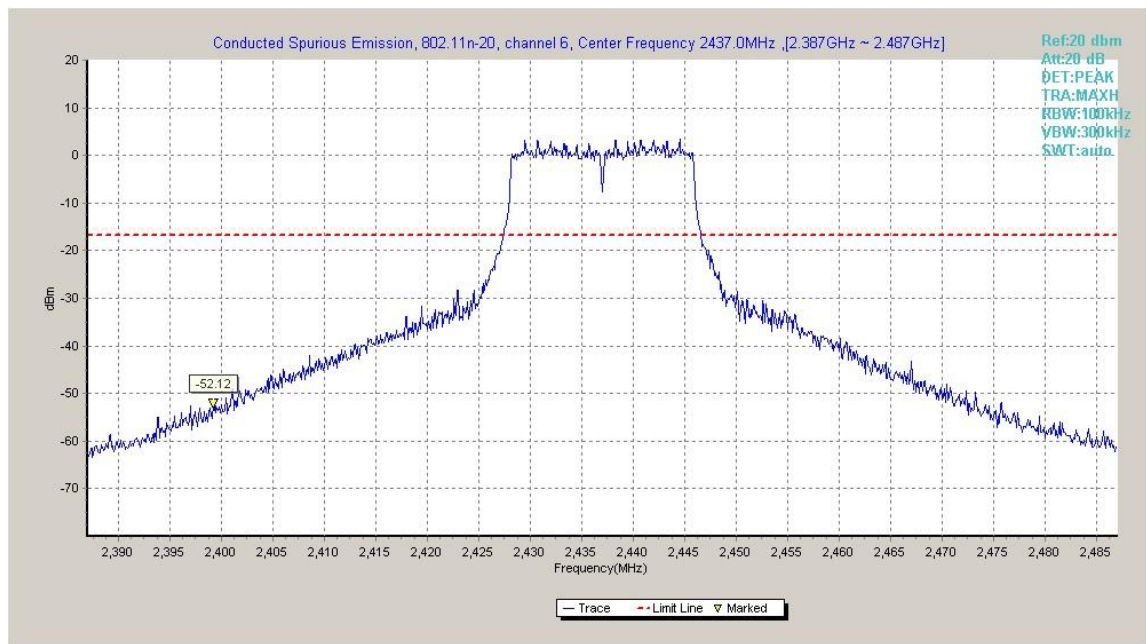


Fig.A.6.1.57 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, Center Frequency)

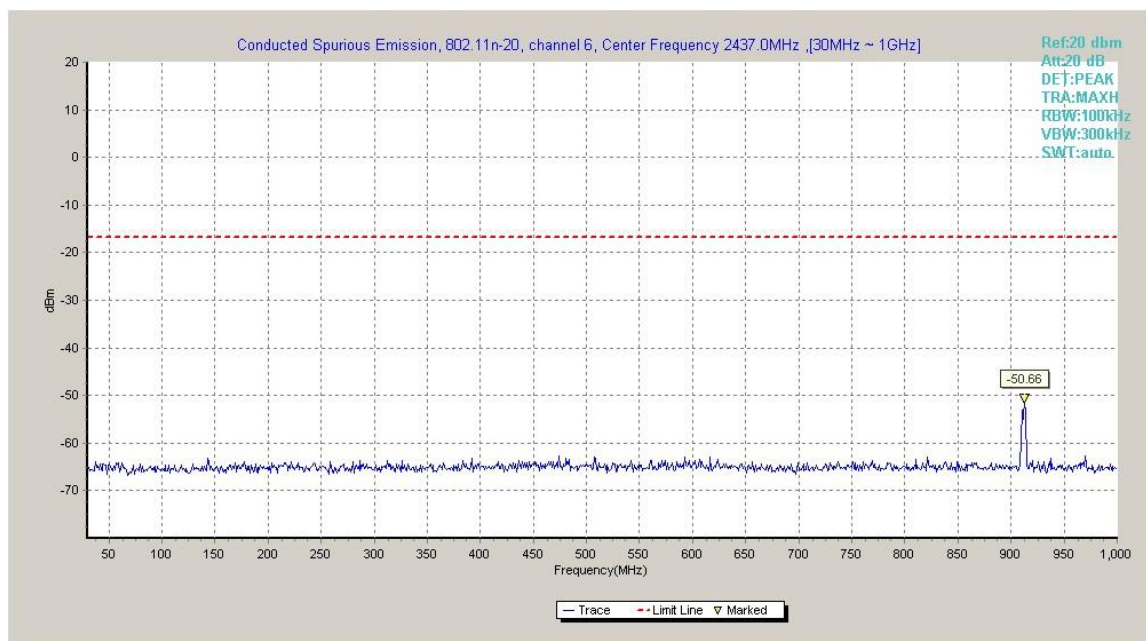


Fig.A.6.1.58 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 30 MHz-1 GHz)

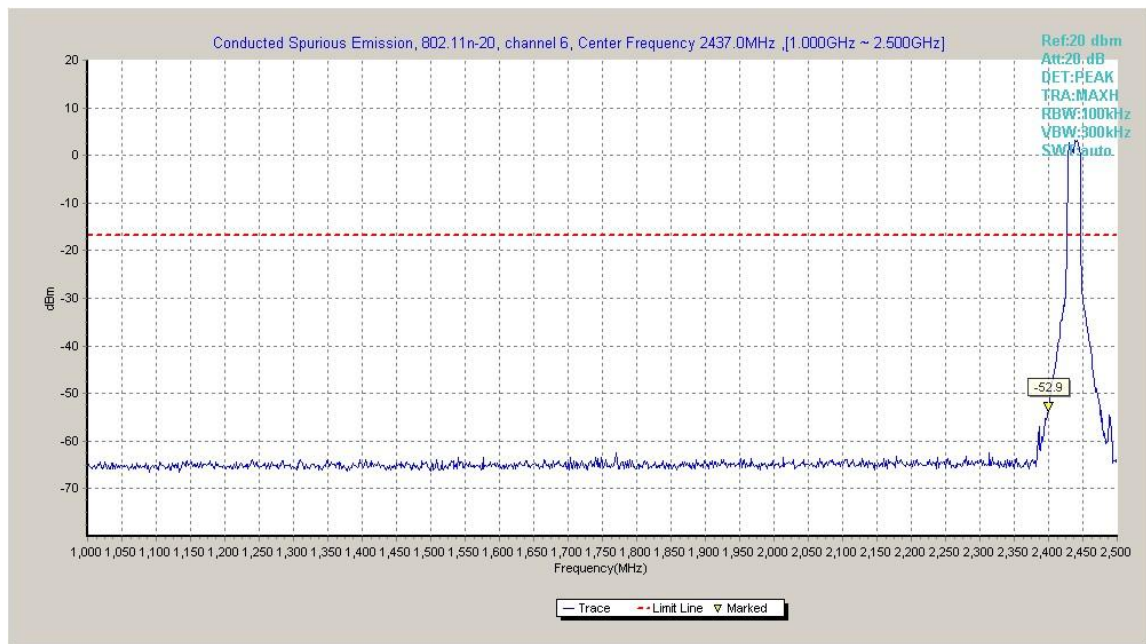


Fig.A.6.1.59 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 1 GHz-2.5 GHz)

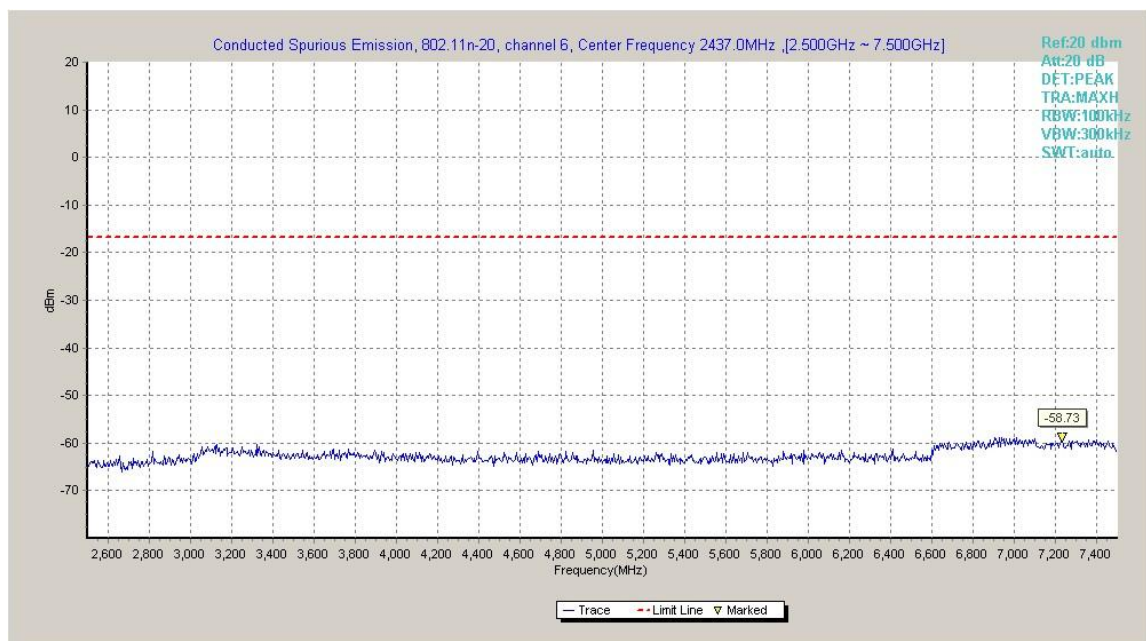


Fig.A.6.1.60 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 2.5 GHz-7.5 GHz)

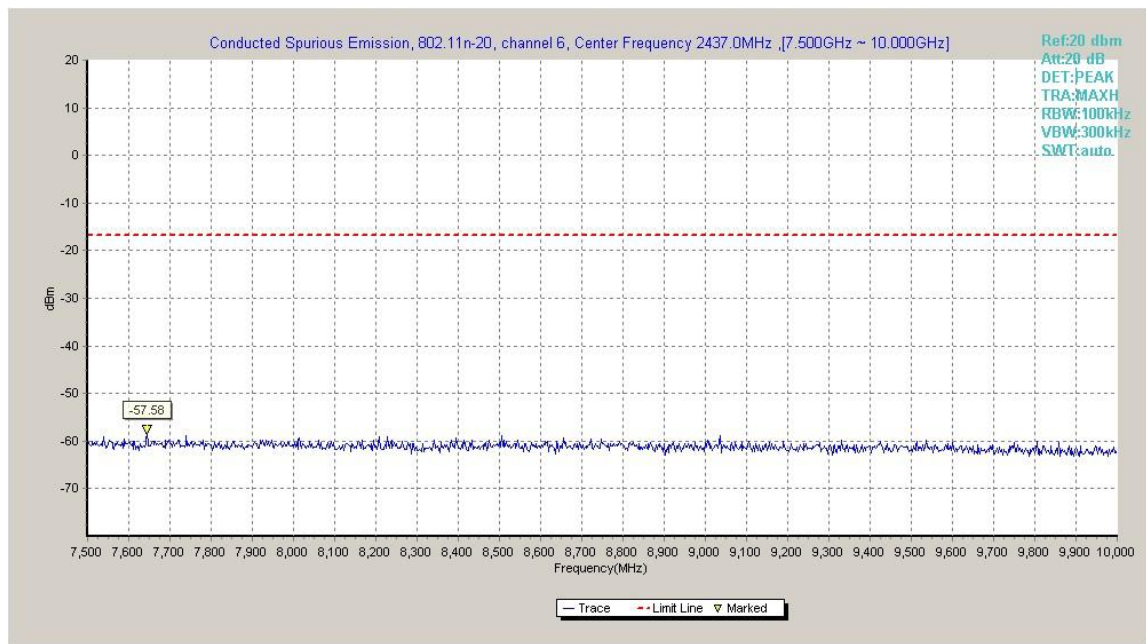


Fig.A.6.1.61 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)

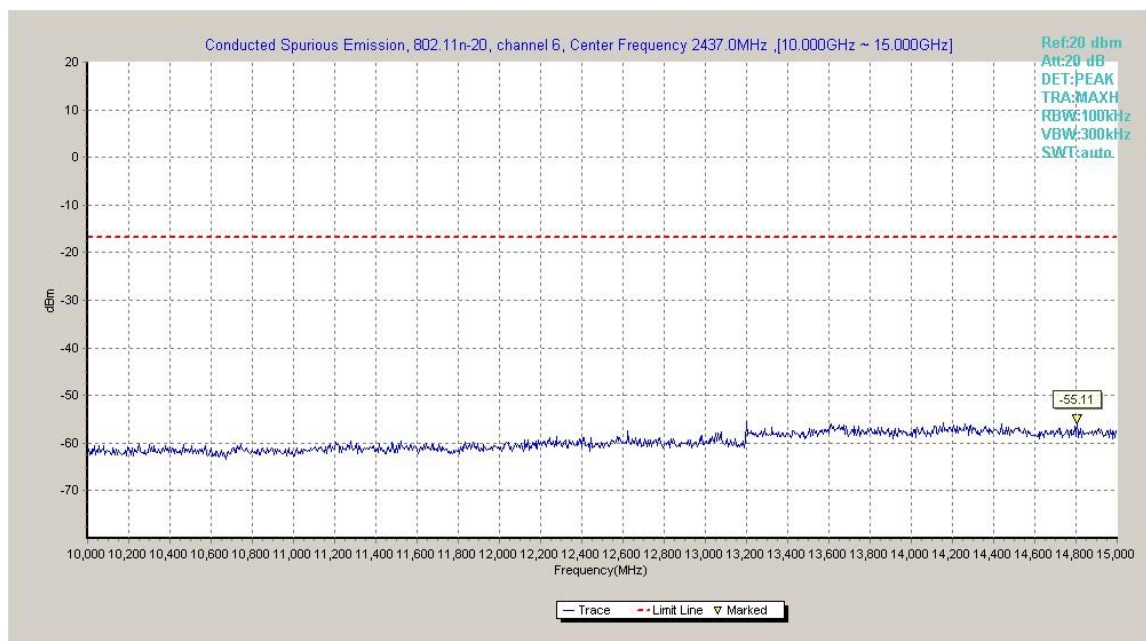


Fig.A.6.1.62 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 10 GHz-15 GHz)

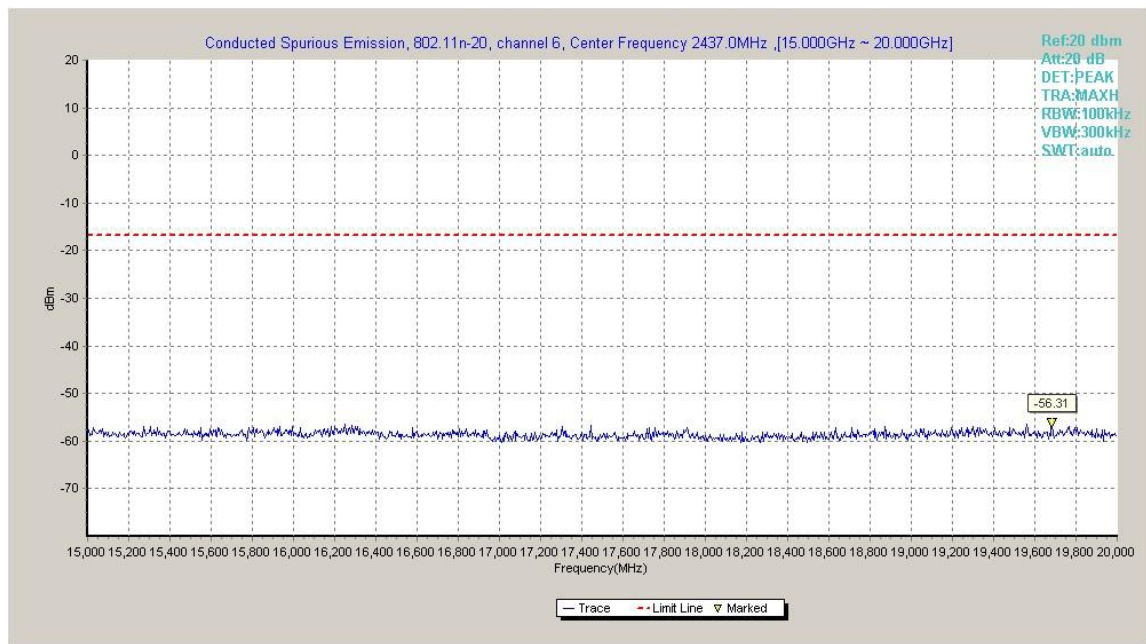


Fig.A.6.1.63 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 15 GHz-20 GHz)

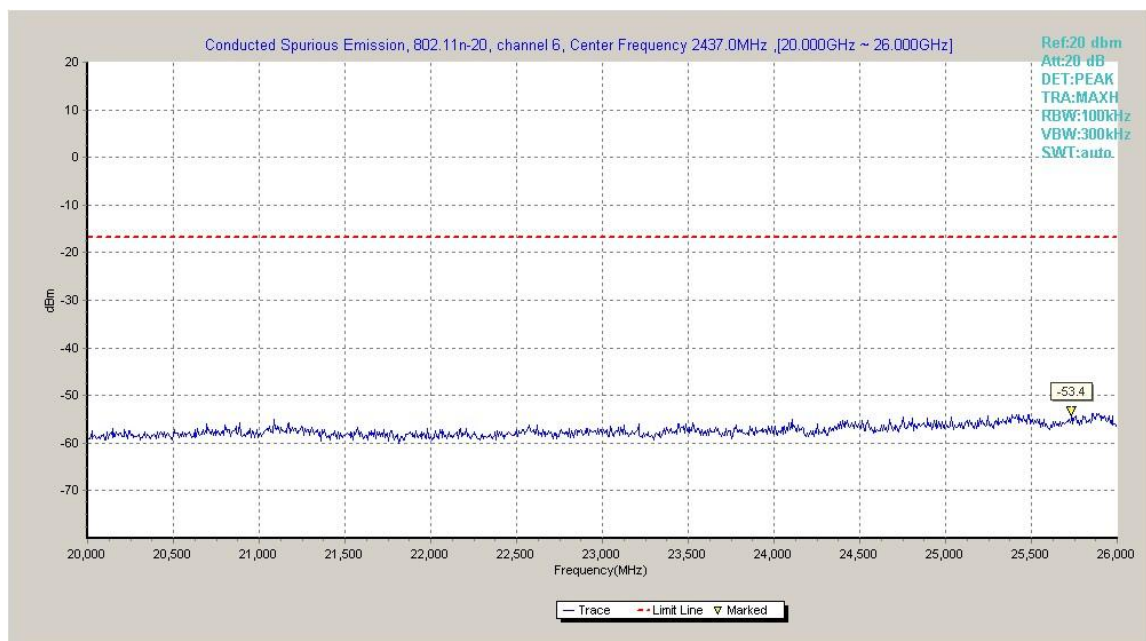


Fig.A.6.1.64 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 20 GHz-26 GHz)

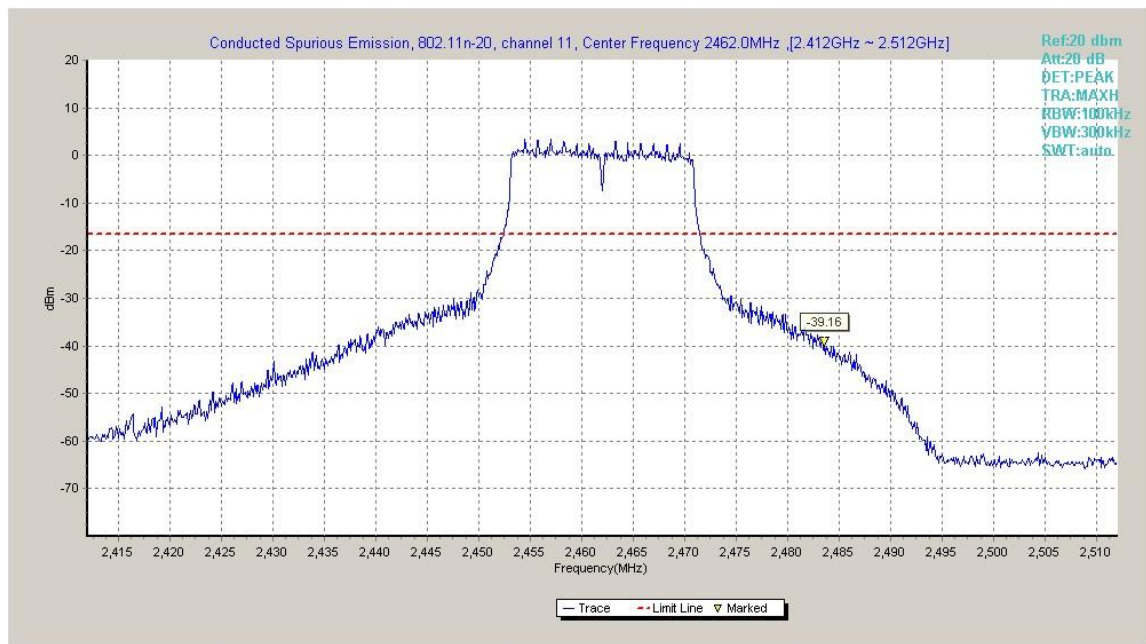


Fig.A.6.1.65 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, Center Frequency)

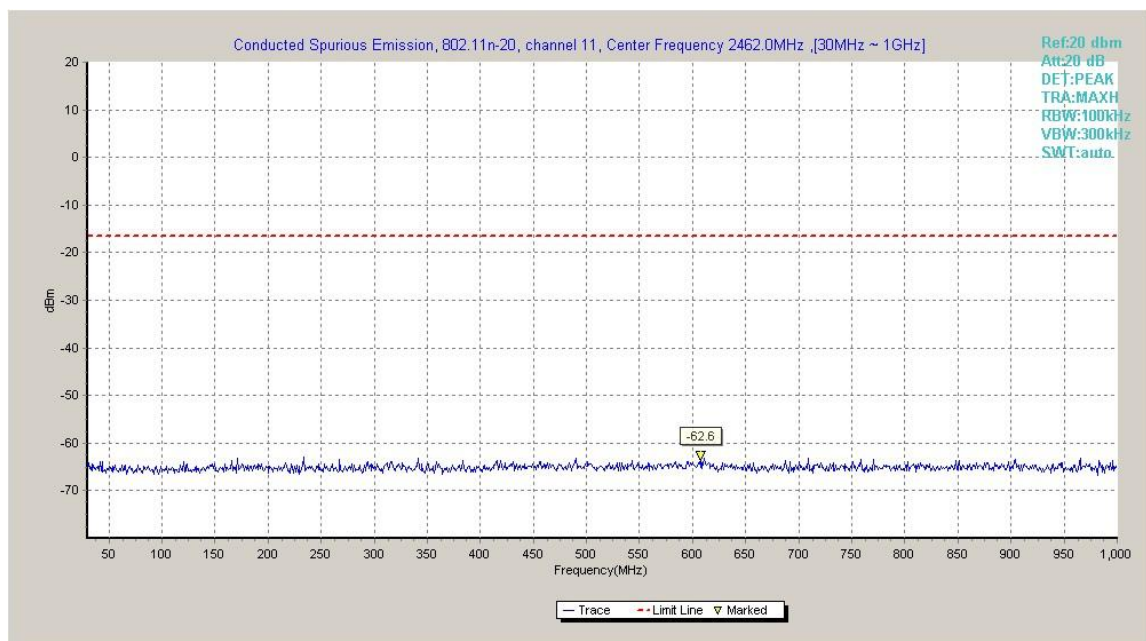


Fig.A.6.1.66 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 30 MHz-1 GHz)

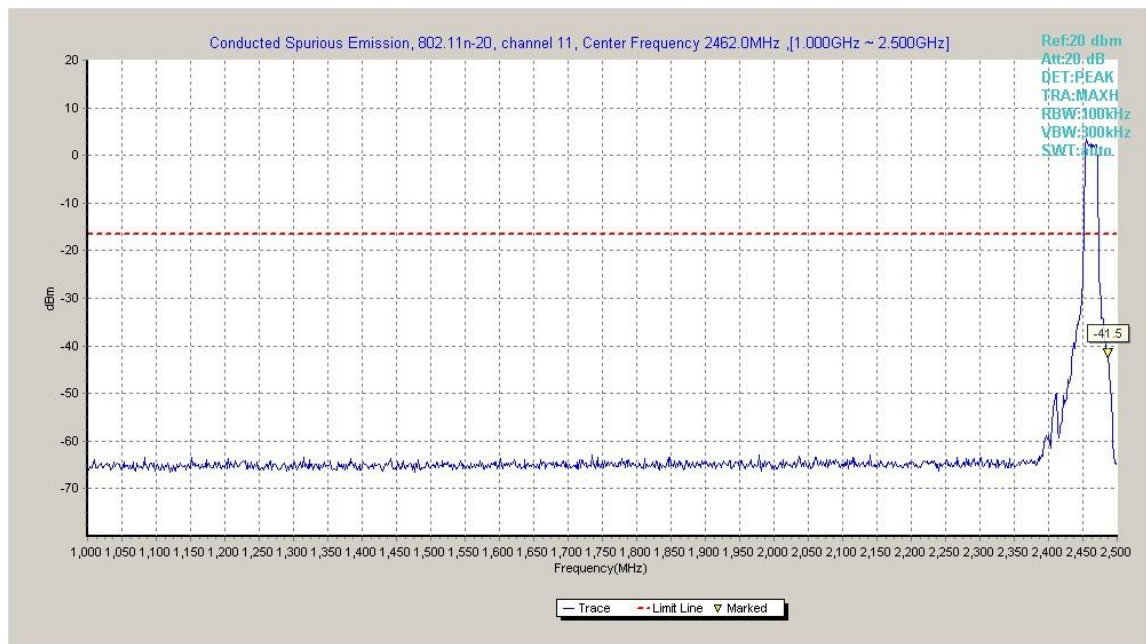


Fig.A.6.1.67 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)

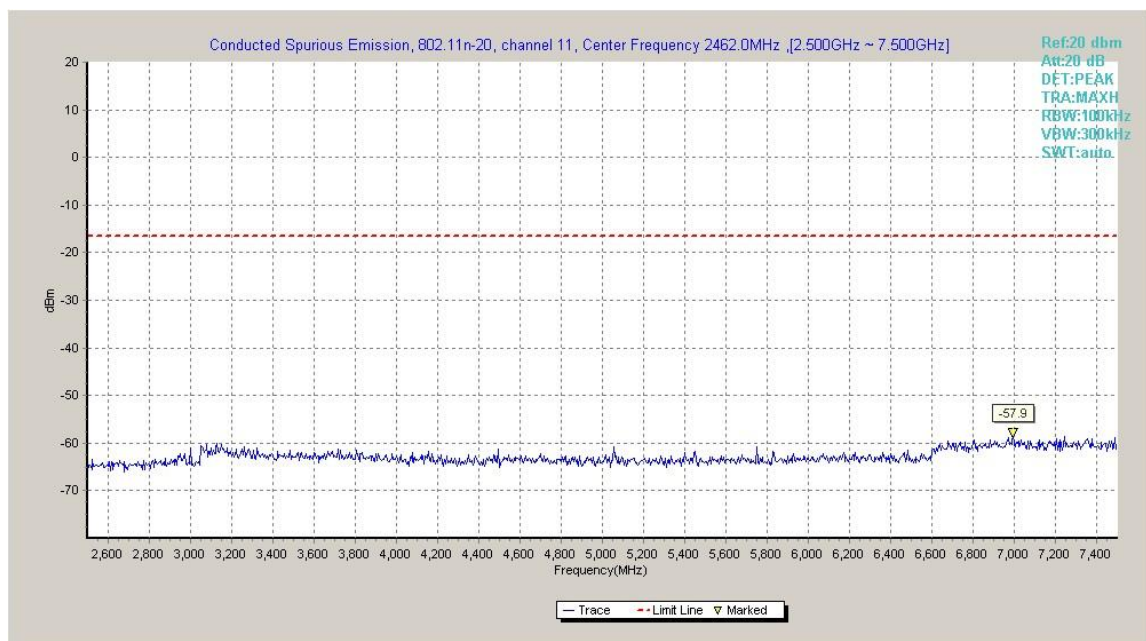


Fig.A.6.1.68 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)

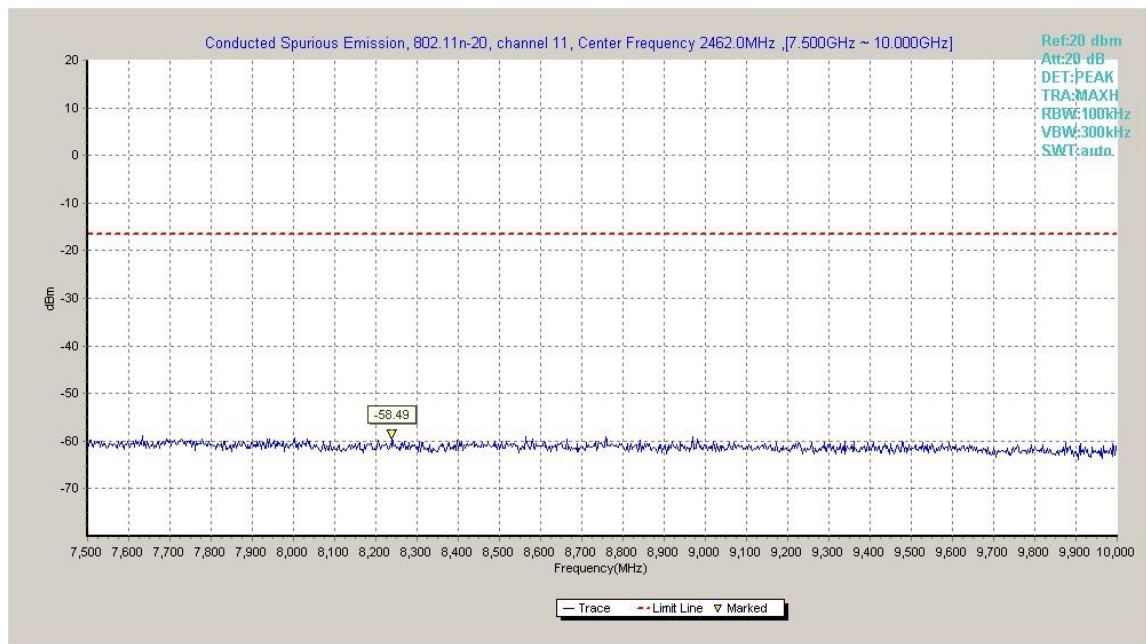


Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)

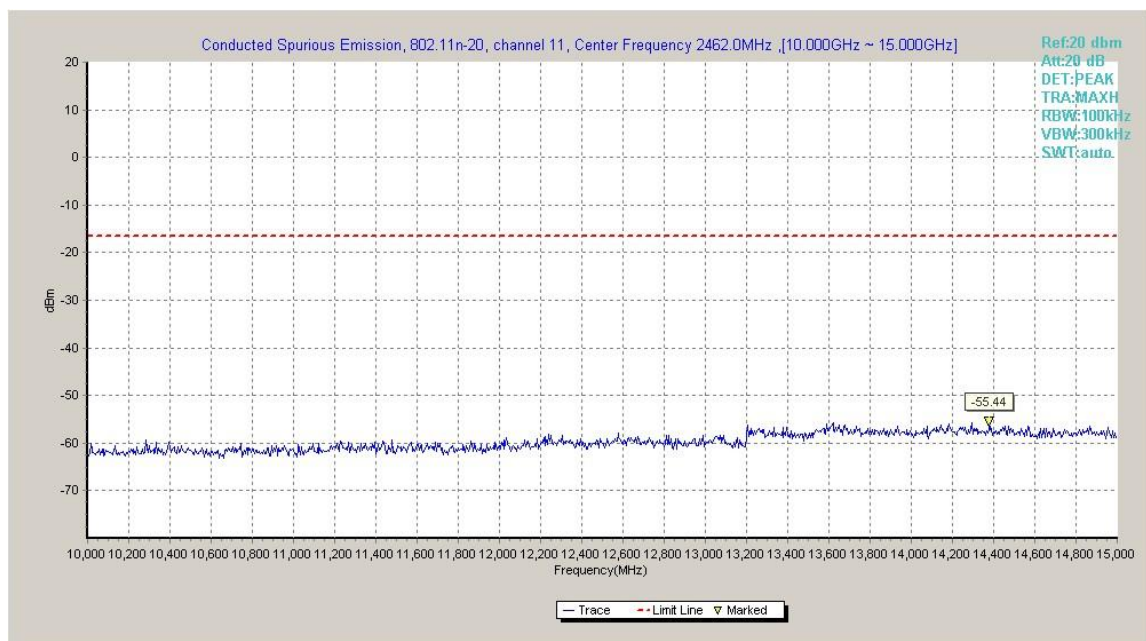


Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)

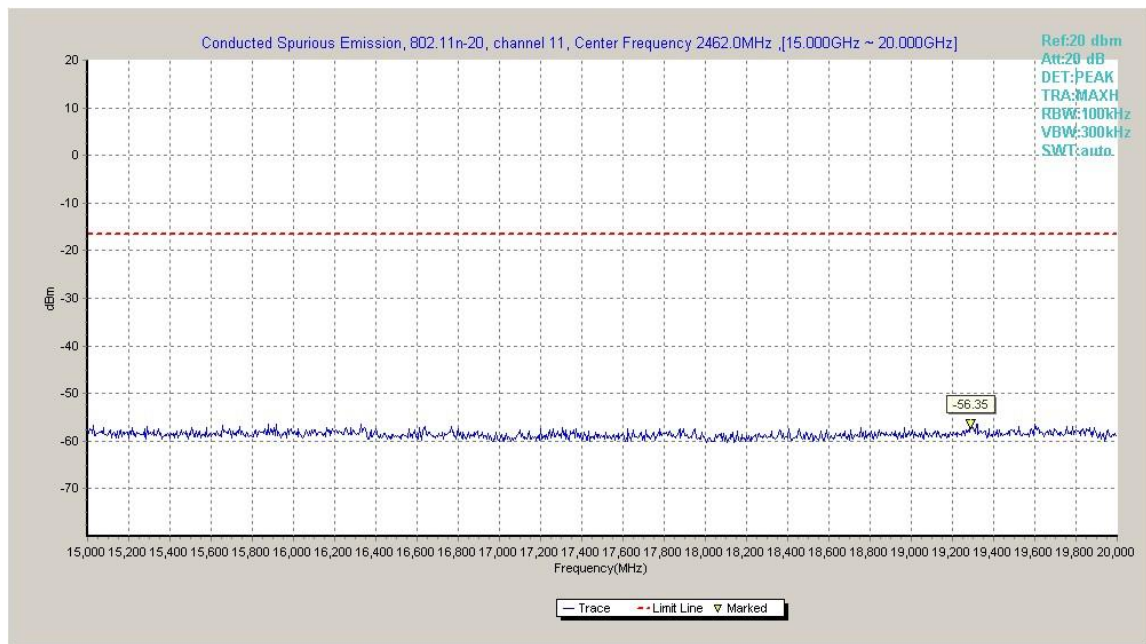


Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)

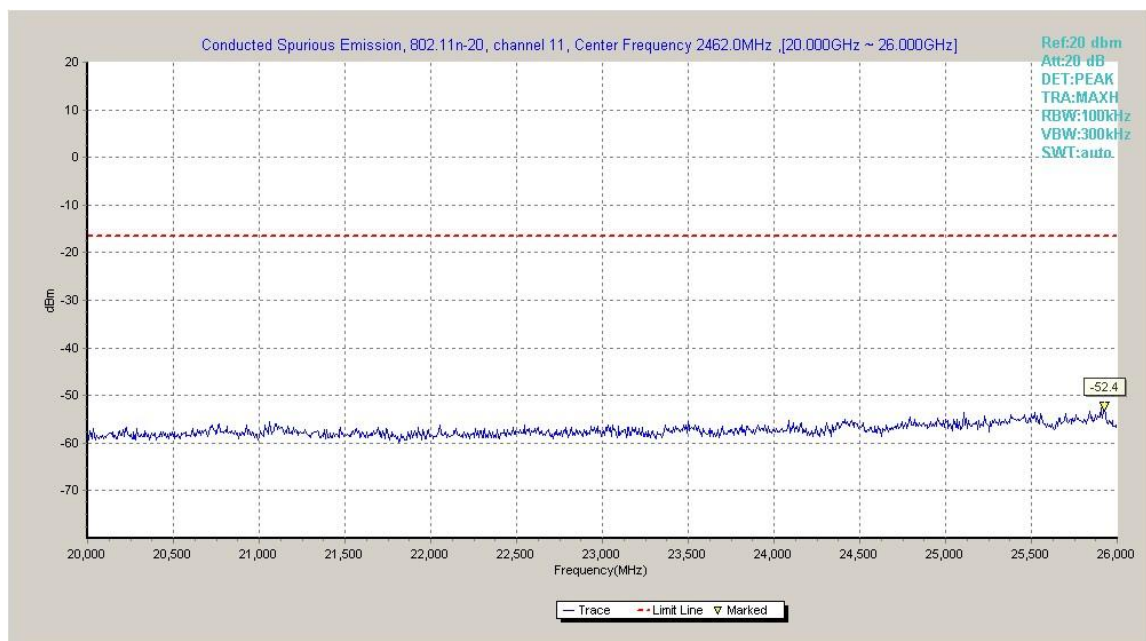


Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)

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(μV/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	6	9 kHz ~30 MHz	Fig.A.6.2.1	P
	Power	2.38GHz ~2.45GHz	Fig.A.6.2.2	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.3	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.4	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.5	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.6	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.7	P

Conclusion: Pass

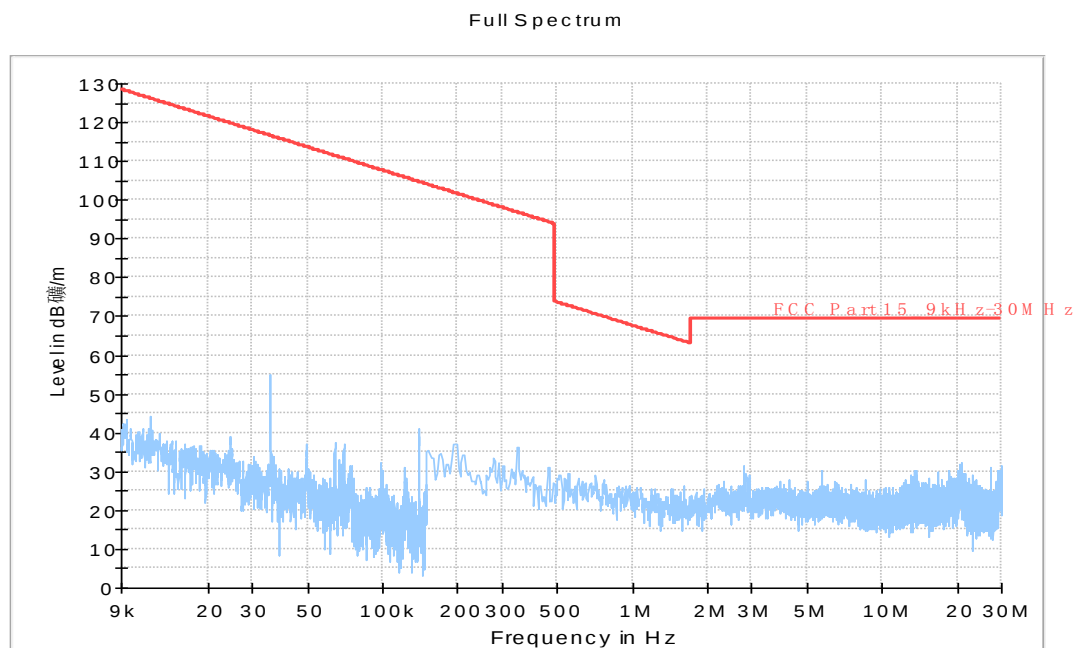


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (802.11b, Ch6, 9kHz-30 MHz)

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:

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

Average

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.345	34.2	-38.8	27.7	45.3	HORIZONTAL
17927.500	44.9	-17.7	45.6	17.0	HORIZONTAL
17932.000	44.9	-17.7	45.6	17.0	VERTICAL
17926.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17940.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17920.000	44.8	-17.7	45.6	16.9	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17924.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17920.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17941.000	44.8	-17.7	45.6	16.9	VERTICAL
17927.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17925.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17949.500	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2485.075	35.7	-38.9	27.7	46.9	HORIZONTAL
17930.000	44.9	-17.7	45.6	17.0	HORIZONTAL
17933.000	44.9	-17.7	45.6	17.0	VERTICAL
17928.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17929.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17906.000	44.7	-18.5	45.6	17.6	HORIZONTAL

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.220	45.0	-38.8	27.7	56.1	HORIZONTAL
17945.500	44.9	-17.7	45.6	17.0	HORIZONTAL
17919.000	44.8	-17.7	45.6	16.9	VERTICAL
17941.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17913.000	44.7	-18.5	45.6	17.6	HORIZONTAL
17917.000	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17944.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17928.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17913.500	44.7	-18.5	45.6	17.6	VERTICAL
17922.500	44.7	-17.7	45.6	16.8	HORIZONTAL
17931.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17921.000	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.580	45.0	-38.9	27.7	56.2	HORIZONTAL
17931.000	44.9	-17.7	45.6	17.0	HORIZONTAL
17932.000	44.9	-17.7	45.6	17.0	VERTICAL
17934.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17896.500	44.8	-18.5	45.6	17.7	HORIZONTAL
17911.000	44.7	-18.5	45.6	17.6	HORIZONTAL

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.915	42.3	-38.8	27.7	53.4	HORIZONTAL
17928.500	44.9	-17.7	45.6	17.0	HORIZONTAL
17921.000	44.9	-17.7	45.6	17.0	VERTICAL
17927.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17933.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17924.000	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17924.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17904.000	44.8	-18.5	45.6	17.7	HORIZONTAL
17920.000	44.8	-17.7	45.6	16.9	VERTICAL
17847.500	44.8	-18.5	45.6	17.7	HORIZONTAL
17922.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17920.500	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.590	44.0	-38.9	27.7	55.2	HORIZONTAL
17932.500	44.9	-17.7	45.6	17.0	HORIZONTAL
17944.500	44.9	-17.7	45.6	17.0	VERTICAL
17916.000	44.9	-17.7	45.6	17.0	HORIZONTAL
17919.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17931.500	44.8	-17.7	45.6	16.9	HORIZONTAL

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.905	47.1	-38.8	27.7	58.2	HORIZONTAL
17923.000	44.9	-17.7	45.6	17.0	HORIZONTAL
17928.000	44.8	-17.7	45.6	16.9	VERTICAL
17926.000	44.8	-17.7	45.6	16.9	HORIZONTAL
17854.000	44.7	-18.5	45.6	17.6	HORIZONTAL
17939.500	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17938.500	44.8	-17.7	45.6	16.9	HORIZONTAL
17939.500	44.7	-17.7	45.6	16.8	HORIZONTAL
17916.500	44.7	-17.7	45.6	16.8	VERTICAL
17906.000	44.7	-18.5	45.6	17.6	HORIZONTAL
17916.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17944.500	44.7	-17.7	45.6	16.8	HORIZONTAL

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.555	44.3	-38.9	27.7	55.5	HORIZONTAL
17836.500	44.8	-18.5	45.6	17.7	HORIZONTAL
17930.000	44.7	-17.7	45.6	16.8	VERTICAL
17929.000	44.7	-17.7	45.6	16.8	HORIZONTAL
17944.500	44.7	-17.7	45.6	16.8	HORIZONTAL
17935.500	44.7	-17.7	45.6	16.8	HORIZONTAL

Peak

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2384.750	43.8	-38.8	27.7	54.9	HORIZONTAL
17858.000	56.4	-18.5	45.6	29.3	HORIZONTAL
17908.500	56.3	-18.5	45.6	29.2	VERTICAL
17942.500	56.2	-17.7	45.6	28.3	HORIZONTAL
17991.000	56.2	-17.7	45.6	28.3	HORIZONTAL
17760.000	55.8	-18.5	45.6	28.7	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17936.000	57.0	-17.7	45.6	29.1	HORIZONTAL
17868.000	56.5	-18.5	45.6	29.4	HORIZONTAL
17954.500	56.4	-17.7	45.6	28.5	VERTICAL
17869.500	56.4	-18.5	45.6	29.3	HORIZONTAL
17853.000	56.4	-18.5	45.6	29.3	HORIZONTAL
17945.500	56.2	-17.7	45.6	28.3	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.910	46.1	-38.9	27.7	57.3	HORIZONTAL
17941.500	57.2	-17.7	45.6	29.3	HORIZONTAL
17858.500	56.6	-18.5	45.6	29.5	VERTICAL
17927.500	56.1	-17.7	45.6	28.2	HORIZONTAL
17954.000	56.1	-17.7	45.6	28.2	HORIZONTAL
17931.500	56.0	-17.7	45.6	28.1	HORIZONTAL

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.800	60.6	-38.8	27.7	71.7	HORIZONTAL
17931.500	56.5	-17.7	45.6	28.6	HORIZONTAL
17998.000	56.0	-17.7	45.6	28.1	VERTICAL
17814.000	56.0	-18.5	45.6	28.9	HORIZONTAL
17963.500	56.0	-17.7	45.6	28.1	HORIZONTAL
17834.000	55.8	-18.5	45.6	28.7	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17935.500	56.9	-17.7	45.6	29.0	HORIZONTAL
17921.500	56	-17.7	45.6	28.1	HORIZONTAL
17899.500	56	-18.5	45.6	28.9	VERTICAL
17928.000	55.8	-17.7	45.6	27.9	HORIZONTAL
17965.000	55.7	-17.7	45.6	27.8	HORIZONTAL
17883.000	55.7	-18.5	45.6	28.6	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.600	59.3	-38.9	27.7	70.5	HORIZONTAL
17936.500	57.1	-17.7	45.6	29.2	HORIZONTAL
17907.500	56.5	-18.5	45.6	29.4	VERTICAL
17872.500	56.4	-18.5	45.6	29.3	HORIZONTAL
17848.000	56.1	-18.5	45.6	29.0	HORIZONTAL
17837.500	56.0	-18.5	45.6	28.9	HORIZONTAL

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.920	61.0	-38.8	27.7	72.1	HORIZONTAL
17936.000	56.3	-17.7	45.6	28.4	HORIZONTAL
17939.500	56.3	-17.7	45.6	28.4	VERTICAL
17915.000	56.0	-17.7	45.6	28.1	HORIZONTAL
17975.500	56.0	-17.7	45.6	28.1	HORIZONTAL
17932.000	55.9	-17.7	45.6	28.0	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17923.000	56.3	-17.7	45.6	28.4	HORIZONTAL
17956.000	56.2	-17.7	45.6	28.3	HORIZONTAL
17922.500	56.2	-17.7	45.6	28.3	VERTICAL
17874.500	56.1	-18.5	45.6	29.0	HORIZONTAL
17843.000	55.9	-18.5	45.6	28.8	HORIZONTAL
17900.000	55.8	-18.5	45.6	28.7	HORIZONTAL

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.910	66.2	-38.9	27.7	77.4	HORIZONTAL
17942.500	56.6	-17.7	45.6	28.7	HORIZONTAL
17931.500	56.5	-17.7	45.6	28.6	VERTICAL
17928.500	56.2	-17.7	45.6	28.3	HORIZONTAL
17935.500	56.2	-17.7	45.6	28.3	HORIZONTAL
17827.000	56.1	-18.5	45.6	29.0	HORIZONTAL

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.900	63.8	-38.8	27.7	74.9	HORIZONTAL
17898.500	56.6	-18.5	45.6	29.5	HORIZONTAL
17906.500	56.4	-18.5	45.6	29.3	VERTICAL
17959.000	56.3	-17.7	45.6	28.4	HORIZONTAL
17921.500	56.2	-17.7	45.6	28.3	HORIZONTAL
17926.500	56.1	-17.7	45.6	28.2	HORIZONTAL

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
17947.000	56.6	-17.7	45.6	28.7	HORIZONTAL
17852.000	56.4	-18.5	45.6	29.3	HORIZONTAL
17930.000	56.2	-17.7	45.6	28.3	VERTICAL
17849.500	56.2	-18.5	45.6	29.1	HORIZONTAL
17840.500	56.0	-18.5	45.6	28.9	HORIZONTAL
17927.500	56.0	-17.7	45.6	28.1	HORIZONTAL

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.555	61.9	-38.9	27.7	73.1	HORIZONTAL
17936.000	56.4	-17.7	45.6	28.5	HORIZONTAL
17908.500	56.4	-18.5	45.6	29.3	VERTICAL
17942.500	56.3	-17.7	45.6	28.4	HORIZONTAL
17837.000	56.1	-18.5	45.6	29.0	HORIZONTAL
17810.000	56.1	-18.5	45.6	29.0	HORIZONTAL

Sample calculation: 802.11n 40MHz CH9–Peak, 2483.555MHz

Peak ERP(dBm) = P_{Mea}(73.1 dBuV/m) + Cable Loss(-38.9) + Antenna Factor(27.7) = 61.9 dBuV/m

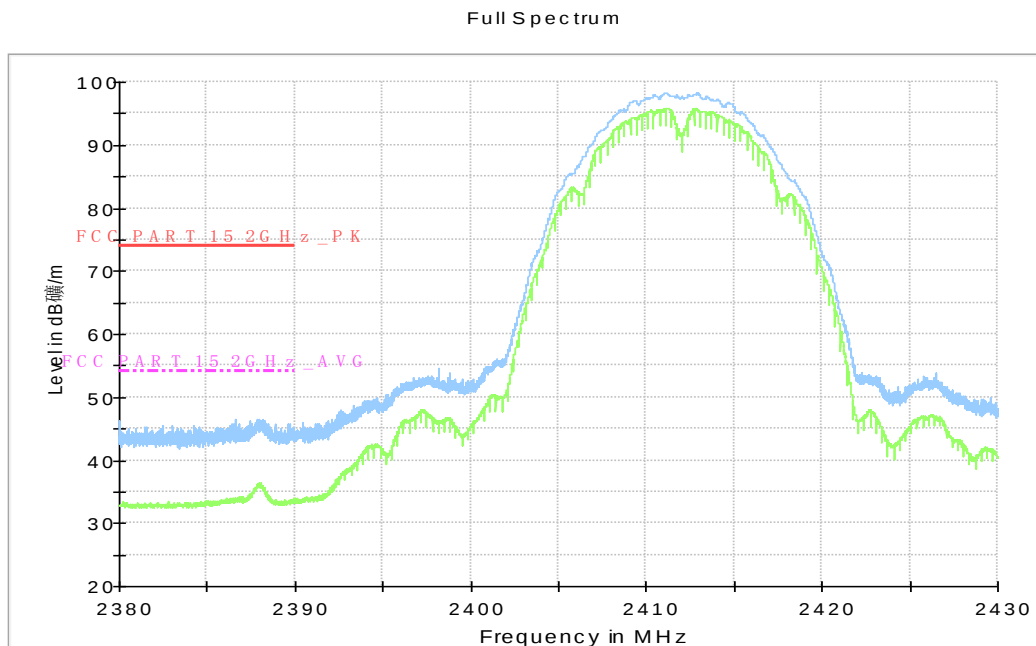


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz

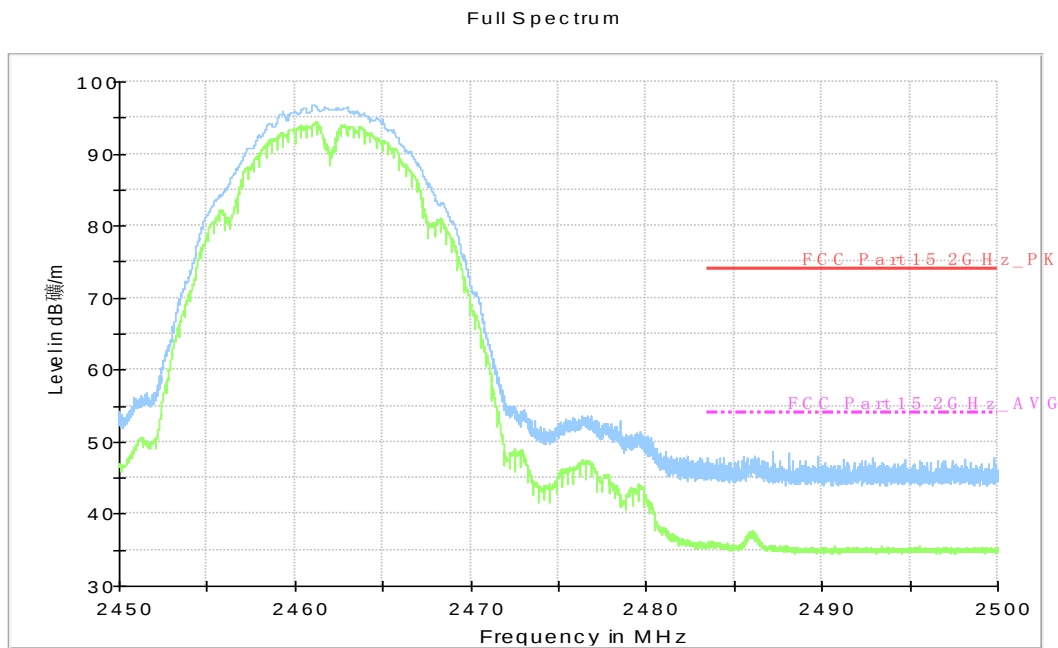


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

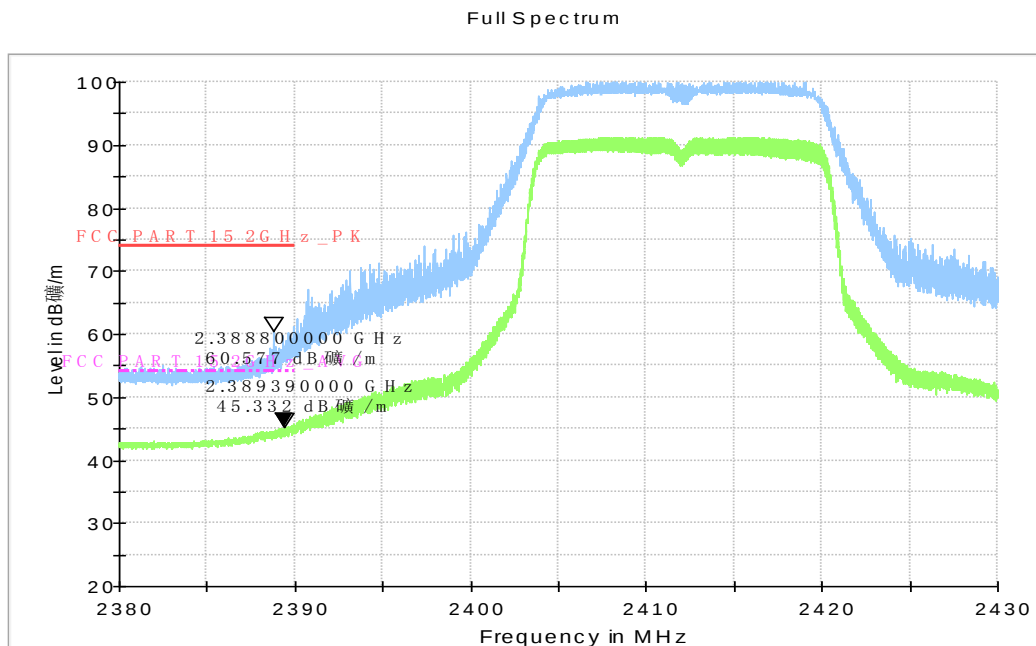


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz

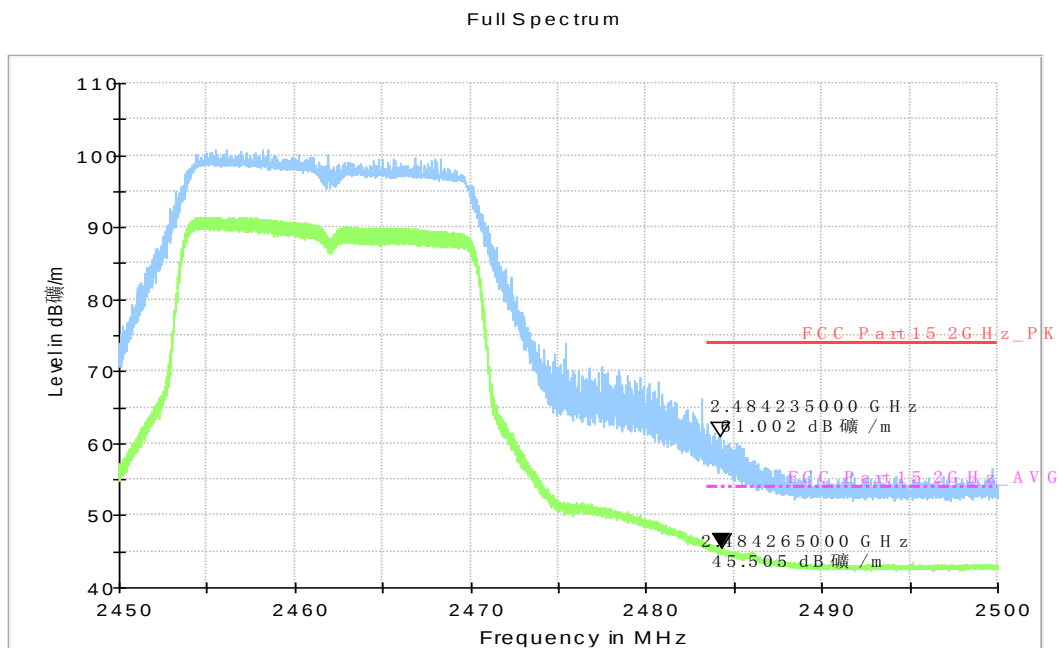
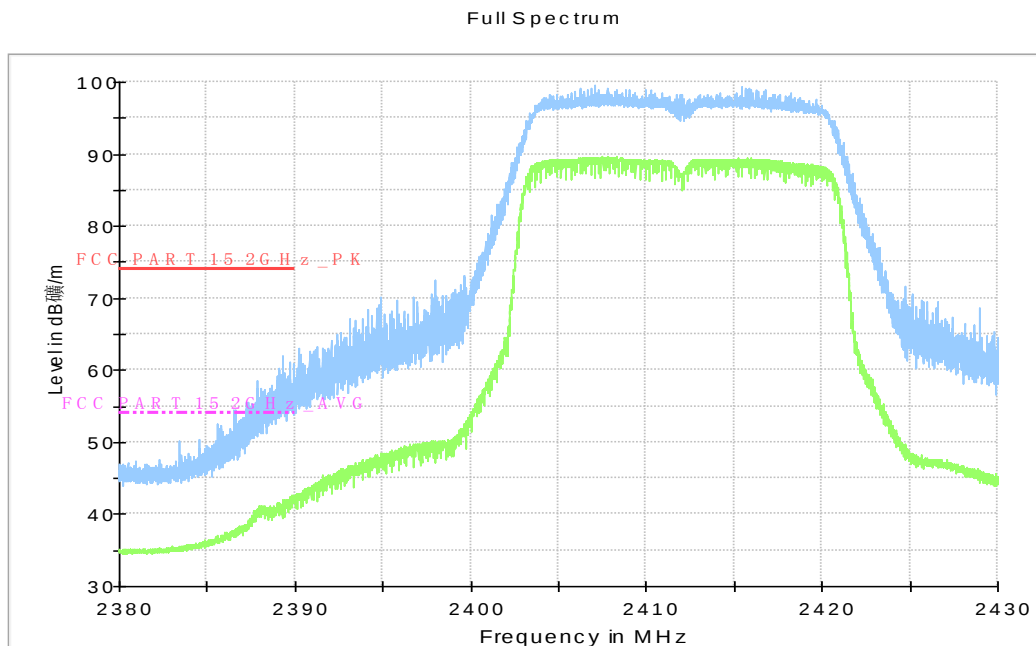
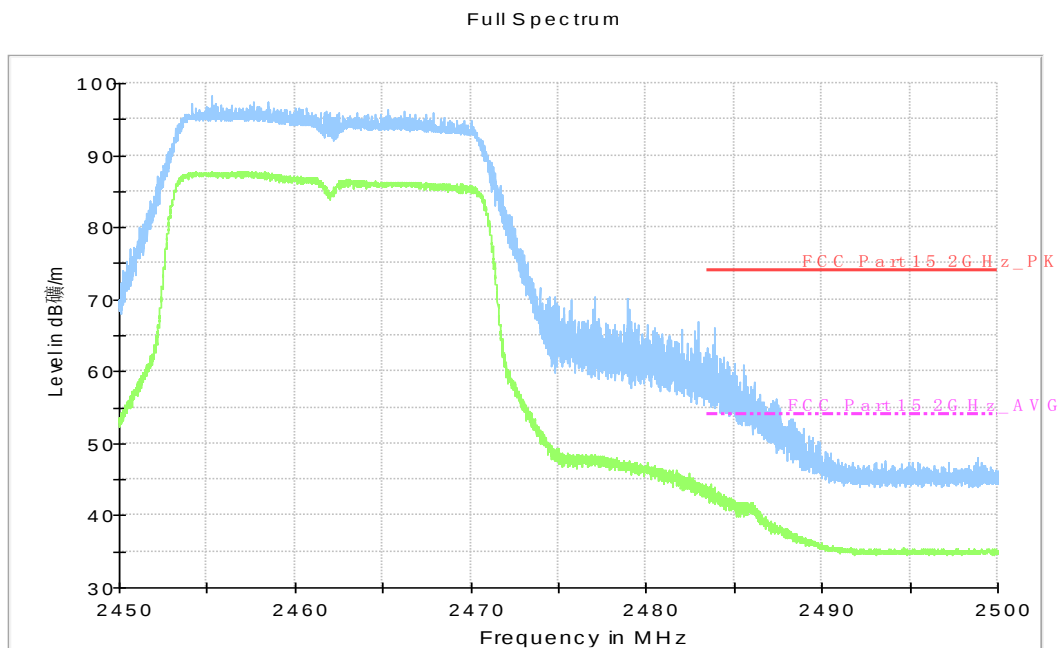


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz



**Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1,
2.38 GHz - 2.45GHz**



**Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11,
2.45 GHz - 2.50GHz**

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	Fig.A.7.3		
5 to 30	60	Fig.A.7.4		
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.7.1	P
0.5 to 5	46	Fig.A.7.3		
5 to 30	50	Fig.A.7.4		
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:

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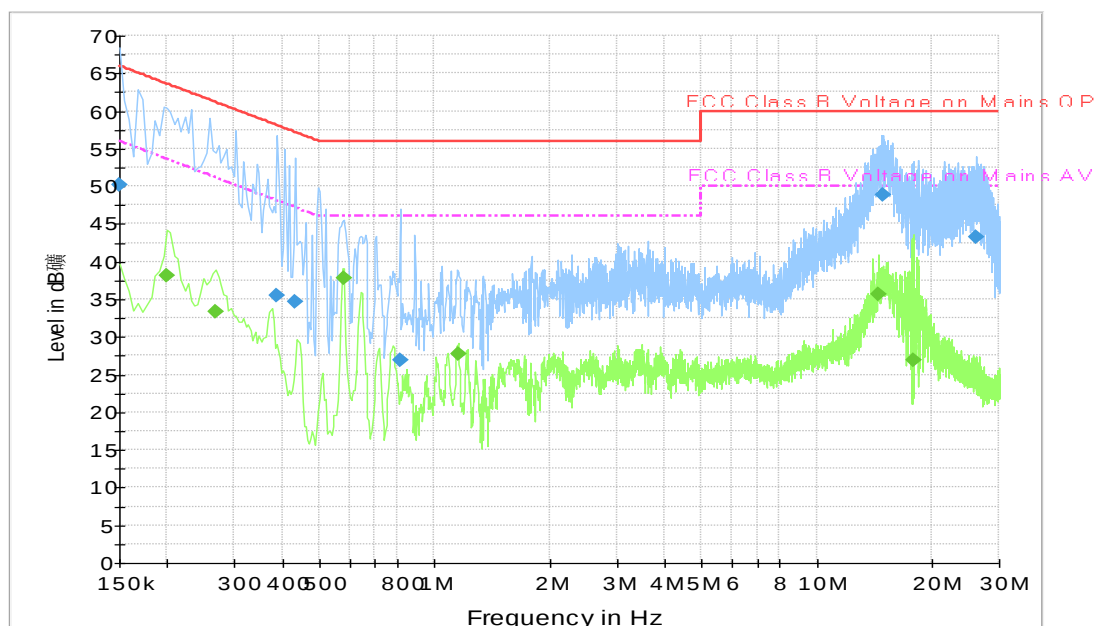


Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150000	50.2	2000.0	9.000	On	N	20.2	15.8	66.0
0.388500	35.5	2000.0	9.000	On	N	19.9	22.6	58.1
0.433500	34.6	2000.0	9.000	On	N	19.9	22.6	57.2
0.811500	26.9	2000.0	9.000	On	N	19.8	29.1	56.0
14.851500	48.8	2000.0	9.000	On	N	19.8	11.2	60.0
26.092500	43.3	2000.0	9.000	On	L1	20.1	16.7	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.199500	38.1	2000.0	9.000	On	L1	19.8	15.6	53.6
0.267000	33.4	2000.0	9.000	On	L1	19.8	17.8	51.2
0.577500	37.8	2000.0	9.000	On	L1	19.9	8.2	46.0
1.153500	27.7	2000.0	9.000	On	N	19.7	18.3	46.0
14.473500	35.7	2000.0	9.000	On	L1	19.8	14.3	50.0
17.898000	26.9	2000.0	9.000	On	L1	19.9	23.1	50.0

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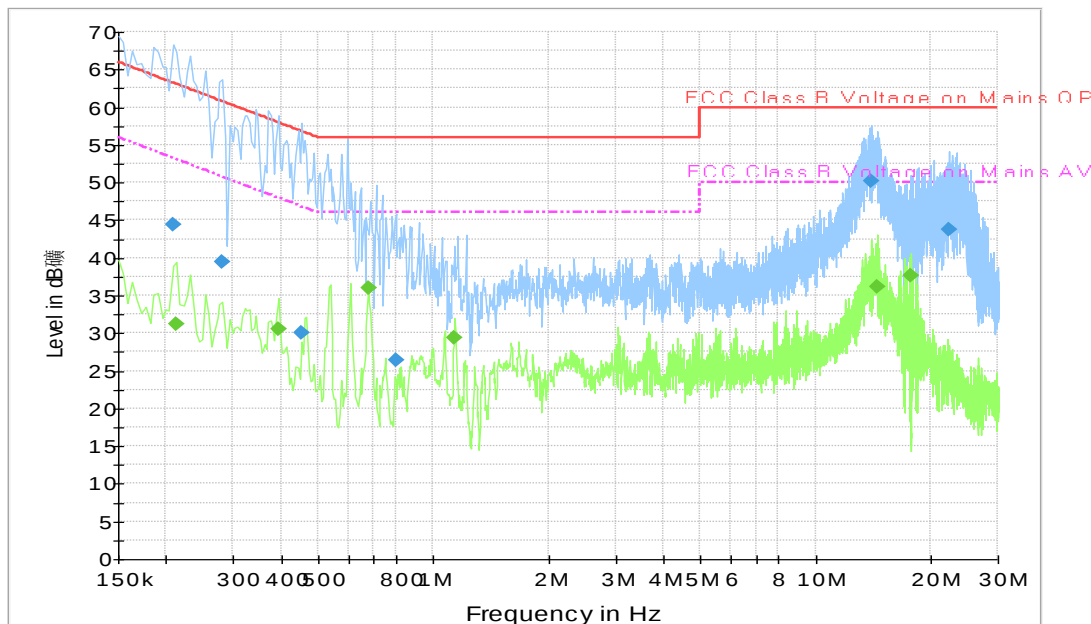


Fig.A.7.2 AC Powerline Conducted Emission-Idle

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.208500	44.4	2000.0	9.000	On	L1	19.8	18.8	63.3
0.280500	39.5	2000.0	9.000	On	L1	19.8	21.3	60.8
0.451500	30.1	2000.0	9.000	On	L1	19.9	26.8	56.8
0.798000	26.4	2000.0	9.000	On	L1	19.8	29.6	56.0
13.947000	50.2	2000.0	9.000	On	N	19.8	9.8	60.0
22.420500	43.7	2000.0	9.000	On	N	20.0	16.3	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.213000	31.2	2000.0	9.000	On	L1	19.8	21.9	53.1
0.393000	30.5	2000.0	9.000	On	L1	19.9	17.5	48.0
0.676500	36.0	2000.0	9.000	On	L1	19.8	10.0	46.0
1.140000	29.3	2000.0	9.000	On	L1	19.7	16.7	46.0
14.536500	36.1	2000.0	9.000	On	N	19.8	13.9	50.0
17.727000	37.7	2000.0	9.000	On	N	19.9	12.3	50.0

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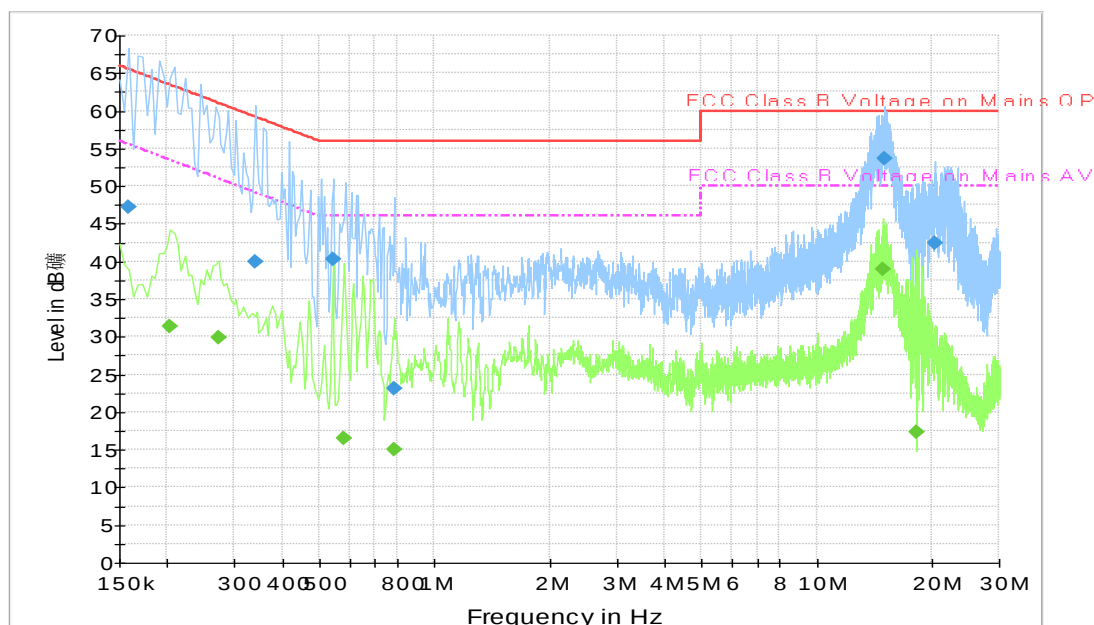


Fig.A.7.3 AC Powerline Conducted Emission-802.11b

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	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.159000	47.2	2000.0	9.000	On	L1	19.9	18.3	65.5
0.339000	39.9	2000.0	9.000	On	L1	19.9	19.3	59.2
0.546000	40.3	2000.0	9.000	On	L1	19.9	15.7	56.0
0.784500	23.2	2000.0	9.000	On	L1	19.8	32.8	56.0
15.009000	53.6	2000.0	9.000	On	L1	19.8	6.4	60.0
20.368500	42.4	2000.0	9.000	On	N	19.9	17.6	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.204000	31.4	2000.0	9.000	On	L1	19.8	22.0	53.4
0.271500	29.9	2000.0	9.000	On	L1	19.8	21.2	51.1
0.577500	16.6	2000.0	9.000	On	L1	19.9	29.4	46.0
0.784500	15.0	2000.0	9.000	On	L1	19.8	31.0	46.0
14.919000	38.9	2000.0	9.000	On	L1	19.8	11.1	50.0
18.303000	17.3	2000.0	9.000	On	L1	19.9	32.7	50.0

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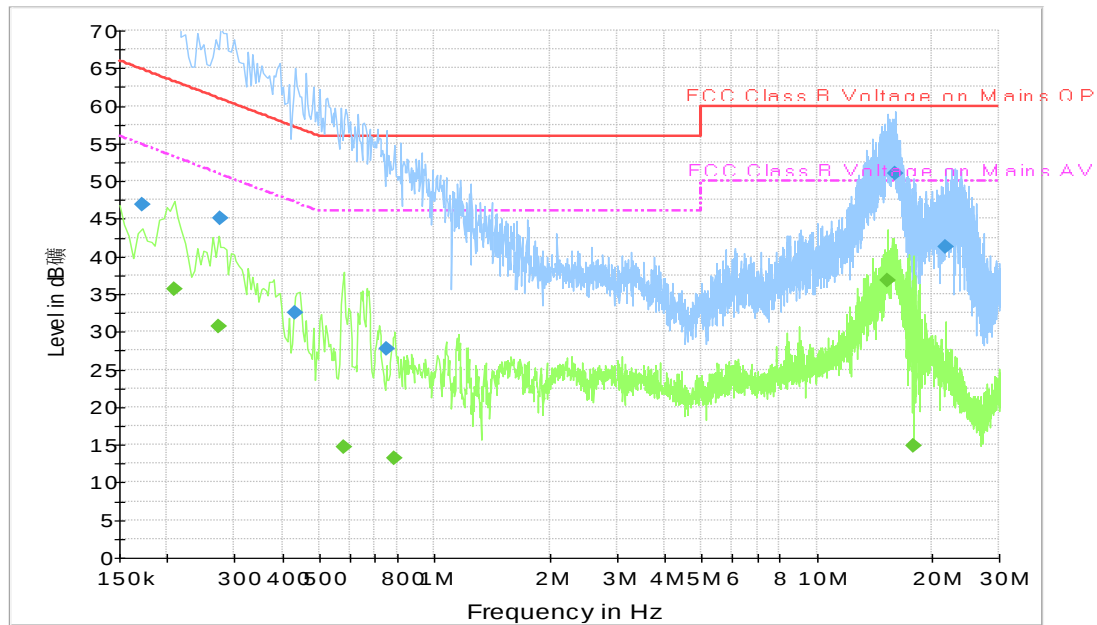


Fig.A.7.4 AC Powerline Conducted Emission-802.11b

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.172500	47.0	2000.0	9.000	On	L1	19.9	17.9	64.8
0.276000	45.1	2000.0	9.000	On	L1	19.8	15.8	60.9
0.433500	32.6	2000.0	9.000	On	L1	19.9	24.6	57.2
0.748500	27.8	2000.0	9.000	On	L1	19.8	28.2	56.0
15.985500	51.0	2000.0	9.000	On	N	19.8	9.0	60.0
21.817500	41.2	2000.0	9.000	On	L1	20.0	18.8	60.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.208500	35.7	2000.0	9.000	On	L1	19.8	17.6	53.3
0.271500	30.7	2000.0	9.000	On	L1	19.8	20.3	51.1
0.577500	14.6	2000.0	9.000	On	L1	19.9	31.4	46.0
0.789000	13.2	2000.0	9.000	On	L1	19.8	32.8	46.0
15.297000	36.8	2000.0	9.000	On	N	19.8	13.2	50.0
17.929500	14.9	2000.0	9.000	On	L1	19.9	35.1	50.0

END OF REPORT