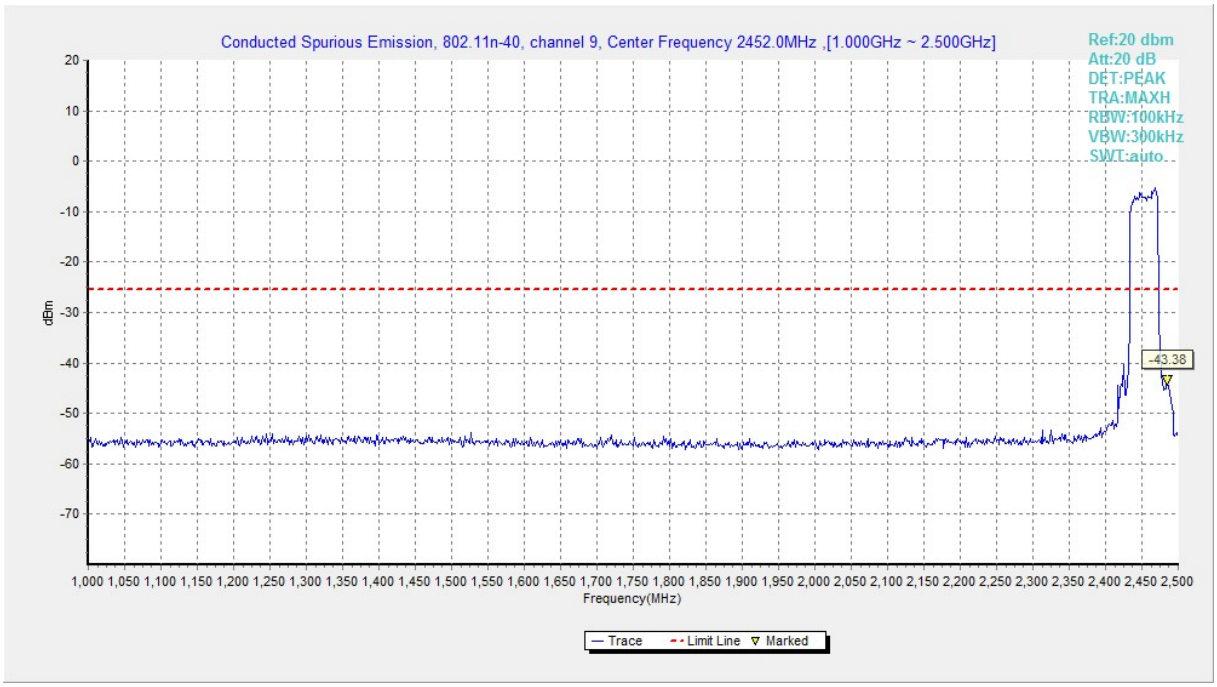

Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

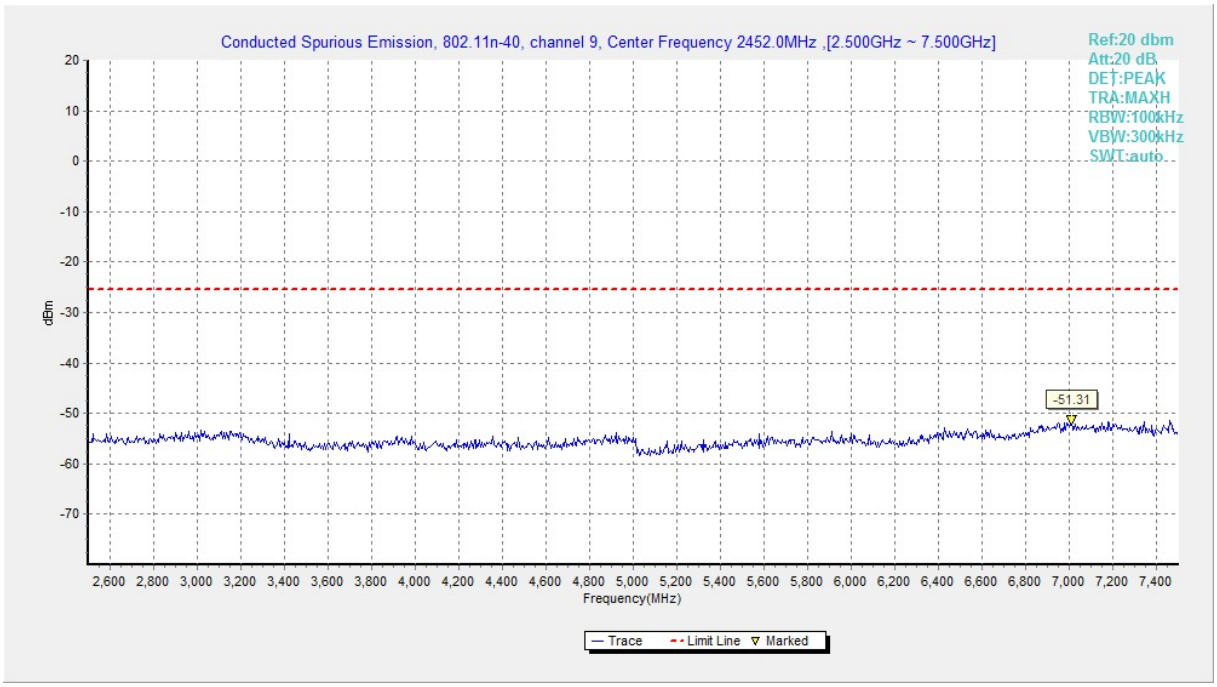

Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

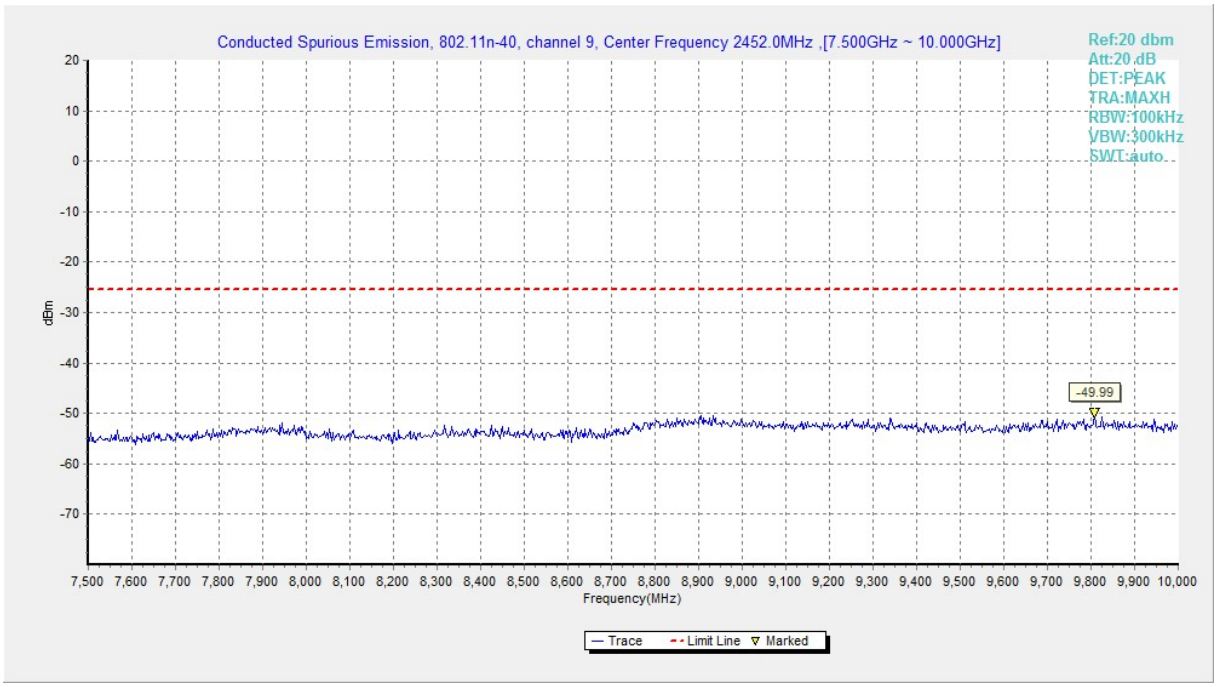

Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

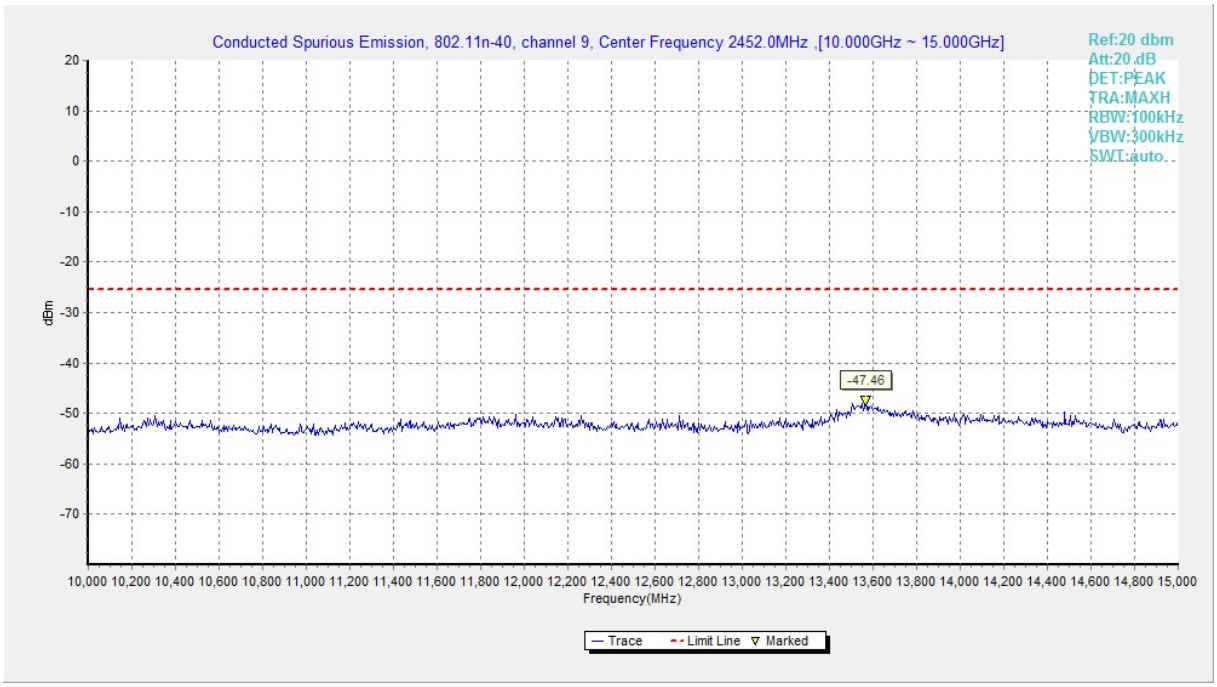

Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

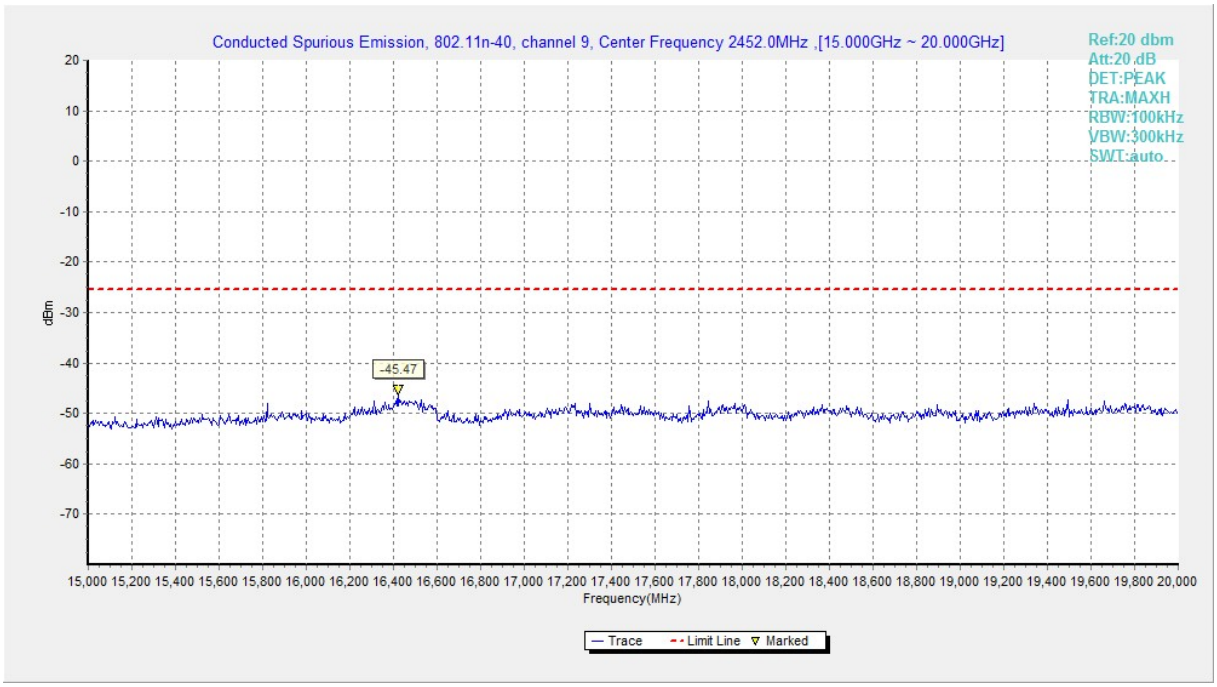

Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

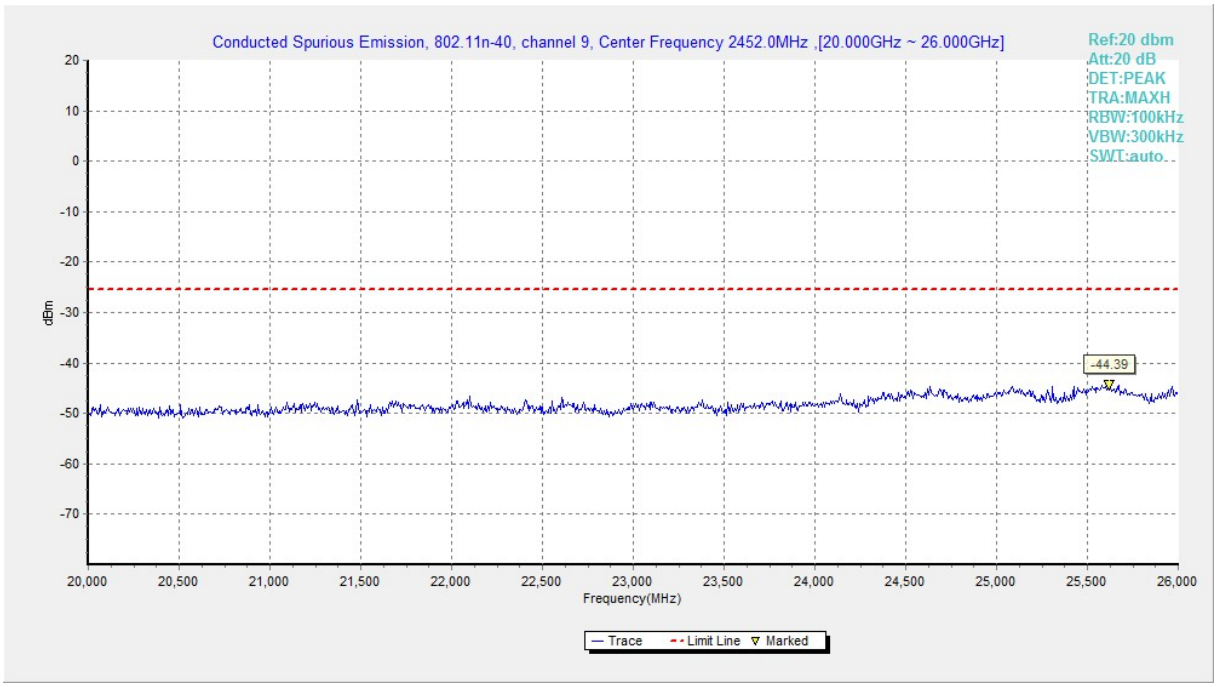

Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

Method of Measurement: See ANSI C63.10-2013-clause 6.4 &6.5 & 6.6

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

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

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

EUT ID: EUT1

Measurement Results:

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.1	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.2	**P**

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.3	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.4	**P**

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.5	**P**
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.6	**P**

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.A.6.2.7	**P**
	Power(ch9)	2.45GHz ~2.5GHz	Fig.A.6.2.8	**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-Average

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17944.5	44.8	-25.5	46.7	23.6	H	54	9.2
17950.5	44.7	-25.5	46.7	23.5	H	54	9.3
17968.5	44.7	-25.5	46.7	23.5	H	54	9.3
17940	44.6	-25.5	46.7	23.4	H	54	9.4
17943	44.6	-25.5	46.7	23.4	H	54	9.4
2387.3	45	-14.2	28.1	31.1	H	54	9

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17947.5	44.9	-25.5	46.7	23.7	H	54	9.1
17955	44.7	-25.5	46.7	23.5	V	54	9.3
17956.5	44.7	-25.5	46.7	23.5	V	54	9.3
17976	44.7	-25.5	46.7	23.5	V	54	9.3
17968.5	44.6	-25.5	46.7	23.4	H	54	9.4
17944.5	44.5	-25.5	46.7	23.3	H	54	9.5

Ch11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17953.5	44.8	-25.5	46.7	23.6	V	54	9.2
17958	44.7	-25.5	46.7	23.5	V	54	9.3
17968.5	44.7	-25.5	46.7	23.5	H	54	9.3
17944.5	44.6	-25.5	46.7	23.4	H	54	9.4
17973	44.6	-25.5	46.7	23.4	H	54	9.4
2485.1	45.1	-14.2	28.3	31	H	54	8.9

802.11b-Peak

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17991	56.7	-25.5	46.7	35.5	V	74	17.3
17898	56.5	-25.5	46.7	35.3	V	74	17.5
17971.5	56.5	-25.5	46.7	35.3	H	74	17.5
17968.5	56.4	-25.5	46.7	35.2	H	74	17.6
17986.5	56.4	-25.5	46.7	35.2	H	74	17.6
2388.7	57	-14.2	28.1	43.1	H	74	17

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17956.5	57.7	-25.5	46.7	36.5	V	74	16.3
17997	57	-25.5	46.7	35.8	V	74	17
17985	56.8	-25.5	46.7	35.6	V	74	17.2
17533.5	56.5	-26.9	45.2	38.1	H	74	17.5
17935.5	56.4	-25.5	46.7	35.2	H	74	17.6
17853	56.3	-25.5	46.7	35.1	V	74	17.7

Ch11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17865	57	-25.5	46.7	35.8	V	74	17
17959.5	56.8	-25.5	46.7	35.6	H	74	17.2
17991	56.7	-25.5	46.7	35.5	H	74	17.3
17965.5	56.6	-25.5	46.7	35.4	H	74	17.4
17986.5	56.5	-25.5	46.7	35.3	H	74	17.5
2486.5	57.1	-14.2	28.3	43	H	74	16.9

802.11g - Average

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17962.5	44.7	-25.5	46.7	23.5	V	54	9.3
17971.5	44.7	-25.5	46.7	23.5	V	54	9.3
17959.5	44.6	-25.5	46.7	23.4	V	54	9.4
17973	44.6	-25.5	46.7	23.4	H	54	9.4
17952	44.5	-25.5	46.7	23.3	H	54	9.5
2388.9	45.4	-14.2	28.1	31.5	H	54	8.6

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17962.5	44.7	-25.5	46.7	23.5	V	54	9.3
17965.5	44.7	-25.5	46.7	23.5	V	54	9.3
17968.5	44.7	-25.5	46.7	23.5	V	54	9.3
17944.5	44.6	-25.5	46.7	23.4	H	54	9.4
17952	44.6	-25.5	46.7	23.4	H	54	9.4
17955	44.6	-25.5	46.7	23.4	V	54	9.4

Ch11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17950.5	44.8	-25.5	46.7	23.6	V	54	9.2
17971.5	44.7	-25.5	46.7	23.5	V	54	9.3
17970	44.6	-25.5	46.7	23.4	V	54	9.4
17976	44.6	-25.5	46.7	23.4	V	54	9.4
17944.5	44.5	-25.5	46.7	23.3	V	54	9.5
2485	46.1	-14.2	28.3	32	H	54	7.9

802.11g - Peak

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17997	57.5	-25.5	46.7	36.3	H	74	16.5
17956.5	56.9	-25.5	46.7	35.7	V	74	17.1
17959.5	56.9	-25.5	46.7	35.7	V	74	17.1
17980.5	56.8	-25.5	46.7	35.6	H	74	17.2
17949	56.4	-25.5	46.7	35.2	H	74	17.6
2330.8	57.2	-14.6	28	43.8	H	74	16.8

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17985	56.4	-25.5	46.7	35.2	H	74	17.6
17596.5	56.3	-25.7	46	36.1	H	74	17.7
17871	56.1	-25.5	46.7	34.9	H	74	17.9
17916	56.1	-25.5	46.7	34.9	V	74	17.9
17958	56.1	-25.5	46.7	34.9	H	74	17.9
17853	55.9	-25.5	46.7	34.7	H	74	18.1

Ch11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17985	57.2	-25.5	46.7	36	H	74	16.8
17941.5	56.8	-25.5	46.7	35.6	H	74	17.2
17895	56.5	-25.5	46.7	35.3	H	74	17.5
17944.5	56.2	-25.5	46.7	35	V	74	17.8
17860.5	55.9	-25.5	46.7	34.7	V	74	18.1
2485.1	58.9	-14.2	28.3	44.8	H	74	15.1

802.11n-HT20-Average

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
2385.696	42.2	-14.3419	31.5	25.04186	H	54	11.8
17959.5	44.8	-5.41613	33.8	16.41613	H	54	9.2
17964	44.7	-5.41613	33.8	16.31613	V	54	9.3
17995.5	44.7	-5.41613	33.8	16.31613	H	54	9.3
17950.5	44.7	-5.41613	33.8	16.31613	H	54	9.3
17947.5	44.6	-5.41613	33.8	16.21613	H	54	9.4

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17985	44.7	-25.5	46.7	23.5	V	54	9.3
17950.5	44.6	-25.5	46.7	23.4	V	54	9.4
17952	44.6	-25.5	46.7	23.4	V	54	9.4
17986.5	44.6	-25.5	46.7	23.4	V	54	9.4
17941.5	44.5	-25.5	46.7	23.3	H	54	9.5
17946	44.5	-25.5	46.7	23.3	H	54	9.5

Ch11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
2483.398	43.5	-14.3628	32.2	25.66277	H	54	10.5
17974.5	44.7	-5.41613	33.8	16.31613	H	54	9.3
17967	44.7	-5.41613	33.8	16.31613	V	54	9.3
17976	44.6	-5.41613	33.8	16.21613	H	54	9.4
17964	44.6	-5.41613	33.8	16.21613	H	54	9.4
18000	44.6	-6.5411	33.8	17.3411	H	54	9.4

802.11n-HT20-Peak

Ch1

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
2386.764	54.5	-14.3419	31.5	37.34186	H	74	19.5
17947.5	56.4	-5.41613	33.8	28.01613	H	74	17.6
17940	56.3	-5.41613	33.8	27.91613	V	74	17.7
17982	56.2	-5.41613	33.8	27.81613	H	74	17.8
17941.5	56.2	-5.41613	33.8	27.81613	H	74	17.8
17934	56.1	-5.41613	33.8	27.71613	H	74	17.9

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17952	56.7	-25.5	46.7	35.5	V	74	17.3
17995.5	56.6	-25.5	46.7	35.4	H	74	17.4
17976	56.5	-25.5	46.7	35.3	H	74	17.5
17986.5	56.4	-25.5	46.7	35.2	V	74	17.6
17967	56.2	-25.5	46.7	35	H	74	17.8
17877	56	-25.5	46.7	34.8	H	74	18

Ch 11

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
2484.075	56.7	-14.3628	32.2	38.86277	H	74	17.3
17929.5	57.1	-5.41613	33.8	28.71613	H	74	16.9
17926.5	56.4	-5.41613	33.8	28.01613	V	74	17.6
17949	56.3	-5.41613	33.8	27.91613	H	74	17.7
17973	56.3	-5.41613	33.8	27.91613	H	74	17.7
17974.5	56.2	-5.41613	33.8	27.81613	H	74	17.8

802.11n-HT20-Average

Ch 3

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17947.5	44.6	-25.5	46.7	23.4	V	54	9.4
17965.5	44.6	-25.5	46.7	23.4	V	54	9.4
17971.5	44.6	-25.5	46.7	23.4	V	54	9.4
17976	44.6	-25.5	46.7	23.4	H	54	9.4
17980.5	44.6	-25.5	46.7	23.4	H	54	9.4
2388.4	43.6	-14.2	28.1	29.7	H	54	10.4

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17983.5	44.7	-25.5	46.7	23.5	V	54	9.3
17988	44.7	-25.5	46.7	23.5	H	54	9.3
17941.5	44.6	-25.5	46.7	23.4	V	54	9.4
17953.5	44.6	-25.5	46.7	23.4	V	54	9.4
17955	44.6	-25.5	46.7	23.4	V	54	9.4
17961	44.6	-25.5	46.7	23.4	V	54	9.4

Ch9

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17994	44.7	-25.5	46.7	23.5	H	54	9.3
17950.5	44.6	-25.5	46.7	23.4	V	54	9.4
17959.5	44.6	-25.5	46.7	23.4	V	54	9.4
17973	44.6	-25.5	46.7	23.4	H	54	9.4
17955	44.5	-25.5	46.7	23.3	H	54	9.5
2485	44.5	-14.2	28.3	30.4	H	54	9.5

802.11n-HT40-Peak

Ch3

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17856	57.2	-25.5	46.7	36	V	74	16.8
17952	56.8	-25.5	46.7	35.6	H	74	17.2
17964	56.5	-25.5	46.7	35.3	H	74	17.5
17884.5	56.3	-25.5	46.7	35.1	H	74	17.7
17949	56.3	-25.5	46.7	35.1	H	74	17.7
2389.6	58.7	-14.2	28.1	44.8	H	74	15.3

Ch6

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17959.5	56.6	-25.5	46.7	35.4	H	74	17.4
17988	56.4	-25.5	46.7	35.2	H	74	17.6
17871	56.3	-25.5	46.7	35.1	V	74	17.7
17932.5	56	-25.5	46.7	34.8	H	74	18
17938.5	55.9	-25.5	46.7	34.7	H	74	18.1
17874	55.8	-25.5	46.7	34.6	V	74	18.2

Ch9

Frequency (MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization	Limit (dBμV/m)	Margin (dB)
17805	56.6	-25.5	46.7	35.4	H	74	17.4
17962.5	56.4	-25.5	46.7	35.2	V	74	17.6
17964	56.1	-25.5	46.7	34.9	H	74	17.9
17974.5	56.1	-25.5	46.7	34.9	V	74	17.9
17871	56	-25.5	46.7	34.8	H	74	18
2485.1	64.7	-14.2	28.3	50.6	H	74	9.3

Test graphs as below:

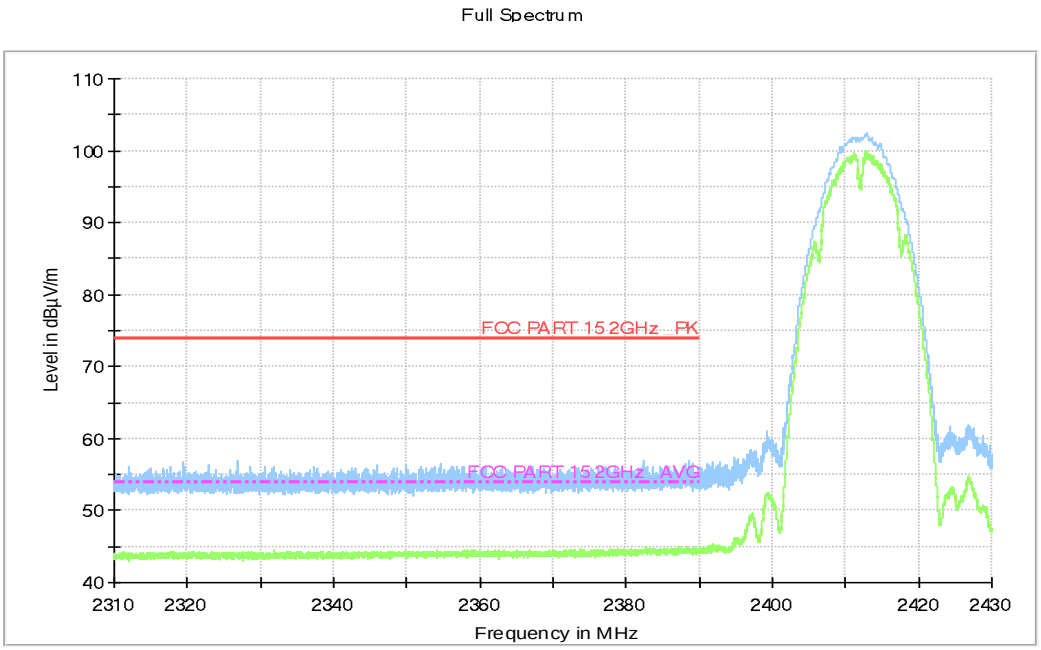

Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.43GHz

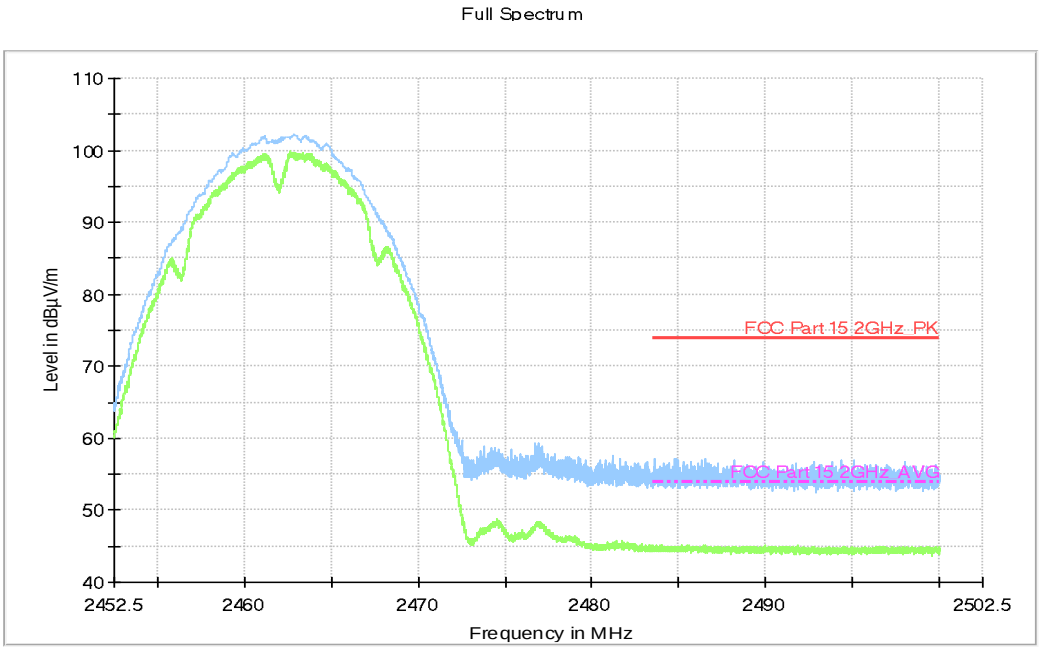

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

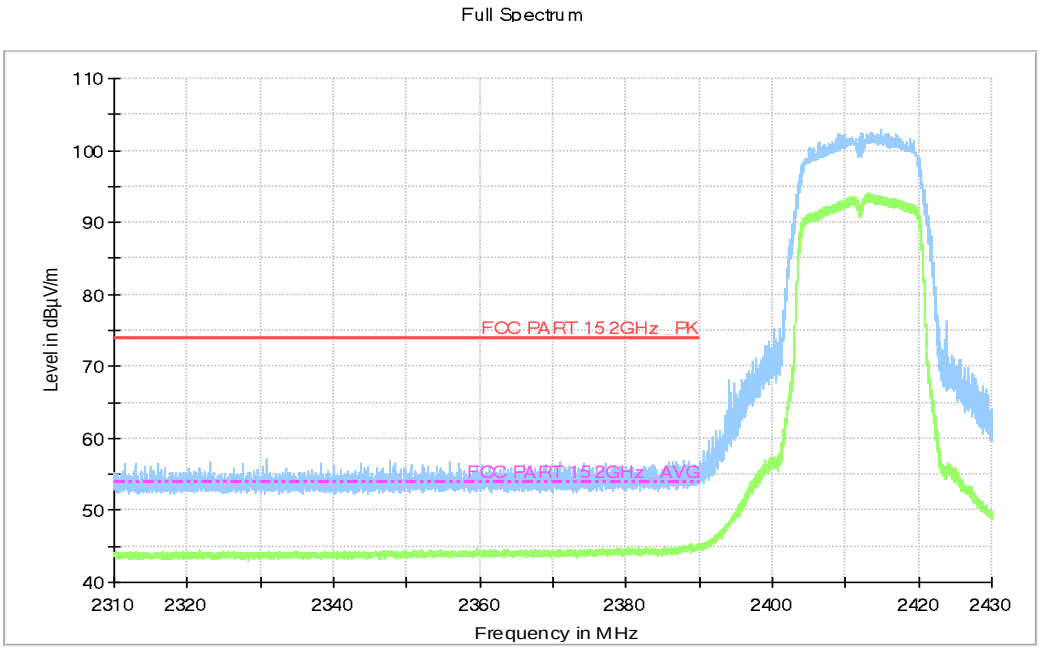

Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.43GHz

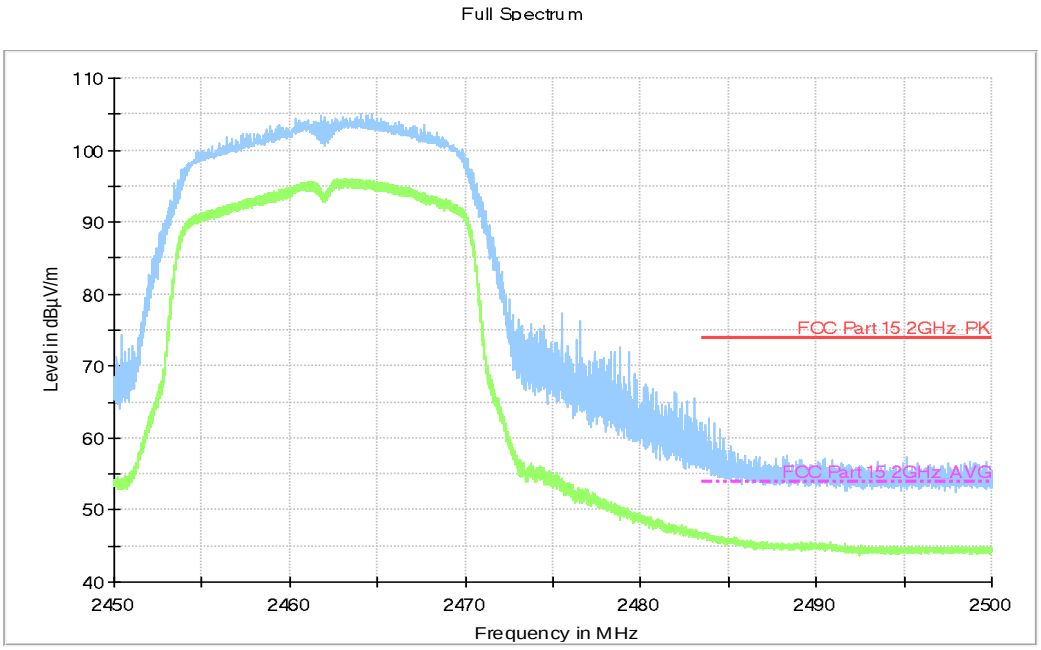

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

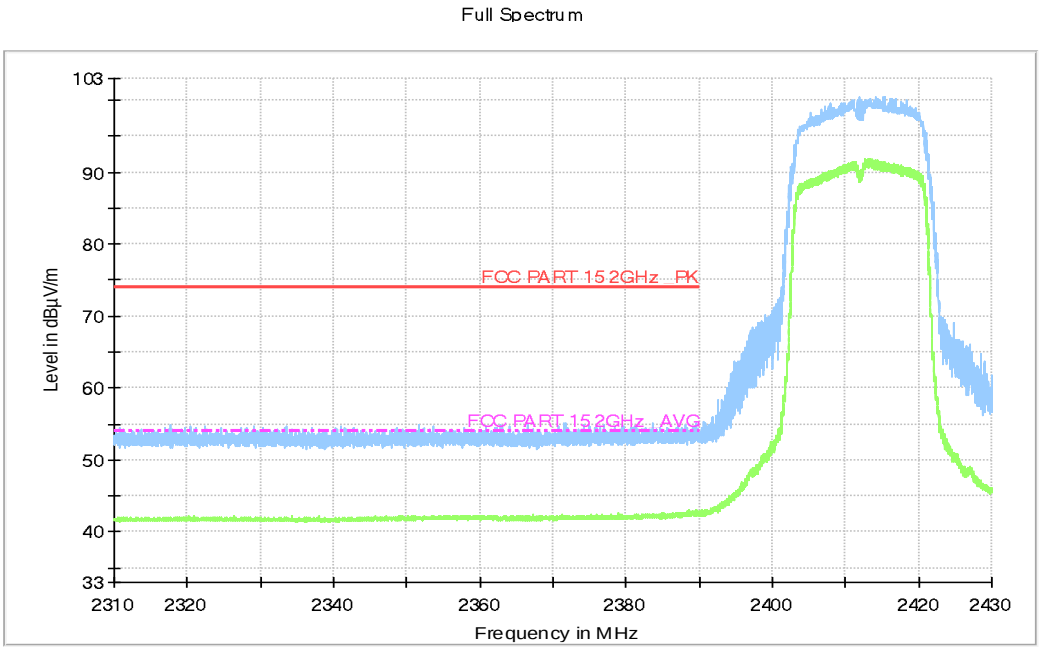

Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz

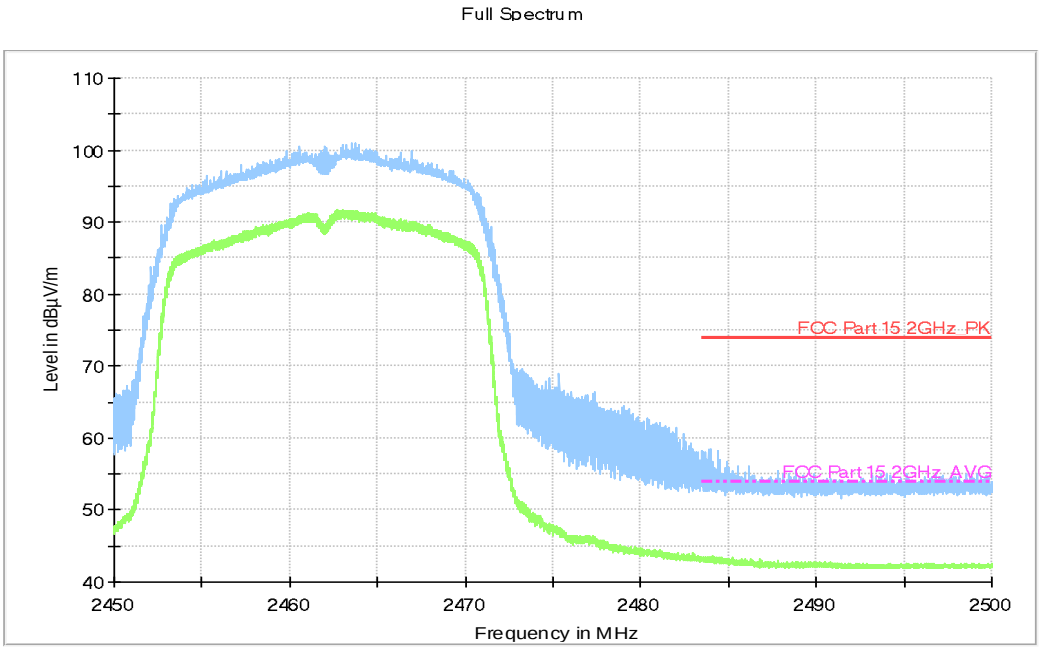

Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz