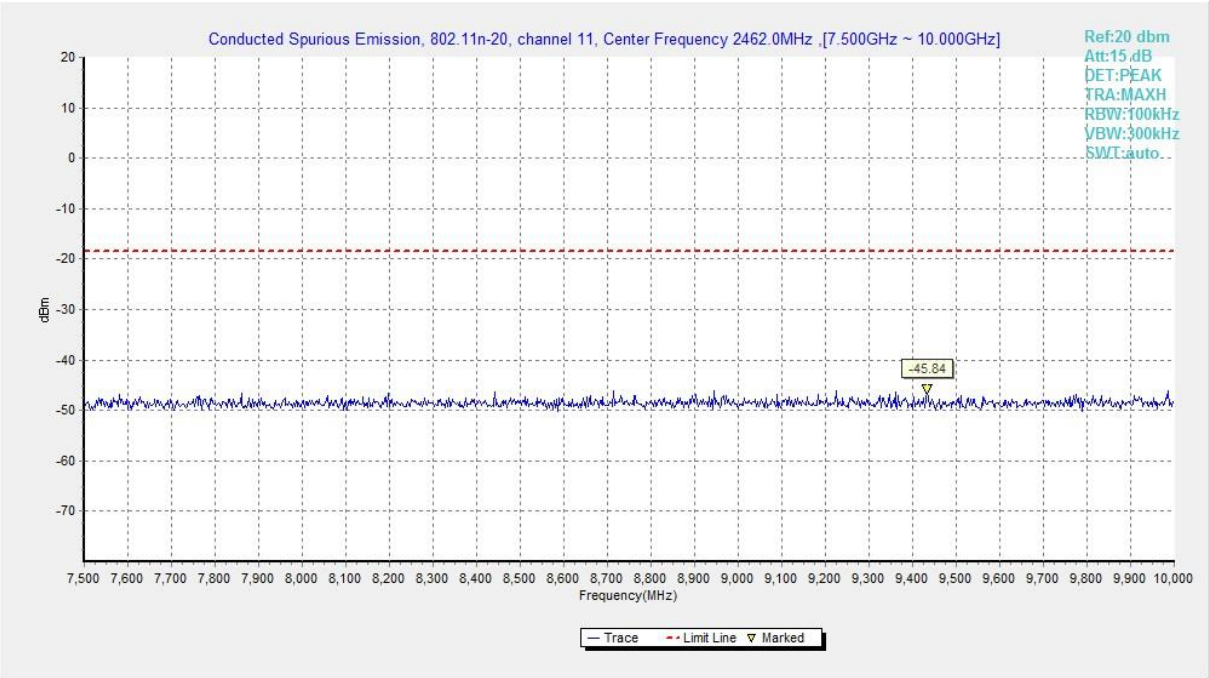

Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)

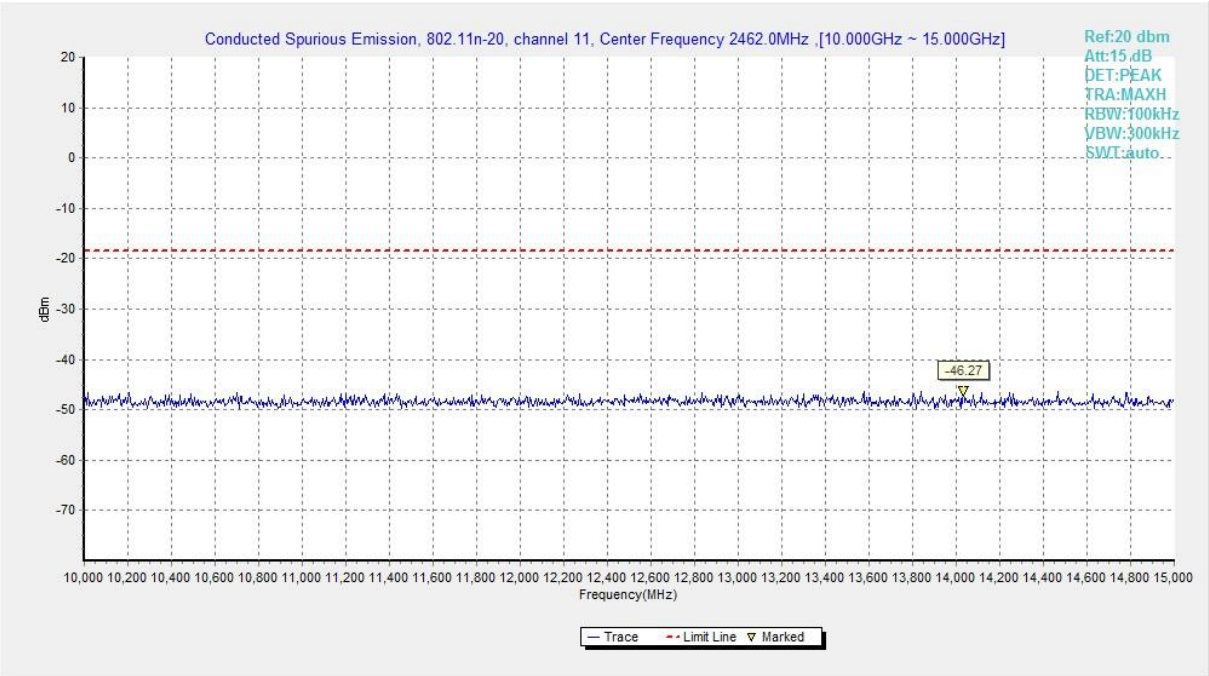

Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)

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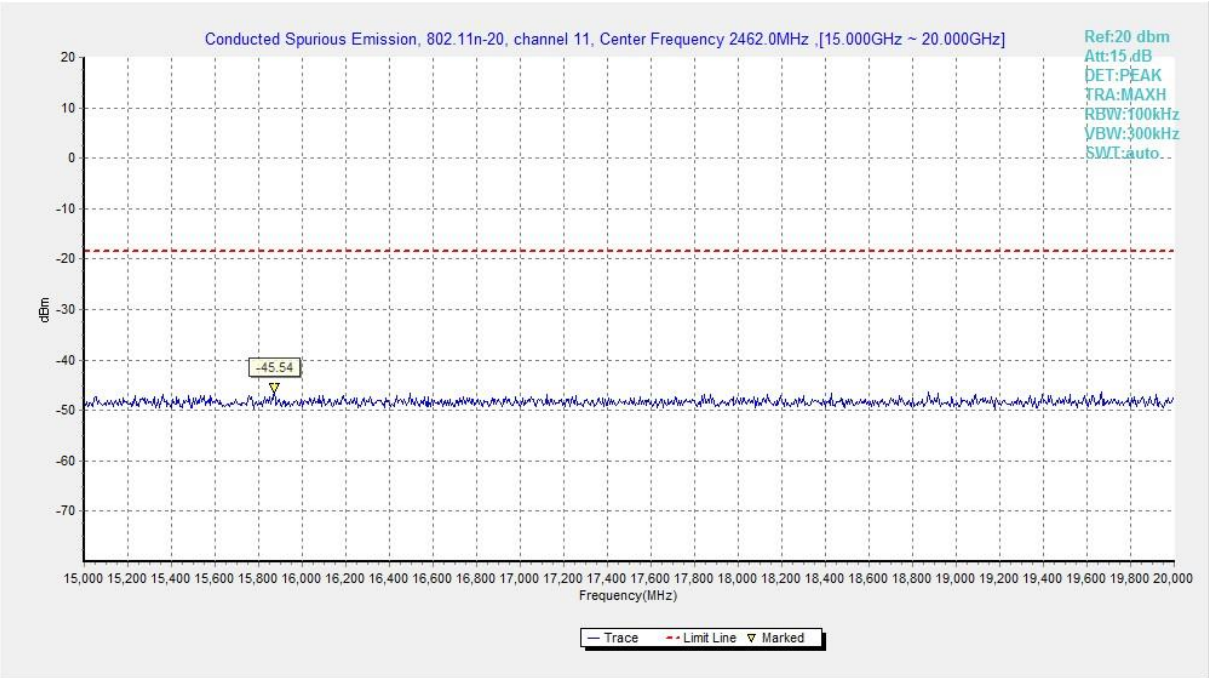

Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)

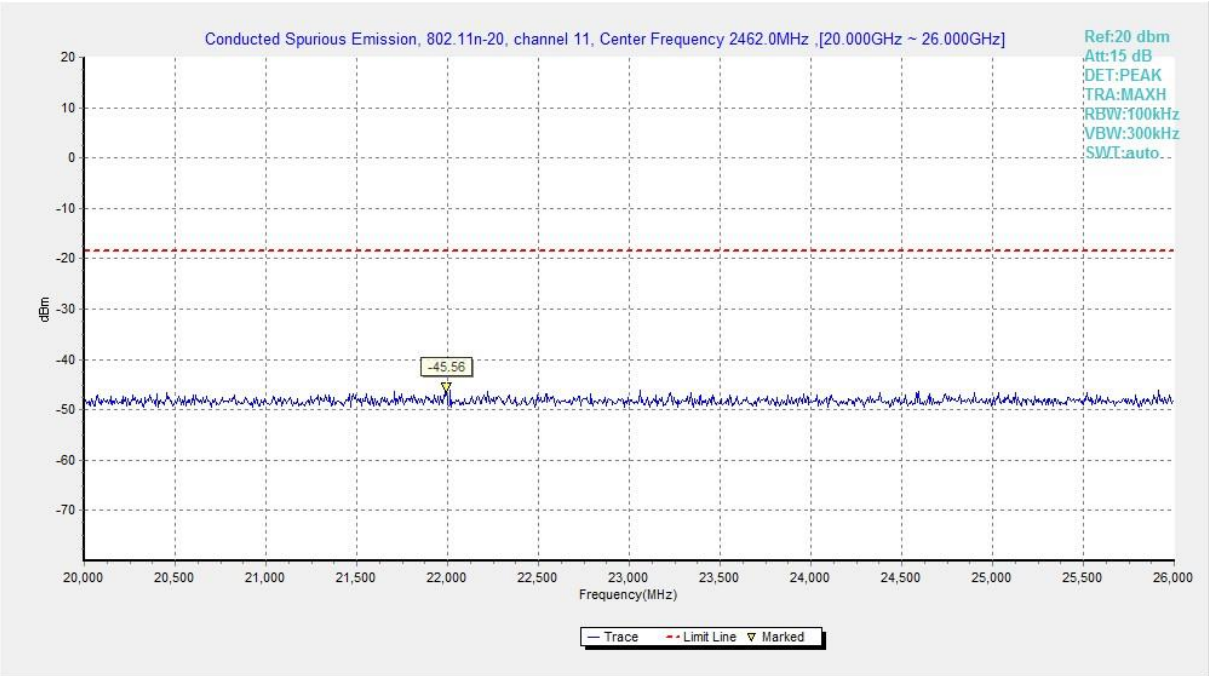

Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)

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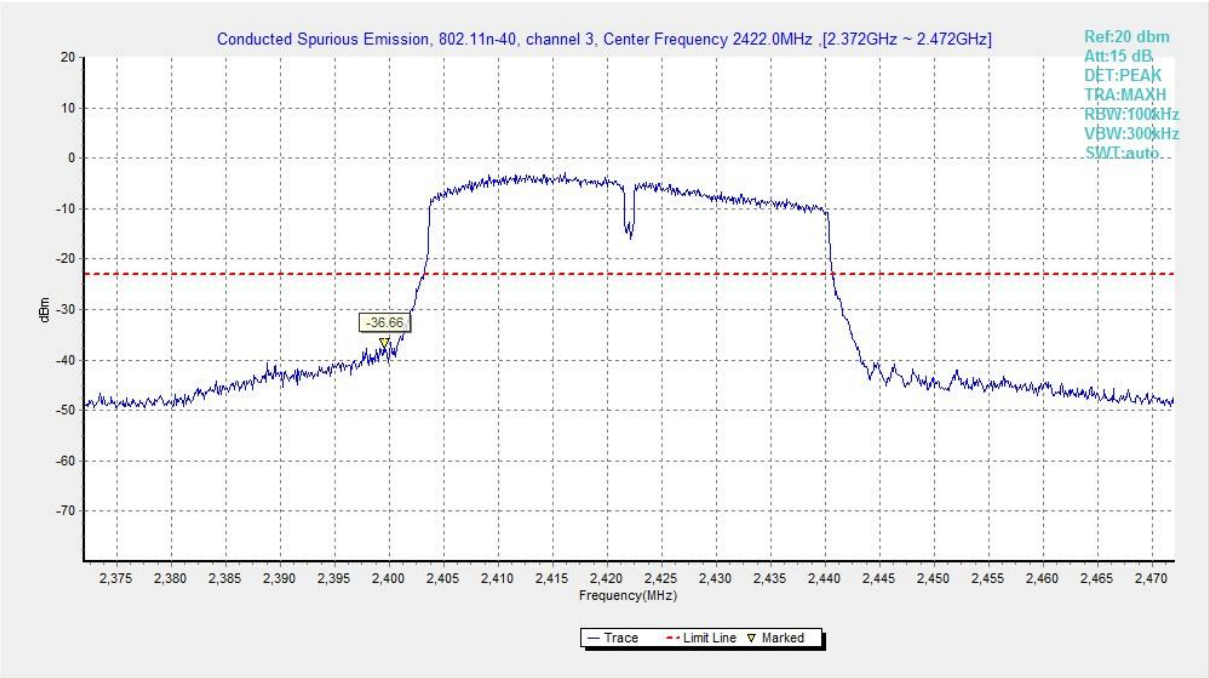

Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)

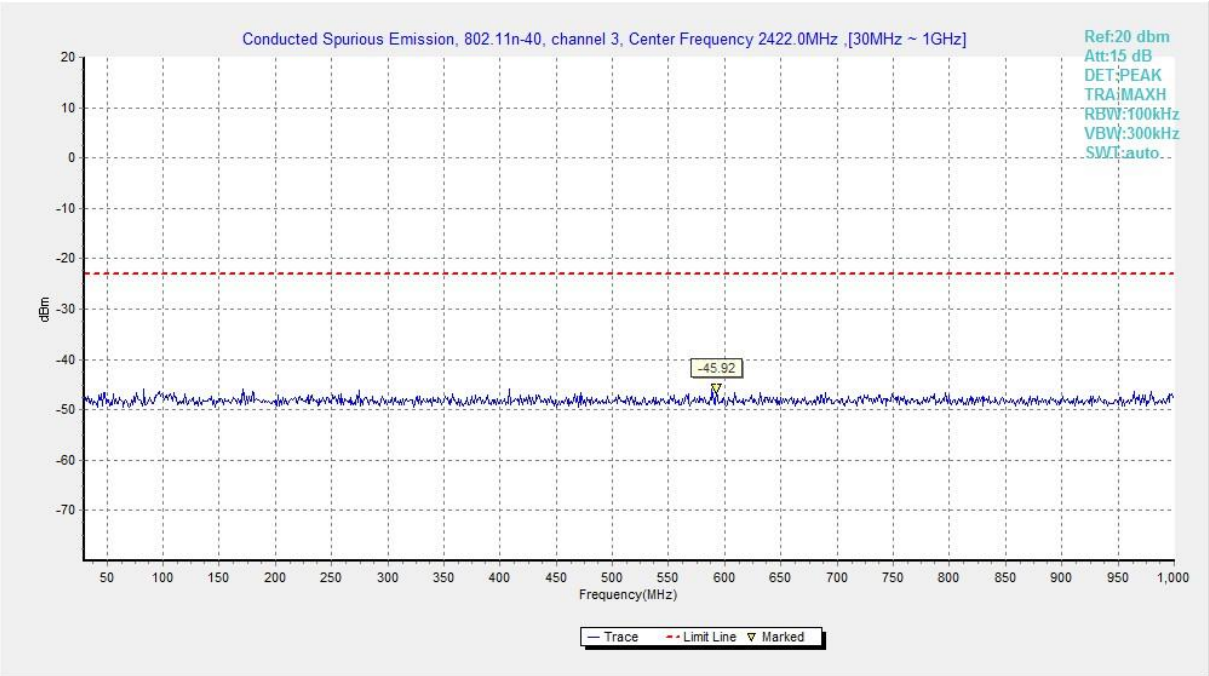

Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)

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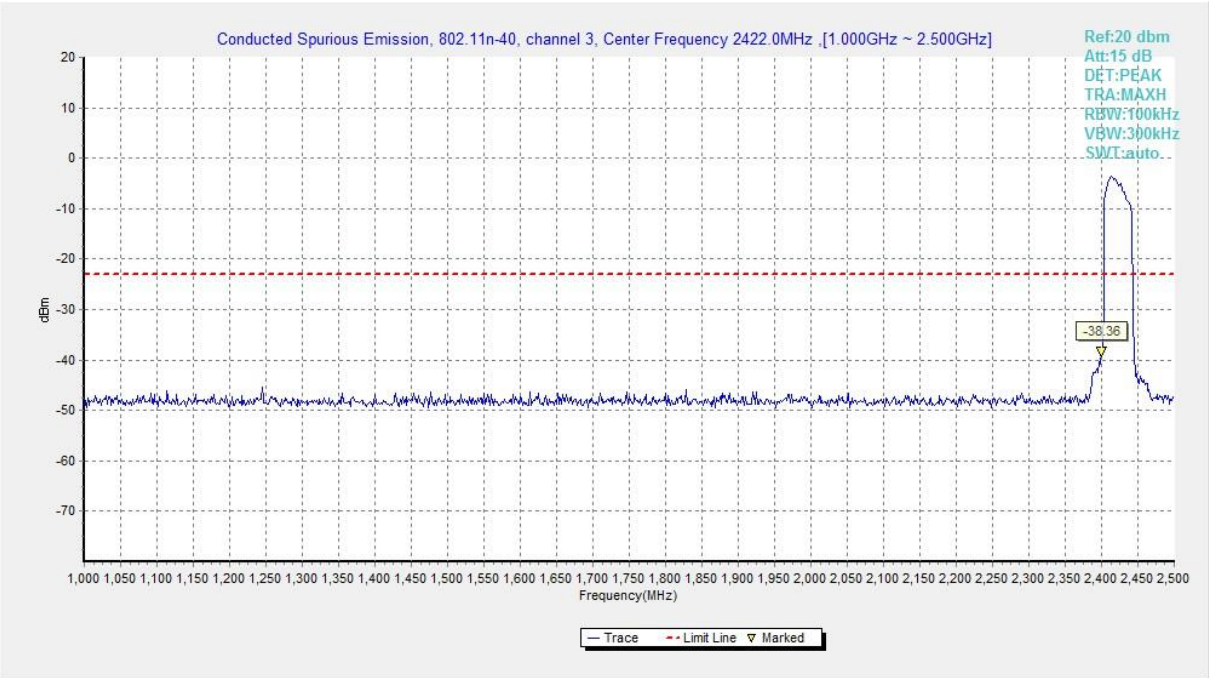

Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)

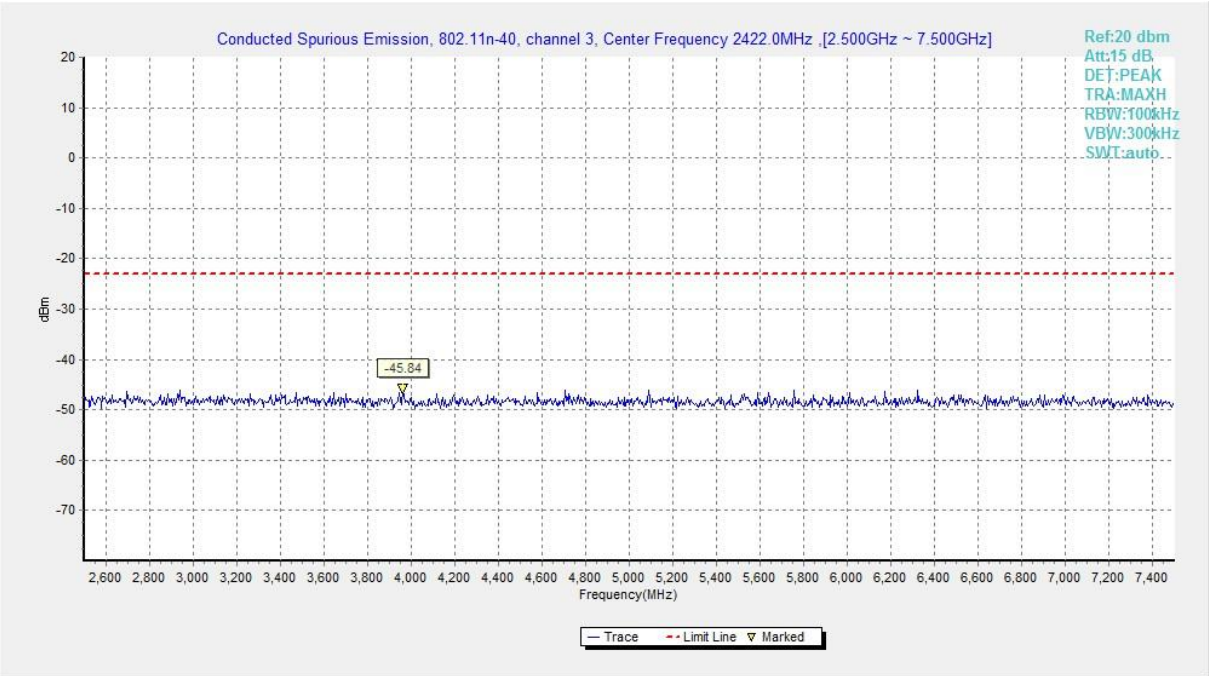

Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)

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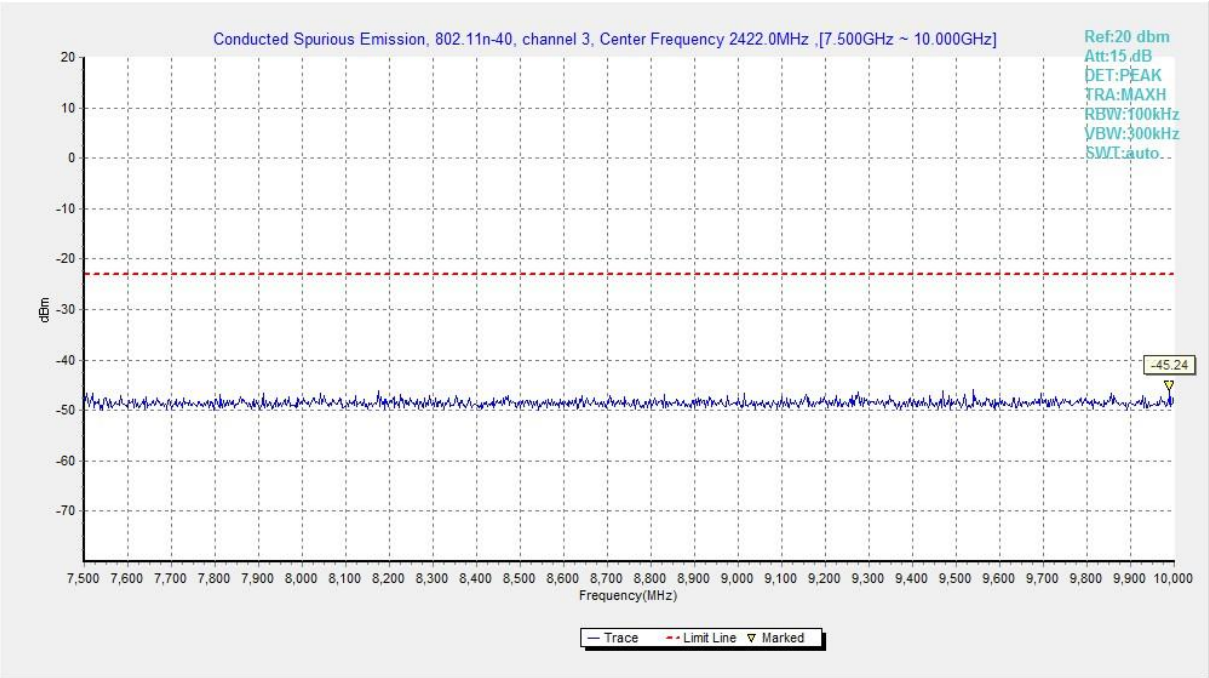

Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)

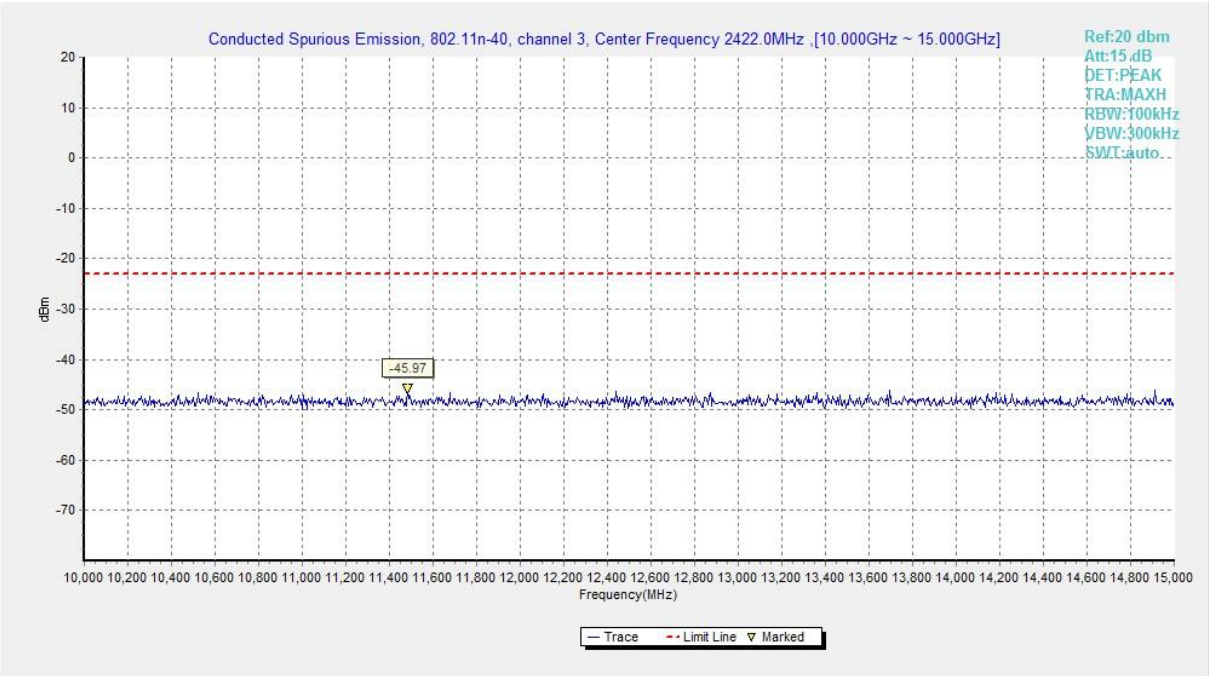

Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)

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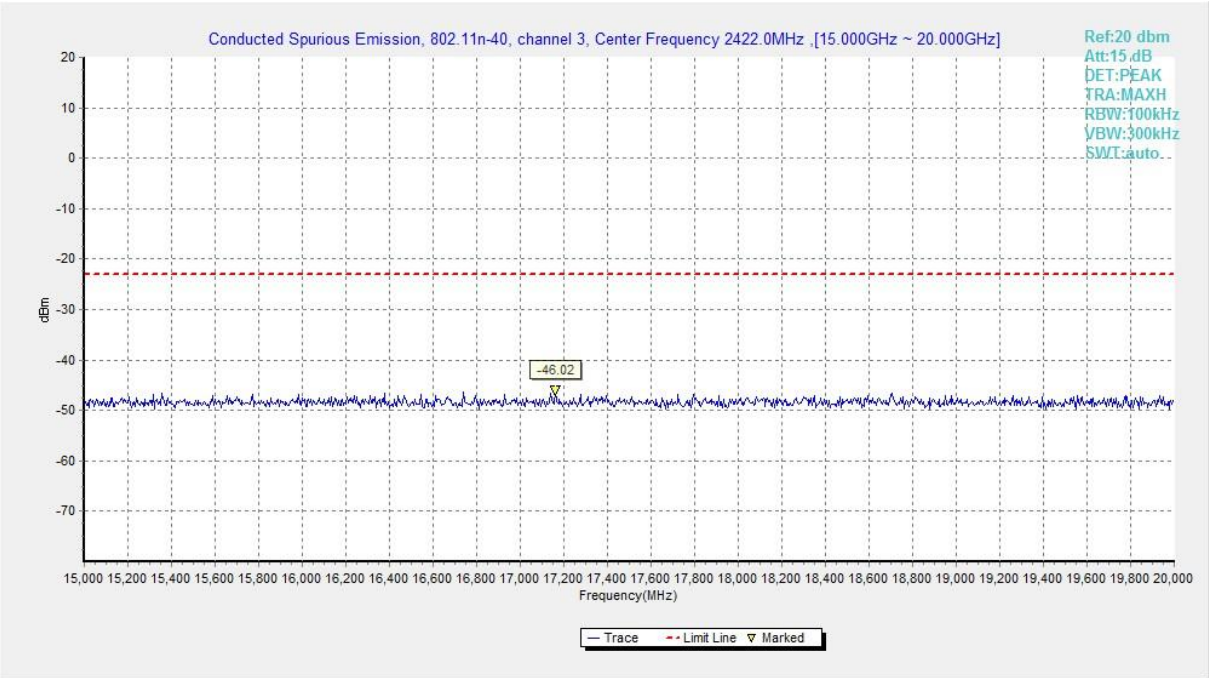

Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)

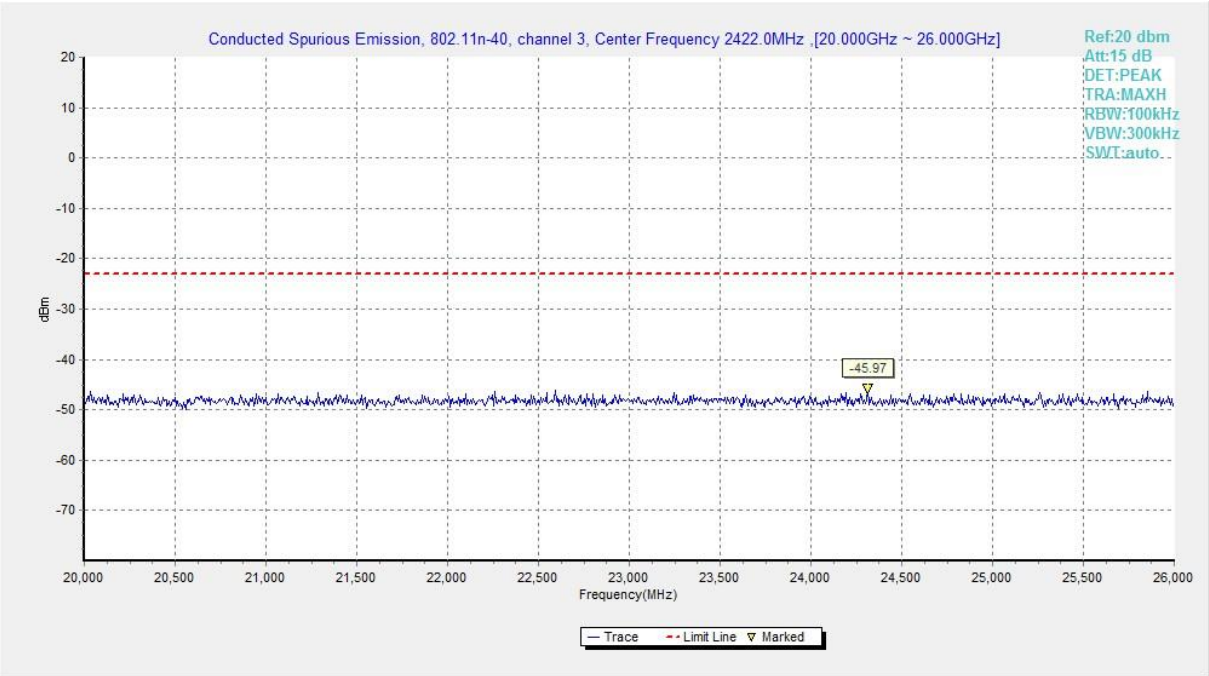

Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)

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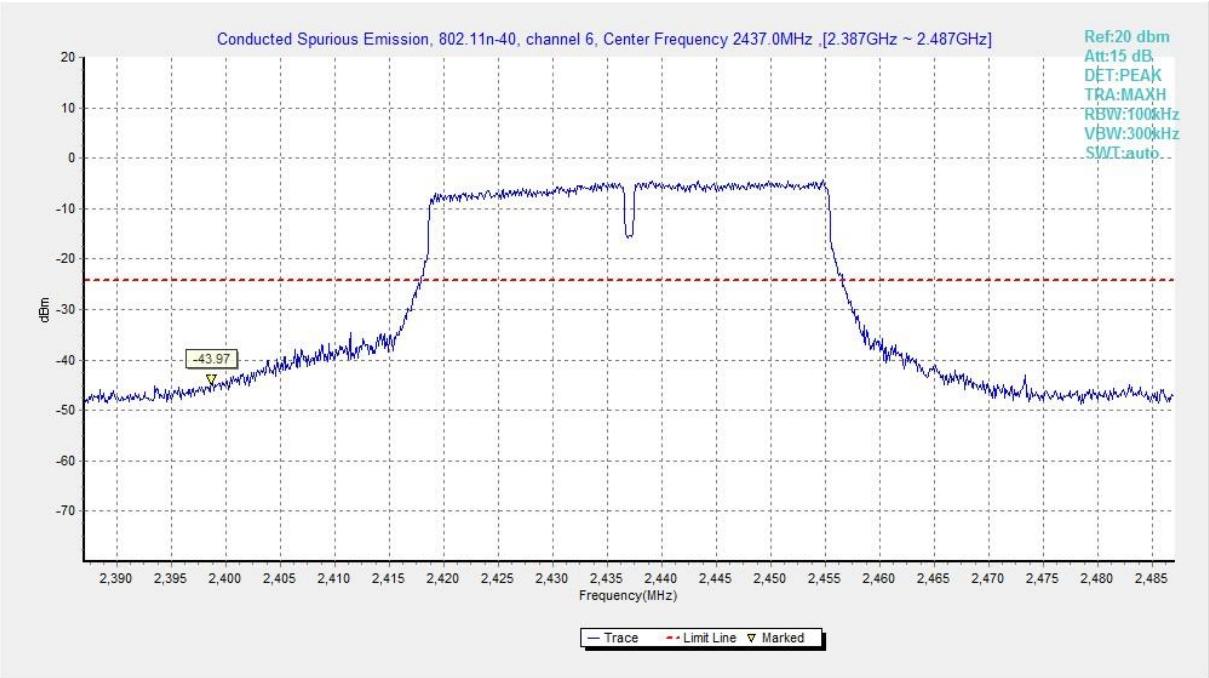

Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

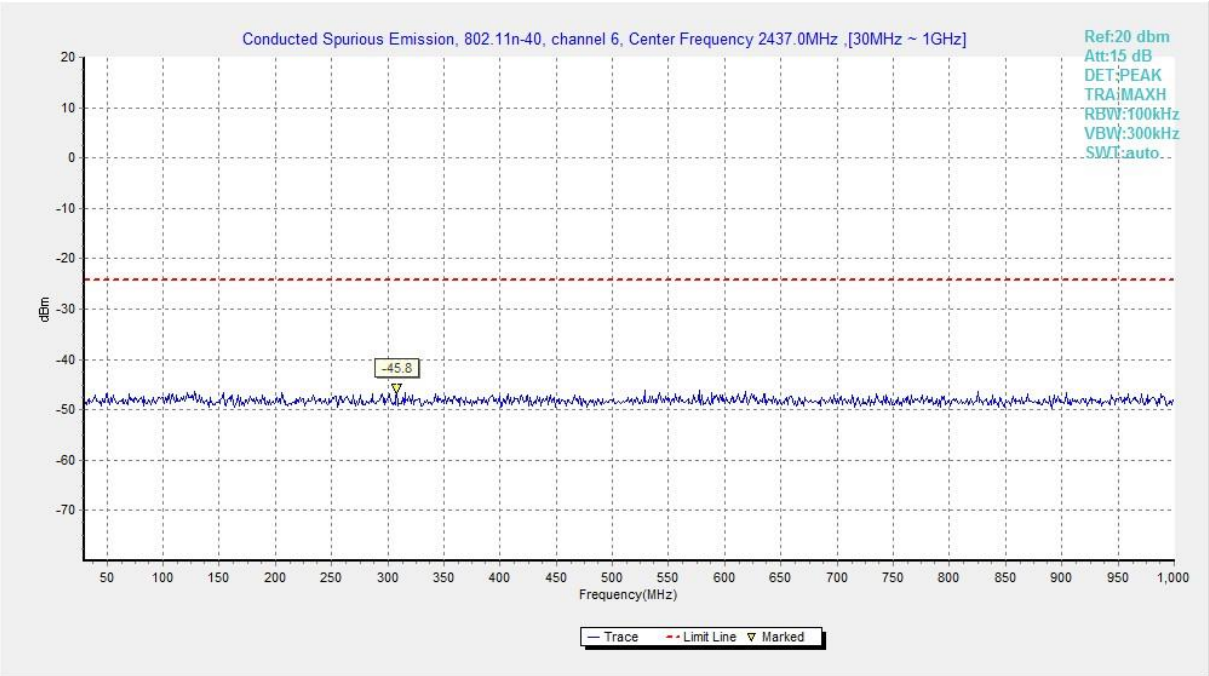

Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

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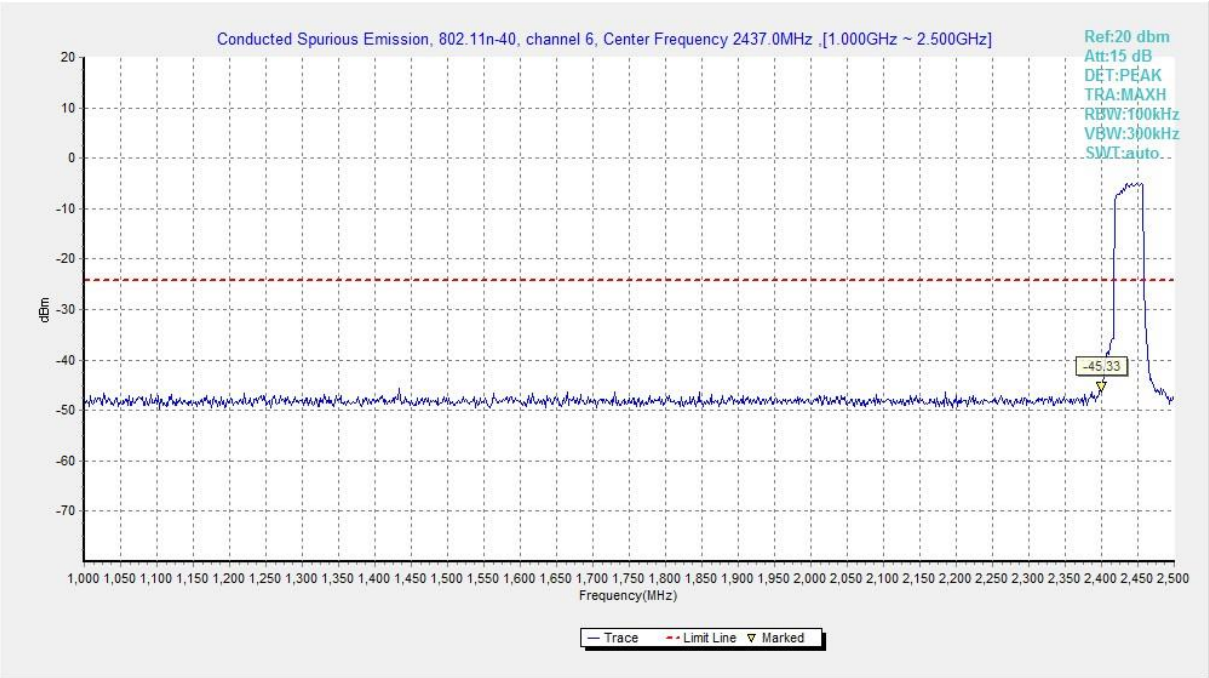

Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

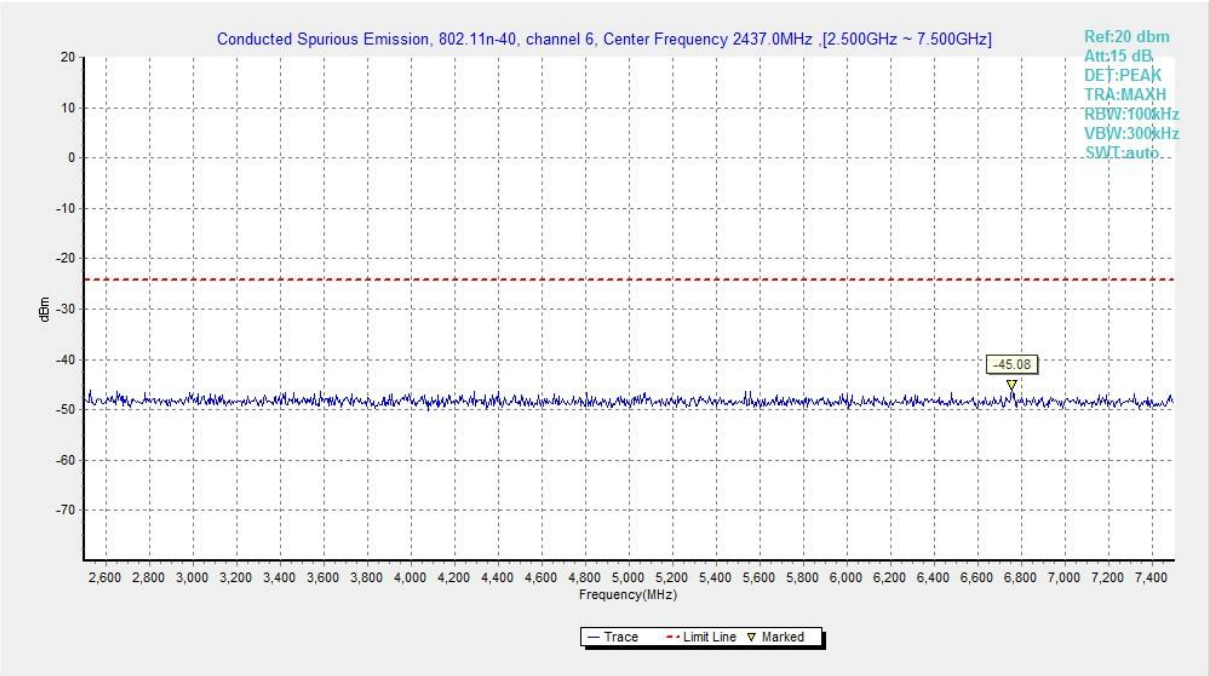

Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

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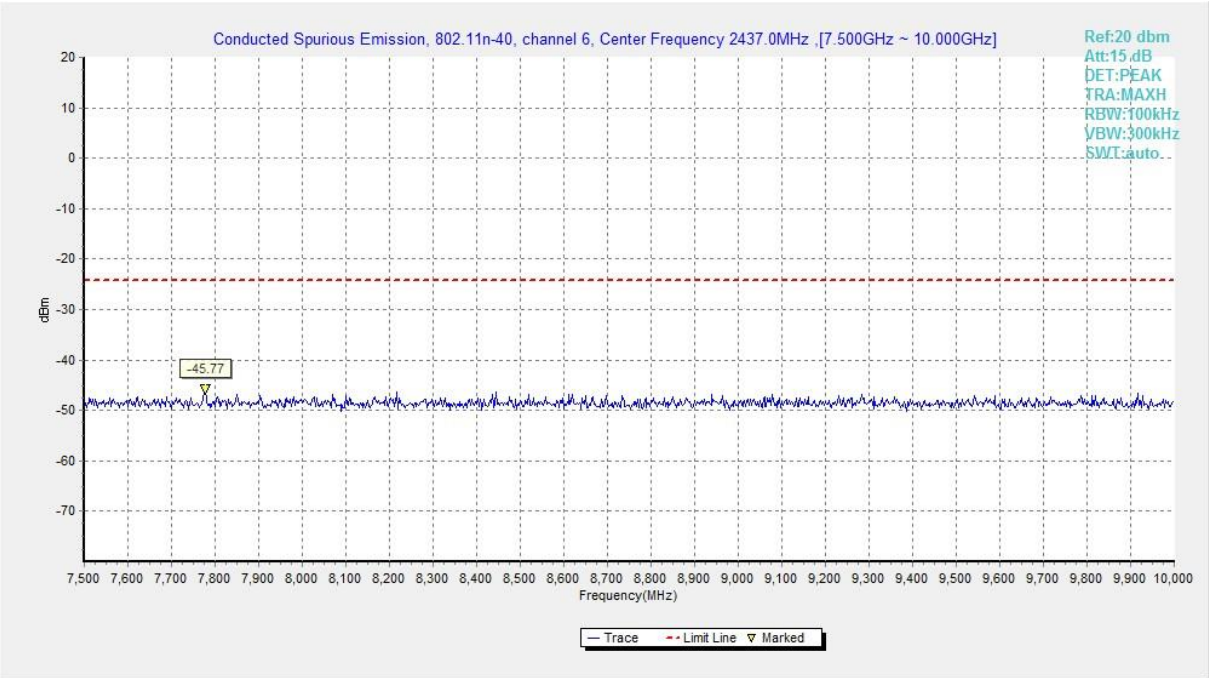

Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

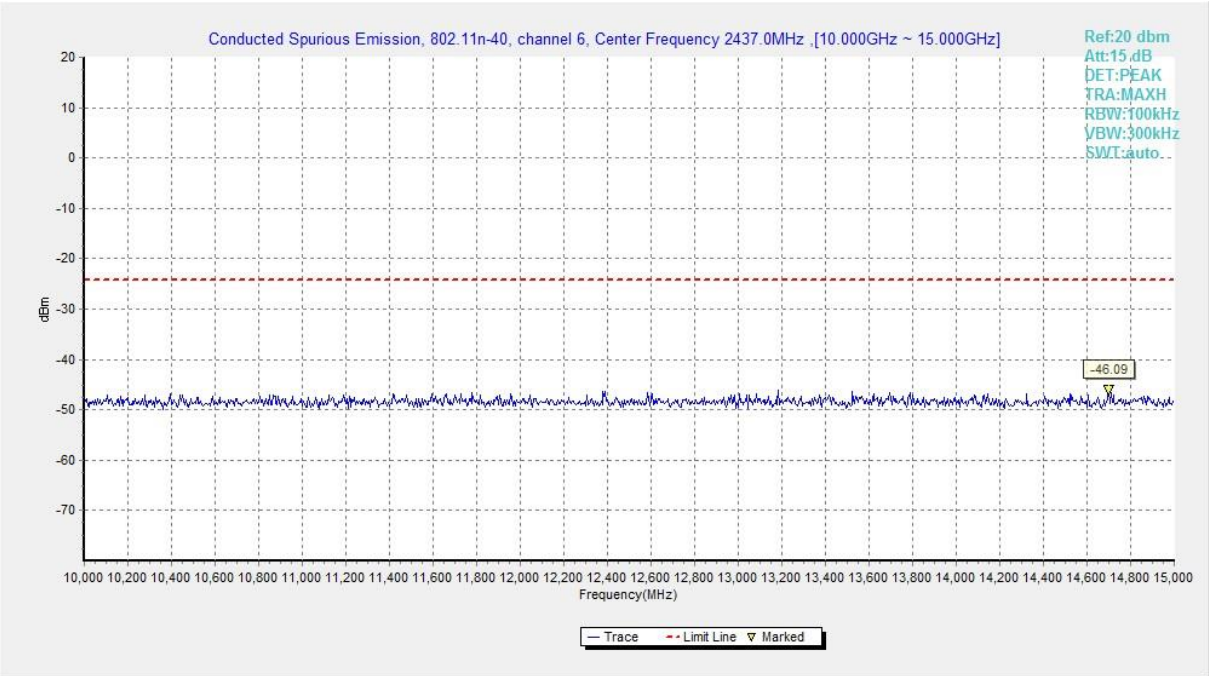

Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

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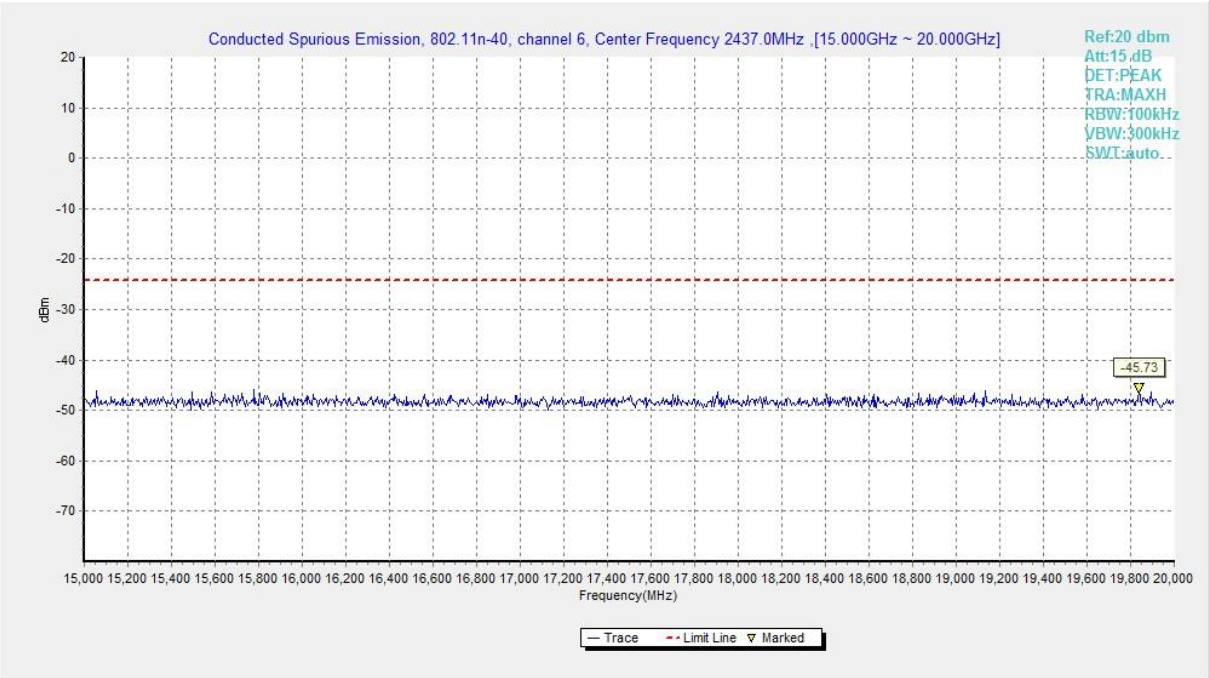

Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

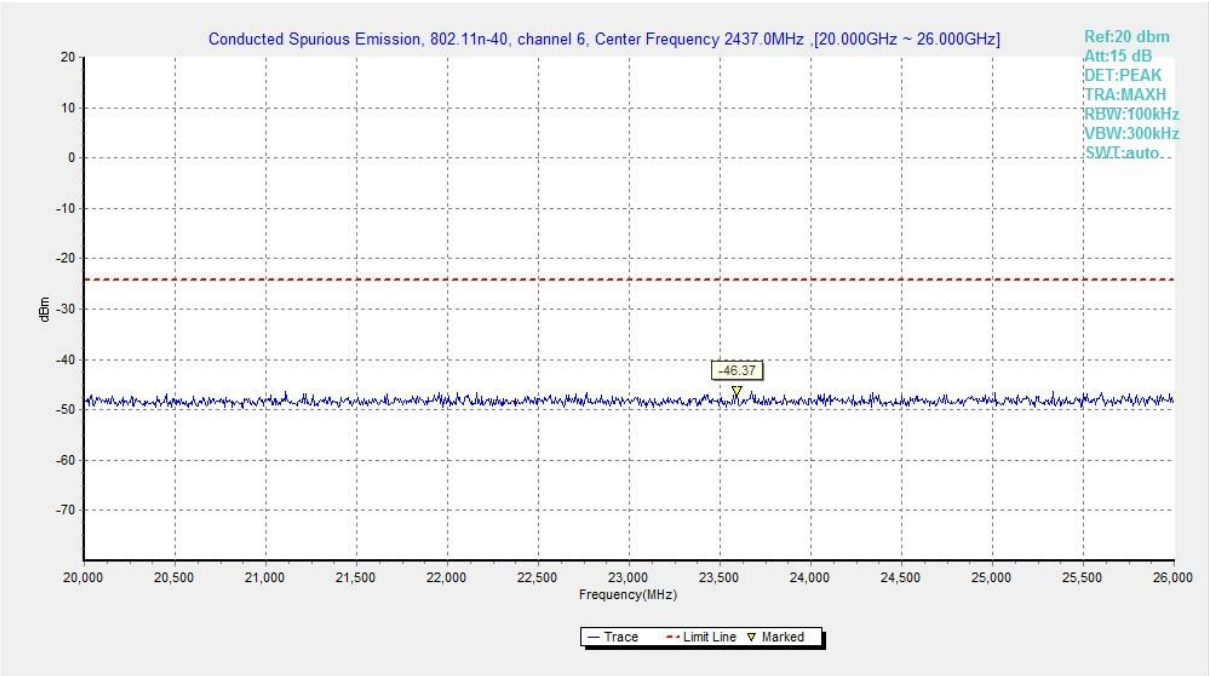

Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

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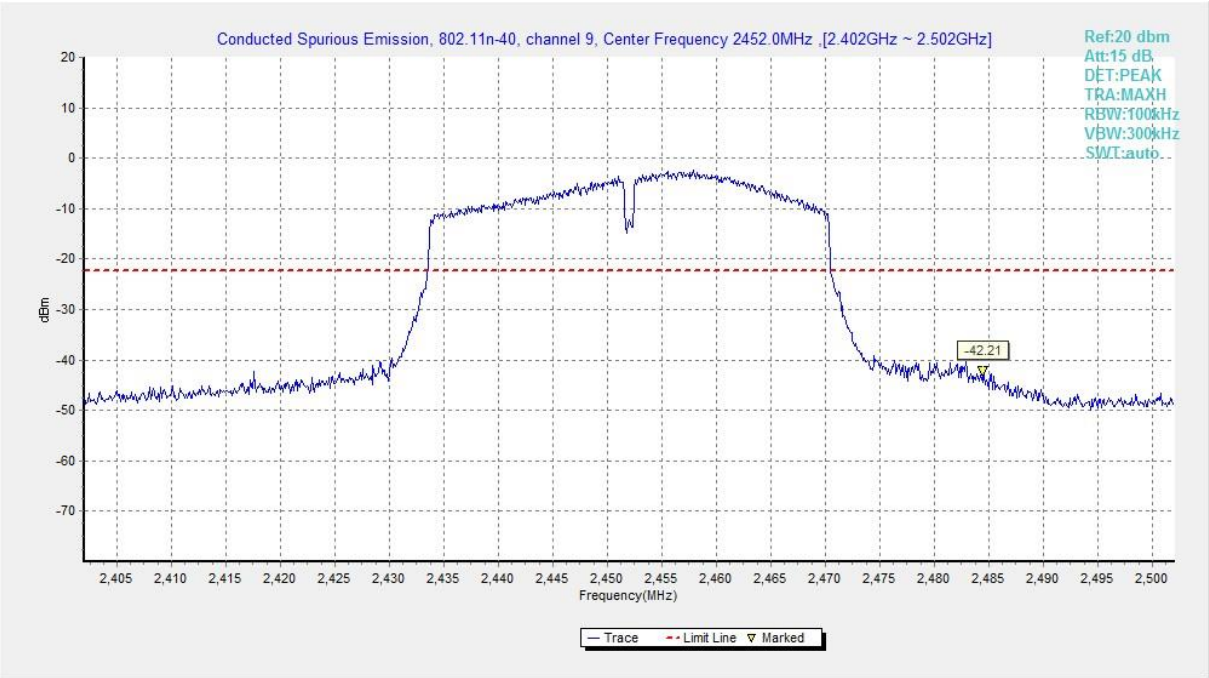

Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

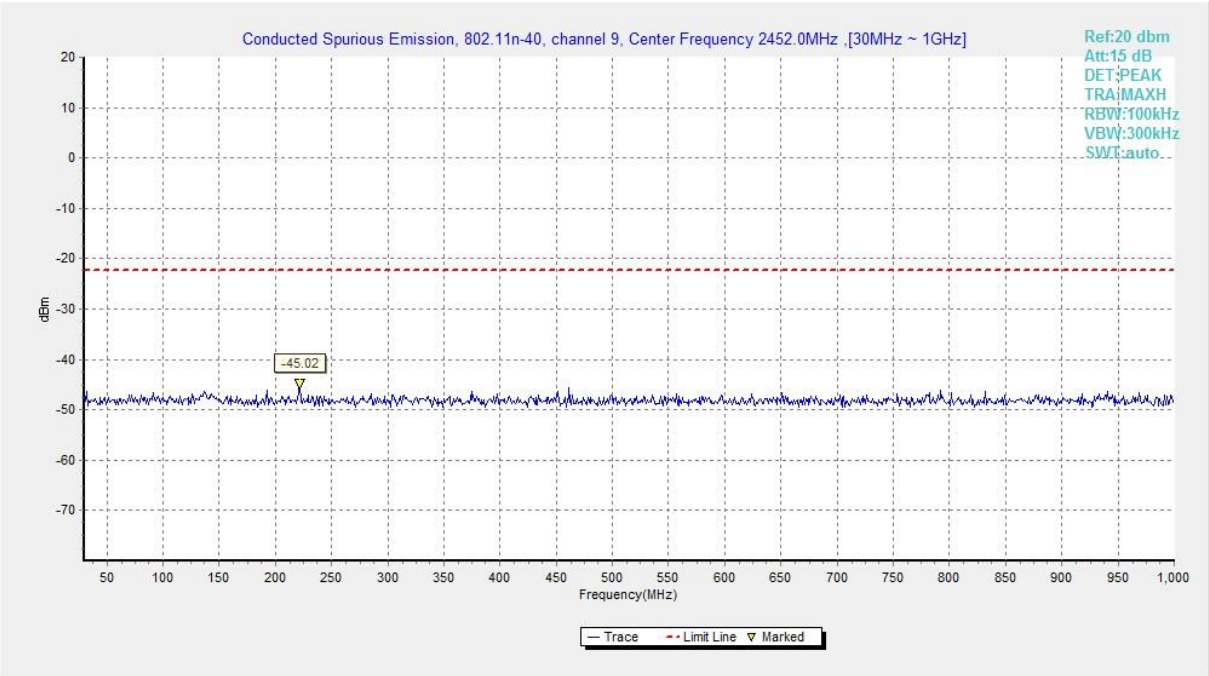

Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

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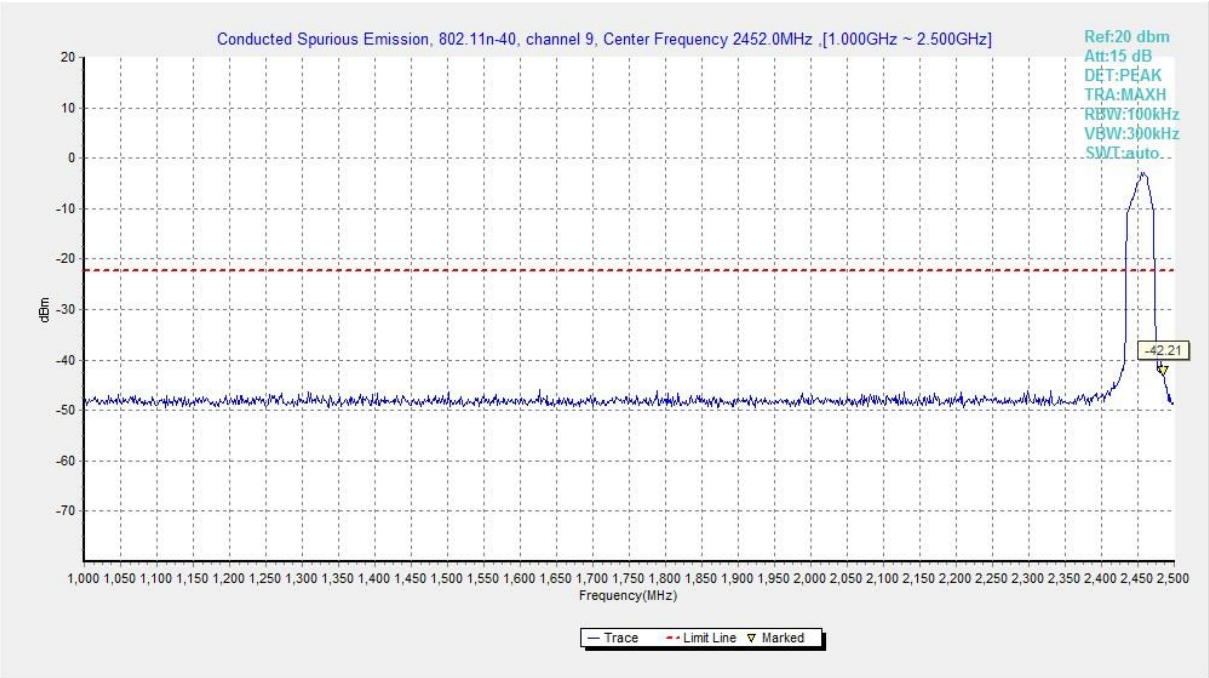

Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

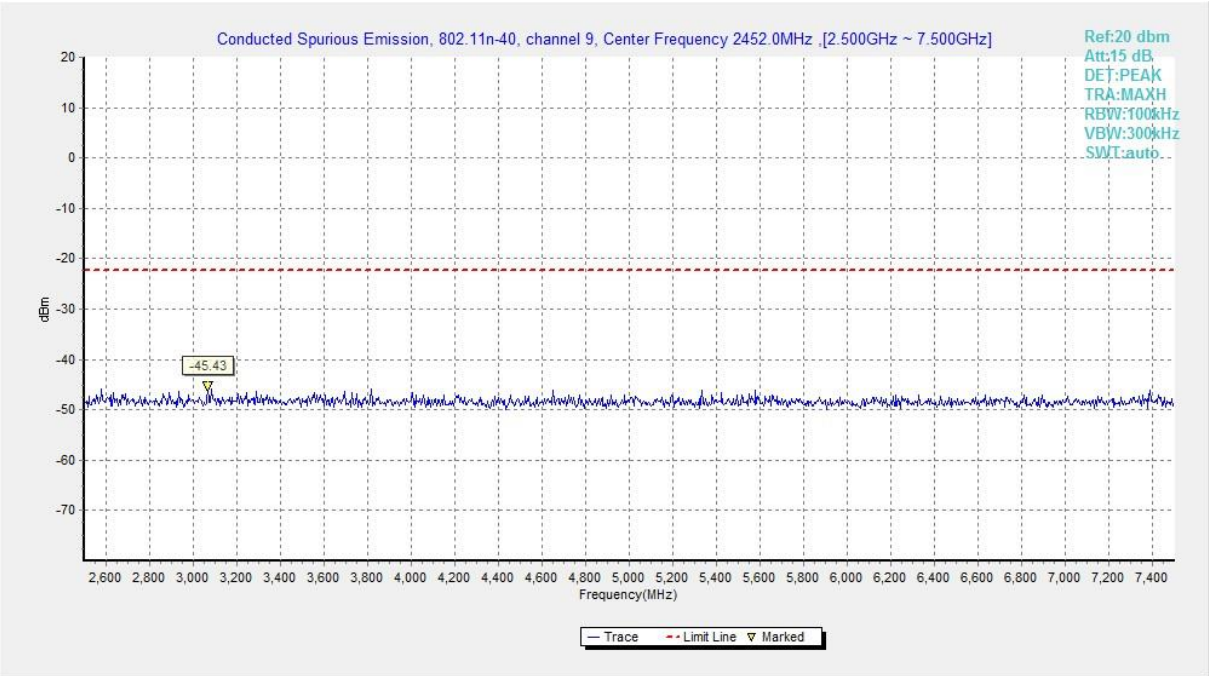

Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

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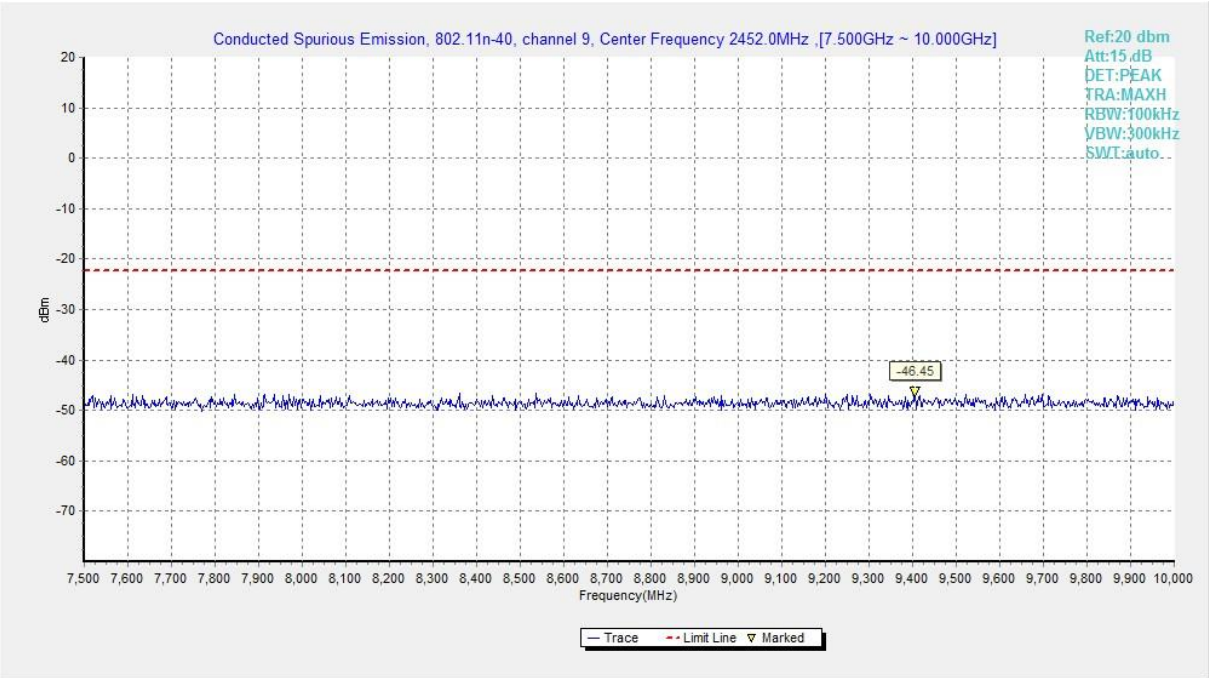

Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

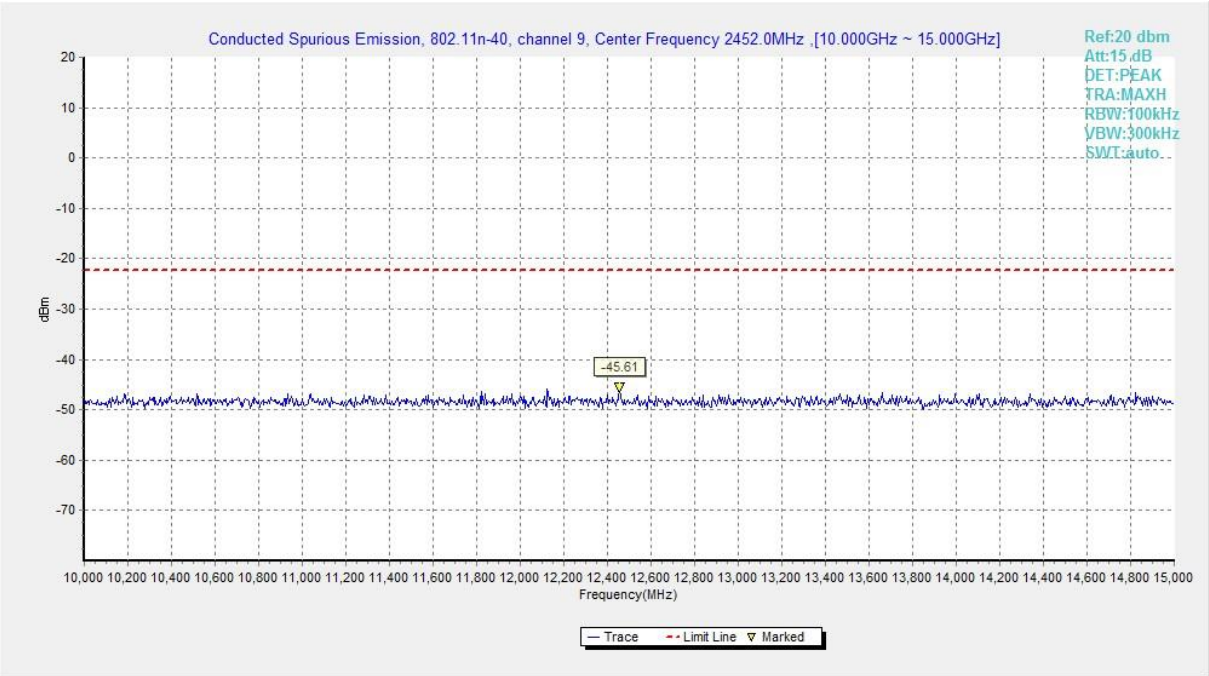

Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

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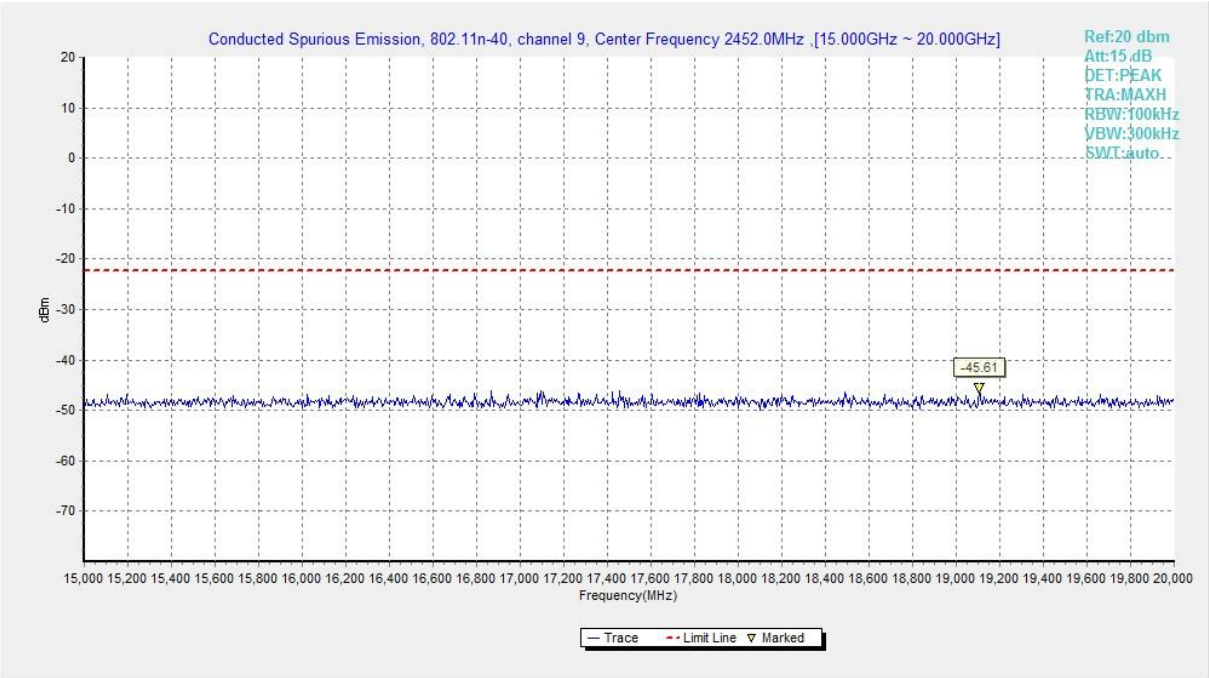

Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

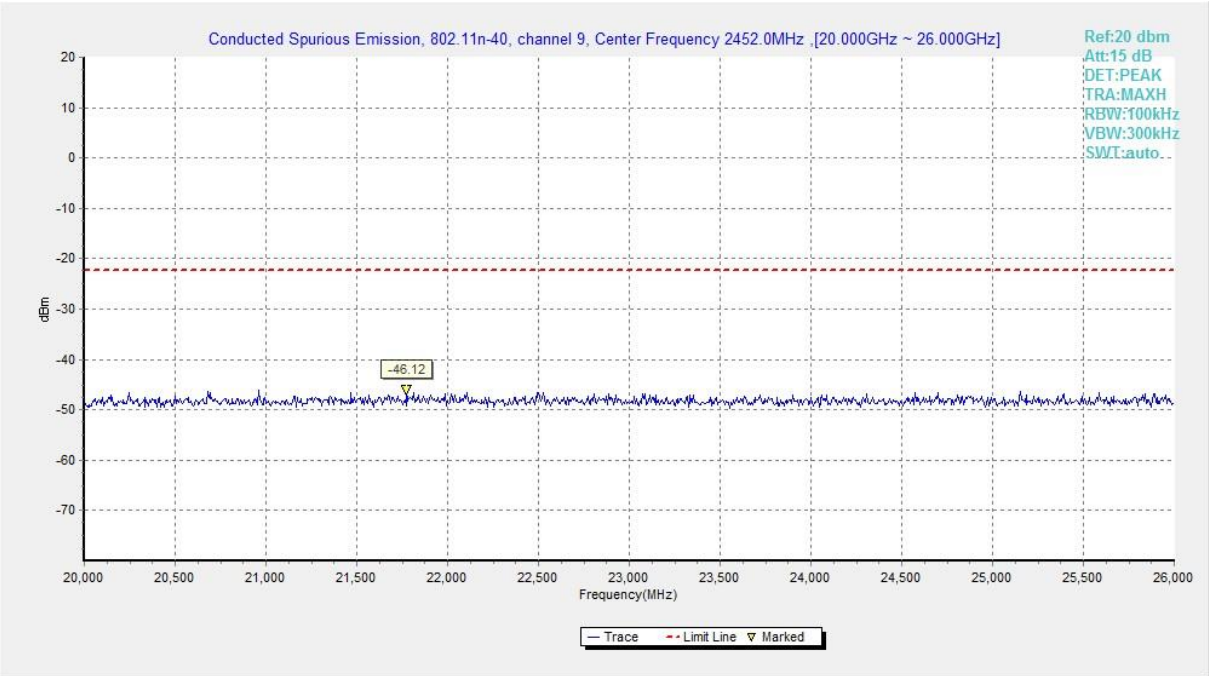

Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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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 Procedure

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: UT37a

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Measurement results for Set.1:

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.31GHz~2.43GHz---L	Fig.A.6.2.1	**P**
	11	2.45GHz~2.50GHz---H	Fig.A.6.2.2	**P**

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	1	2.31GHz~2.43GHz---L	Fig.A.6.2.3	**P**
	11	2.45GHz~2.50GHz---H	Fig.A.6.2.4	**P**

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	1	2.31GHz~2.43GHz---L	Fig.A.6.2.5	**P**
	11	2.45GHz~2.50GHz---H	Fig.A.6.2.6	**P**

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	3	2.31GHz~2.43GHz---L	Fig.A.6.2.7	**P**
	9	2.45GHz~2.50GHz---H	Fig.A.6.2.8	**P**

Conclusion: Pass

Note:

1. 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

2. The range of evaluated frequency is from 9 kHz to 26GHz. Measurement value show only up to 6 maximum emissions noted.

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Peak

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2374.526	62.21	2.9	32.0	27.37	74.0	11.8	V
2387.798	62.35	2.9	32.0	27.48	74.0	11.7	V
4824.000	39.43	-33.2	34.1	38.53	74.0	34.6	H
7236.000	41.44	-30.9	35.8	36.53	74.0	32.6	H
9648.000	42.79	-30.5	36.7	36.54	74.0	31.2	H
12060.000	44.86	-28.7	38.7	34.82	74.0	29.1	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2356.800	47.95	2.8	32.0	13.14	74.0	26.1	H
2509.600	49.20	3.0	32.1	14.13	74.0	24.8	H
4874.000	38.08	-33.3	34.2	37.23	74.0	35.9	H
7311.000	40.73	-30.8	35.8	35.72	74.0	33.3	V
9748.000	43.55	-30.3	36.9	37.03	74.0	30.4	V
12185.000	45.41	-28.1	38.8	34.70	74.0	28.6	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2493.710	62.71	2.9	32.1	27.67	74.0	11.3	H
2495.895	63.18	2.9	32.1	28.15	74.0	10.8	H
4924.000	39.60	-33.5	34.2	38.96	74.0	34.4	H
7386.000	41.11	-31.5	35.9	36.70	74.0	32.9	V
9848.000	42.01	-30.2	37.0	35.20	74.0	32.0	H
12310.000	46.38	-27.8	38.9	35.25	74.0	27.6	V

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802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.792	64.00	2.9	32.0	29.14	74.0	10.0	V
2389.395	65.20	2.9	32.0	30.34	74.0	8.8	V
4824.000	39.49	-33.2	34.1	38.60	74.0	34.5	H
7236.000	43.16	-30.9	35.8	38.25	74.0	30.8	V
9648.000	43.68	-30.5	36.7	37.43	74.0	30.3	V
12060.000	44.67	-28.7	38.7	34.63	74.0	29.3	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2350.200	50.16	2.8	32.0	15.36	74.0	23.8	V
2516.400	48.69	3.0	32.1	13.60	74.0	25.3	H
4874.000	39.05	-33.3	34.2	38.20	74.0	35.0	V
7311.000	41.44	-30.8	35.8	36.43	74.0	32.6	V
9748.000	42.14	-30.3	36.9	35.62	74.0	31.9	H
12185.000	44.46	-28.1	38.8	33.76	74.0	29.5	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.735	66.31	2.9	32.1	31.29	74.0	7.7	V
2484.495	64.97	2.9	32.1	29.95	74.0	9.0	V
4924.000	39.31	-33.5	34.2	38.67	74.0	34.7	V
7386.000	40.82	-31.5	35.9	36.42	74.0	33.2	V
9848.000	42.57	-30.2	37.0	35.75	74.0	31.4	V
12310.000	45.21	-27.8	38.9	34.08	74.0	28.8	H

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802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.400	64.79	2.9	32.0	29.93	74.0	9.2	V
2389.856	65.34	2.9	32.0	30.47	74.0	8.7	V
4824.000	39.34	-33.2	34.1	38.45	74.0	34.7	H
7236.000	41.24	-30.9	35.8	36.32	74.0	32.8	H
9648.000	43.35	-30.5	36.7	37.10	74.0	30.6	V
12060.000	44.29	-28.7	38.7	34.26	74.0	29.7	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2351.600	48.48	2.8	32.0	13.68	74.0	25.5	H
2511.400	49.01	3.0	32.1	13.93	74.0	25.0	H
4874.000	39.50	-33.3	34.2	38.65	74.0	34.5	V
7311.000	40.50	-30.8	35.8	35.49	74.0	33.5	H
9748.000	41.66	-30.3	36.9	35.14	74.0	32.3	H
12185.000	44.96	-28.1	38.8	34.25	74.0	29.0	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.595	68.26	2.9	32.1	33.24	74.0	5.7	V
2484.970	67.56	2.9	32.1	32.54	74.0	6.4	H
4924.000	40.14	-33.5	34.2	39.50	74.0	33.9	V
7386.000	40.97	-31.5	35.9	36.56	74.0	33.0	H
9848.000	41.82	-30.2	37.0	35.00	74.0	32.2	H
12310.000	45.42	-27.8	38.9	34.28	74.0	28.6	V

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802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.322	68.22	2.9	32.0	33.36	74.0	5.8	H
2388.274	68.41	2.9	32.0	33.54	74.0	5.6	V
4844.000	39.31	-33.2	34.1	38.41	74.0	34.7	H
7266.000	42.95	-30.6	35.8	37.74	74.0	31.0	H
9688.000	42.06	-30.4	36.8	35.66	74.0	31.9	H
12110.000	44.84	-28.5	38.8	34.54	74.0	29.2	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2357.400	48.48	2.8	32.0	13.66	74.0	25.5	H
2520.400	48.49	3.0	32.1	13.39	74.0	25.5	H
4874.000	39.00	-33.3	34.2	38.15	74.0	35.0	V
7311.000	41.56	-30.8	35.8	36.55	74.0	32.4	H
9748.000	42.28	-30.3	36.9	35.76	74.0	31.7	H
12185.000	45.76	-28.1	38.8	35.05	74.0	28.2	H

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.260	70.28	2.9	32.1	35.27	74.0	3.7	V
2484.370	70.43	2.9	32.1	35.41	74.0	3.6	H
4904.000	40.71	-33.4	34.2	39.98	74.0	33.3	H
7356.000	43.34	-31.2	35.8	38.67	74.0	30.7	V
9808.000	43.48	-30.3	36.9	36.87	74.0	30.5	V
12260.000	45.49	-27.9	38.9	34.51	74.0	28.5	V

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Average

802.11b

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.800	48.60	2.9	32.0	13.74	54.0	5.4	V
2389.980	48.62	2.9	32.0	13.75	54.0	5.4	V
4824.000	28.00	-33.2	34.1	27.11	54.0	26.0	H
7236.000	30.21	-30.9	35.8	25.29	54.0	23.8	V
9648.000	31.11	-30.5	36.7	24.85	54.0	22.9	H
12060.000	33.17	-28.7	38.7	23.14	54.0	20.8	H

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2401.080	50.02	2.9	32.0	15.14	54.0	4.0	V
2466.660	50.43	2.9	32.1	15.44	54.0	3.6	V
4873.500	27.82	-33.3	34.2	26.97	54.0	26.2	V
7311.000	30.19	-30.8	35.8	25.18	54.0	23.8	H
9748.500	31.19	-30.3	36.9	24.67	54.0	22.8	H
12184.500	34.21	-28.1	38.8	23.51	54.0	19.8	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.520	48.80	2.9	32.1	13.78	54.0	5.2	V
2483.580	48.77	2.9	32.1	13.75	54.0	5.2	V
4924.500	28.31	-33.5	34.2	27.67	54.0	25.7	H
7386.000	29.53	-31.5	35.9	25.13	54.0	24.5	H
9847.500	31.09	-30.2	37.0	24.28	54.0	22.9	H
12310.500	33.85	-27.8	38.9	22.72	54.0	20.1	H

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802.11g

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.720	47.24	2.9	32.0	12.37	54.0	6.8	V
2389.500	47.30	2.9	32.0	12.43	54.0	6.7	V
4824.000	28.00	-33.2	34.1	27.10	54.0	26.0	V
7236.000	30.15	-30.9	35.8	25.23	54.0	23.9	V
9648.000	31.12	-30.5	36.7	24.87	54.0	22.9	V
12060.000	33.16	-28.7	38.7	23.13	54.0	20.8	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2411.880	49.85	2.9	32.0	14.95	54.0	4.2	V
2462.880	50.21	2.9	32.1	15.23	54.0	3.8	V
4873.500	27.69	-33.3	34.2	26.84	54.0	26.3	V
7311.000	30.14	-30.8	35.8	25.13	54.0	23.9	H
9748.500	31.19	-30.3	36.9	24.67	54.0	22.8	V
12184.500	34.29	-28.1	38.8	23.58	54.0	19.7	V

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.580	48.06	2.9	32.1	13.04	54.0	5.9	V
2484.720	48.05	2.9	32.1	13.03	54.0	6.0	V
4924.500	28.39	-33.5	34.2	27.75	54.0	25.6	V
7386.000	29.56	-31.5	35.9	25.16	54.0	24.4	H
9847.500	31.16	-30.2	37.0	24.35	54.0	22.8	H
12310.500	33.94	-27.8	38.9	22.81	54.0	20.1	H

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802.11n-HT20

Ch1

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2389.260	47.73	2.9	32.0	12.87	54.0	6.3	V
2389.860	47.79	2.9	32.0	12.92	54.0	6.2	V
4824.000	28.18	-33.2	34.1	27.29	54.0	25.8	V
7236.000	30.24	-30.9	35.8	25.32	54.0	23.8	V
9648.000	31.21	-30.5	36.7	24.96	54.0	22.8	V
12060.000	33.36	-28.7	38.7	23.33	54.0	20.6	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2403.780	50.79	2.9	32.0	15.91	54.0	3.2	V
2469.900	50.29	2.9	32.1	15.29	54.0	3.7	V
4873.500	27.85	-33.3	34.2	27.00	54.0	26.1	V
7311.000	30.24	-30.8	35.8	25.23	54.0	23.8	V
9748.500	31.34	-30.3	36.9	24.82	54.0	22.7	H
12184.500	34.33	-28.1	38.8	23.63	54.0	19.7	H

Ch11

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.760	47.88	2.9	32.1	12.86	54.0	6.1	V
2484.540	47.81	2.9	32.1	12.79	54.0	6.2	V
4924.500	28.40	-33.5	34.2	27.76	54.0	25.6	V
7386.000	29.65	-31.5	35.9	25.25	54.0	24.4	H
9847.500	31.26	-30.2	37.0	24.45	54.0	22.7	V
12310.500	34.06	-27.8	38.9	22.92	54.0	19.9	H

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802.11n-HT40

Ch3

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.840	48.02	2.9	32.0	13.16	54.0	6.0	V
2389.560	48.12	2.9	32.0	13.26	54.0	5.9	V
4843.500	27.89	-33.2	34.1	26.98	54.0	26.1	V
7266.000	30.88	-30.6	35.8	25.67	54.0	23.1	H
9688.500	31.20	-30.4	36.8	24.80	54.0	22.8	H
12109.500	33.97	-28.5	38.8	23.67	54.0	20.0	V

Ch6

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2382.120	49.48	2.9	32.0	14.63	54.0	4.5	V
2492.640	48.76	2.9	32.1	13.73	54.0	5.2	V
4873.500	27.88	-33.3	34.2	27.02	54.0	26.1	H
7311.000	30.19	-30.8	35.8	25.18	54.0	23.8	V
9748.500	31.24	-30.3	36.9	24.72	54.0	22.8	V
12184.500	34.35	-28.1	38.8	23.65	54.0	19.6	V

Ch9

Frequency (MHz)	Measurement Result (dBuV/m)	Cable Loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBuV)	Limit (dBuV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.880	48.60	2.9	32.1	13.59	54.0	5.4	V
2484.480	48.65	2.9	32.1	13.63	54.0	5.4	V
4903.500	28.15	-33.4	34.2	27.41	54.0	25.8	H
7356.000	30.11	-31.2	35.8	25.44	54.0	23.9	V
9808.500	30.82	-30.3	36.9	24.21	54.0	23.2	H
12259.500	33.96	-27.9	38.9	22.98	54.0	20.0	V

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Test graphs as below:

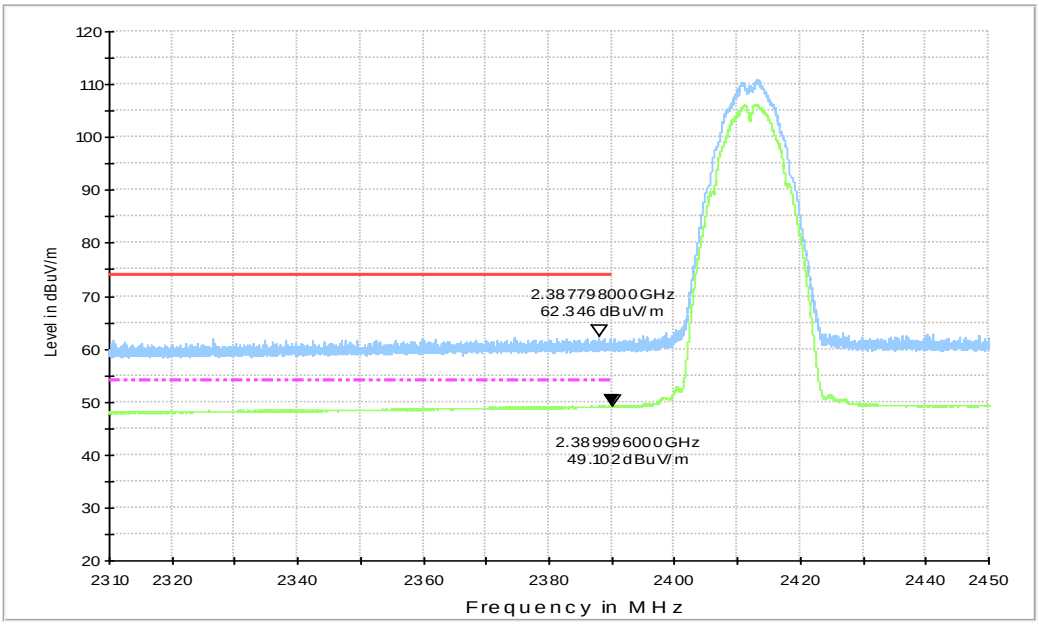

Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.31 GHz – 2.45GHz

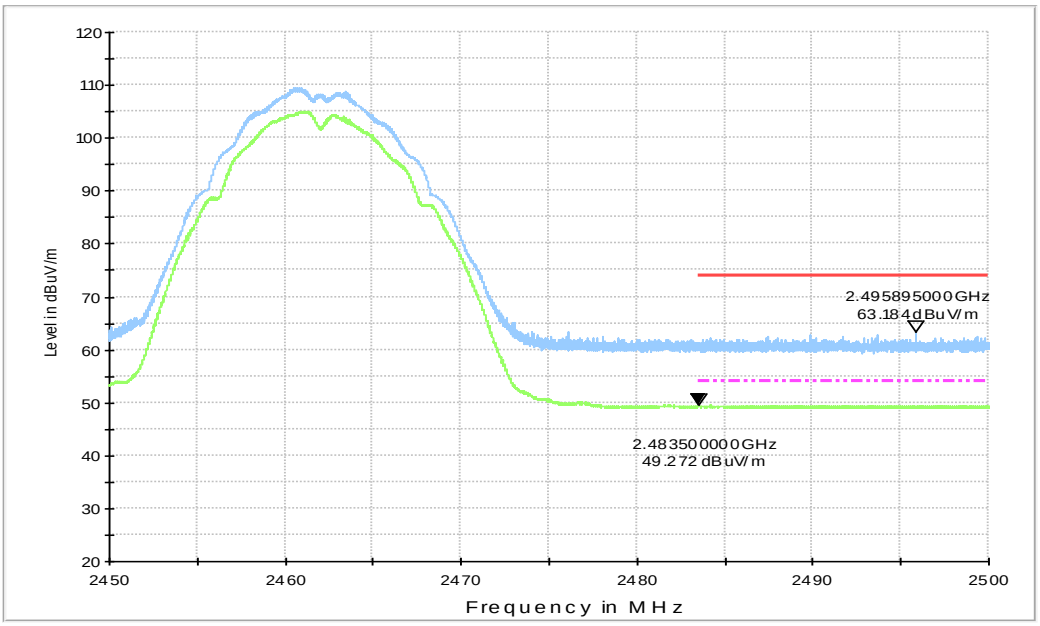

Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

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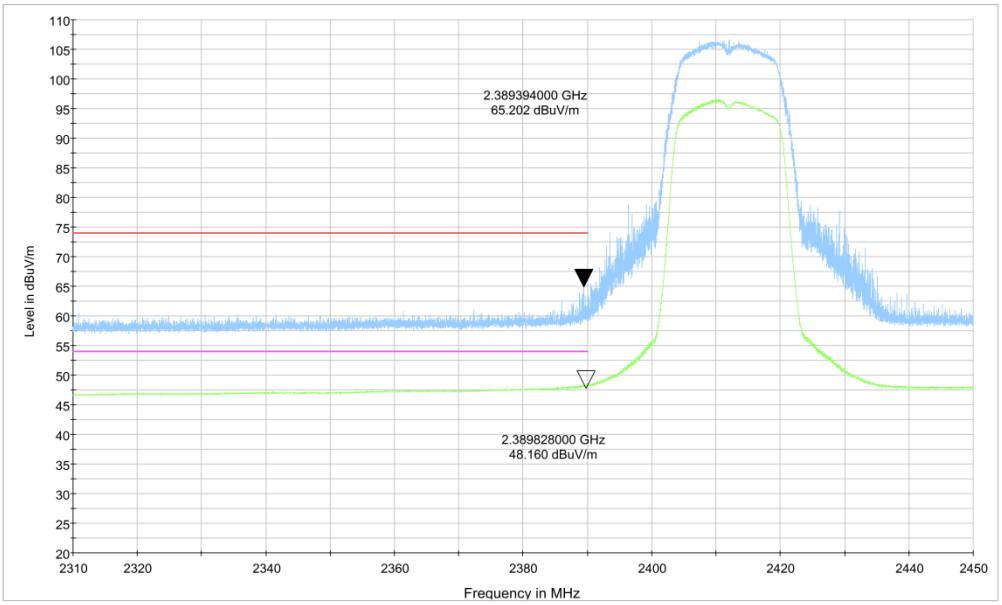

Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.31 GHz - 2.45GHz

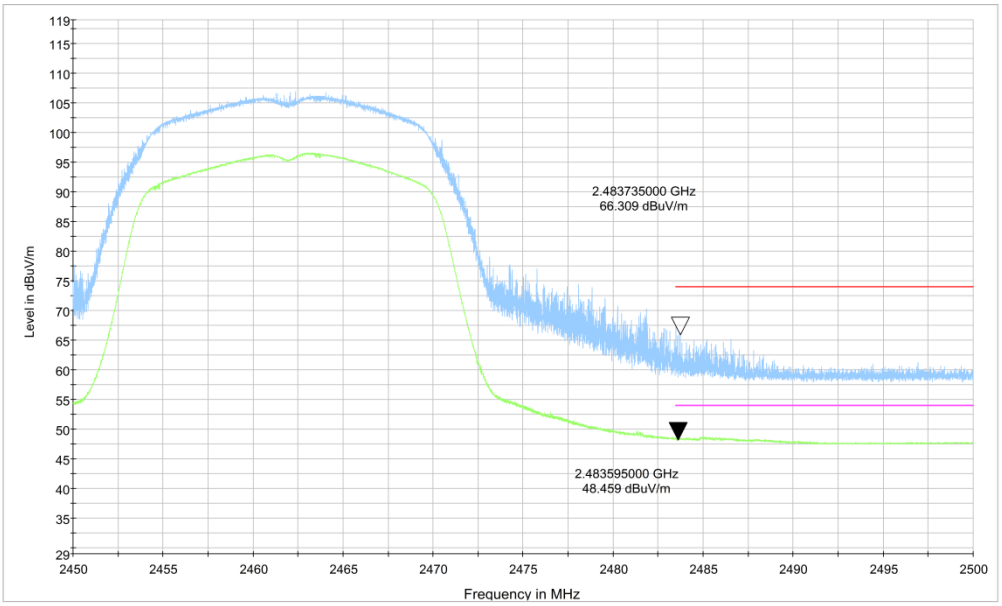

Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

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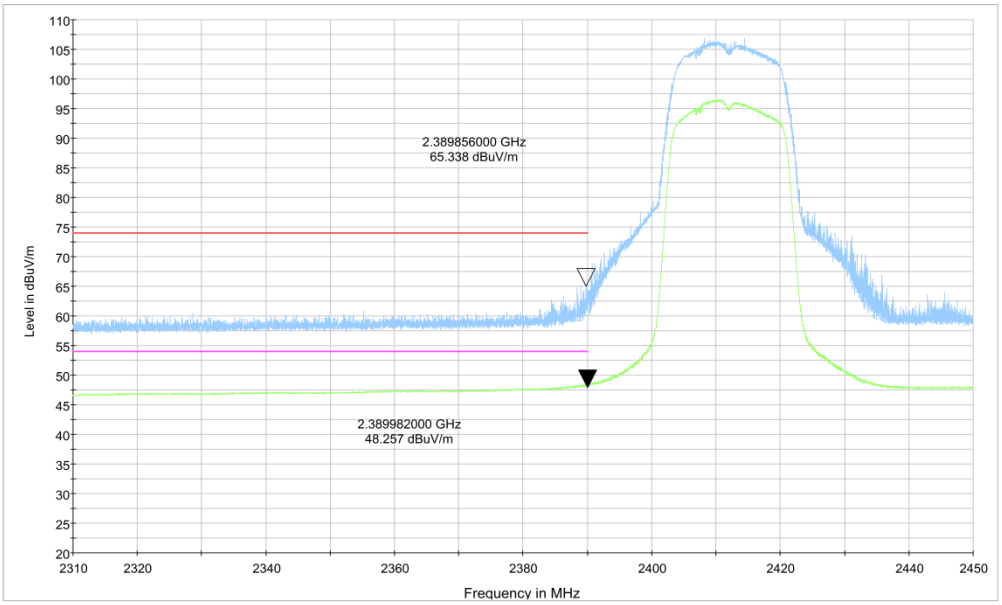

Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.31 GHz - 2.45GHz

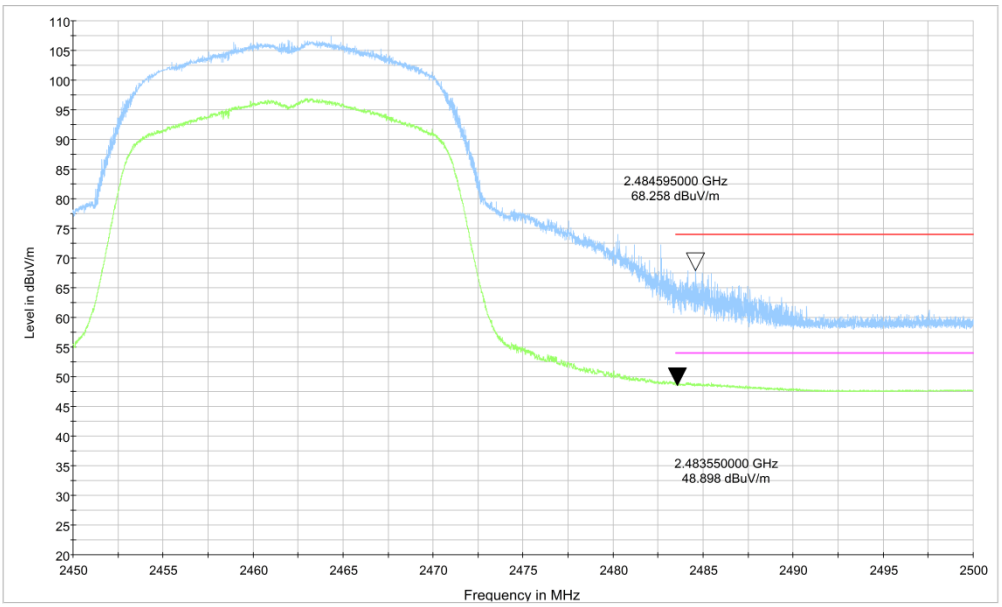

Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

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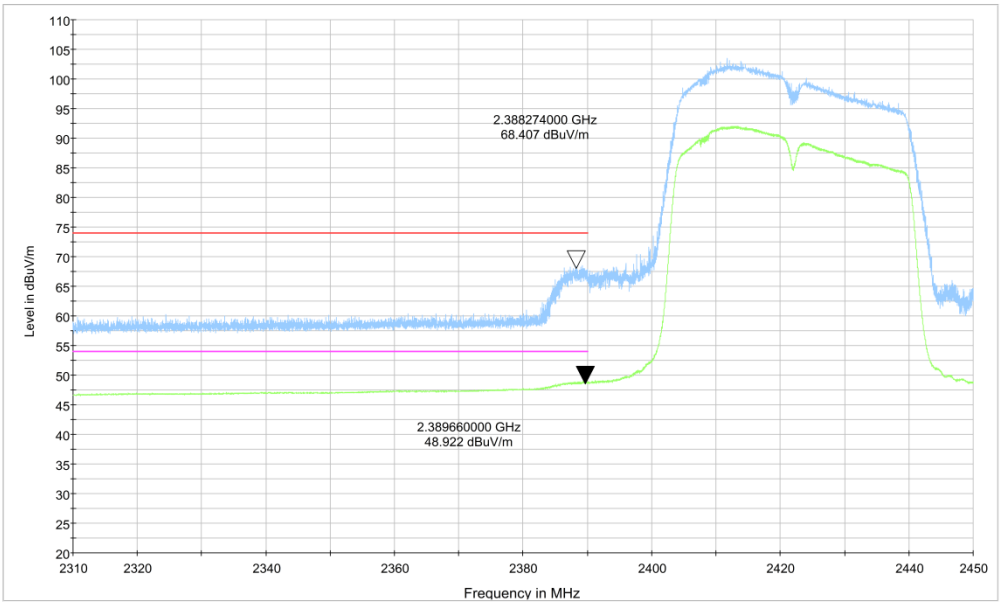

Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.31 GHz - 2.45GHz

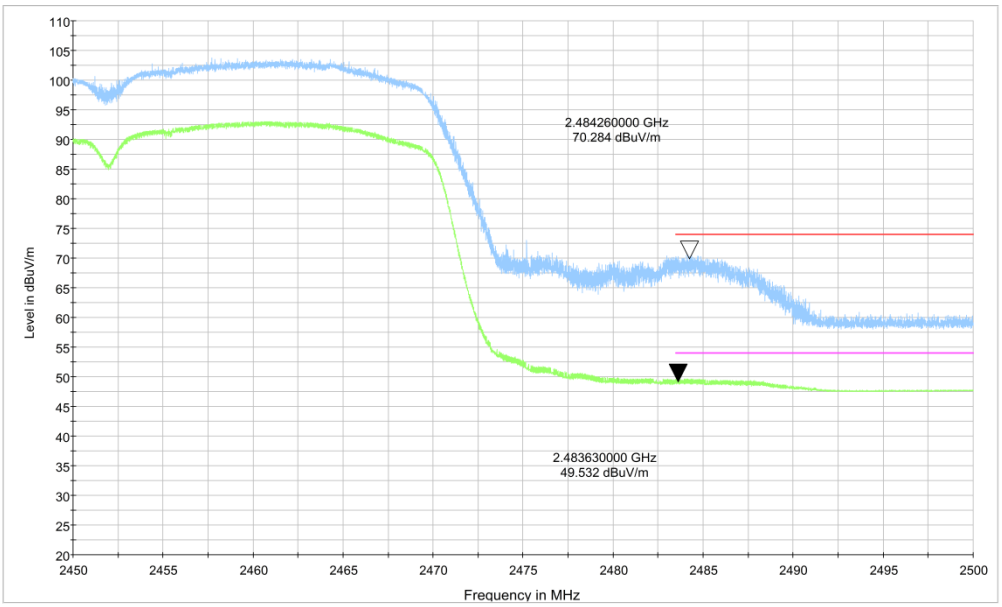

Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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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

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Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	66 to 56	Fig.A.7.1	Fig.A.7.2	**P**
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	56 to 46	Fig.A.7.1	Fig.A.7.2	**P**
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

Conclusion: Pass

Test graphs as below:

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Result for Traffic:

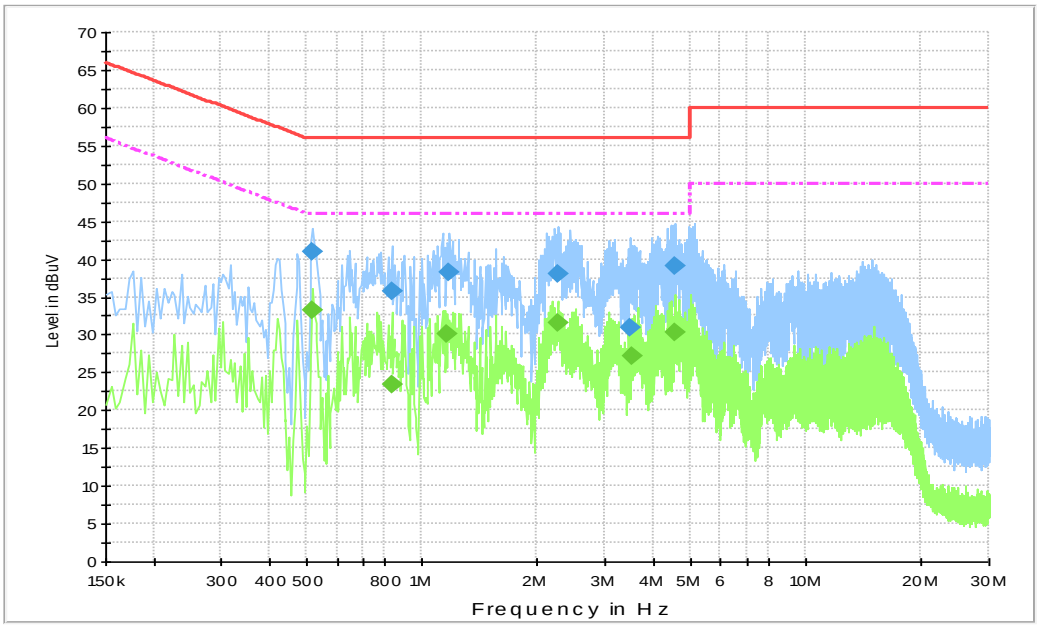

Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.519000	41.0	1000.	9.000	L1	19.8	15.0	56.0
0.834000	35.8	1000.	9.000	L1	19.7	20.2	56.0
1.180500	38.2	1000.	9.000	L1	19.6	17.8	56.0
2.265000	38.1	1000.	9.000	L1	19.6	17.9	56.0
3.480000	31.0	1000.	9.000	N	19.6	25.0	56.0
4.551000	39.2	1000.	9.000	L1	19.6	16.8	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.519000	33.2	1000.0	9.000	L1	19.8	12.8	46.0
0.834000	23.4	1000.0	9.000	N	19.7	22.6	46.0
1.167000	30.0	1000.0	9.000	L1	19.7	16.0	46.0
2.251500	31.6	1000.0	9.000	L1	19.6	14.4	46.0
3.511500	27.2	1000.0	9.000	L1	19.6	18.8	46.0
4.551000	30.2	1000.0	9.000	L1	19.6	15.8	46.0

Note: The measurement results showed here are worst cases of the combinations of different chargers.

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Result for Idle:

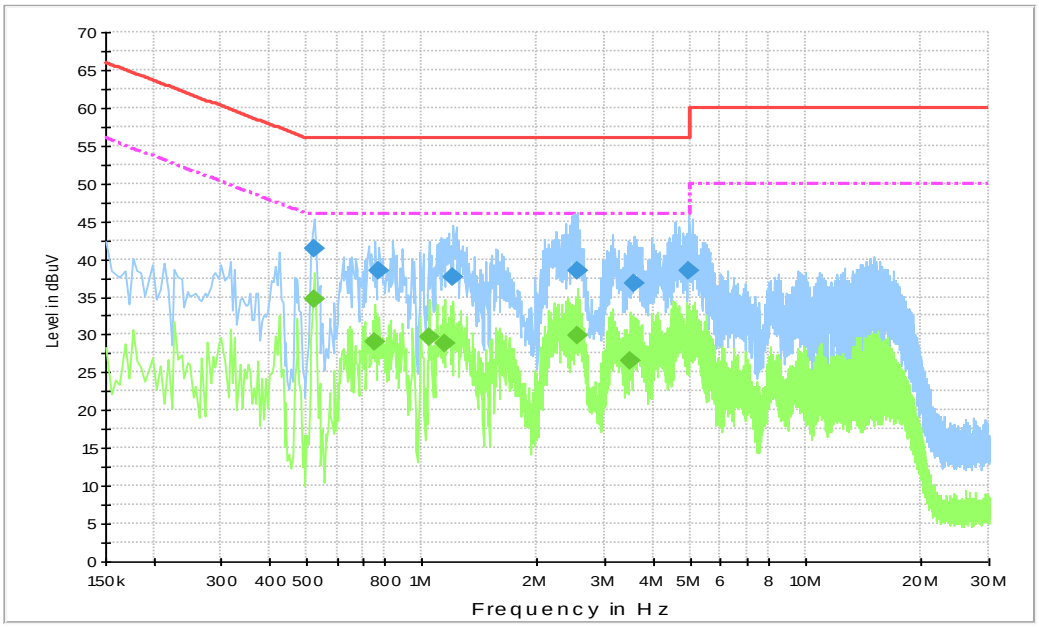

Fig.A.7.2 AC Powerline Conducted Emission-Idle

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)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.523500	41.4	1000.	9.000	L1	19.8	14.6	56.0
0.775500	38.5	1000.	9.000	L1	19.7	17.5	56.0
1.207500	37.7	1000.	9.000	L1	19.6	18.3	56.0
2.539500	38.6	1000.	9.000	L1	19.6	17.5	56.0
3.583500	36.8	1000.	9.000	L1	19.6	19.2	56.0
4.965000	38.4	1000.	9.000	L1	19.7	17.6	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.523500	34.7	1000.0	9.000	L1	19.8	11.3	46.0
0.757500	29.1	1000.0	9.000	L1	19.7	16.9	46.0
1.041000	29.7	1000.0	9.000	L1	19.6	16.3	46.0
1.149000	28.9	1000.0	9.000	L1	19.7	17.1	46.0
2.539500	29.8	1000.0	9.000	L1	19.6	16.2	46.0
3.489000	26.6	1000.0	9.000	L1	19.6	19.4	46.0

Note2: The measurement results showed here are worst cases of the combinations of different chargers.

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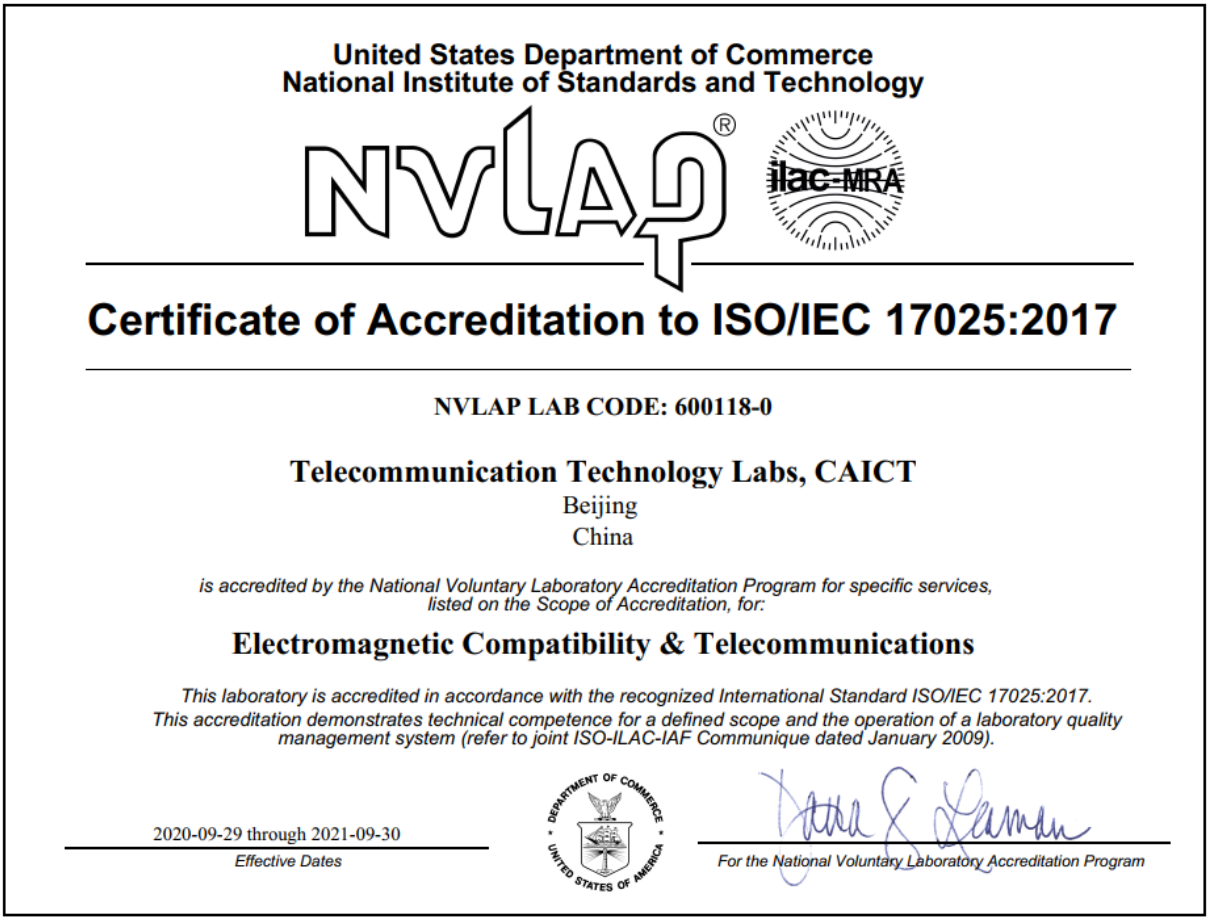
ANNEX B: EUT parameters

Disclaimer: The worse case provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.

ANNEX C: Accreditation Certificate



United States Department of Commerce
National Institute of Standards and Technology

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Certificate of Accreditation to ISO/IEC 17025:2017

NVLAP LAB CODE: 600118-0

Telecommunication Technology Labs, CAICT
Beijing
China

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Electromagnetic Compatibility & Telecommunications

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2020-09-29 through 2021-09-30
Effective Dates

DEPARTMENT OF COMMERCE · UNITED STATES OF AMERICA

For the National Voluntary Laboratory Accreditation Program

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

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