

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

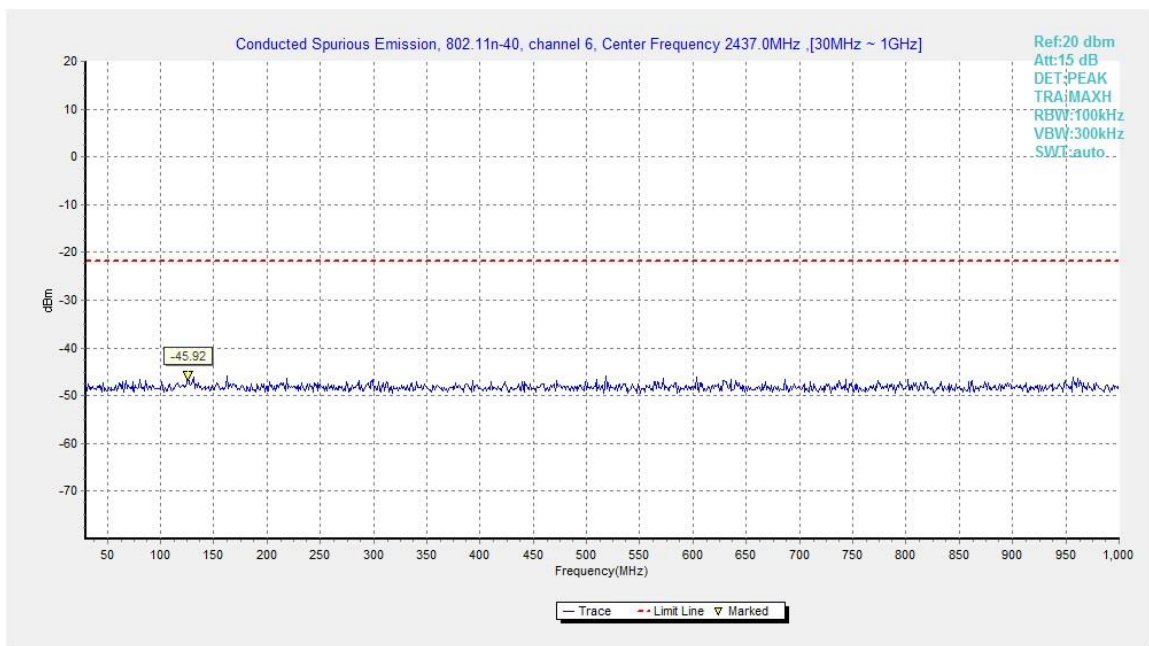


Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

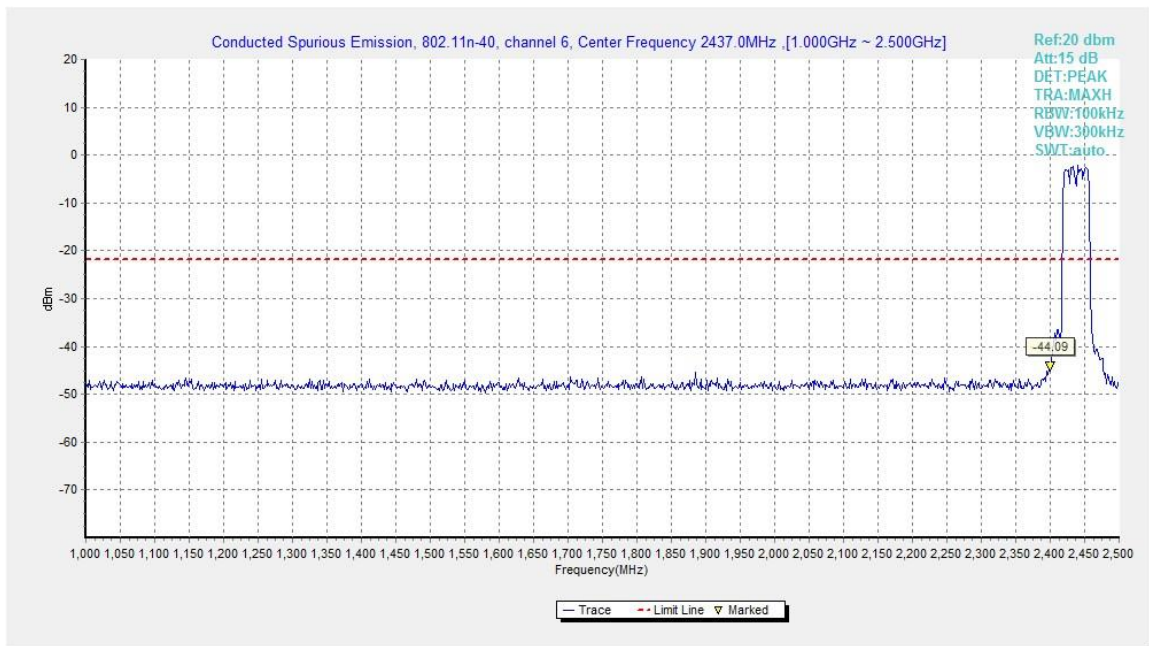


Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

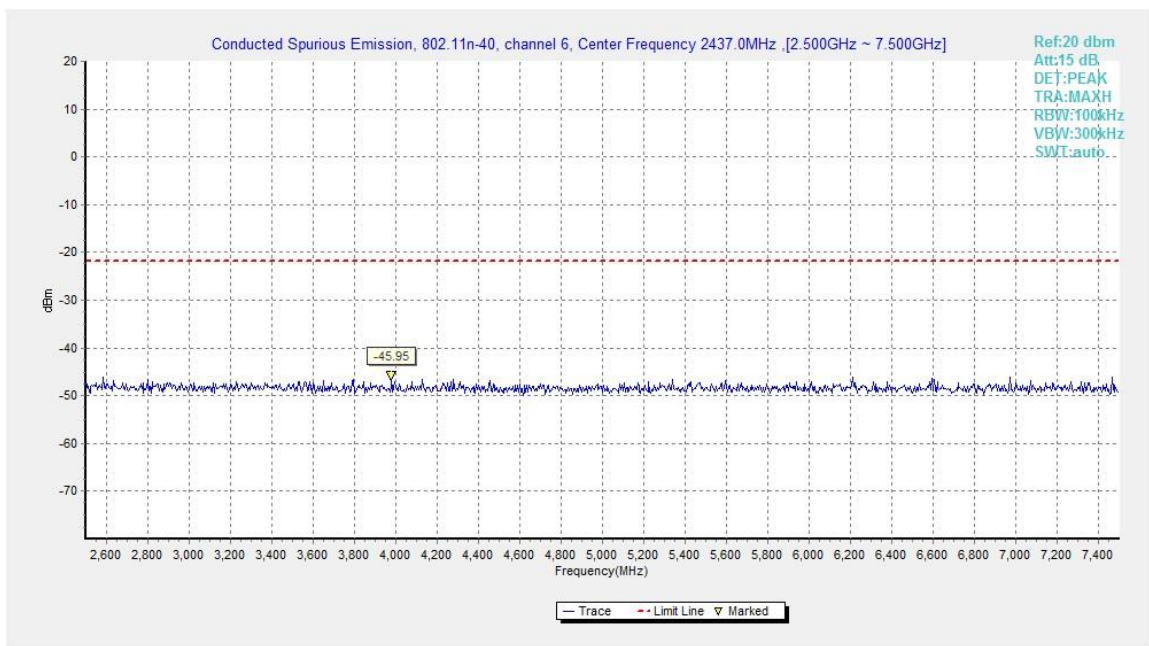


Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

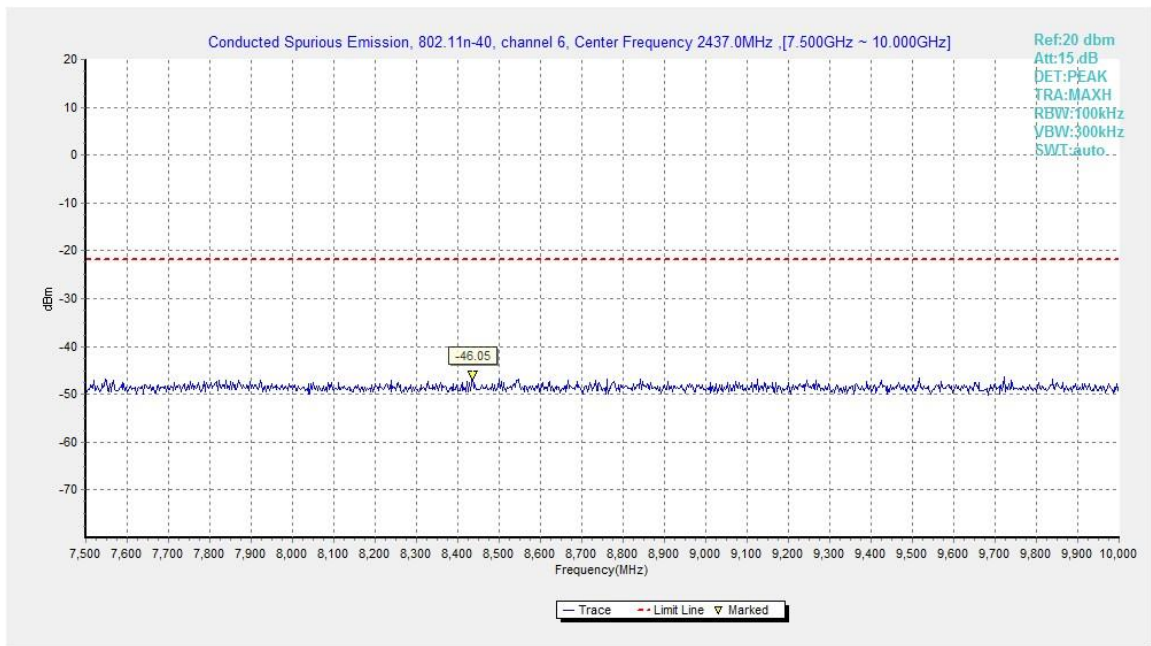


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

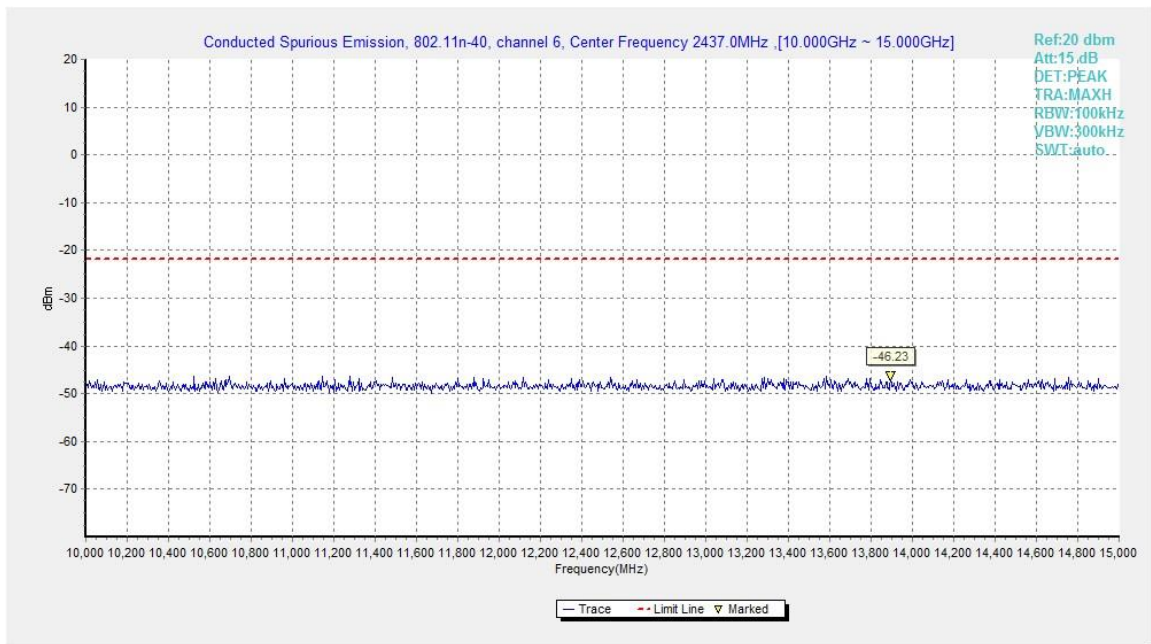


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

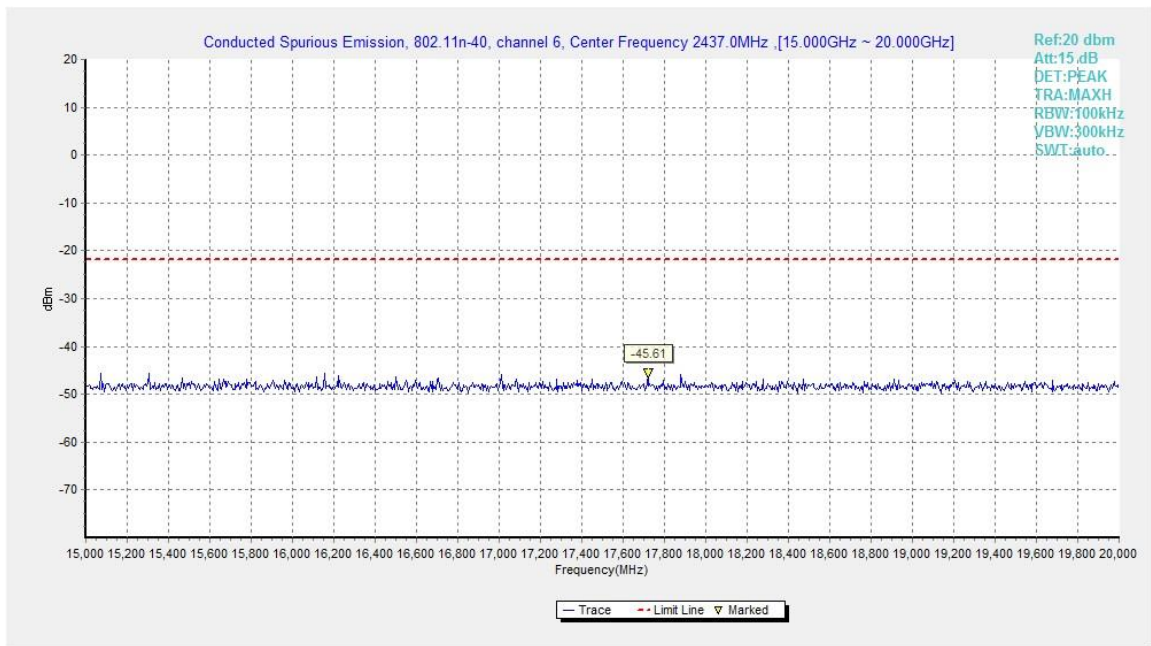


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

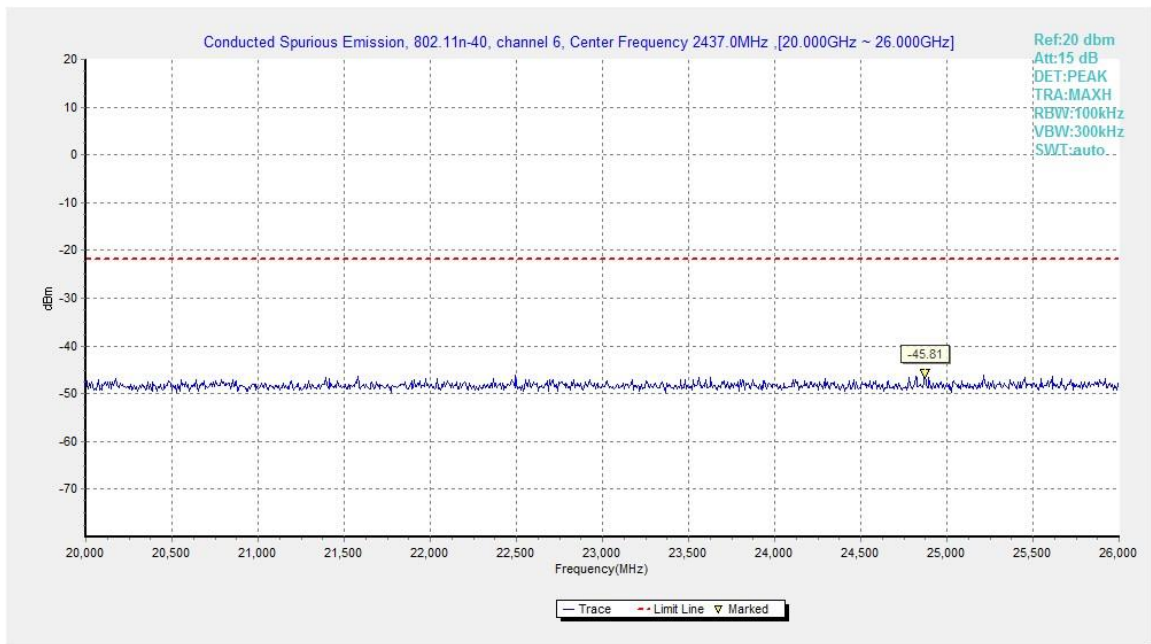


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

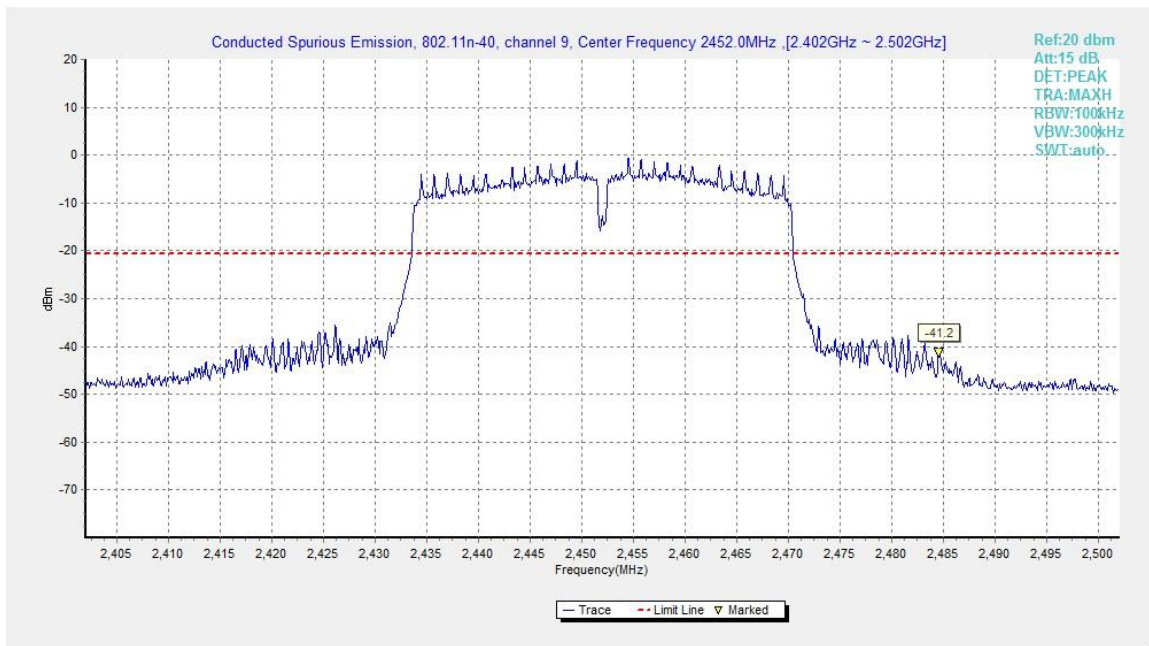


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

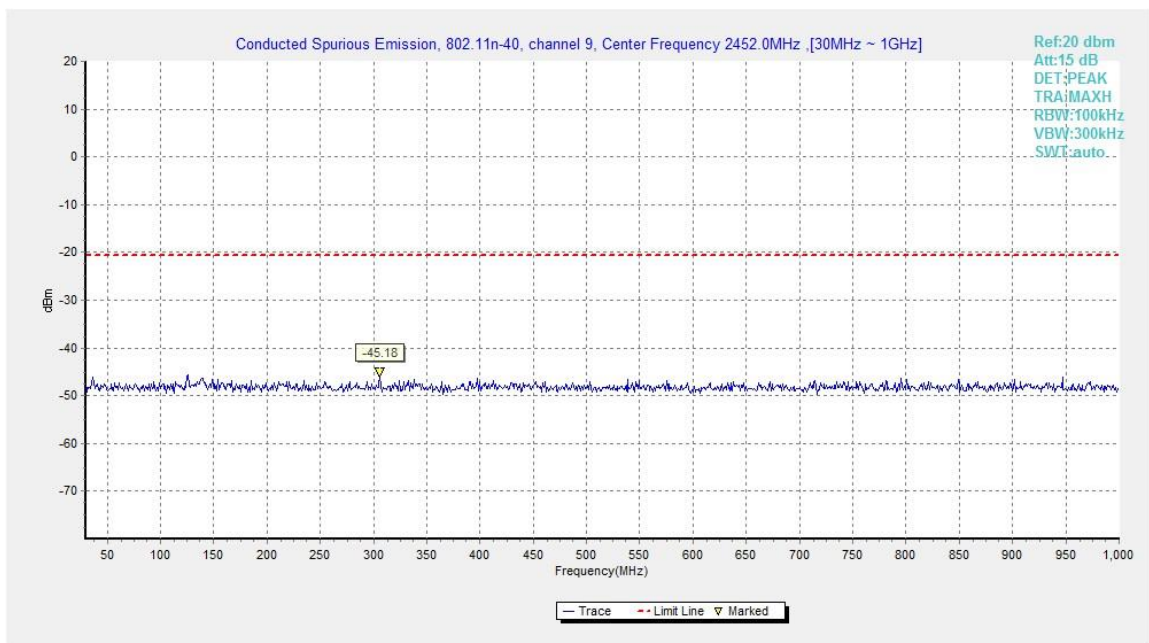


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

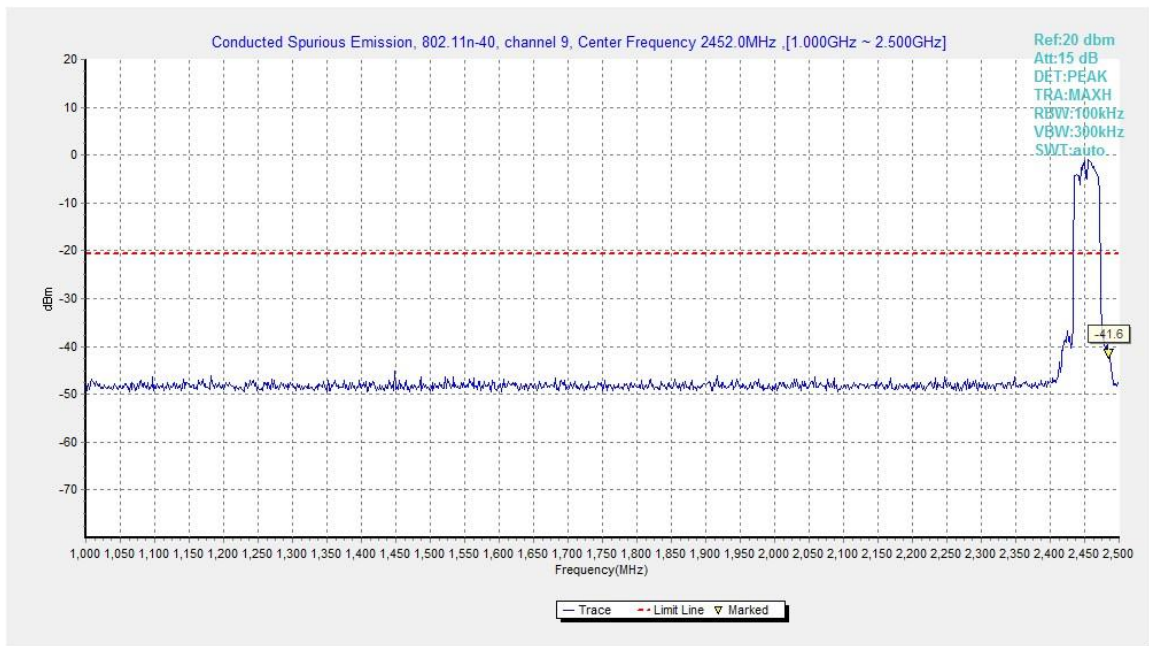


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

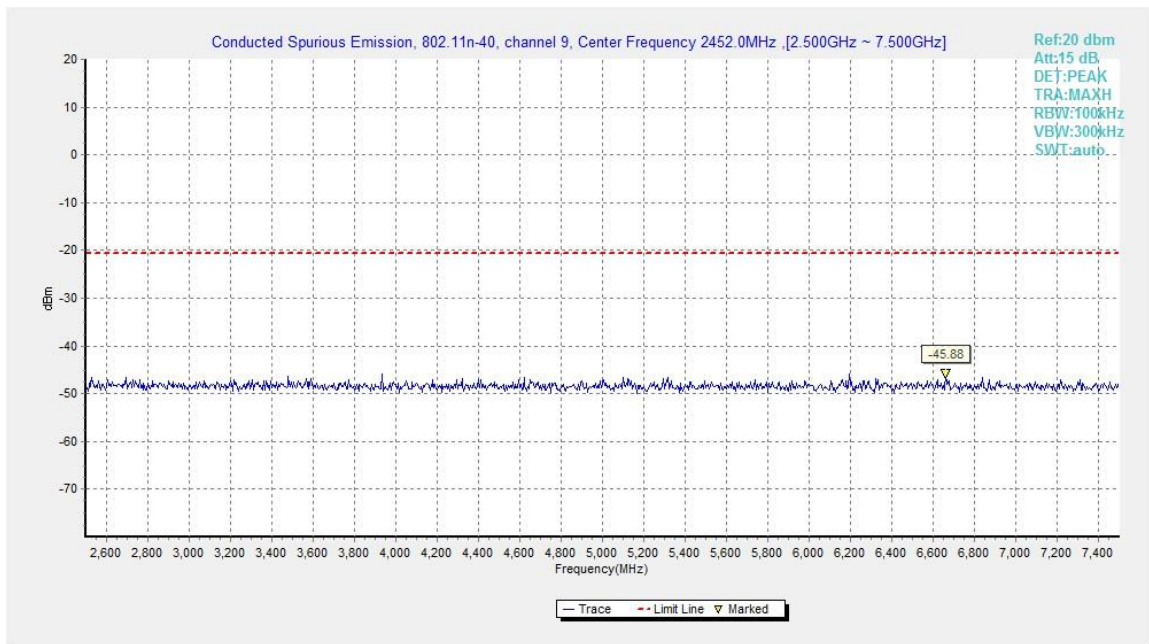


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

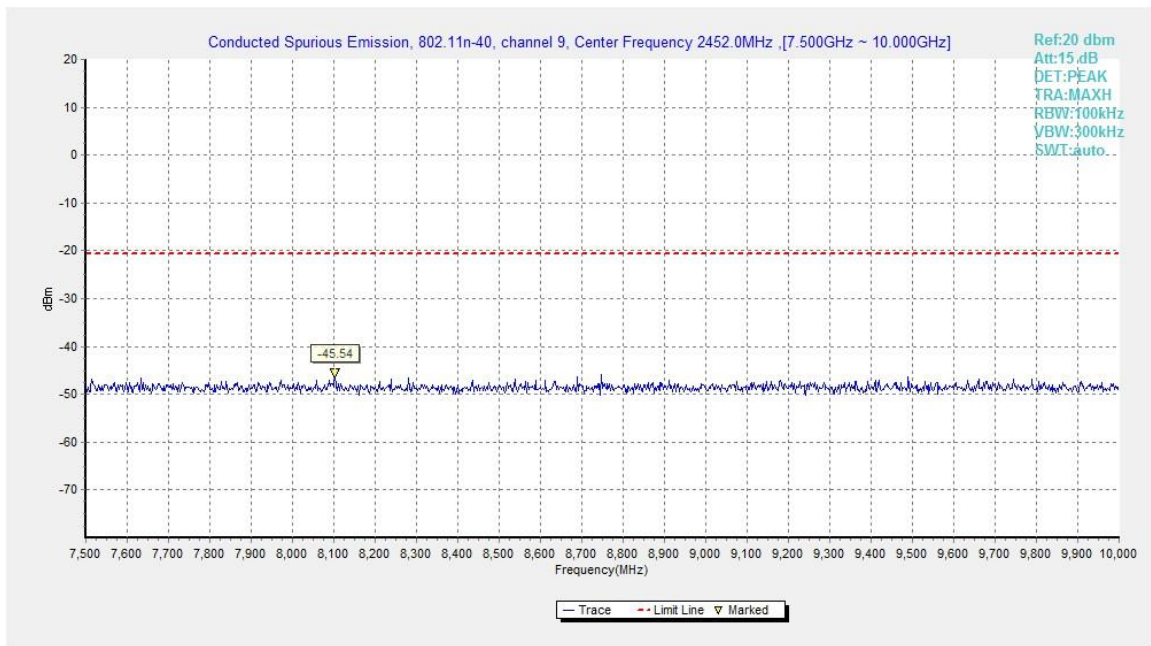


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

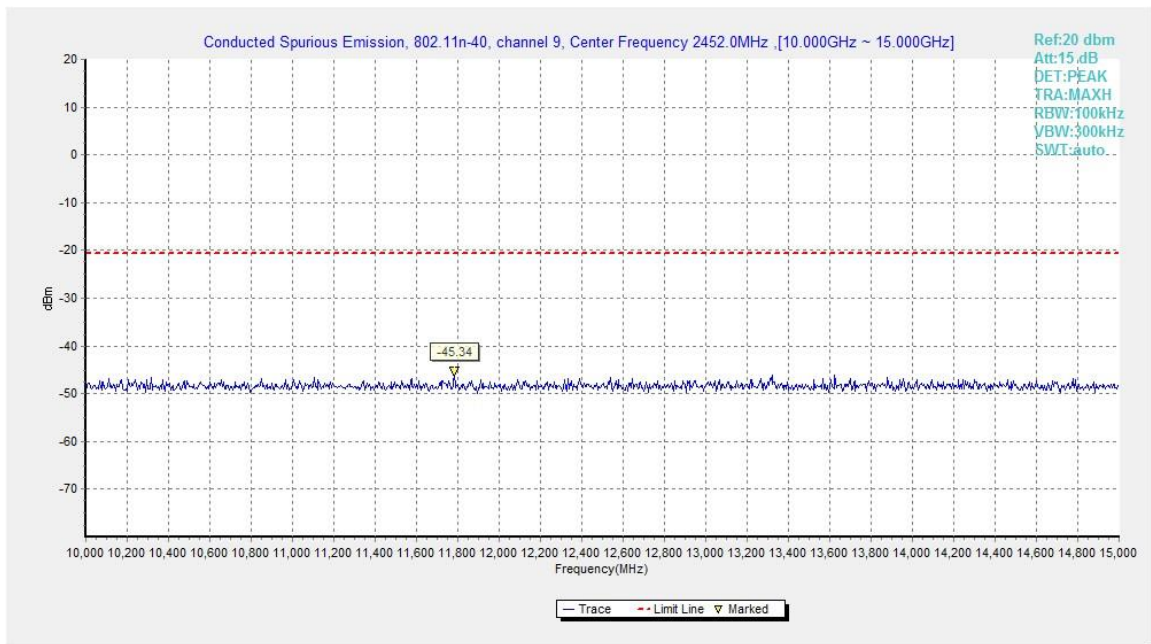


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

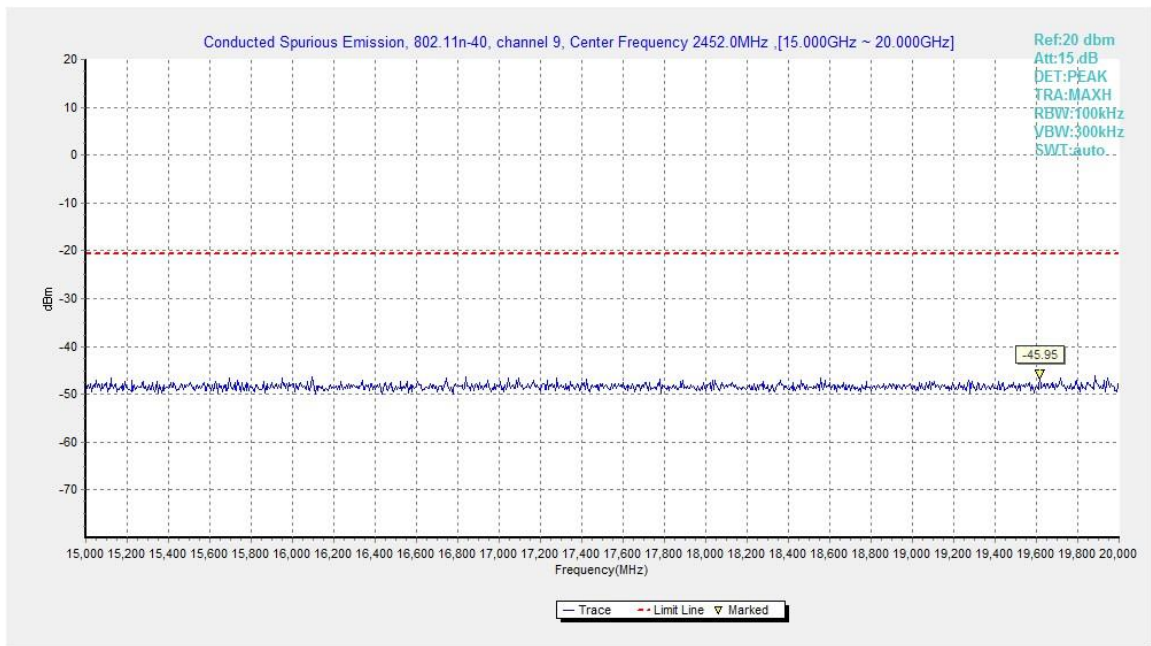


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

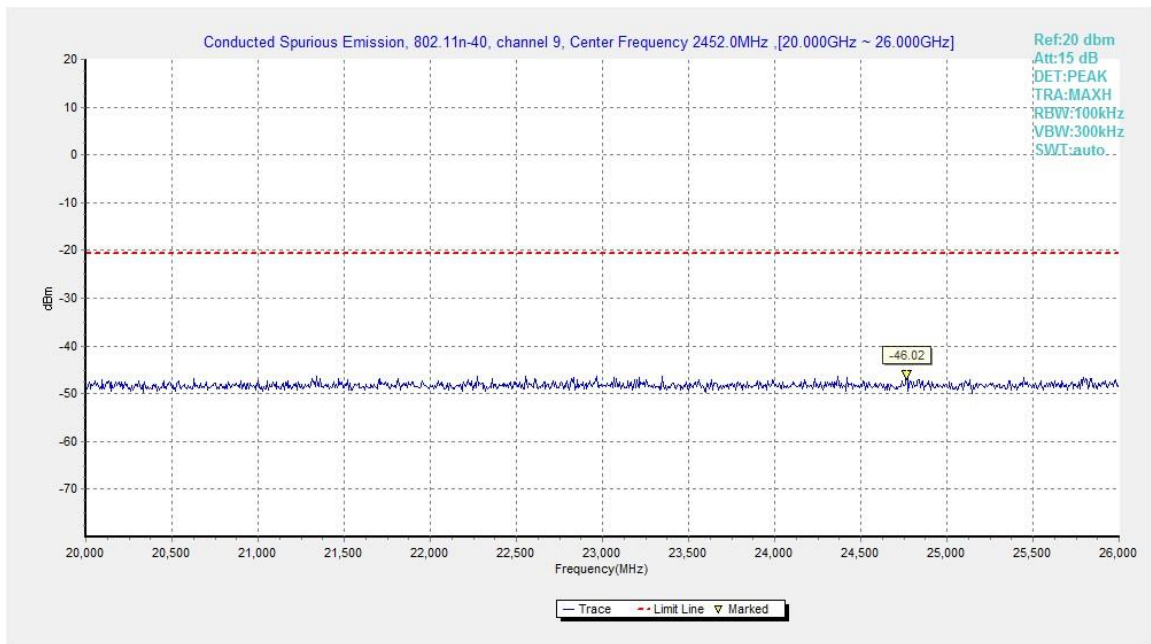


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

EUT ID: EUT1

Measurement Results:

802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.43GHz	Fig.A.6.2.1	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.2	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.3	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.4	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (20MHz)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.5	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.6	P
802.11n (40MHz)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.7	P
	Power	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:

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

PEAK

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P_{Mea} (dBuV/m)	Polarization
2380.728	59.60	2.9	32.1	24.69	H
2385.824	59.30	2.9	32.0	24.42	H
4824.000	52.98	-32.8	34.5	51.23	V
7236.000	44.07	-31.7	36.1	39.70	V
9648.000	47.06	-30.4	37.0	40.38	V
12060.000	48.12	-29.6	39.3	38.44	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2382.000	51.10	-25.4	32.0	44.51	V
2500.400	50.80	-26.3	32.3	44.77	V
4874.000	53.72	-32.7	34.5	51.93	V
7311.000	42.40	-31.9	36.1	38.23	H
9748.000	45.52	-30.7	37.2	38.99	H
12185.000	48.66	-29.4	39.2	38.86	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.880	60.60	2.9	32.8	24.92	H
2487.940	60.10	2.9	32.6	24.53	H
4924.000	49.48	-33.1	34.5	48.06	H
7386.000	42.70	-31.8	36.0	38.49	H
9848.000	45.80	-30.1	37.3	38.54	H
12310.000	47.58	-29.7	39.2	38.10	V

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2383.976	60.00	2.9	32.0	25.11	H
2389.912	59.70	2.9	32.0	24.85	H
4824.000	53.90	-32.8	34.5	52.15	V
7236.000	43.29	-31.7	36.1	38.92	H
9648.000	46.94	-30.4	37.0	40.25	H
12060.000	47.50	-29.6	39.3	37.83	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2362.600	50.20	-27.4	31.9	45.75	H
2497.200	51.10	-25.5	32.4	44.26	H
4874.000	51.53	-32.7	34.5	49.74	V
7311.000	42.35	-31.9	36.1	38.18	H
9748.000	45.51	-30.7	37.2	38.98	H
12185.000	48.63	-29.4	39.2	38.84	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.670	60.20	2.9	32.8	24.51	H
2486.580	59.80	2.9	32.7	24.19	H
4924.000	49.20	-33.1	34.5	47.79	V
7386.000	43.97	-31.8	36.0	39.77	H
9848.000	45.39	-30.1	37.3	38.14	H
12310.000	48.41	-29.7	39.2	38.94	H

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.568	59.30	2.9	32.0	24.44	H
2389.884	60.50	2.9	32.0	25.65	H
4824.000	48.46	-32.8	34.5	46.71	V
7236.000	42.91	-31.7	36.1	38.55	H
9648.000	46.41	-30.4	37.0	39.72	H
12060.000	47.49	-29.6	39.3	37.82	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2383.400	51.10	-24.8	32.0	43.92	H
2495.000	52.40	-24.0	32.4	43.98	H
4874.000	48.15	-32.7	34.5	46.36	V
7311.000	43.28	-31.9	36.1	39.12	H
9748.000	45.64	-30.7	37.2	39.11	V
12185.000	48.68	-29.4	39.2	38.88	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.740	62.30	2.9	32.8	26.61	H
2484.030	60.60	2.9	32.7	24.92	V
4924.000	46.41	-33.1	34.5	44.99	H
7386.000	42.36	-31.8	36.0	38.15	H
9848.000	46.43	-30.1	37.3	39.18	V
12310.000	47.04	-29.7	39.2	37.57	H

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.198	65.80	2.9	32.0	30.95	H
2389.506	65.80	2.9	32.0	30.95	H
4827.000	45.71	-32.7	34.5	43.95	V
7266.000	40.57	-31.9	36.1	36.34	V
9687.750	43.31	-30.7	37.1	36.93	H
12110.250	46.94	-29.5	39.3	37.17	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2383.800	51.40	-24.7	32.0	44.05	H
2506.600	51.10	-26.4	32.4	45.11	V
4874.250	40.37	-32.7	34.5	38.57	V
7311.000	40.54	-31.9	36.1	36.37	V
9747.750	44.57	-30.7	37.2	38.04	H
12185.250	45.89	-29.4	39.2	36.10	H

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.200	66.20	2.9	32.7	66.20	H
2484.750	66.30	2.9	32.7	66.30	H
4905.000	43.26	-32.9	34.5	43.26	H
7356.000	43.06	-31.9	36.1	43.06	H
9807.750	43.63	-30.4	37.3	43.63	H
12260.250	45.51	-29.6	39.2	45.51	V

AVERAGE

802.11b

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2385.900	46.40	2.9	32.0	11.52	H
2389.000	46.50	2.9	32.0	11.65	V
4824.000	50.86	-32.8	34.5	49.12	V
7236.000	37.82	-31.7	36.1	33.46	H
9648.000	40.28	-30.4	37.0	33.60	V
12060.000	43.26	-29.6	39.3	33.58	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2380.550	47.10	2.9	32.0	12.22	V
2489.200	47.40	2.9	32.0	12.49	V
4874.000	50.70	-32.7	34.5	48.91	V
7311.000	38.84	-31.9	36.1	34.67	V
9748.000	40.02	-30.7	37.2	33.49	V
12185.000	43.63	-29.4	39.2	33.83	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2484.000	47.00	2.9	32.7	11.32	H
2488.200	46.90	2.9	32.6	11.34	H
4924.000	46.19	-33.1	34.5	44.77	V
7386.000	38.88	-31.8	36.0	34.67	H
9848.000	40.22	-30.1	37.3	32.97	H
12310.000	43.54	-29.7	39.2	34.06	H

802.11g

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.000	46.50	2.9	32.0	11.64	H
2389.500	46.70	2.9	32.0	11.85	V
4824.000	40.43	-32.8	34.5	38.68	V
7236.000	37.85	-31.7	36.1	33.49	H
9648.000	40.28	-30.4	37.0	33.60	V
12060.000	43.36	-29.6	39.3	33.68	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.800	47.00	2.9	32.0	12.15	H
2483.800	47.10	2.9	32.8	11.42	H
4874.000	38.70	-32.7	34.5	36.91	V
7311.000	37.60	-31.9	36.1	33.43	H
9748.000	40.05	-30.7	37.2	33.52	H
12185.000	43.58	-29.4	39.2	33.78	H

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.600	47.40	2.9	32.8	11.71	H
2485.100	47.30	2.9	32.7	11.65	V
4924.000	37.42	-33.1	34.5	36.00	V
7386.000	37.77	-31.8	36.0	33.56	V
9848.000	40.64	-30.1	37.3	33.38	V
12310.000	43.51	-29.7	39.2	34.04	V

802.11n-HT20

Ch1

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.200	46.50	2.9	32.0	11.64	H
2390.000	46.70	2.9	32.0	11.86	V
4824.000	38.88	-32.8	34.5	37.14	V
7236.000	38.81	-31.7	36.1	34.45	H
9648.000	40.42	-30.4	37.0	33.73	H
12060.000	43.28	-29.6	39.3	33.60	V

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2389.800	47.00	2.9	32.0	12.15	H
2483.700	47.20	2.9	32.8	11.51	H
4874.000	38.87	-32.7	34.5	37.08	H
7311.000	37.97	-31.9	36.1	33.80	V
9748.000	40.64	-30.7	37.2	34.12	H
12185.000	43.42	-29.4	39.2	33.63	V

Ch11

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.800	47.50	2.9	32.8	11.82	H
2489.100	47.00	2.9	32.6	11.46	H
4924.000	37.91	-33.1	34.5	36.49	V
7386.000	37.99	-31.8	36.0	33.78	H
9848.000	40.75	-30.1	37.3	33.49	H
12310.000	43.52	-29.7	39.2	34.04	H

802.11n-HT40

Ch3

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2388.200	47.40	2.9	32.0	12.54	H
2390.000	48.20	2.9	32.0	13.36	V
4826.500	36.38	-32.7	34.5	34.62	V
7236.000	37.75	-31.7	36.1	33.39	H
9648.000	40.19	-30.4	37.0	33.51	H
12060.000	43.35	-29.6	39.3	33.68	H

Ch6

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2384.180	47.90	2.9	32.0	13.05	H
2484.700	47.20	2.9	32.7	11.54	V
4873.500	35.49	-32.7	34.5	33.70	H
7311.000	37.54	-31.9	36.1	33.37	V
9748.500	40.03	-30.7	37.2	33.50	V
12184.500	43.65	-29.4	39.2	33.86	H

Ch9

Frequency(MHz)	Result (dBuV/m)	Cable Loss(dB)	Antenna Factor	P _{Mea} (dBuV/m)	Polarization
2483.900	48.20	2.9	32.7	12.52	H
2486.300	47.70	2.9	32.7	12.08	V
4903.500	35.78	-32.9	34.5	34.17	V
7356.000	37.80	-31.9	36.1	33.65	H
9808.500	40.23	-30.3	37.3	33.31	V
12259.500	43.46	-29.6	39.2	33.84	H

Test graphs as below:

RE - Power-2.38GHz-2.45GHz

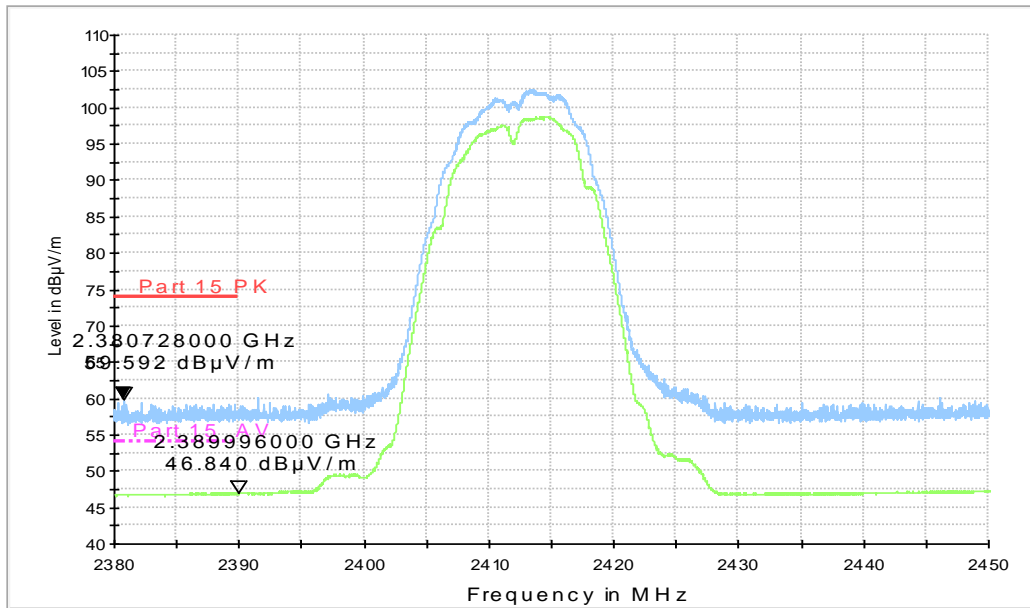


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

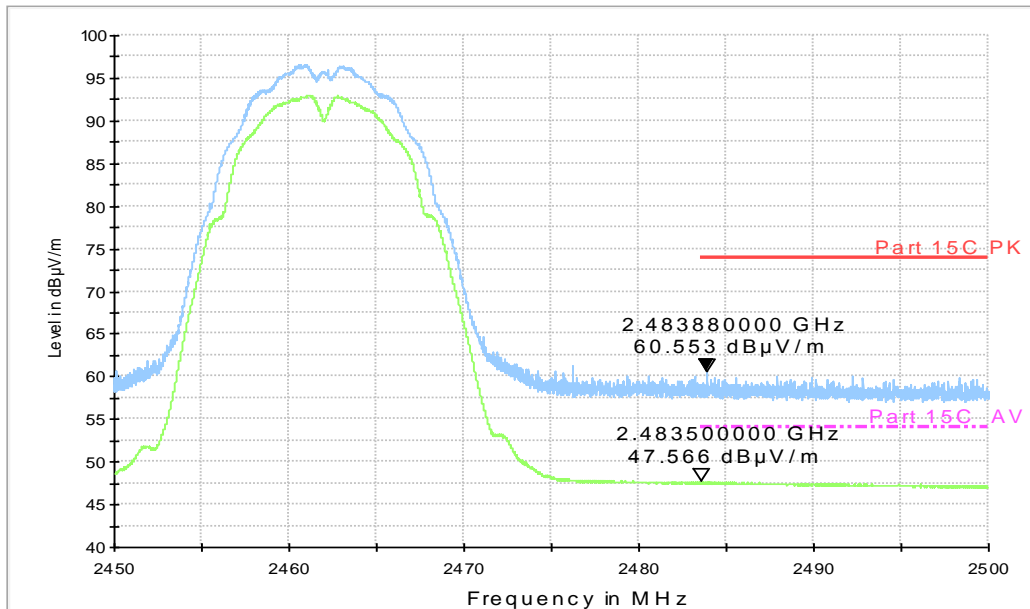


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

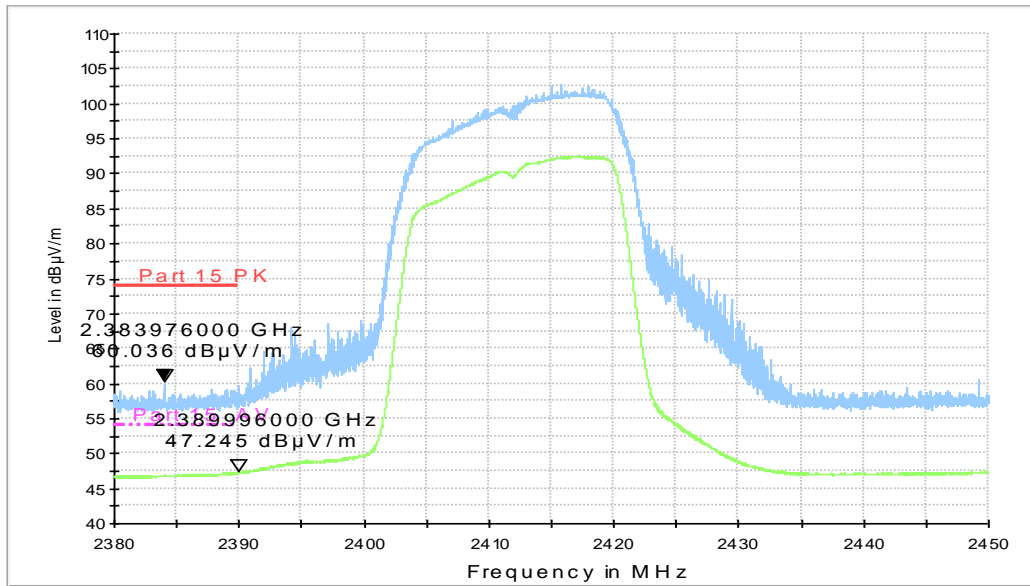
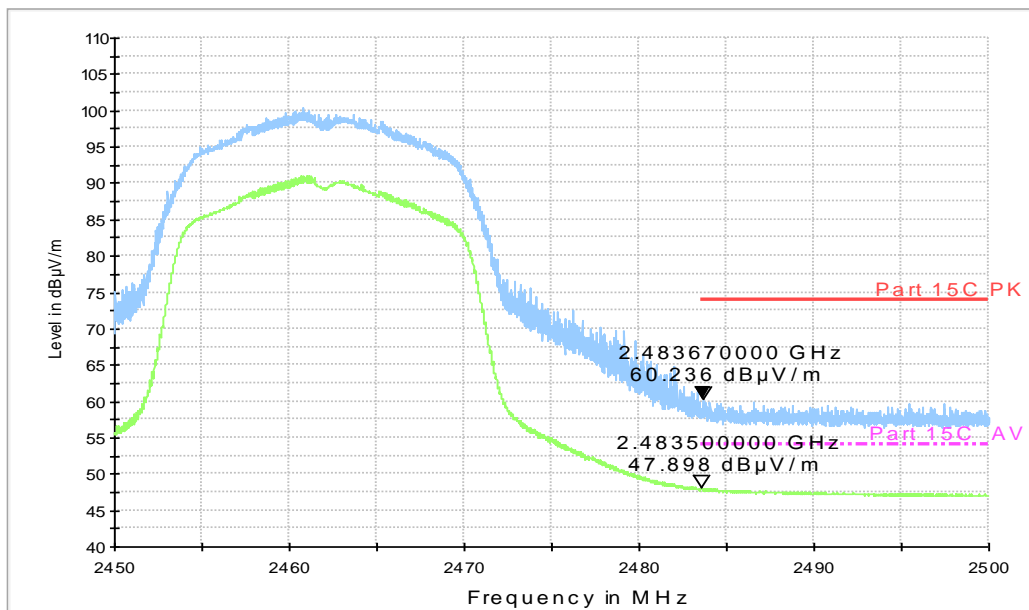


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz



3

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

RE - Power-2.38GHz-2.45GHz

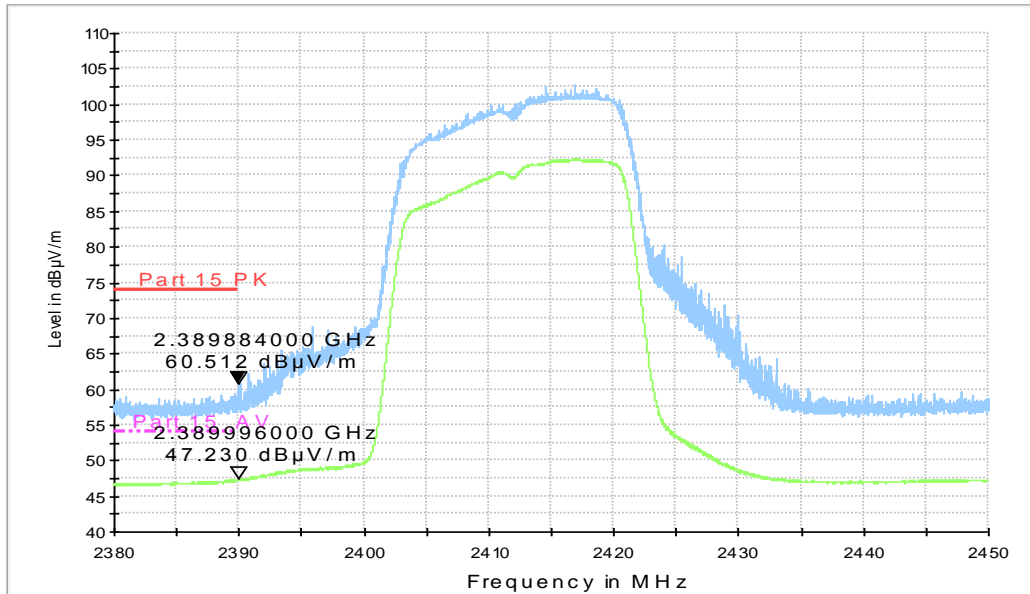


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

RE - Power-2.45GHz-2.5GHz

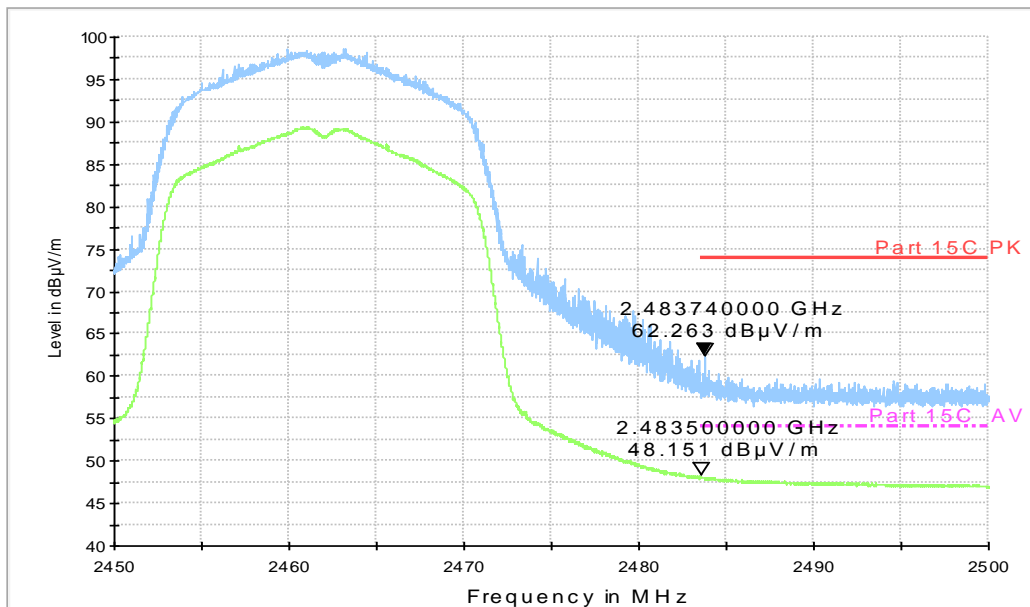


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

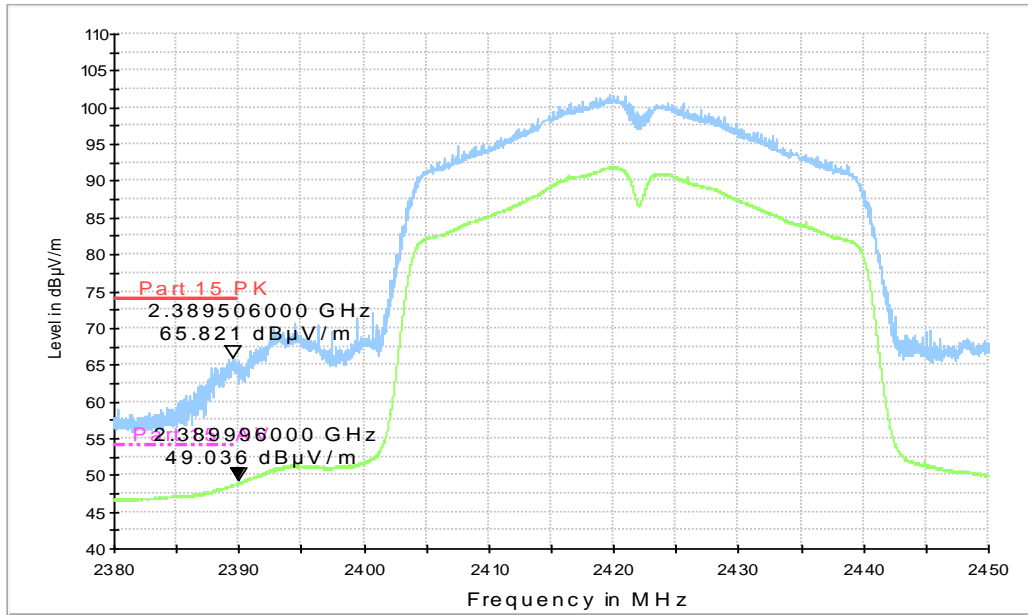


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

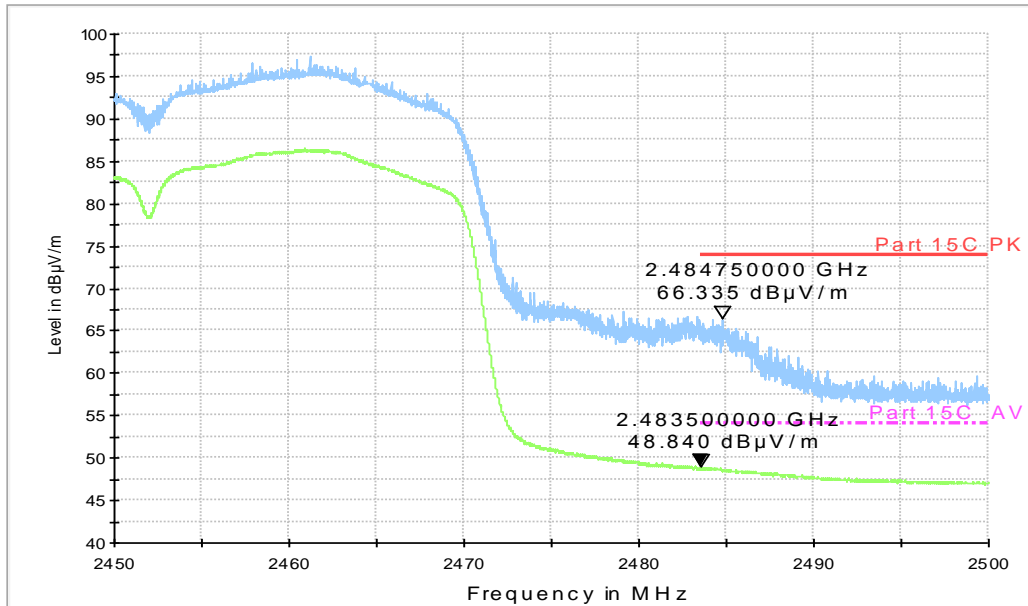


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz