

Fig.A.6.1.23 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 15 GHz-20 GHz)

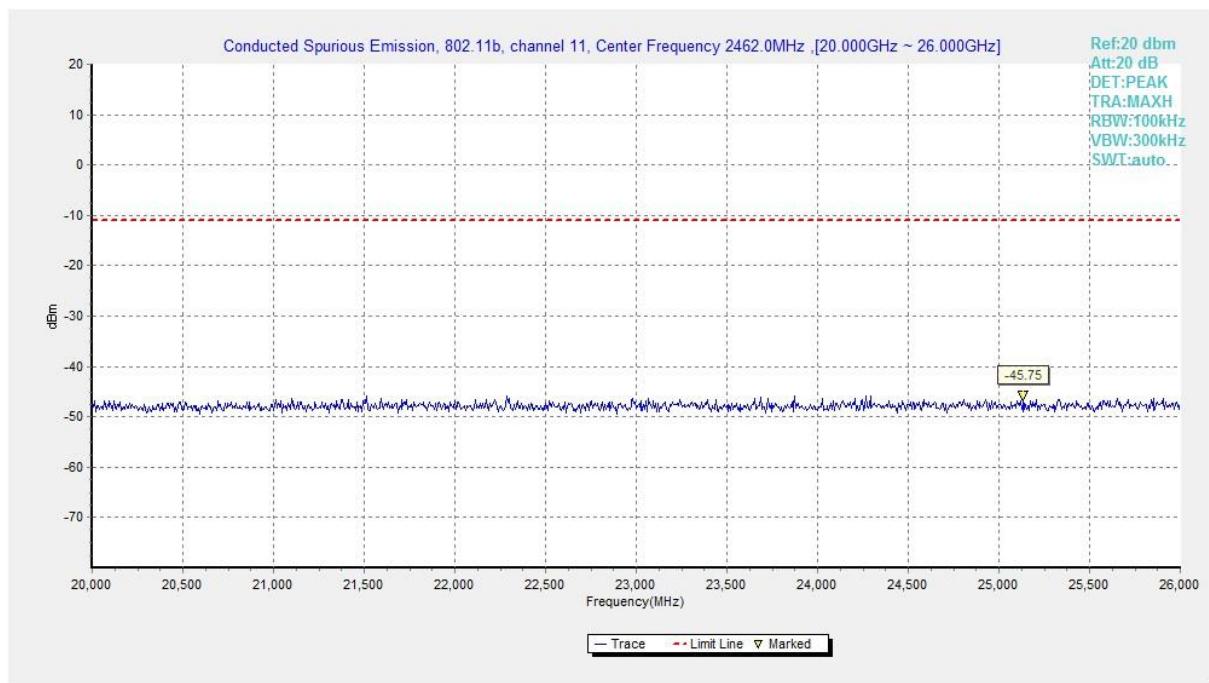


Fig.A.6.1.24 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 20 GHz-26 GHz)

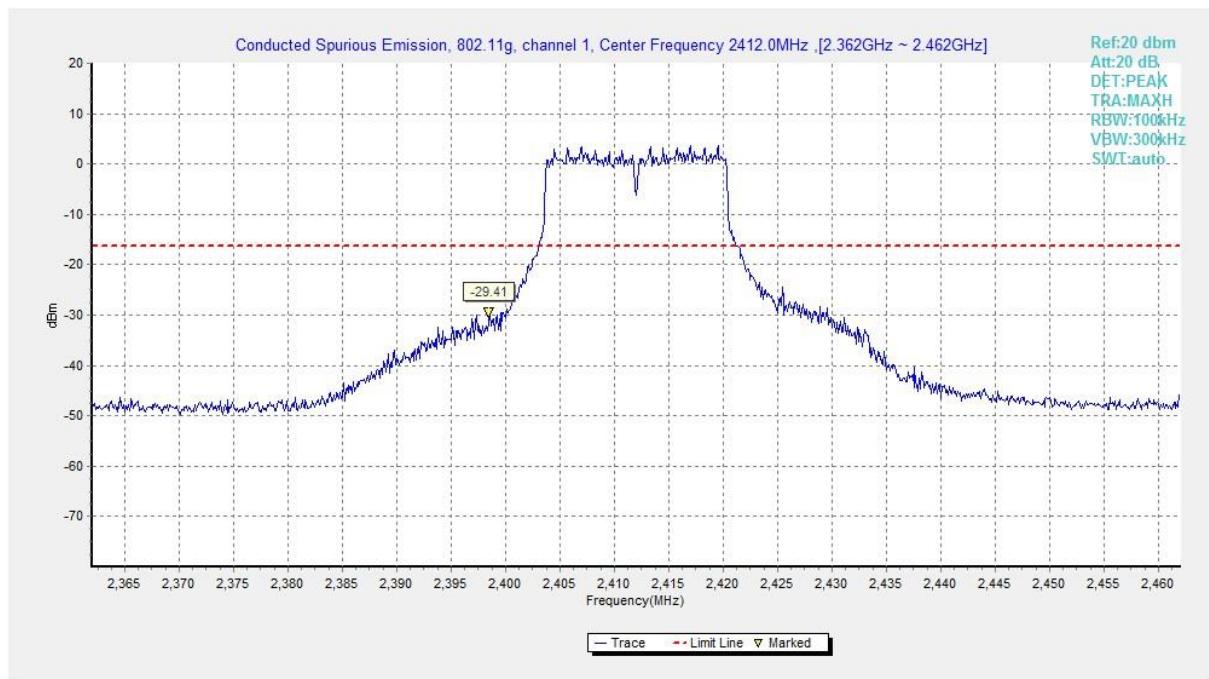


Fig.A.6.1.25 Transmitter Spurious Emission - Conducted (802.11g, Ch1, Center Frequency)

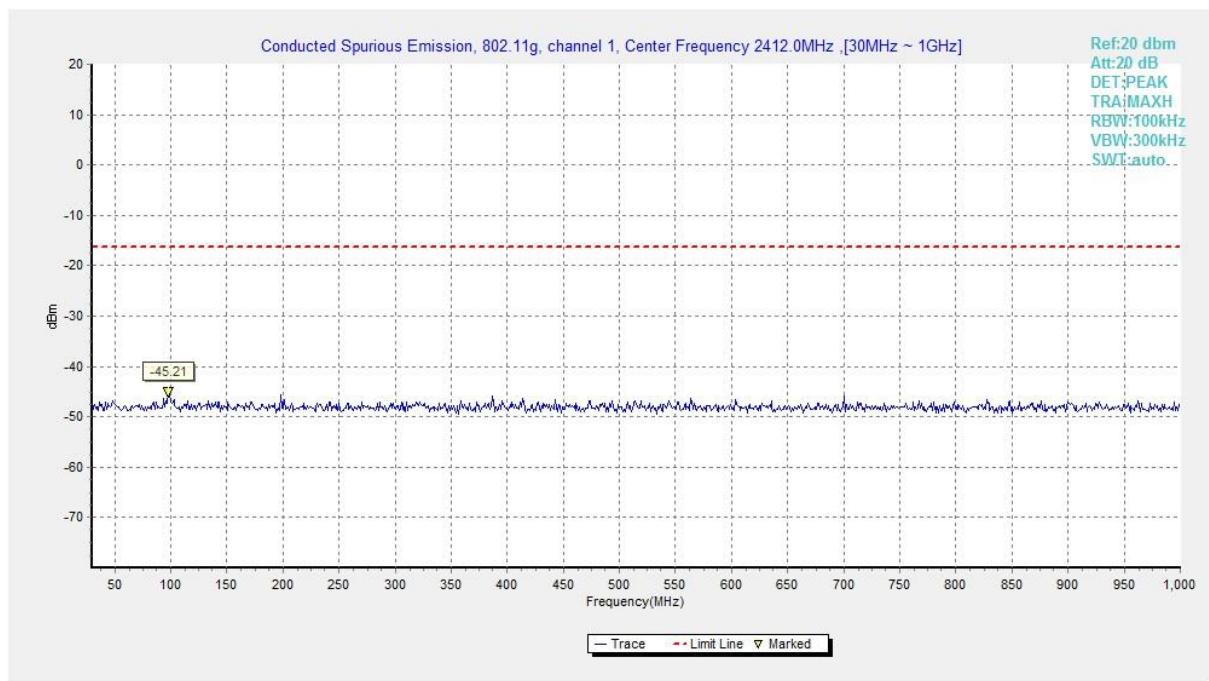


Fig.A.6.1.26 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 30 MHz-1 GHz)

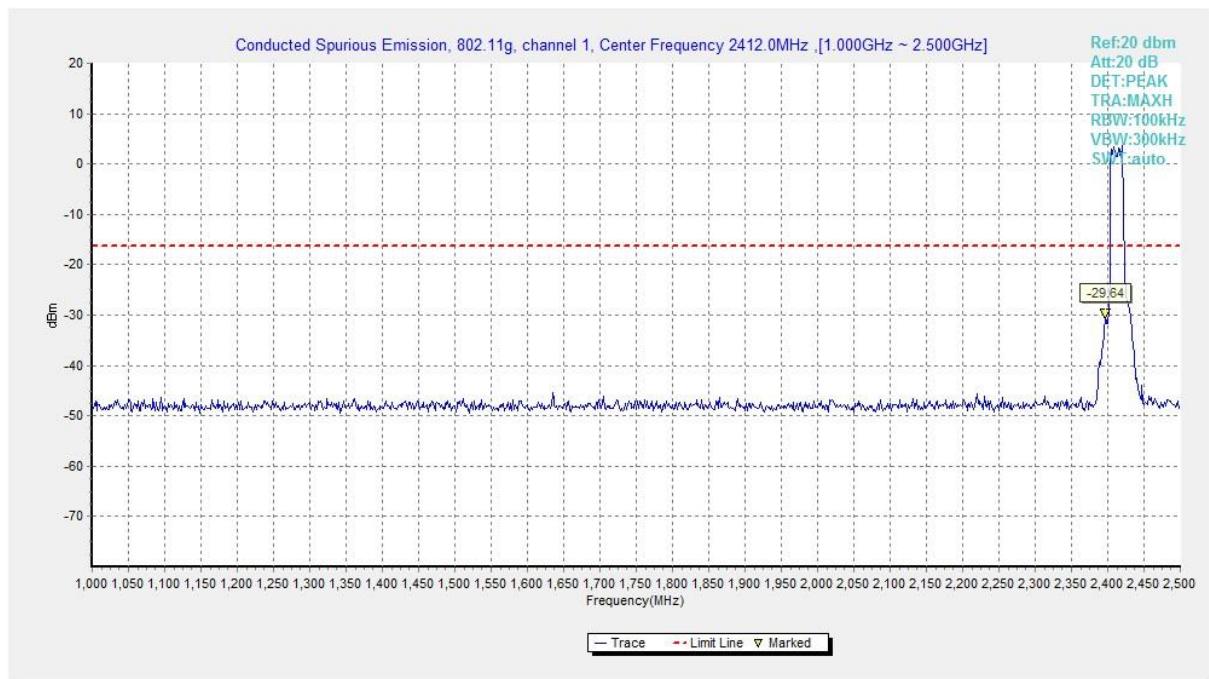


Fig.A.6.1.27 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 1 GHz-2.5 GHz)

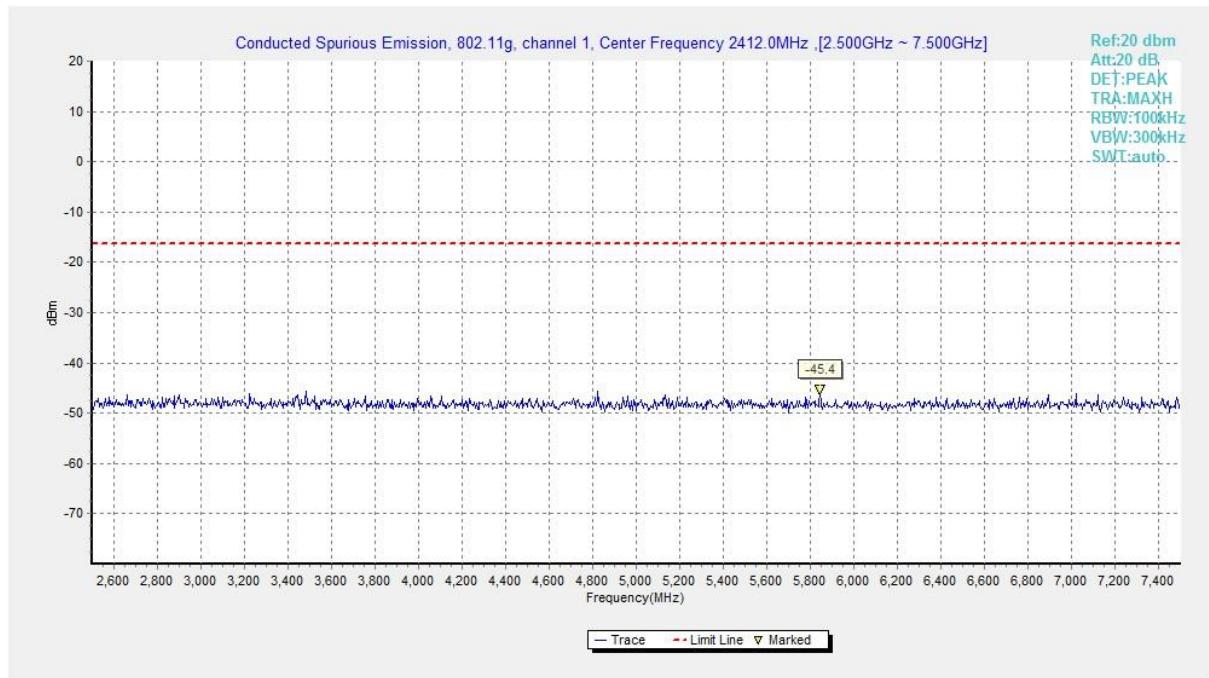


Fig.A.6.1.28 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 2.5 GHz-7.5 GHz)

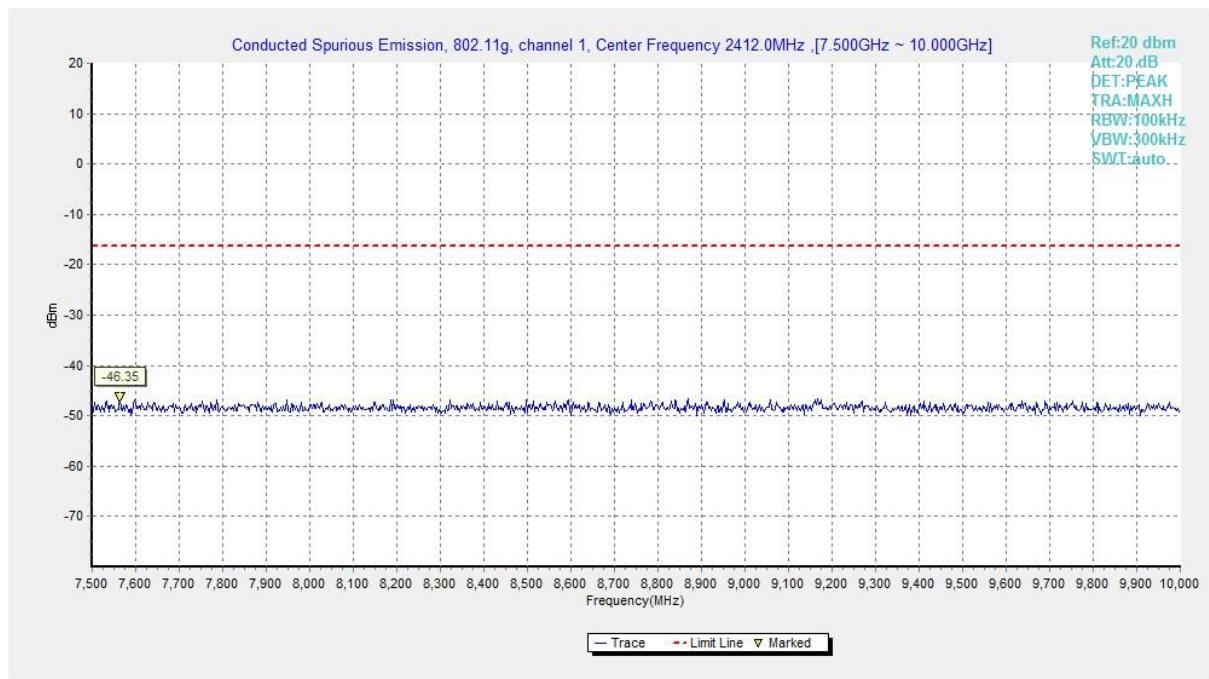


Fig.A.6.1.29 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 7.5 GHz-10 GHz)

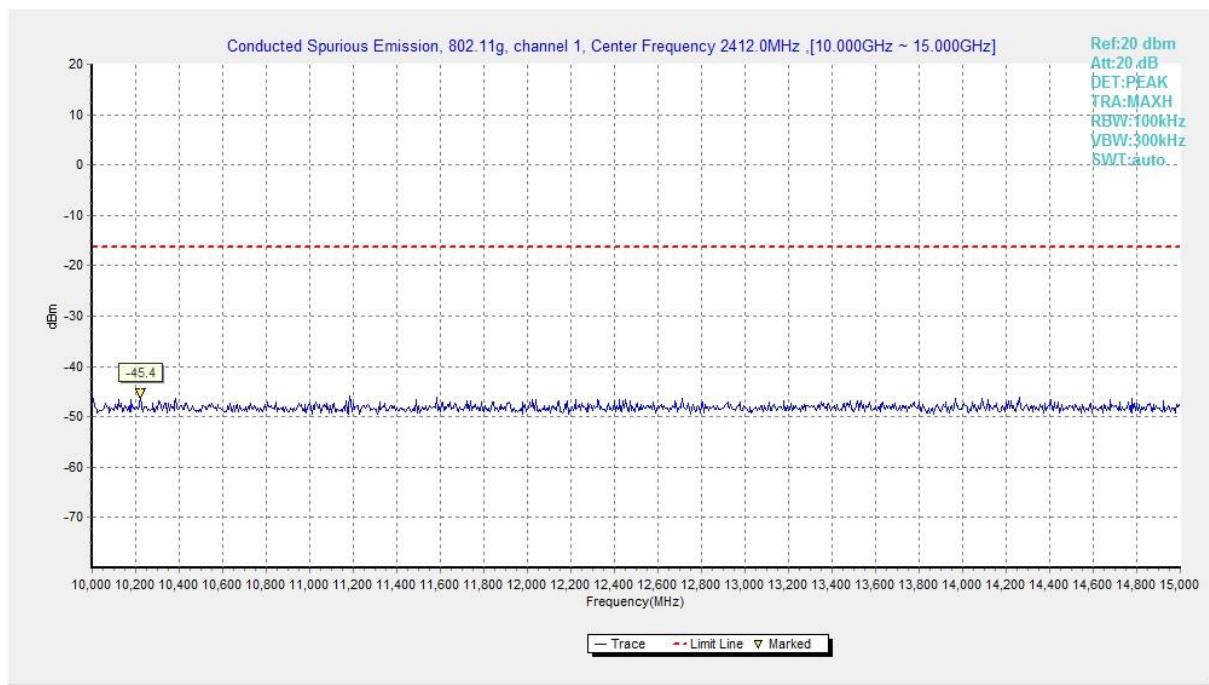


Fig.A.6.1.30 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 10 GHz-15 GHz)

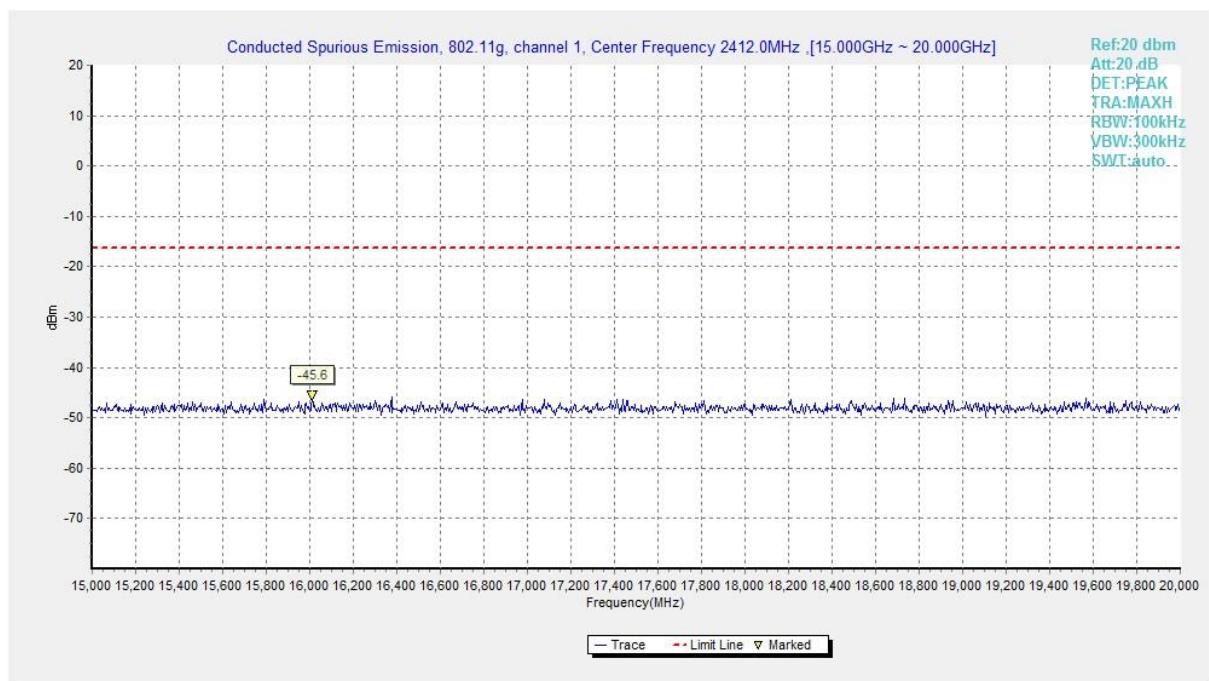


Fig.A.6.1.31 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 15 GHz-20 GHz)

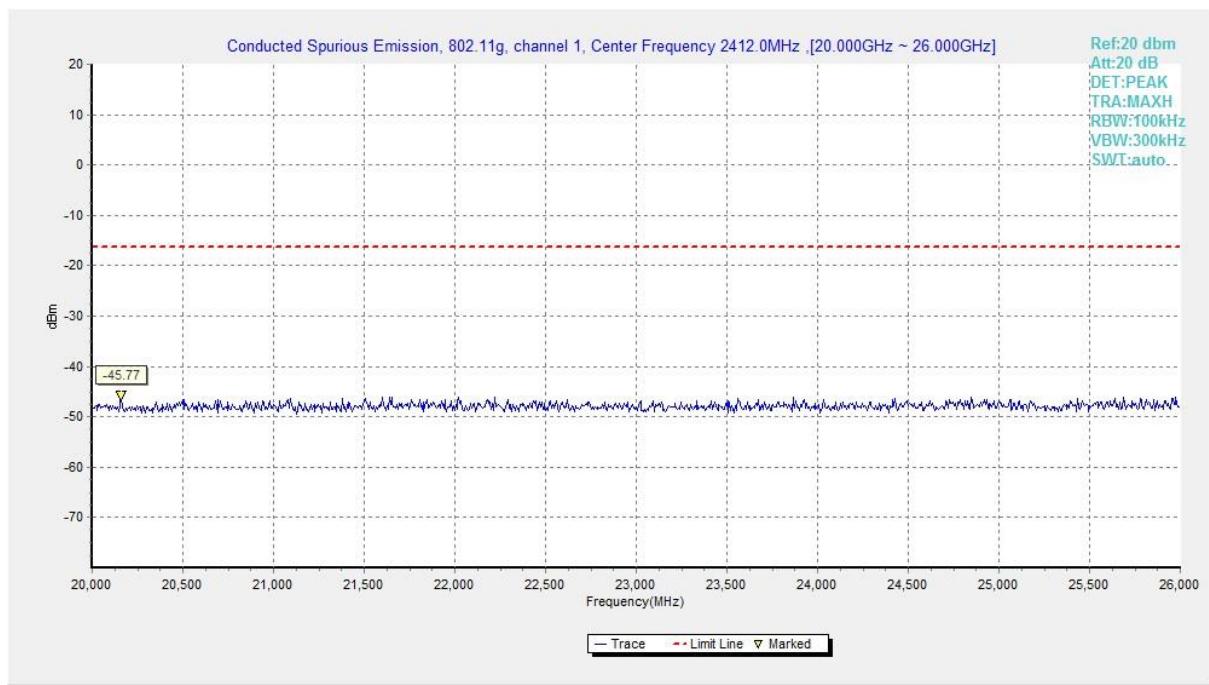


Fig.A.6.1.32 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 20 GHz-26 GHz)

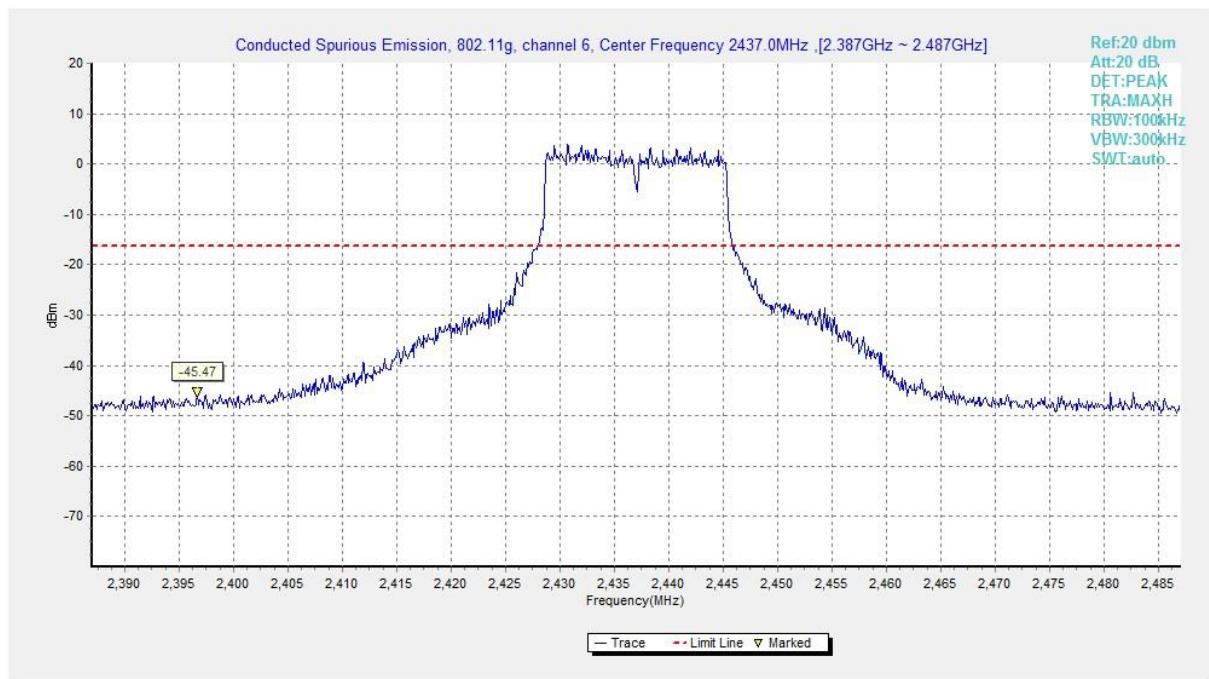


Fig.A.6.1.33 Transmitter Spurious Emission - Conducted (802.11g, Ch6, Center Frequency)

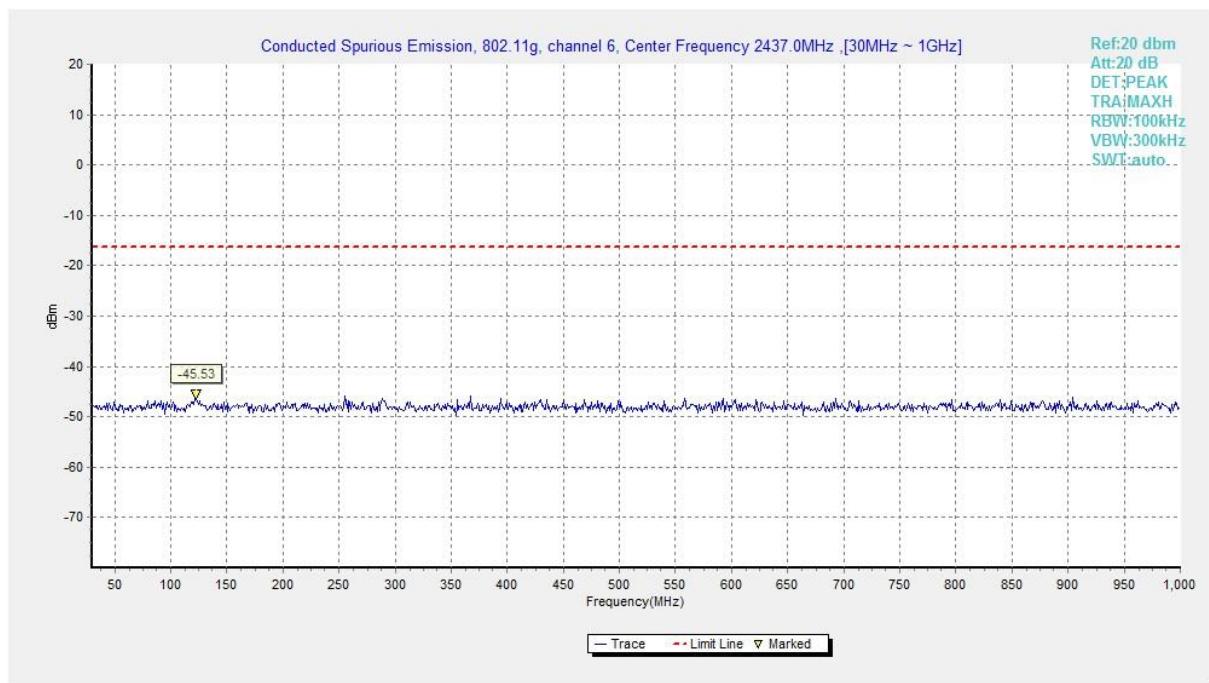


Fig.A.6.1.34 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 30 MHz-1 GHz)

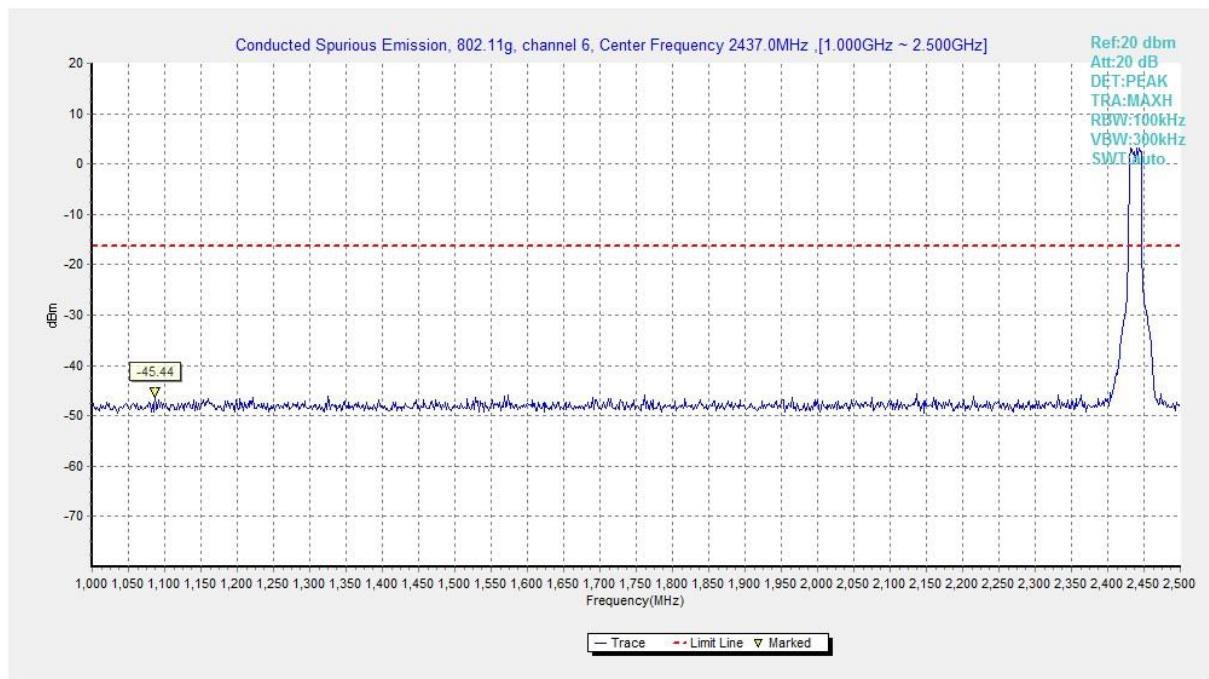


Fig.A.6.1.35 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 1 GHz-2.5 GHz)

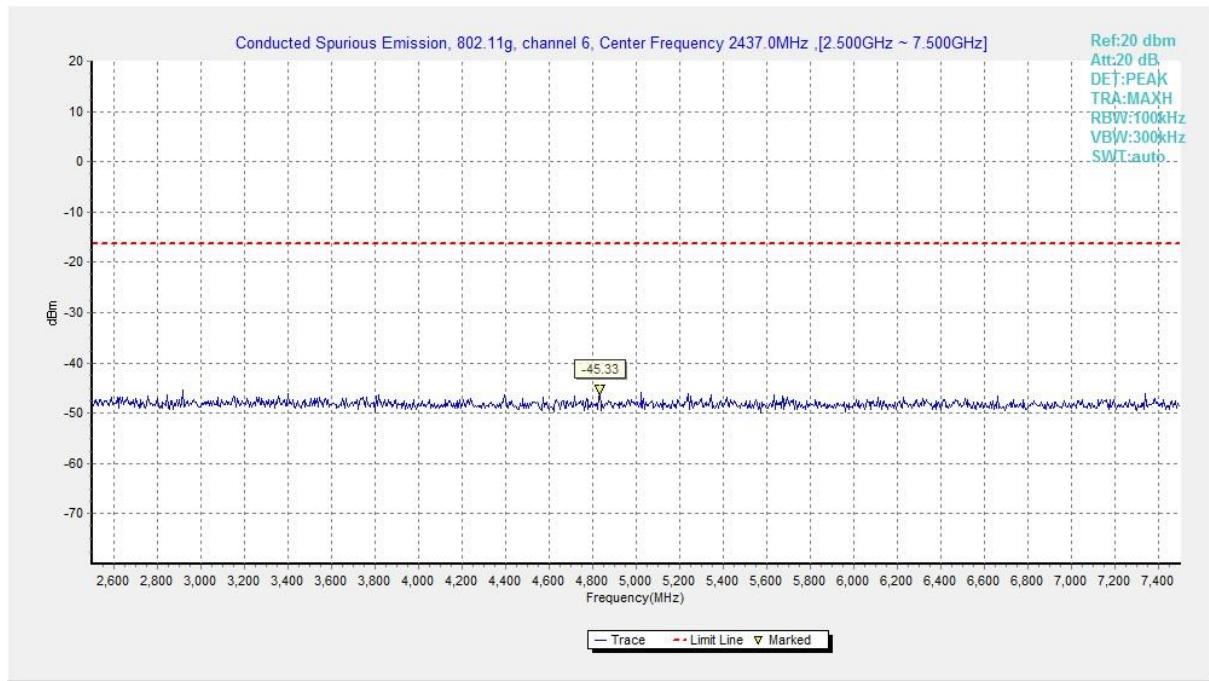


Fig.A.6.1.36 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 2.5 GHz-7.5 GHz)



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

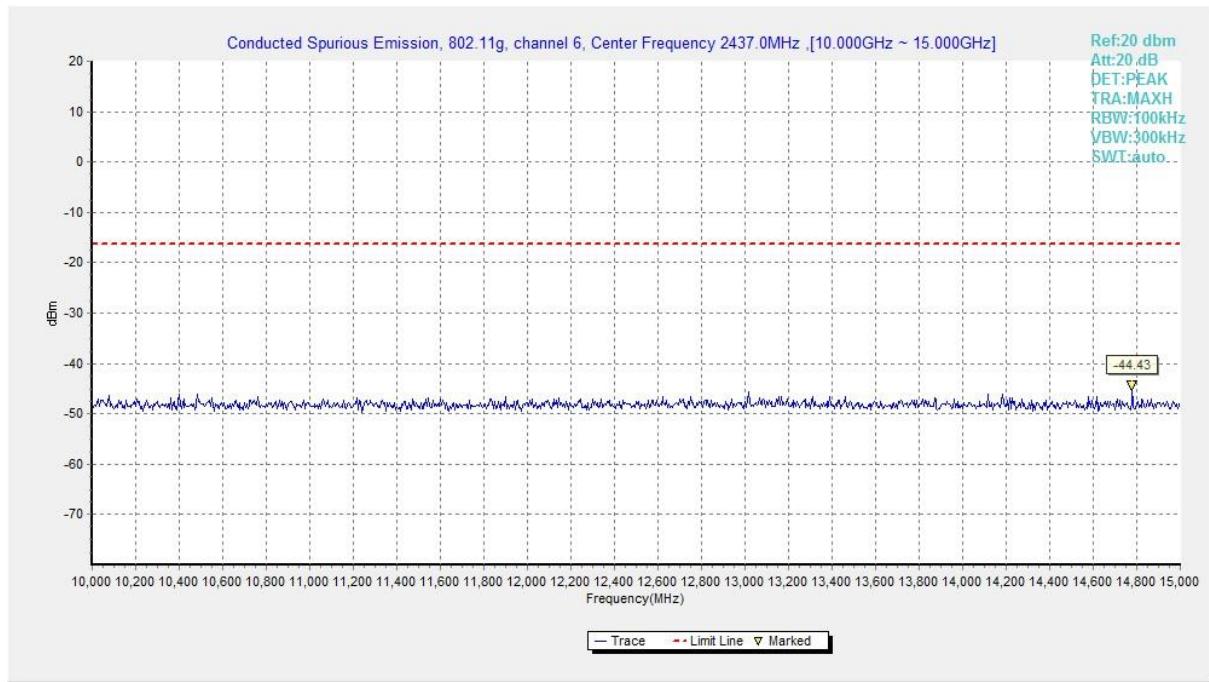


Fig.A.6.1.38 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 10 GHz-15 GHz)

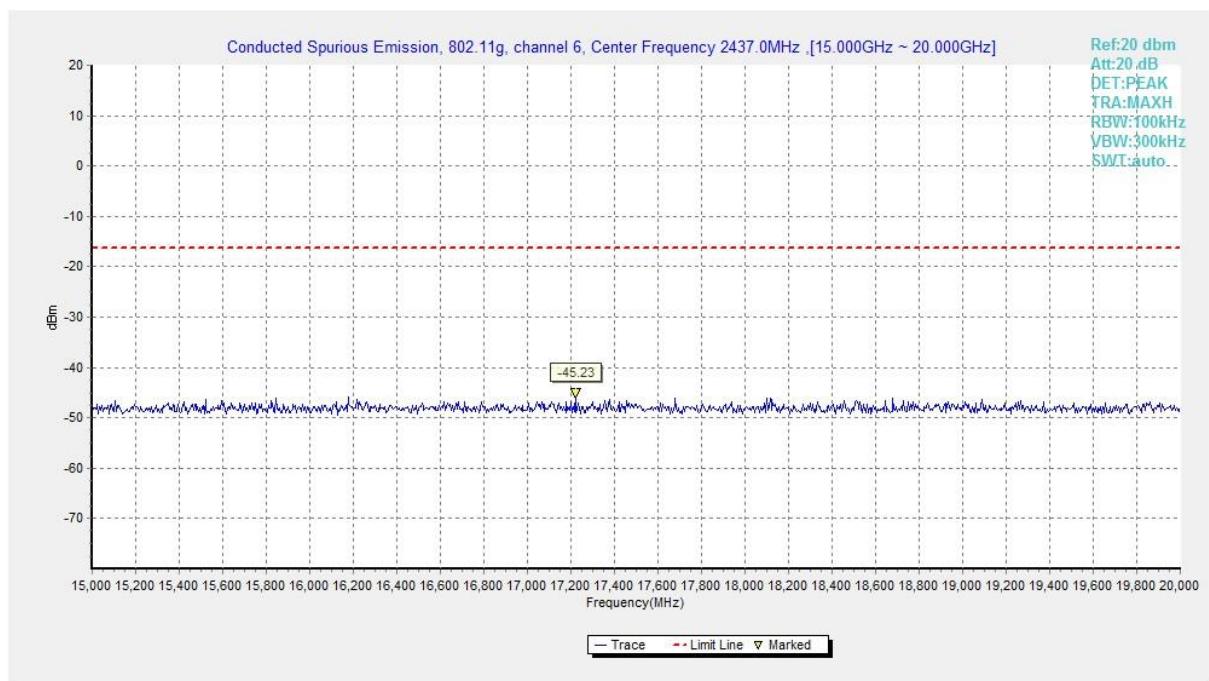


Fig.A.6.1.39 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 15 GHz-20 GHz)

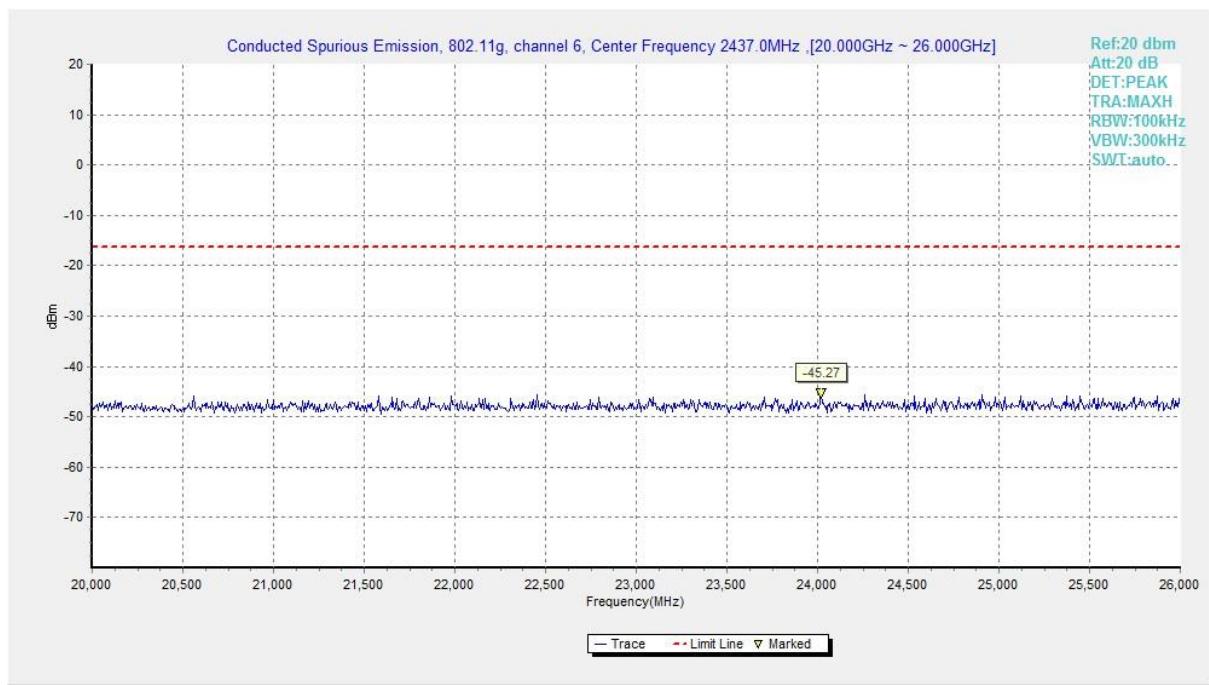


Fig.A.6.1.40 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 20 GHz-26 GHz)

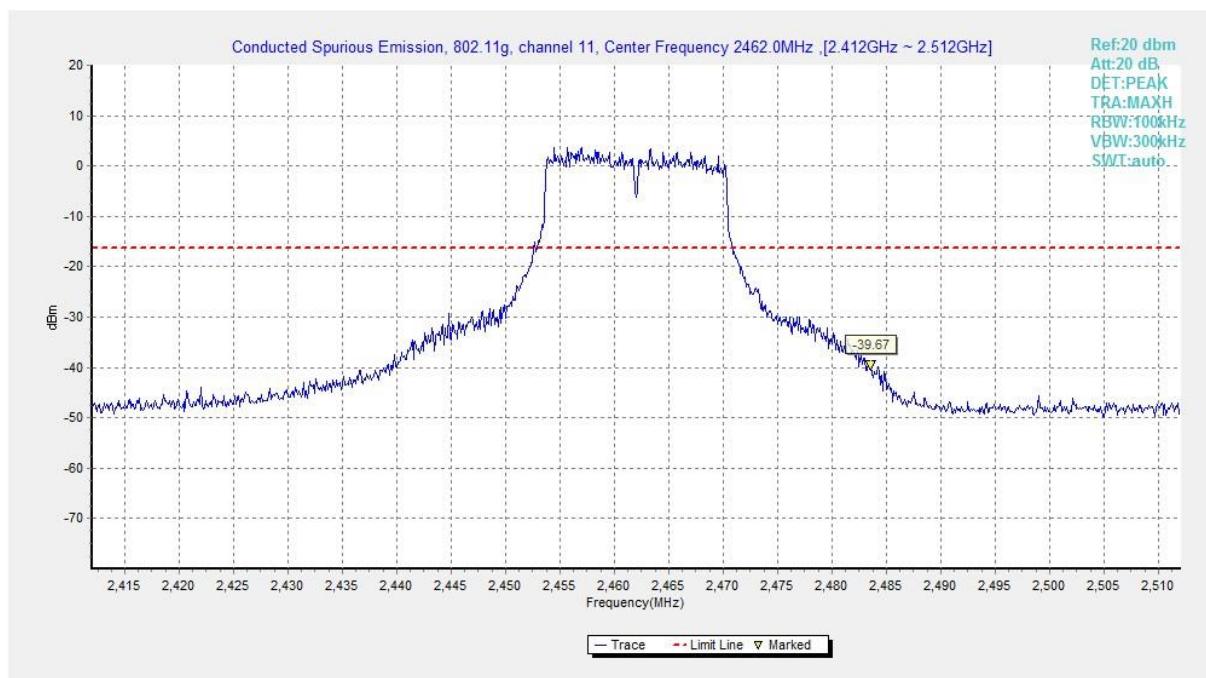


Fig.A.6.1.41 Transmitter Spurious Emission - Conducted (802.11g, Ch11, Center Frequency)

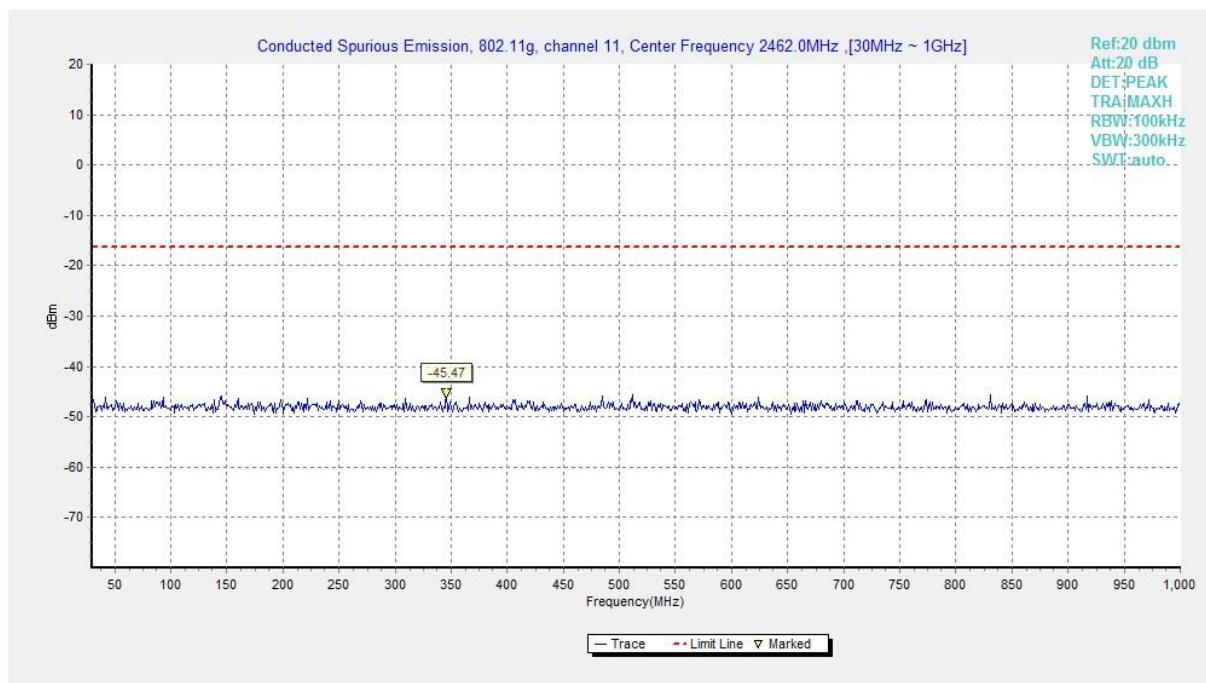


Fig.A.6.1.42 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 30 MHz-1 GHz)

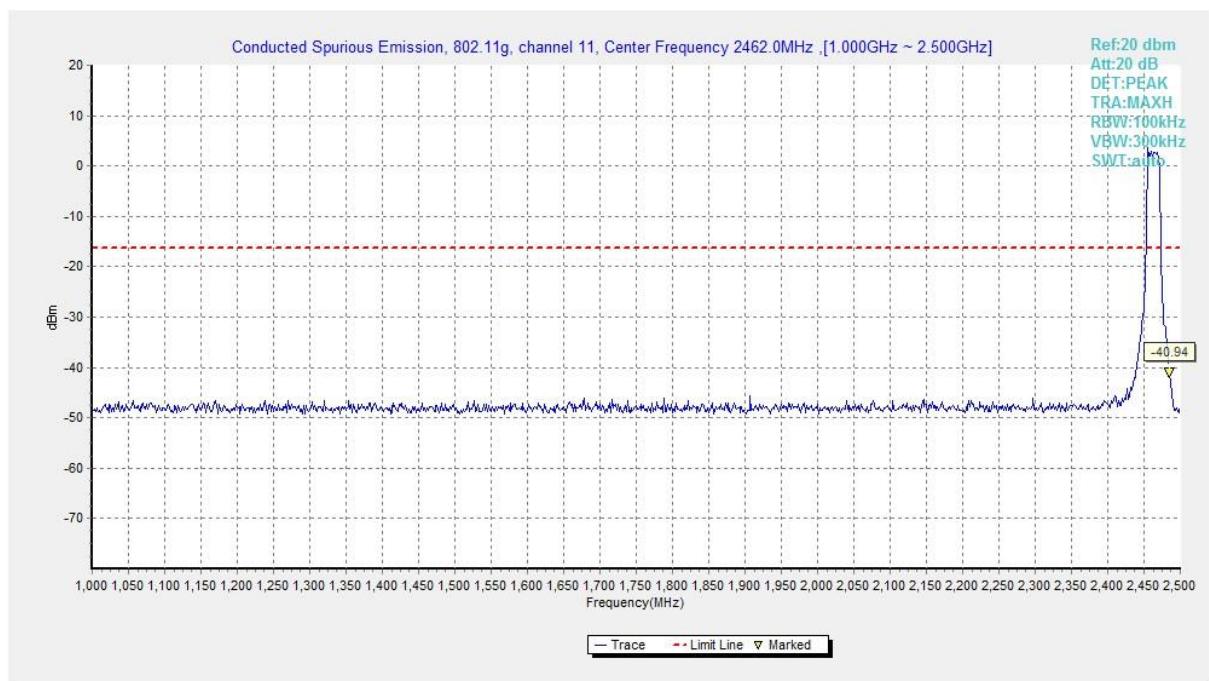


Fig.A.6.1.43 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 1 GHz-2.5 GHz)

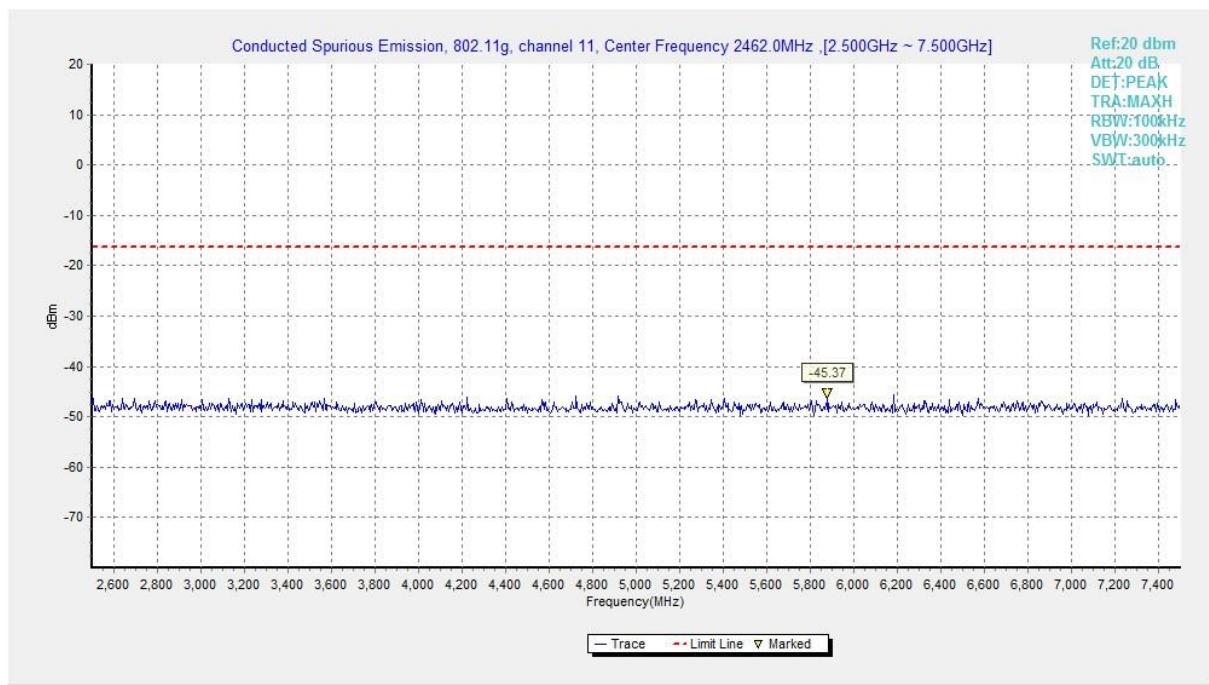


Fig.A.6.1.44 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 2.5 GHz-7.5 GHz)

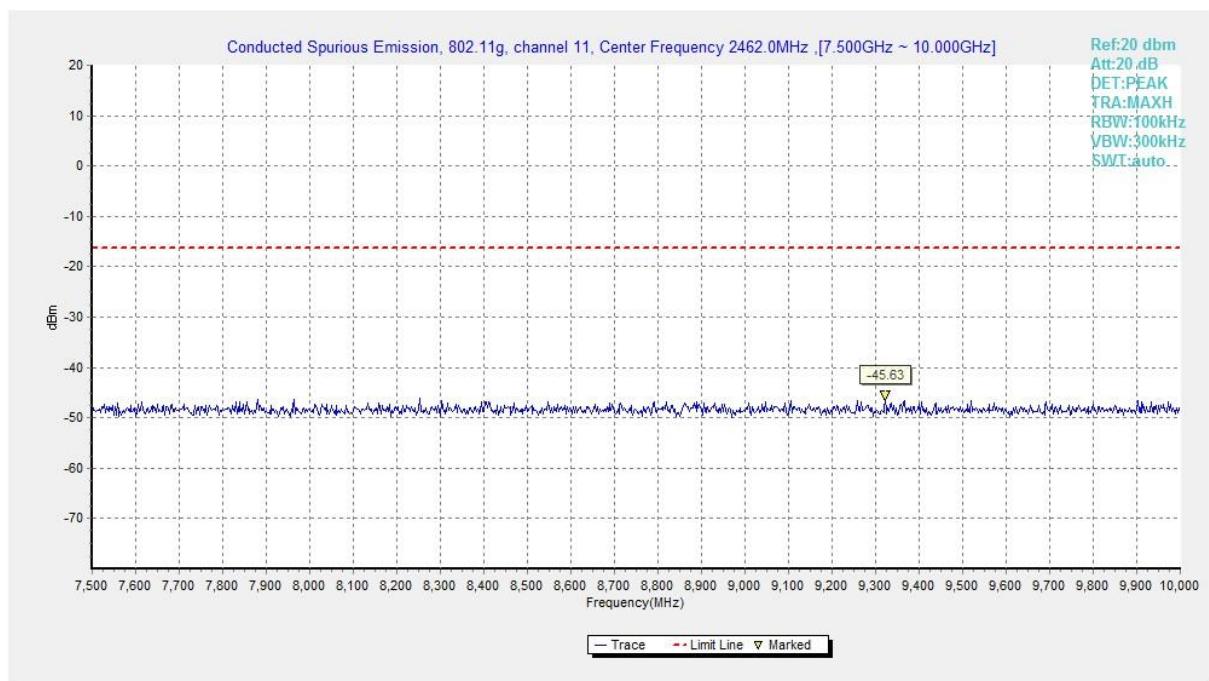


Fig.A.6.1.45 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 7.5 GHz-10 GHz)

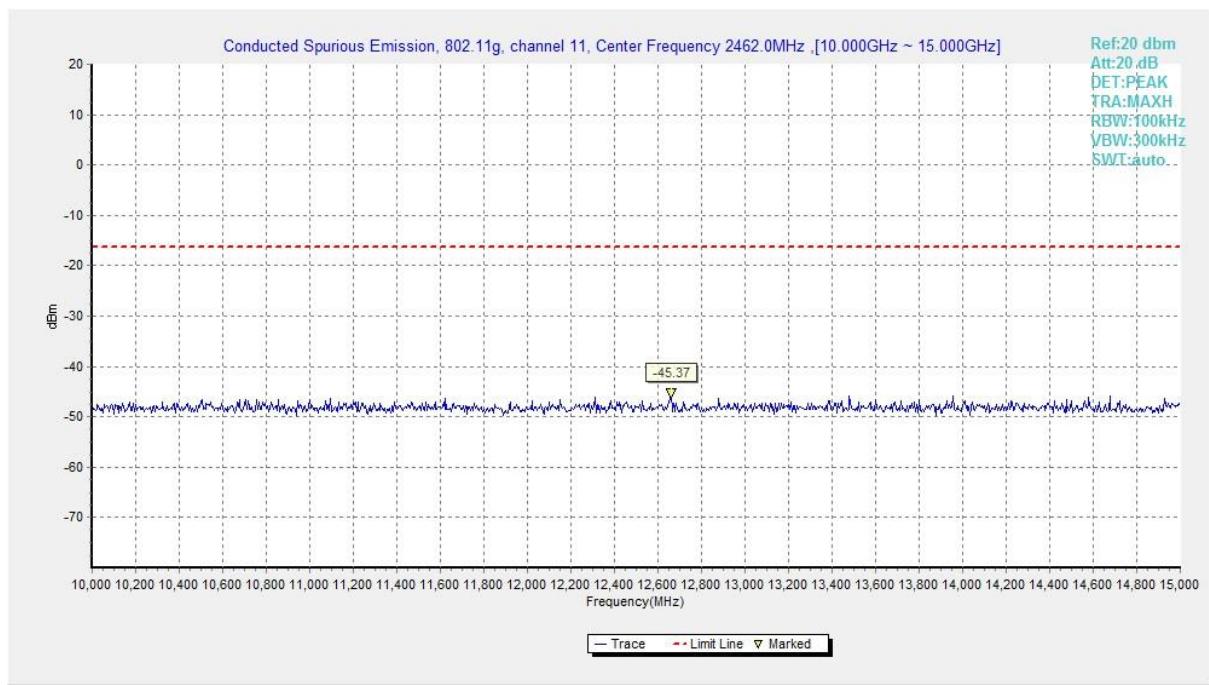


Fig.A.6.1.46 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 10 GHz-15 GHz)

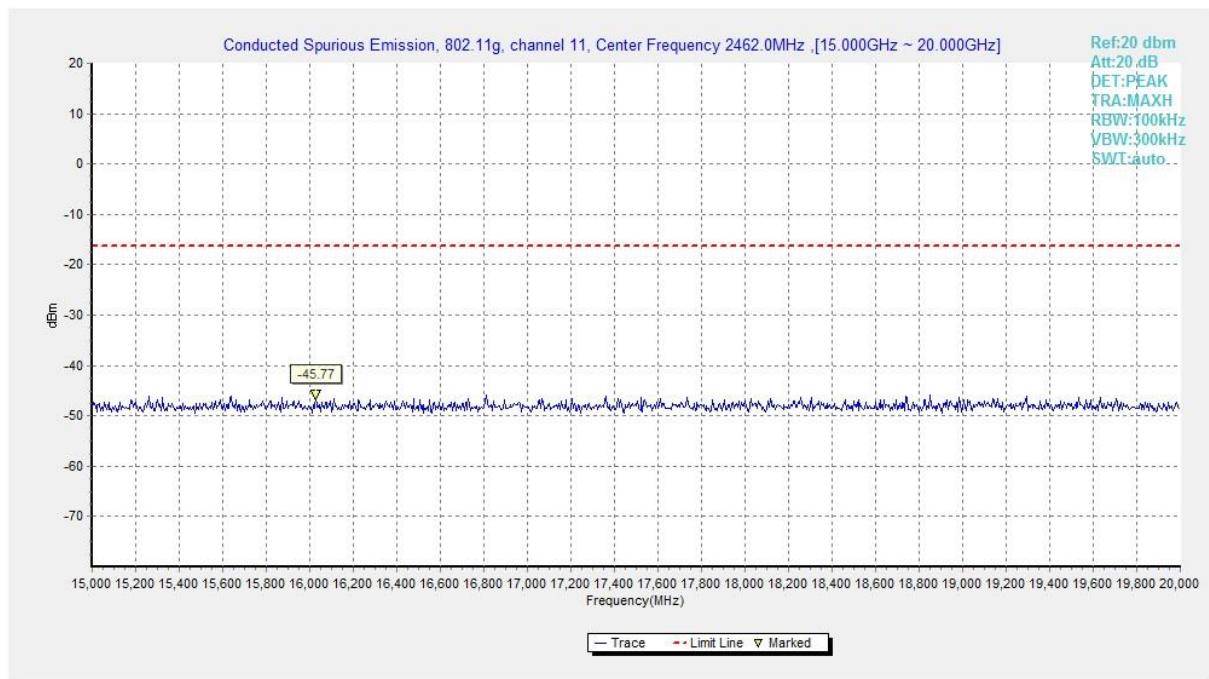


Fig.A.6.1.47 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 15 GHz-20 GHz)

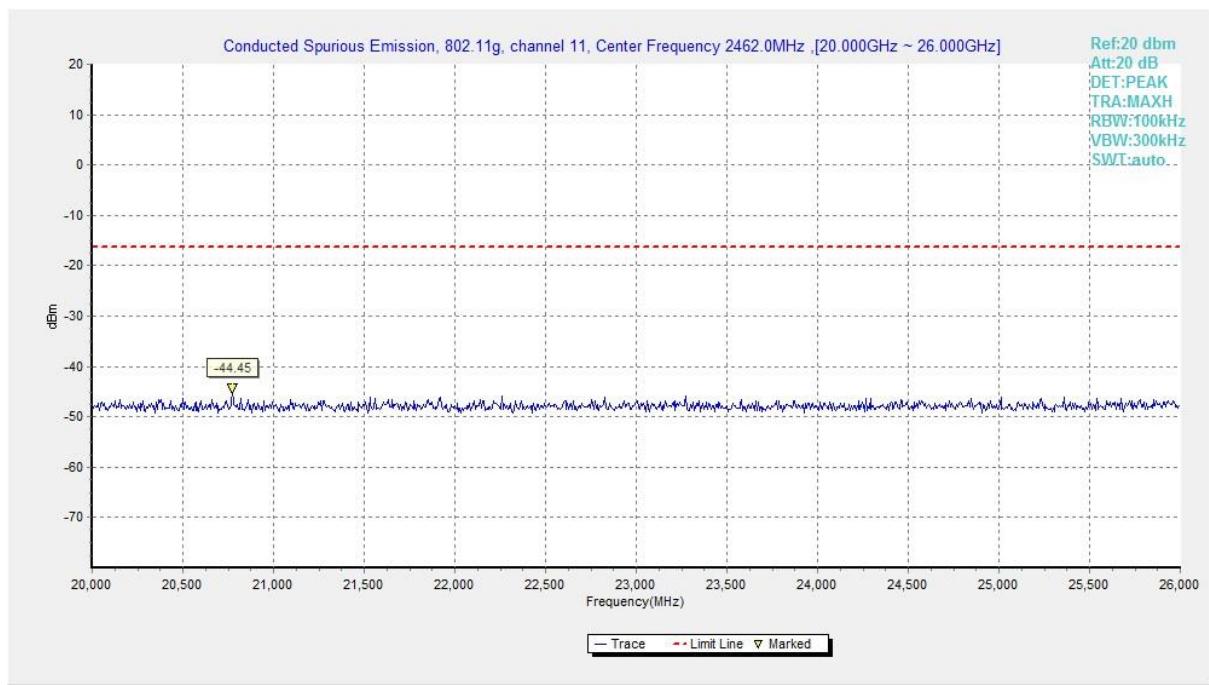


Fig.A.6.1.48 Transmitter Spurious Emission - Conducted (802.11g, Ch11, 20 GHz-26 GHz)

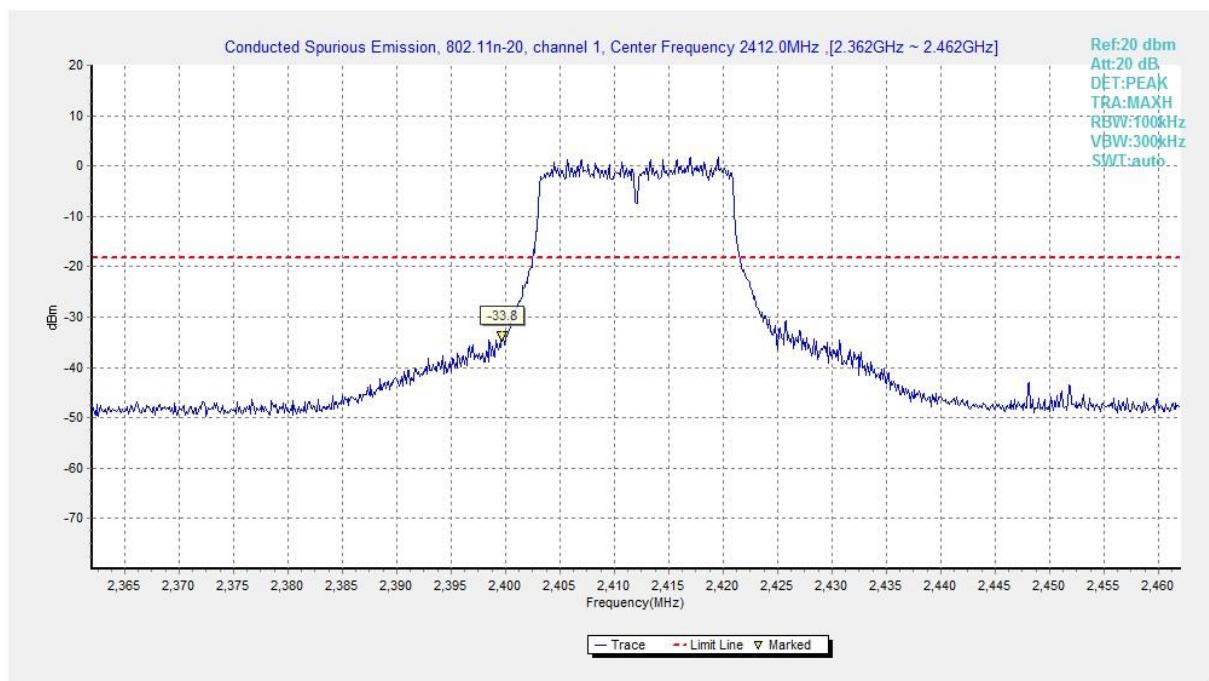


Fig.A.6.1.49 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, Center Frequency)

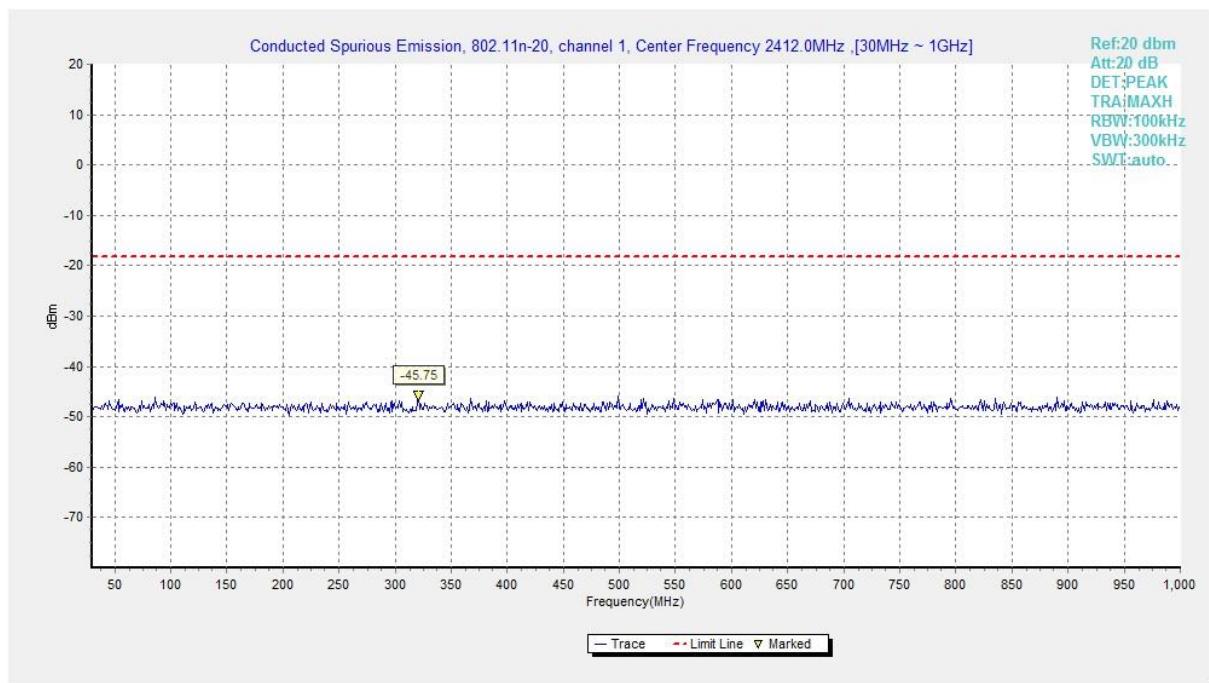


Fig.A.6.1.50 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 30 MHz-1 GHz)

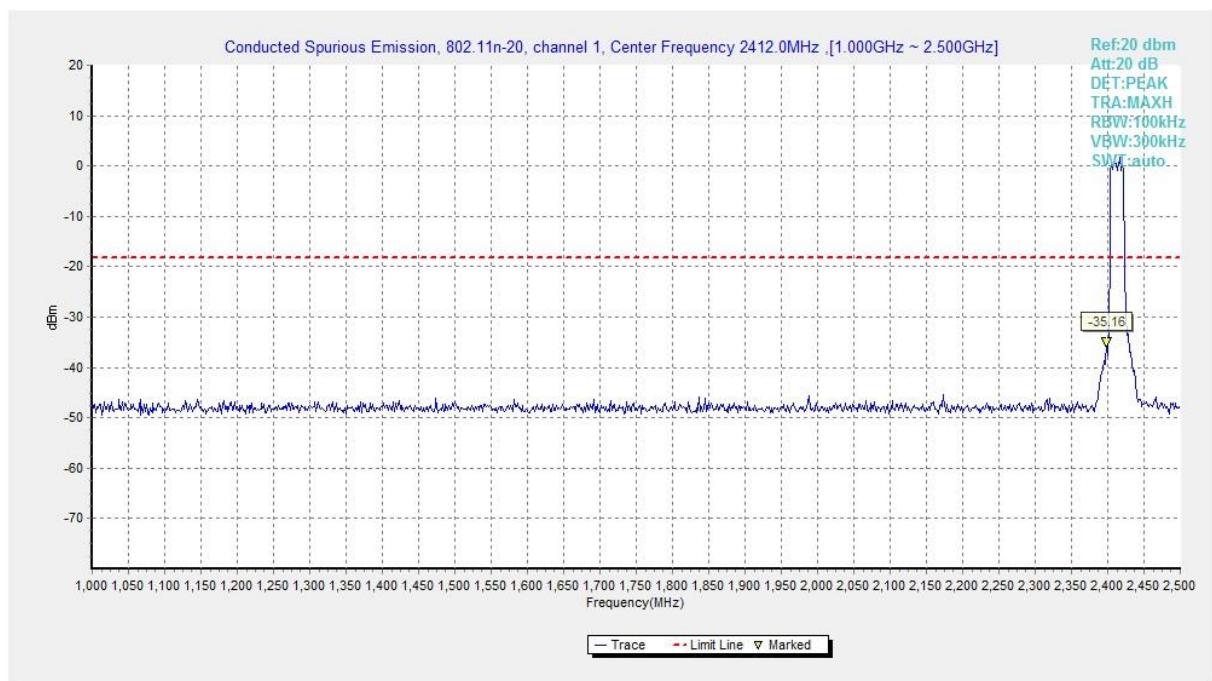


Fig.A.6.1.51 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 1 GHz-2.5 GHz)

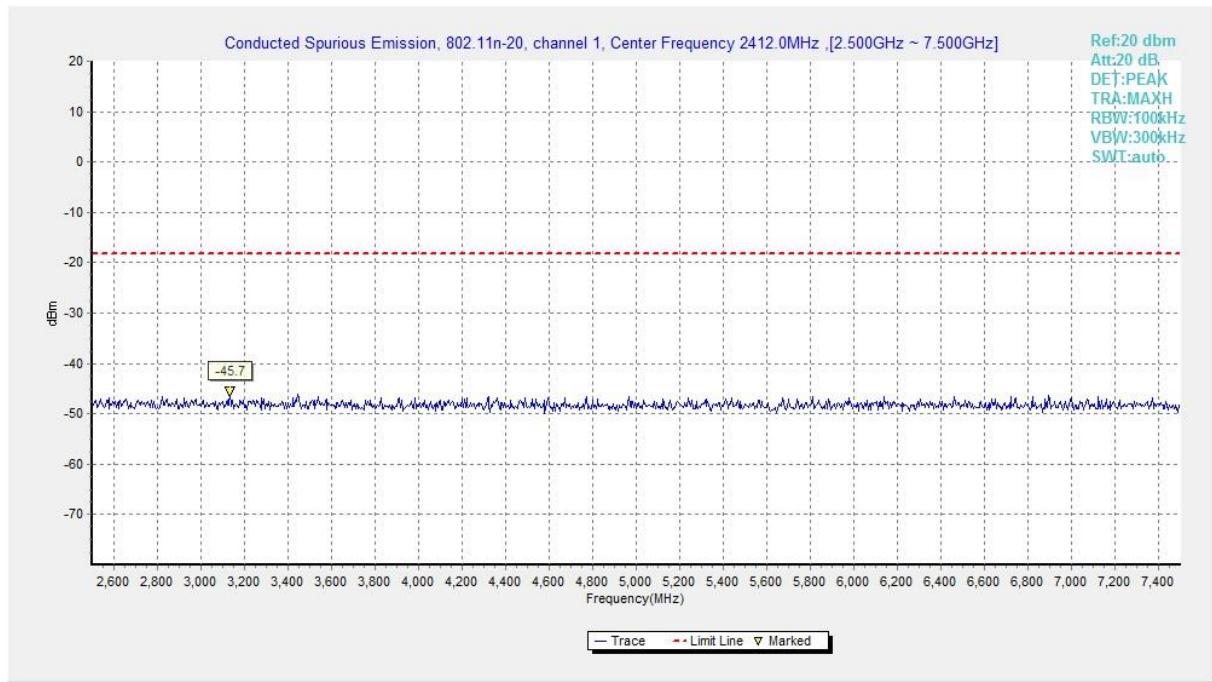


Fig.A.6.1.52 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 2.5 GHz-7.5 GHz)

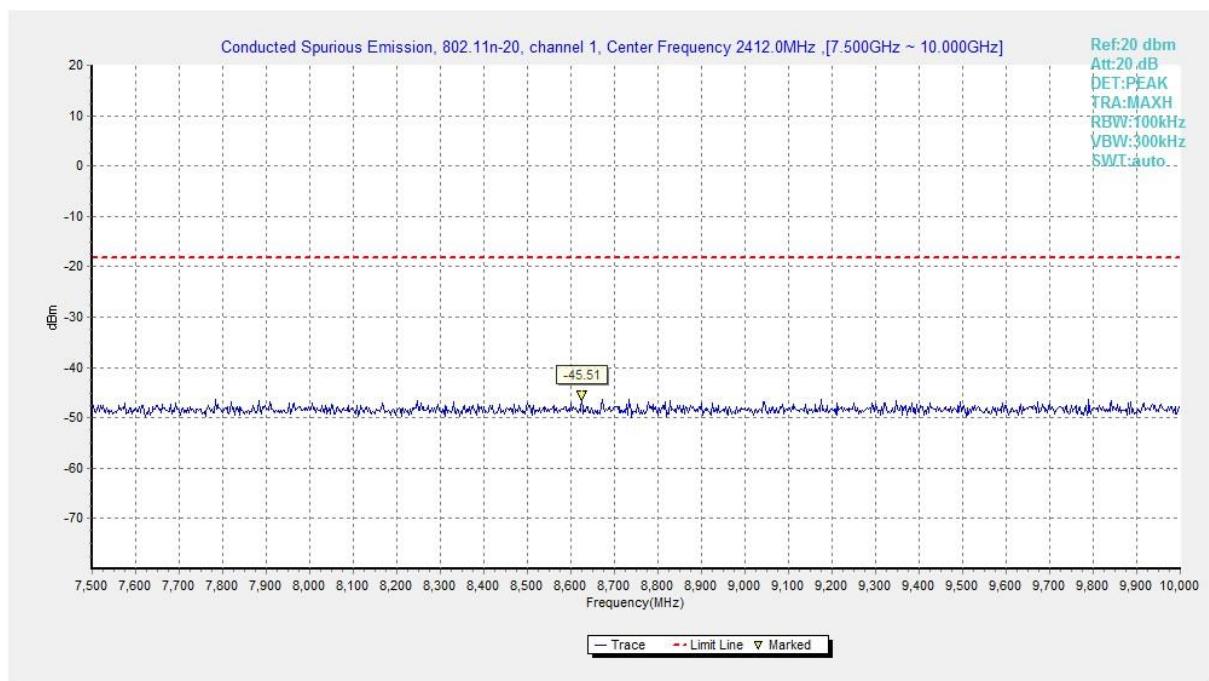


Fig.A.6.1.53 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 7.5 GHz-10 GHz)

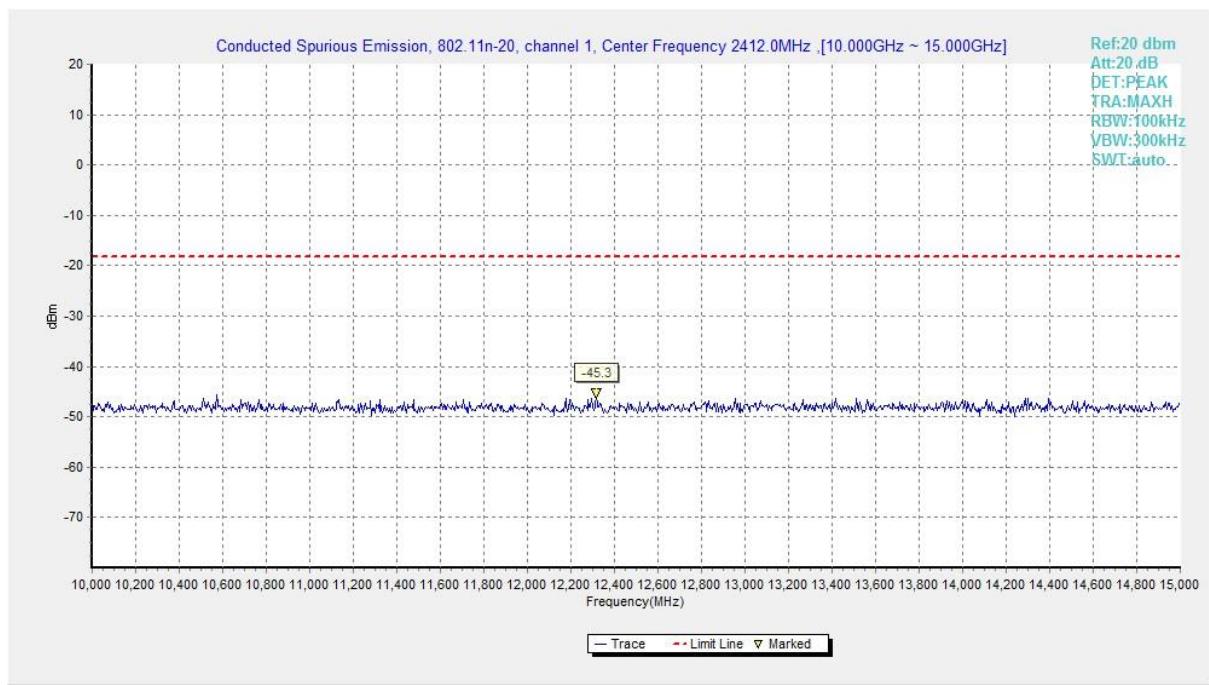


Fig.A.6.1.54 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 10 GHz-15 GHz)

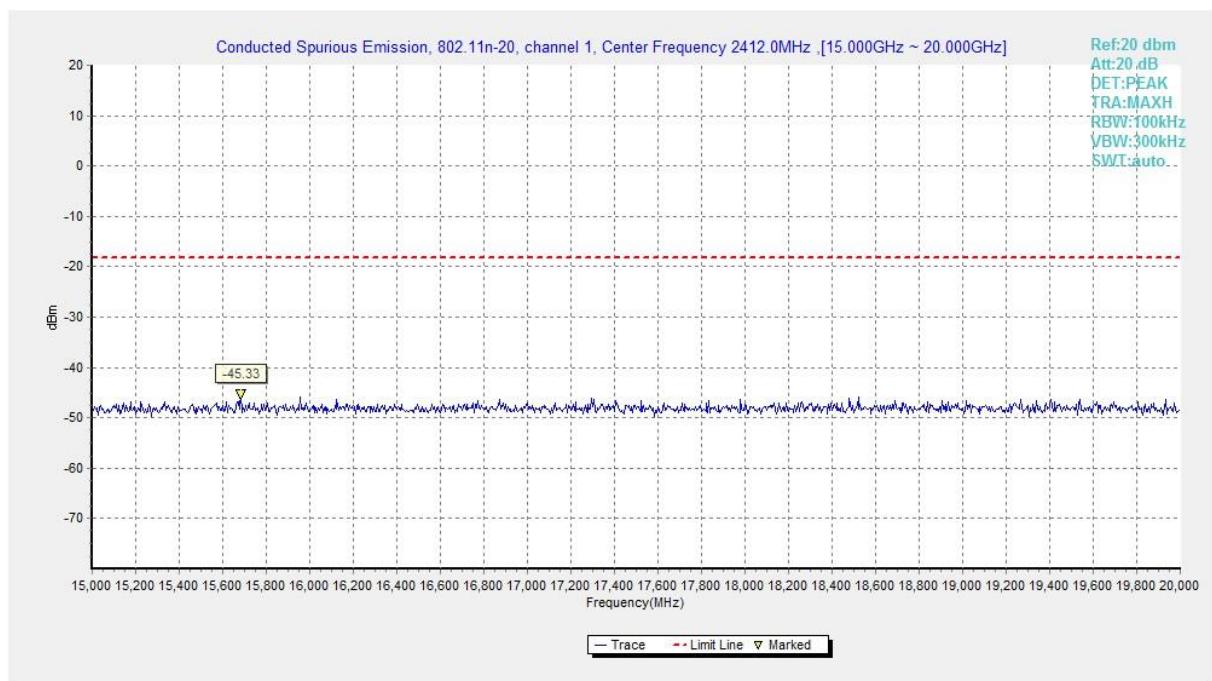


Fig.A.6.1.55 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 15 GHz-20 GHz)

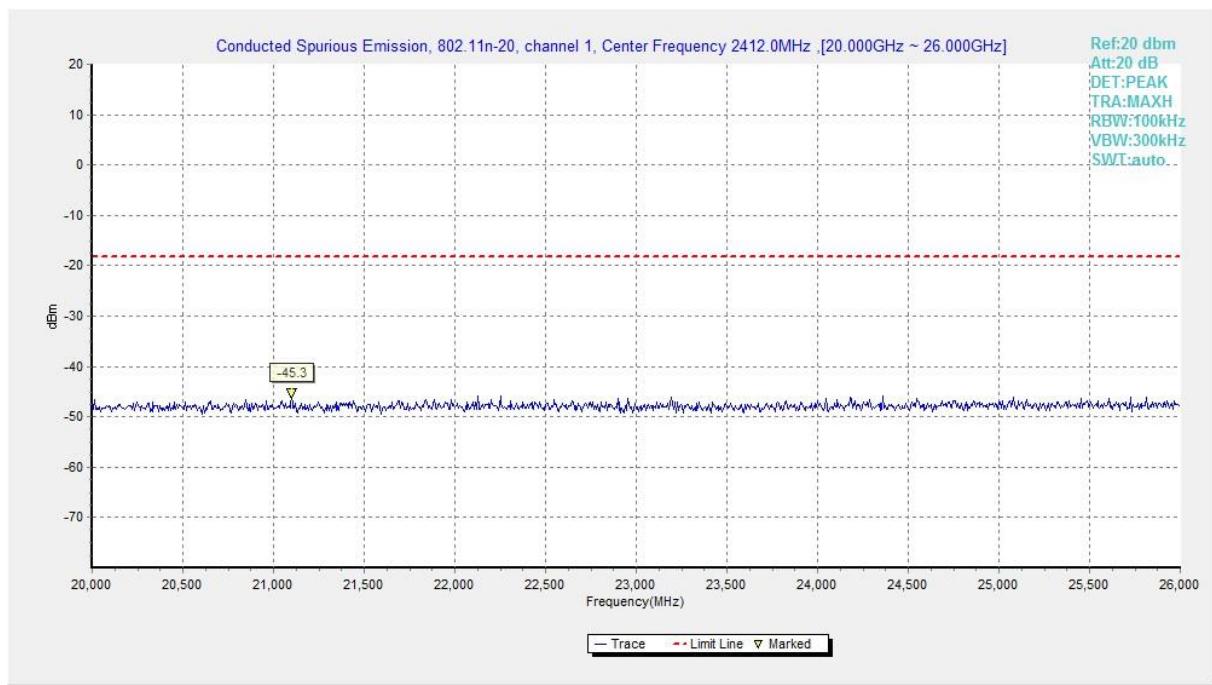


Fig.A.6.1.56 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch1, 20 GHz-26 GHz)

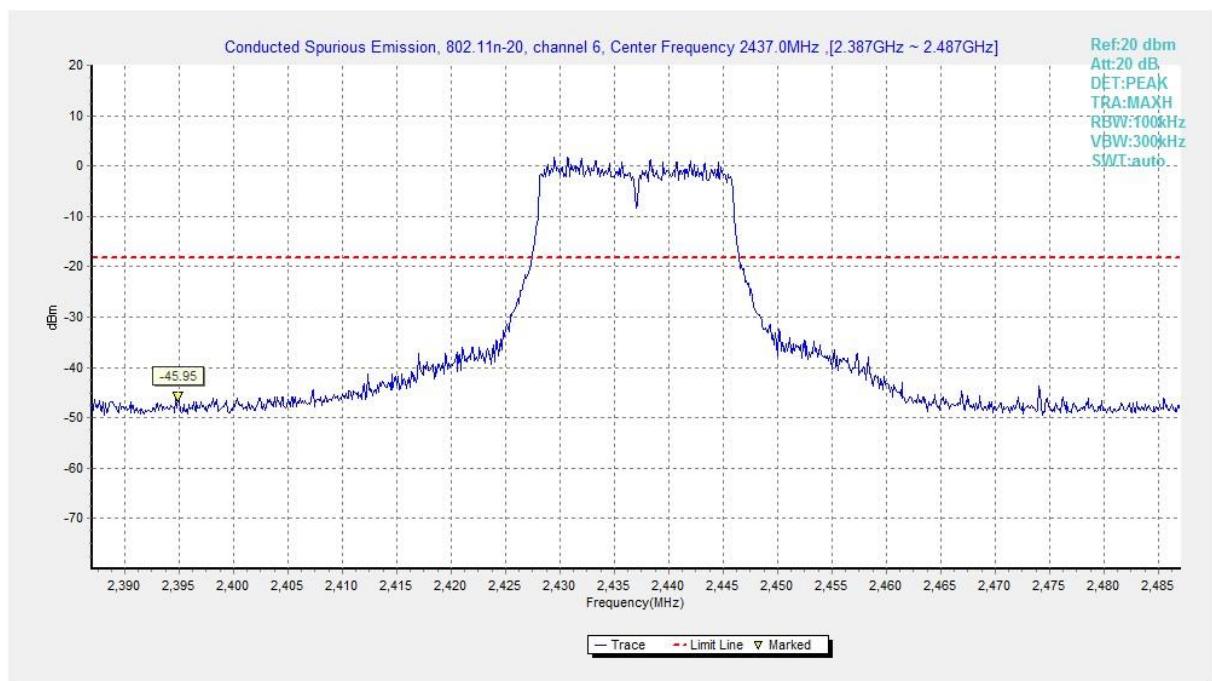


Fig.A.6.1.57 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, Center Frequency)

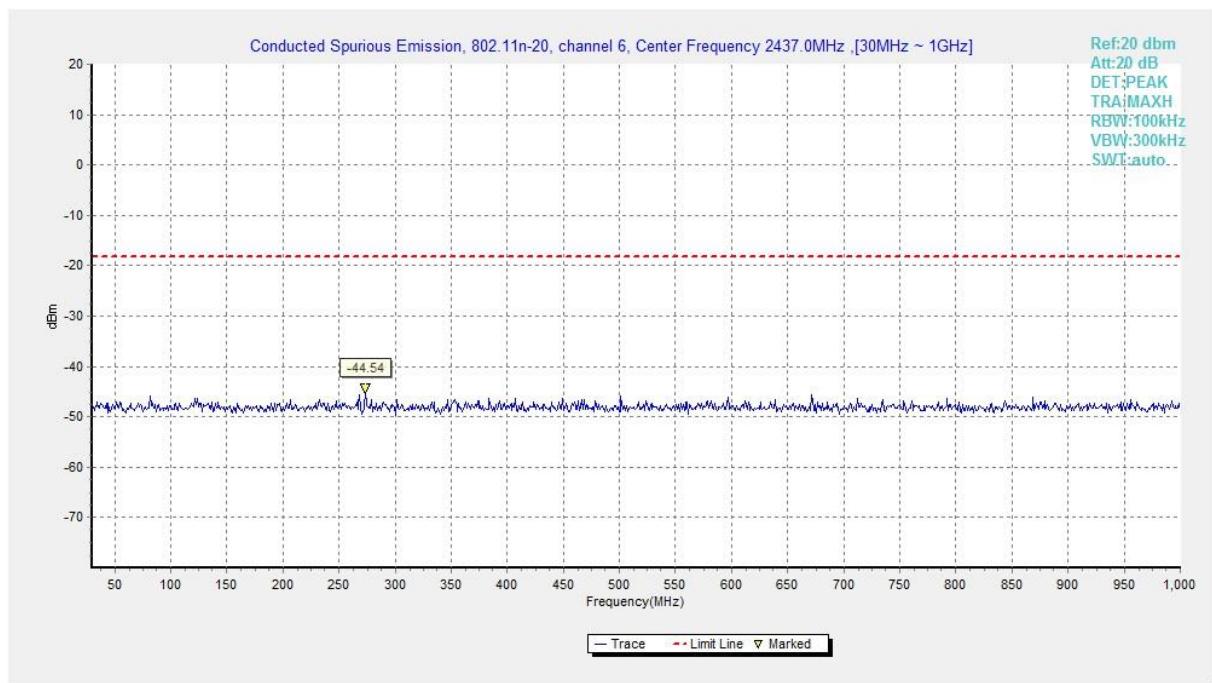


Fig.A.6.1.58 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 30 MHz-1 GHz)

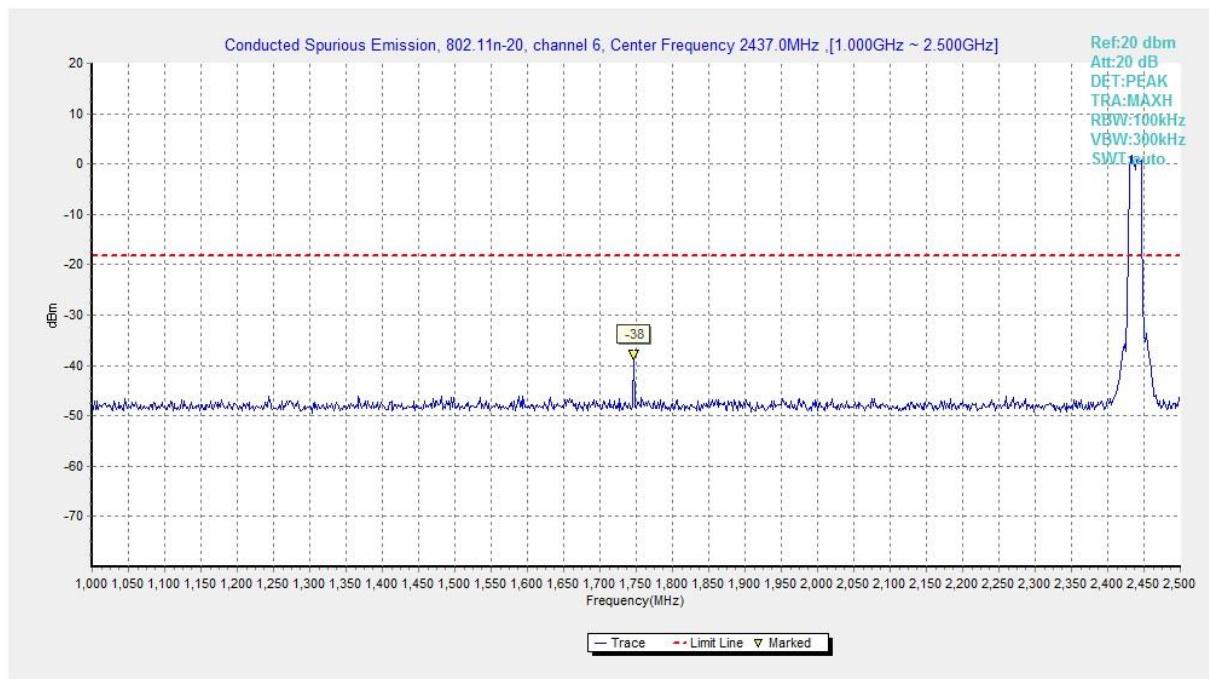


Fig.A.6.1.59 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 1 GHz-2.5 GHz)

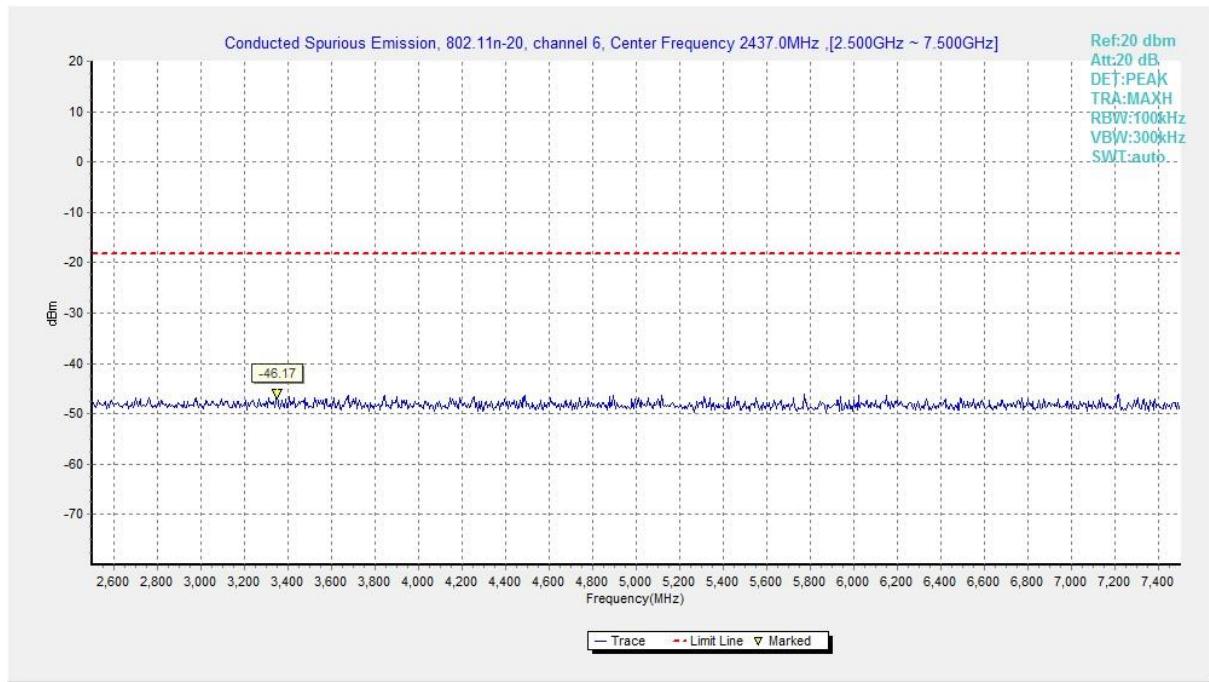


Fig.A.6.1.60 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 2.5 GHz-7.5 GHz)

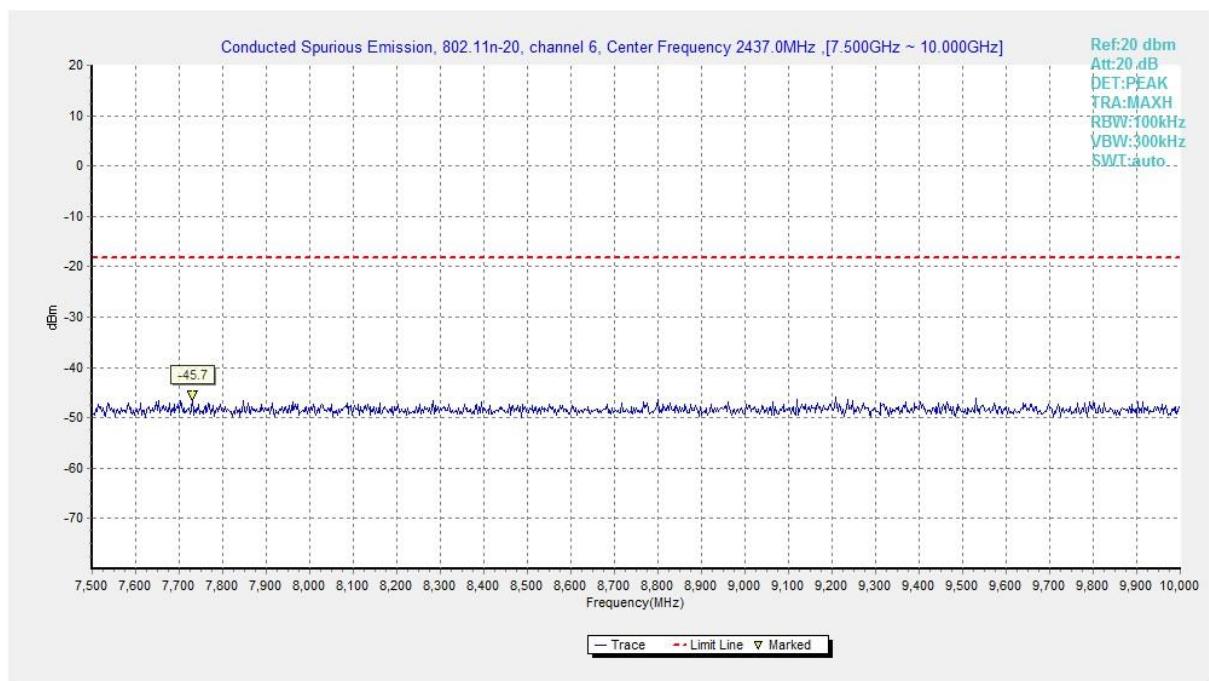


Fig.A.6.1.61 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 7.5 GHz-10 GHz)

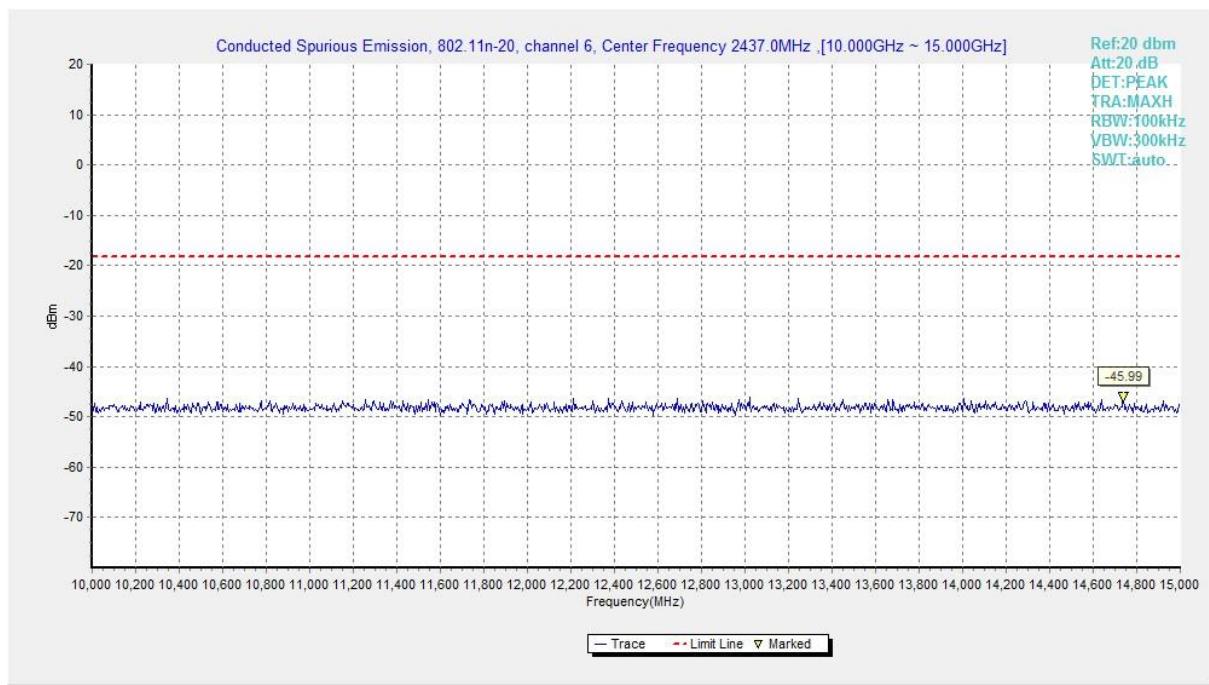


Fig.A.6.1.62 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 10 GHz-15 GHz)

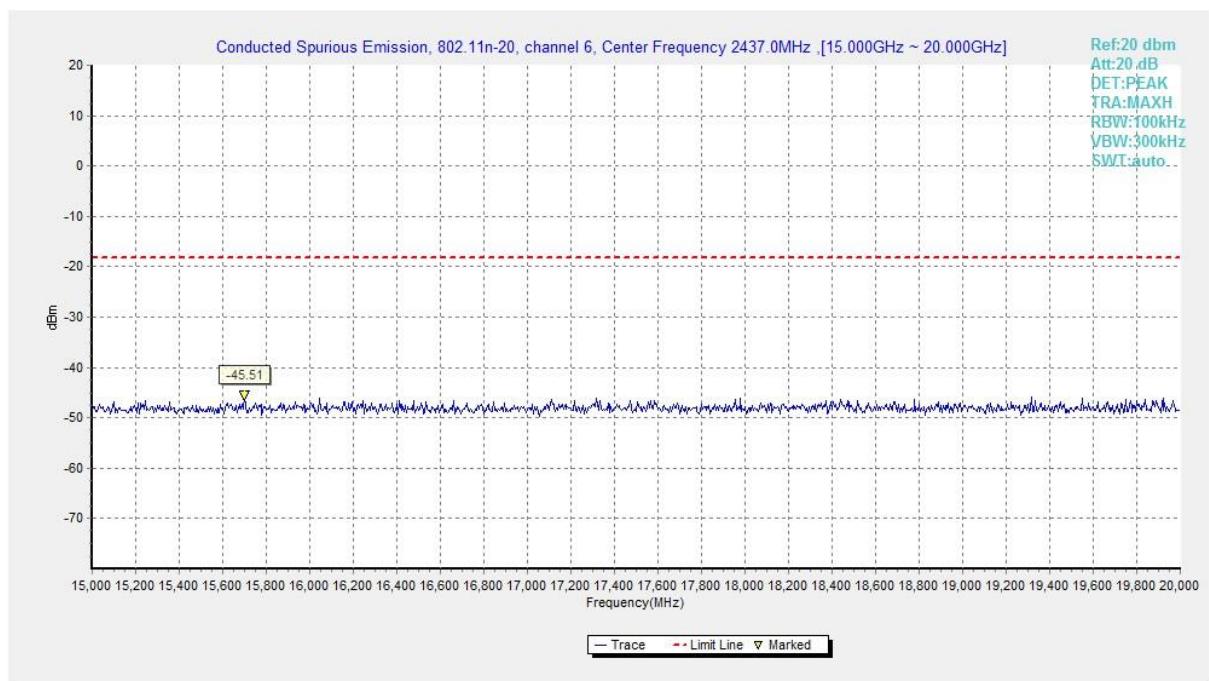


Fig.A.6.1.63 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 15 GHz-20 GHz)

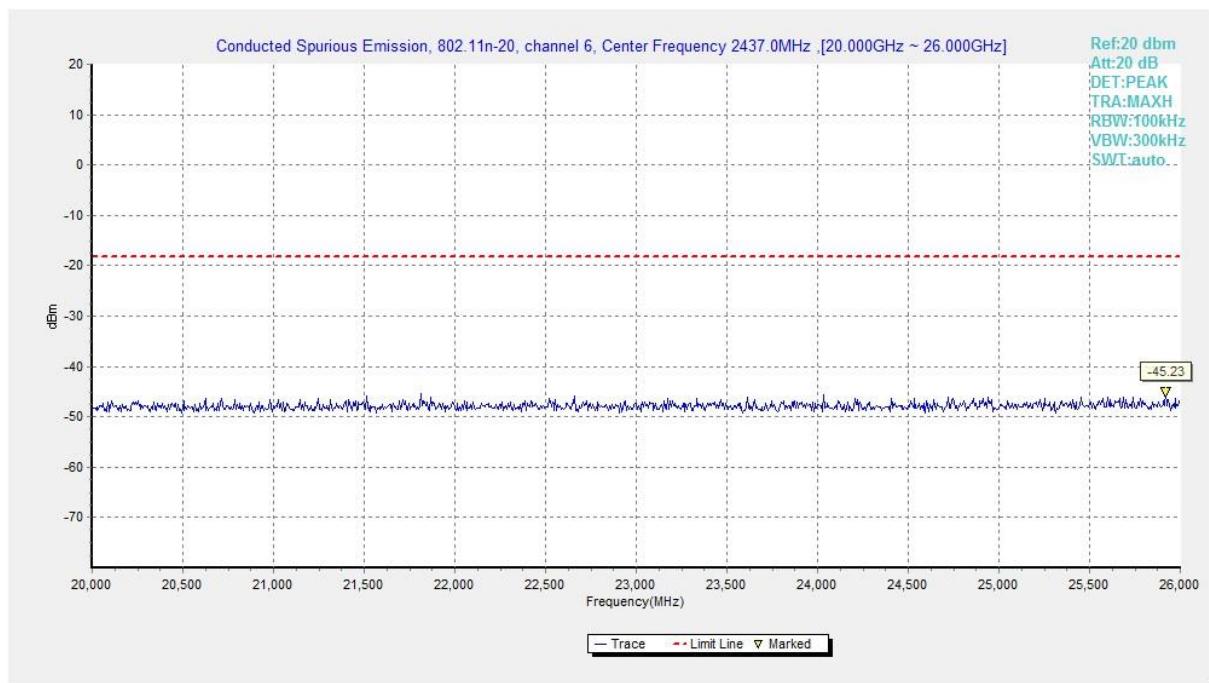


Fig.A.6.1.64 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch6, 20 GHz-26 GHz)

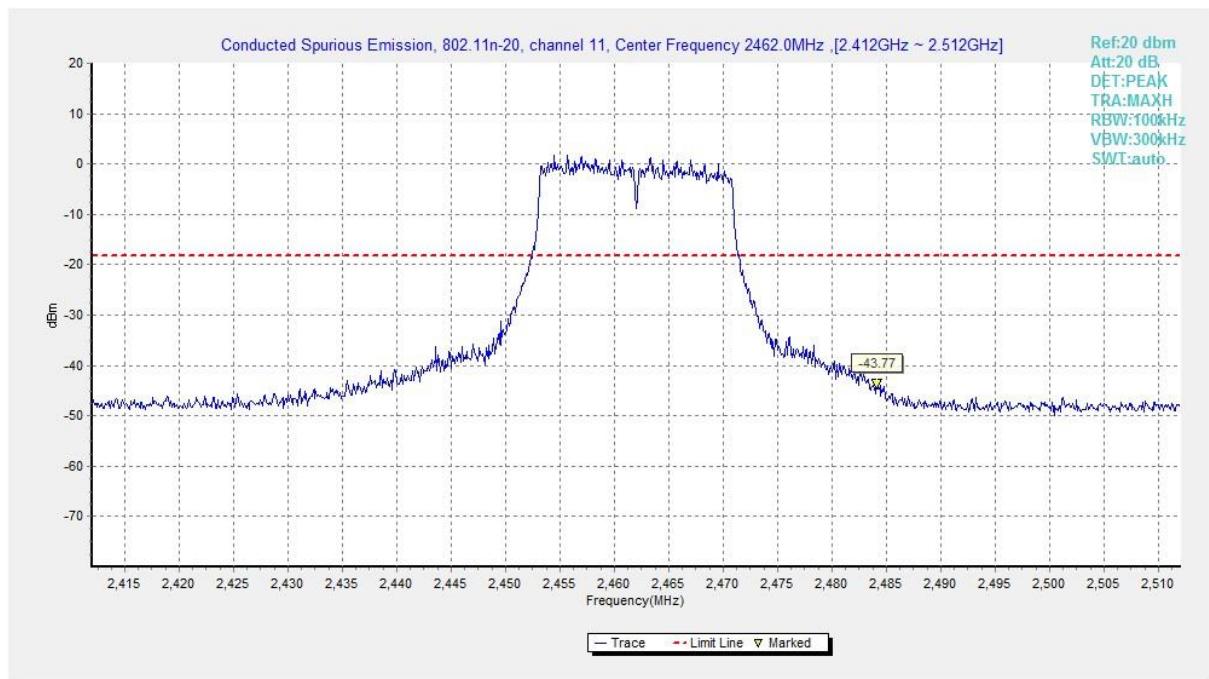


Fig.A.6.1.65 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, Center Frequency)

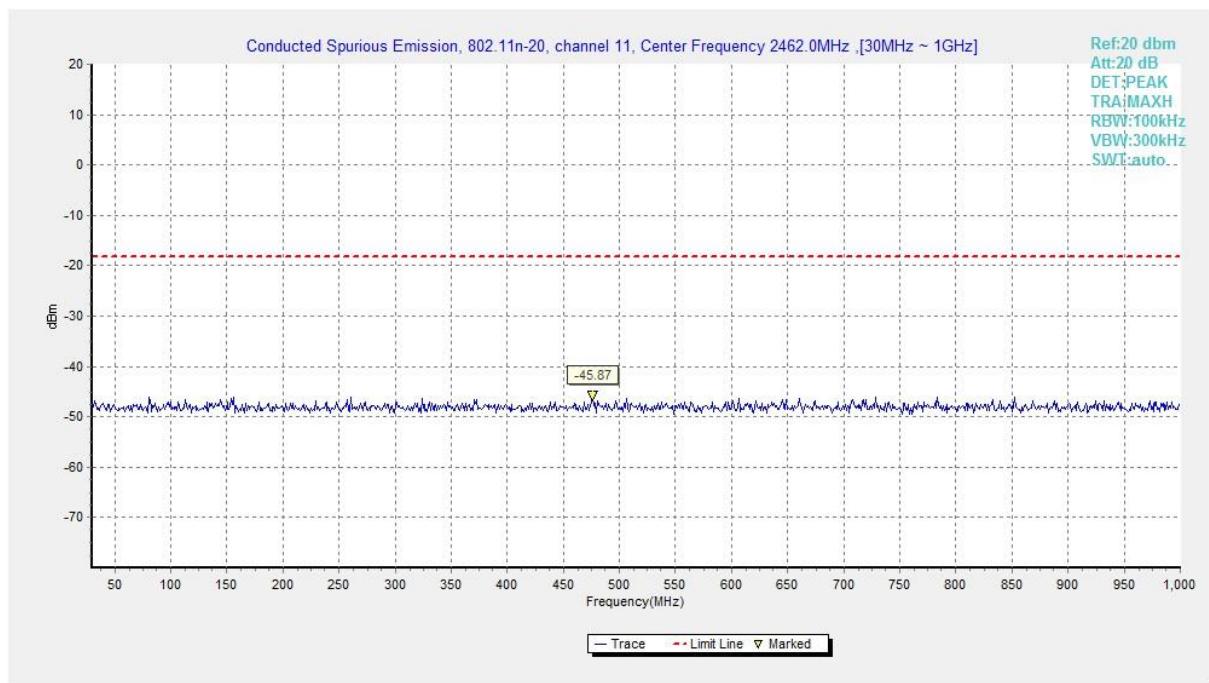


Fig.A.6.1.66 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 30 MHz-1 GHz)

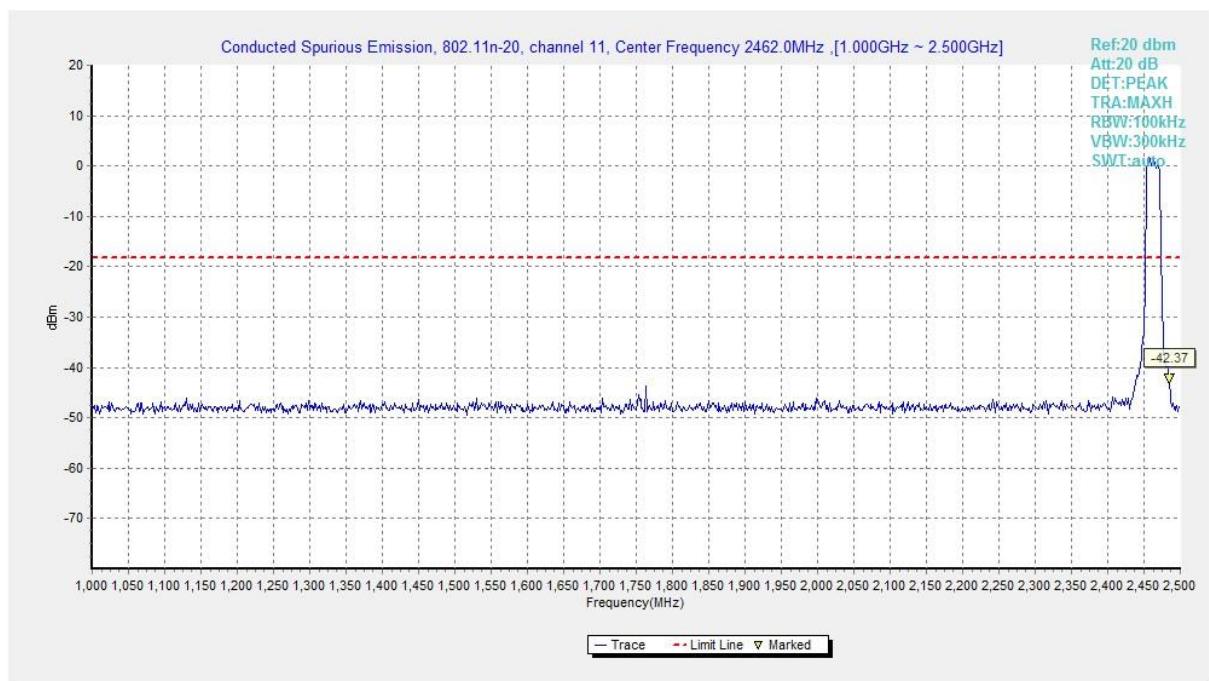


Fig.A.6.1.67 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)

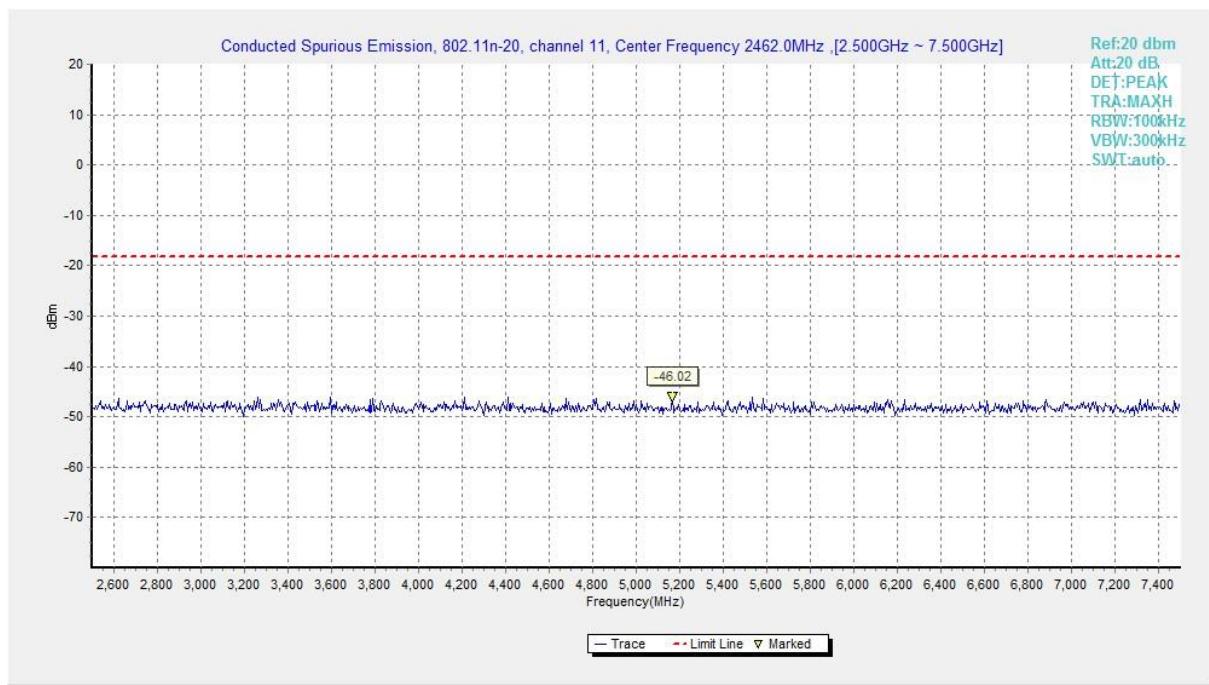


Fig.A.6.1.68 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)

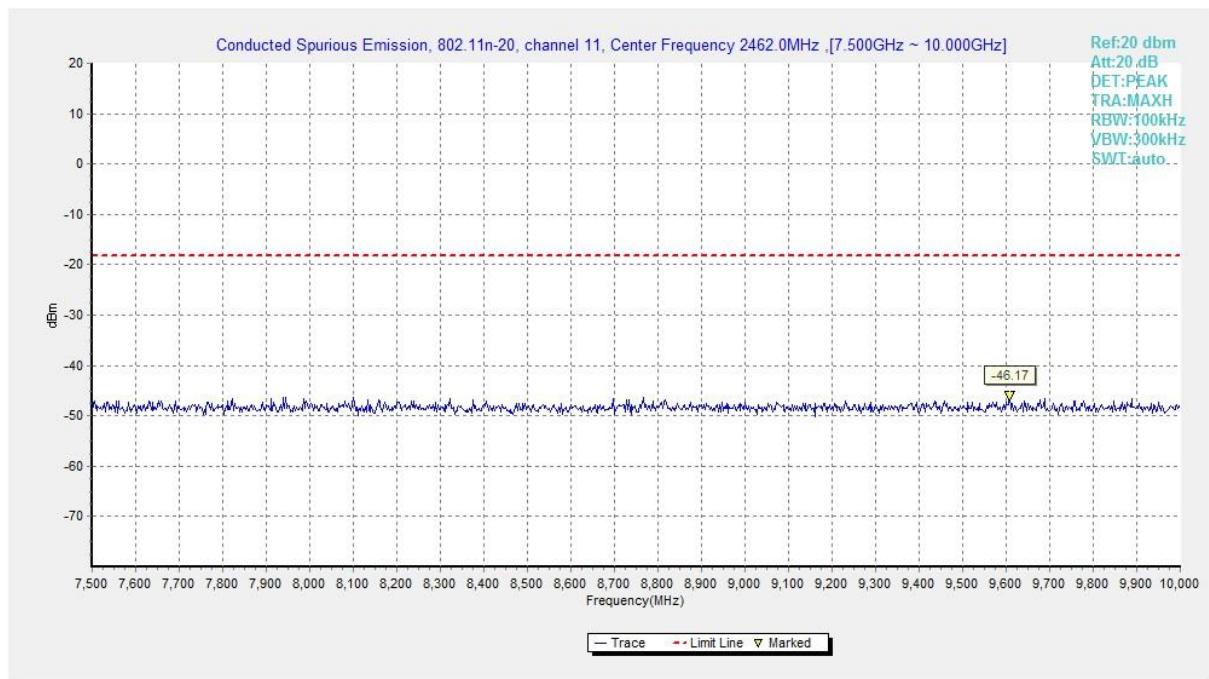


Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)

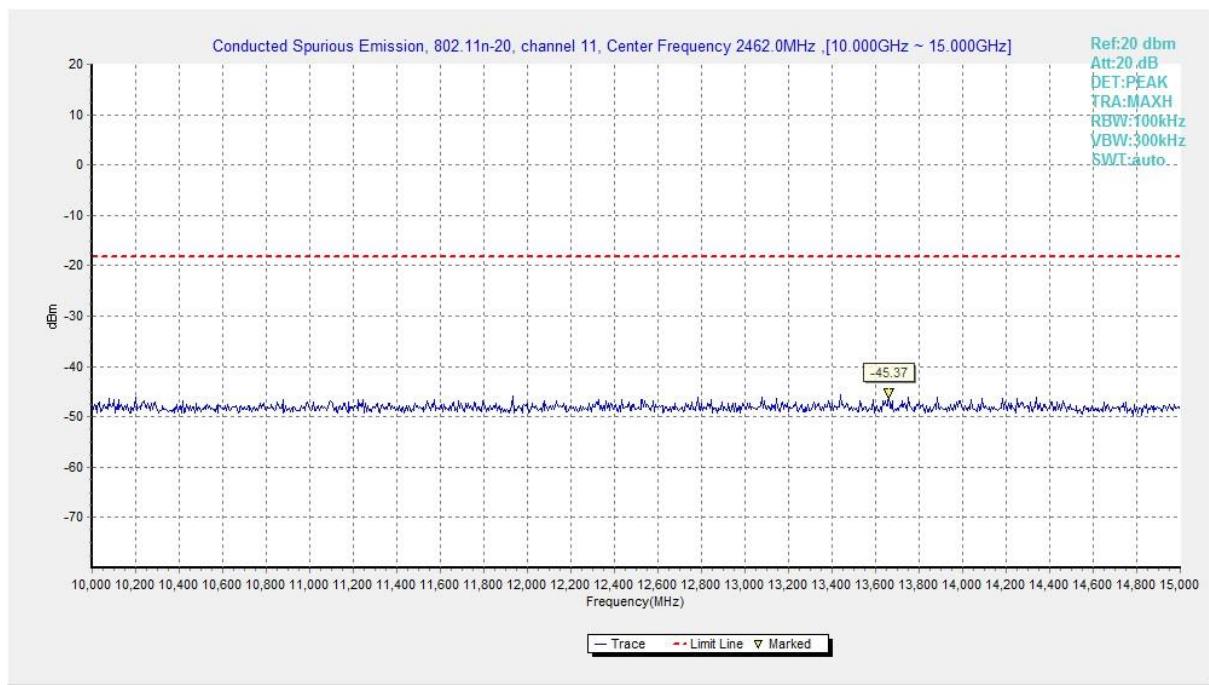


Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)

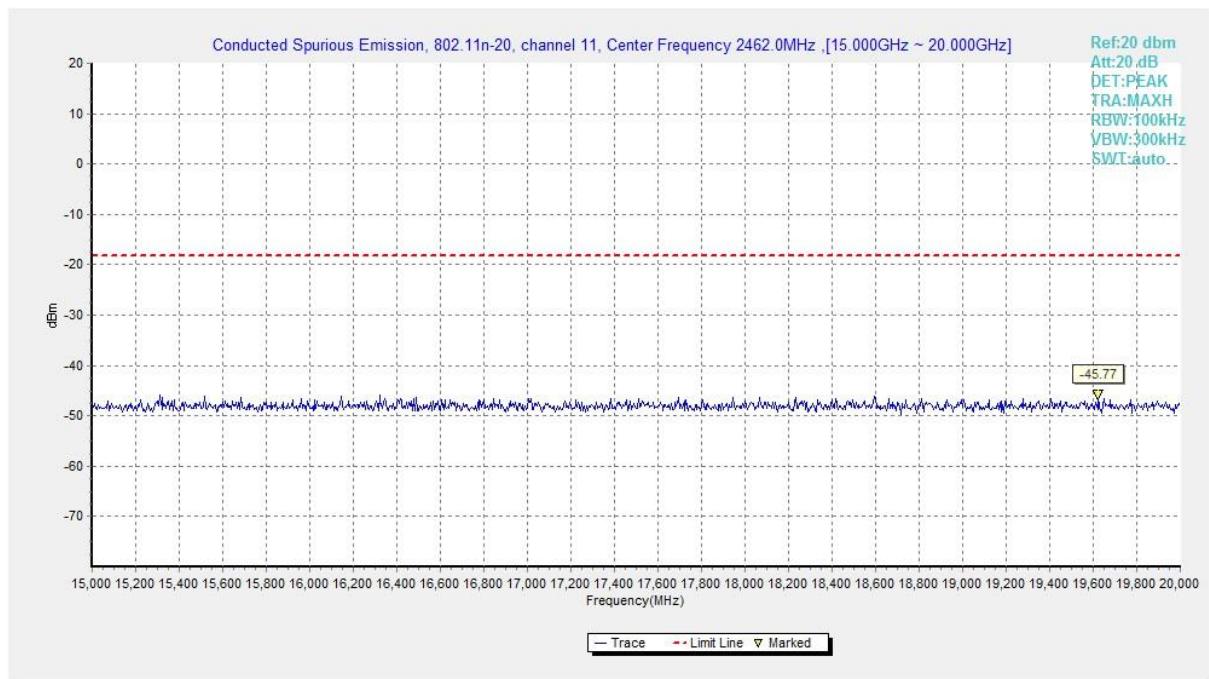


Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)

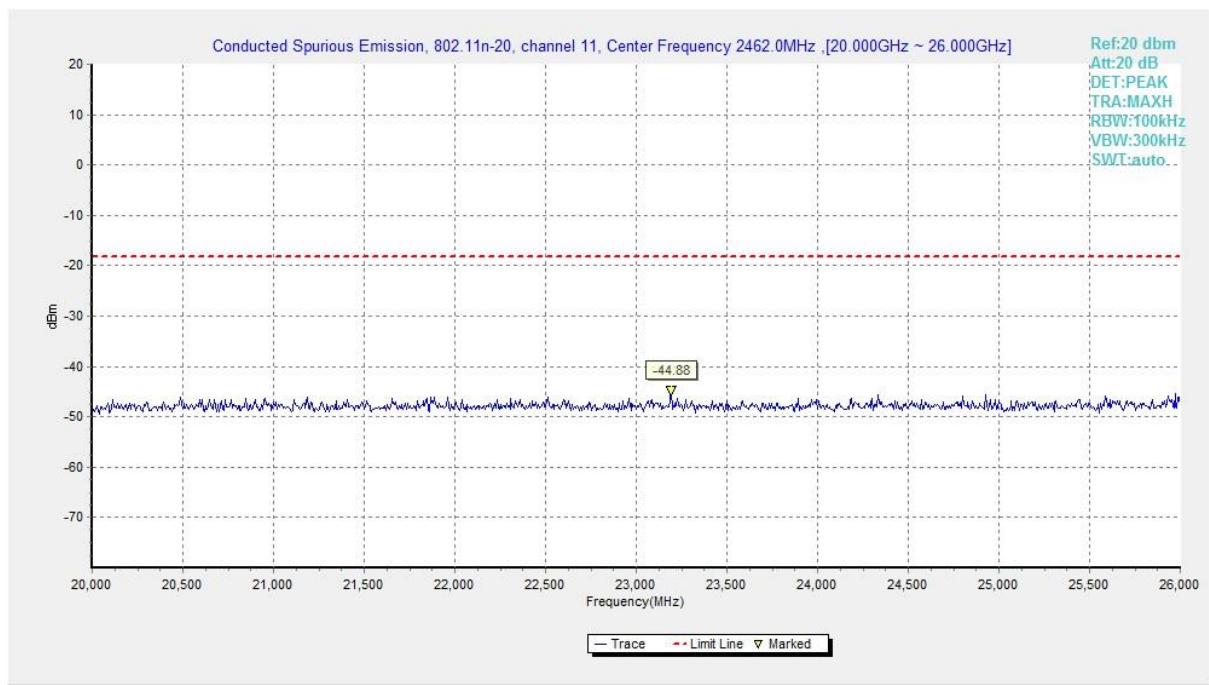


Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)

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(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(μ V/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 3/10 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 for Set.11:**802.11b mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power(ch1)	2.38GHz ~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)	2.38GHz ~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)	2.38GHz ~2.43GHz	Fig.A.6.2.5	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.6	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:

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

802.11b-Average

Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2386.740	46.19	2.9	32.0	11.32	54.0	7.8	H	155	20
2389.640	46.24	2.9	32.0	11.40	54.0	7.8	H	155	18
4824.000	38.50	-32.8	34.5	36.75	54.0	15.5	H	155	90
7236.000	37.02	-31.7	36.1	32.66	54.0	17.0	H	155	114
9648.000	40.79	-30.4	37.0	34.11	54.0	13.2	H	155	36
12060.000	41.81	-29.6	39.3	32.14	54.0	12.2	H	155	2

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2382.730	46.22	2.9	32.0	11.33	54.0	7.8	H	155	8
2486.760	46.49	2.9	32.7	10.89	54.0	7.5	H	155	46
4874.000	38.80	-32.7	34.5	37.01	54.0	15.2	H	155	20
7311.000	38.08	-31.9	36.1	33.91	54.0	15.9	H	155	118
9748.000	39.59	-30.7	37.2	33.06	54.0	14.4	H	155	82
12185.000	43.82	-29.4	39.2	34.02	54.0	10.2	H	155	46

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.600	46.44	2.9	32.8	10.75	54.0	7.6	H	155	8
2483.720	46.41	2.9	32.8	10.72	54.0	7.6	H	155	52
4924.000	39.85	-33.1	34.5	38.44	54.0	14.1	H	155	18
7386.000	38.49	-31.8	36.0	34.29	54.0	15.5	H	155	6
9848.000	40.36	-30.1	37.3	33.11	54.0	13.6	H	155	48
12310.000	41.63	-29.7	39.2	32.15	54.0	12.4	H	155	128

802.11b-Peak

Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2382.366	60.20	2.9	32.0	25.30	74.0	13.8	H	155	22
2389.254	60.16	2.9	32.0	25.31	74.0	13.8	H	155	22
4824.000	43.66	-32.8	34.5	41.91	74.0	30.3	H	155	88
7236.000	42.32	-31.7	36.1	37.96	74.0	31.7	V	155	110
9648.000	47.80	-30.4	37.0	41.12	74.0	26.2	V	155	44
12060.000	46.51	-29.6	39.3	36.83	74.0	27.5	H	155	0

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2345.403	48.60	-27.7	31.6	11.32	74.0	25.4	H	155	0
2568.204	49.60	-26.8	33.0	11.40	74.0	24.4	H	155	44
4873.500	44.33	-32.7	34.5	36.75	74.0	29.7	V	155	22
7311.000	44.07	-31.9	36.1	32.66	74.0	29.9	H	155	110
9747.750	46.50	-30.7	37.2	34.11	74.0	27.5	H	155	88
12185.250	47.68	-29.4	39.2	32.14	74.0	26.3	H	155	44

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2486.140	60.32	2.9	32.7	11.33	74.0	13.7	V	155	0
2487.620	60.02	2.9	32.6	10.89	74.0	14.0	H	155	44
4923.750	45.74	-33.1	34.5	37.01	74.0	28.3	V	155	22
7386.000	44.27	-31.8	36.0	33.91	74.0	29.7	H	155	0
9848.250	47.52	-30.1	37.3	33.06	74.0	26.5	H	155	44
12309.750	45.37	-29.7	39.2	34.02	74.0	28.6	V	155	132

802.11g - Average

Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2387.260	46.23	2.9	32.0	11.36	54.0	7.8	H	155	8
2389.271	46.28	2.9	32.0	11.43	54.0	7.7	H	155	28
4824.000	33.25	-32.8	34.5	31.50	54.0	20.8	H	155	6
7236.000	37.12	-31.7	36.1	32.75	54.0	16.9	H	155	278
9648.000	41.35	-30.4	37.0	34.67	54.0	12.7	H	155	122
12060.000	41.72	-29.6	39.3	32.05	54.0	12.3	H	155	245

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2384.650	46.21	2.9	32.0	11.32	54.0	7.8	H	155	86
2489.380	46.39	2.9	32.6	10.86	54.0	7.6	H	155	107
4874.000	32.99	-32.7	34.5	31.20	54.0	21.0	H	155	130
7311.000	37.96	-31.9	36.1	33.80	54.0	16.0	H	155	152
9748.000	40.66	-30.7	37.2	34.13	54.0	13.3	H	155	174
12185.000	43.76	-29.4	39.2	33.97	54.0	10.2	H	155	195

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.720	46.71	2.9	32.8	11.02	54.0	7.3	H	155	175
2483.380	46.47	2.9	32.8	10.77	54.0	7.5	H	155	194
4924.000	33.83	-33.1	34.5	32.41	54.0	20.2	H	155	215
7386.000	38.60	-31.8	36.0	34.39	54.0	15.4	H	155	196
9848.000	42.30	-30.1	37.3	35.04	54.0	11.7	H	155	241
12310.000	41.61	-29.7	39.2	32.14	54.0	12.4	H	155	259

802.11g - Peak

Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2383.840	60.26	2.9	32.0	25.37	74.0	13.7	V	155	0
2382.170	60.62	2.9	32.0	25.71	74.0	13.4	V	155	22
4824.000	41.54	-32.8	34.5	39.79	74.0	32.5	H	155	0
7236.000	42.92	-31.7	36.1	38.56	74.0	31.1	H	155	264
9648.000	47.30	-30.4	37.0	40.62	74.0	26.7	H	155	110
12060.000	46.58	-29.6	39.3	36.91	74.0	27.4	H	155	242

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2330.780	48.35	-27.7	31.3	44.76	74.0	25.7	V	155	88
2709.350	50.39	-26.7	33.1	44.02	74.0	23.6	H	155	110
4874.250	40.94	-32.7	34.5	39.14	74.0	33.1	V	155	132
7311.000	44.46	-31.9	36.1	40.29	74.0	29.5	H	155	154
9747.750	46.77	-30.7	37.2	40.24	74.0	27.2	V	155	176
12185.250	48.35	-29.4	39.2	38.56	74.0	25.6	V	155	198

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2493.092	60.34	2.9	32.5	24.90	74.0	13.7	V	155	176
2490.210	59.59	2.9	32.6	24.08	74.0	14.4	H	155	198
4923.750	41.62	-33.1	34.5	40.20	74.0	32.4	V	155	220
7386.000	45.04	-31.8	36.0	40.84	74.0	29.0	H	155	198
9848.250	49.38	-30.1	37.3	42.12	74.0	24.6	H	155	242
12309.750	45.30	-29.7	39.2	35.83	74.0	28.7	V	155	264

802.11n-HT20-Average

Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2385.970	46.28	2.9	32.0	11.41	54.0	7.7	H	155	170
2389.562	46.35	2.9	32.0	11.50	54.0	7.7	H	155	150
4824.000	33.14	-32.8	34.5	31.39	54.0	20.9	H	155	20
7236.000	37.03	-31.7	36.1	32.67	54.0	17.0	H	155	180
9648.000	41.76	-30.4	37.0	35.08	54.0	12.2	H	155	202
12060.000	41.69	-29.6	39.3	32.01	54.0	12.3	H	155	8

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2380.970	46.32	2.9	32.1	11.41	54.0	7.7	H	155	25
2489.874	46.43	2.9	32.6	10.91	54.0	7.6	H	155	49
4874.000	32.90	-32.7	34.5	31.11	54.0	21.1	H	155	4
7311.000	38.00	-31.9	36.1	33.84	54.0	16.0	H	155	6
9748.000	41.11	-30.7	37.2	34.58	54.0	12.9	H	155	25
12185.000	43.81	-29.4	39.2	34.02	54.0	10.2	H	155	186

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.840	46.64	2.9	32.8	10.96	54.0	7.4	H	155	175
2483.950	46.61	2.9	32.7	10.93	54.0	7.4	H	155	194
4924.000	33.68	-33.1	34.5	32.27	54.0	20.3	H	155	215
7386.000	38.64	-31.8	36.0	34.43	54.0	15.4	H	155	196
9848.000	41.81	-30.1	37.3	34.55	54.0	12.2	H	155	241
12310.000	41.56	-29.7	39.2	32.08	54.0	12.4	H	155	259