

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

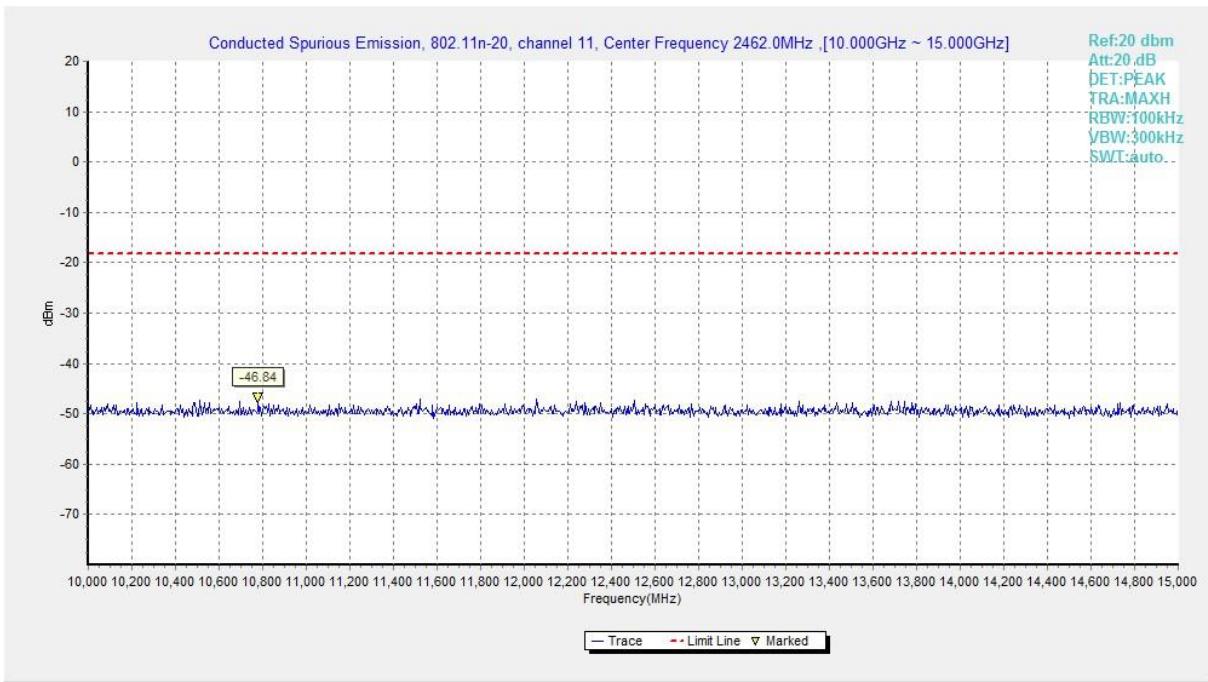


Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)

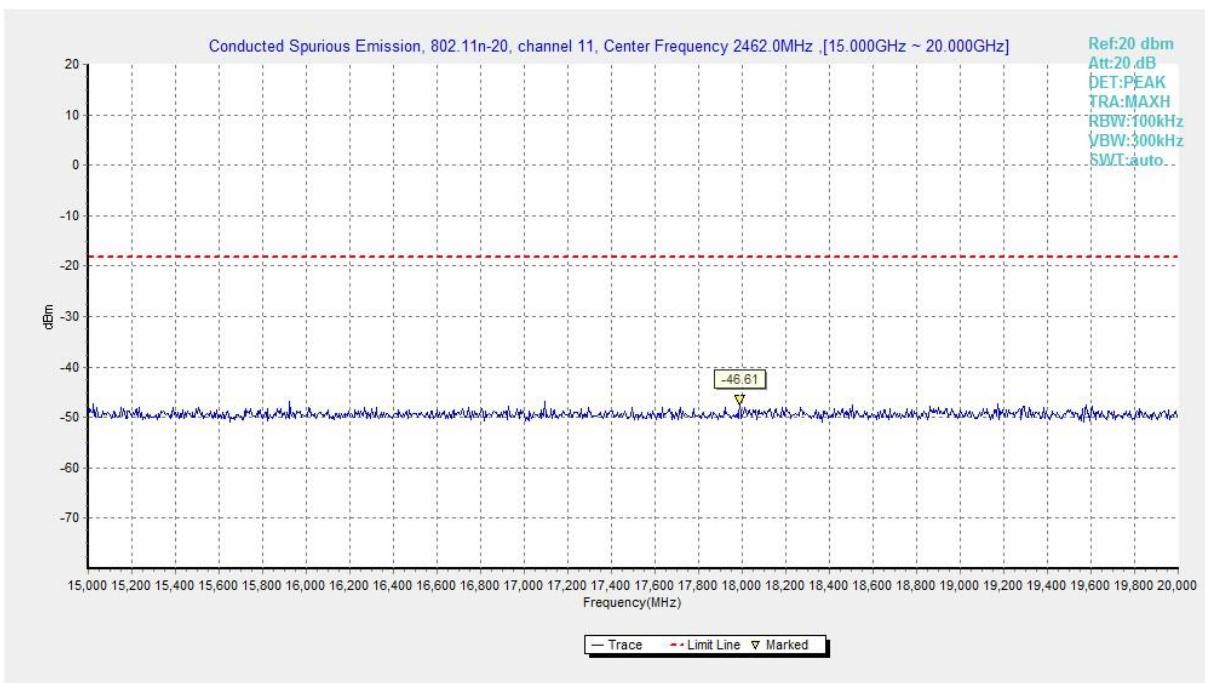


Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)

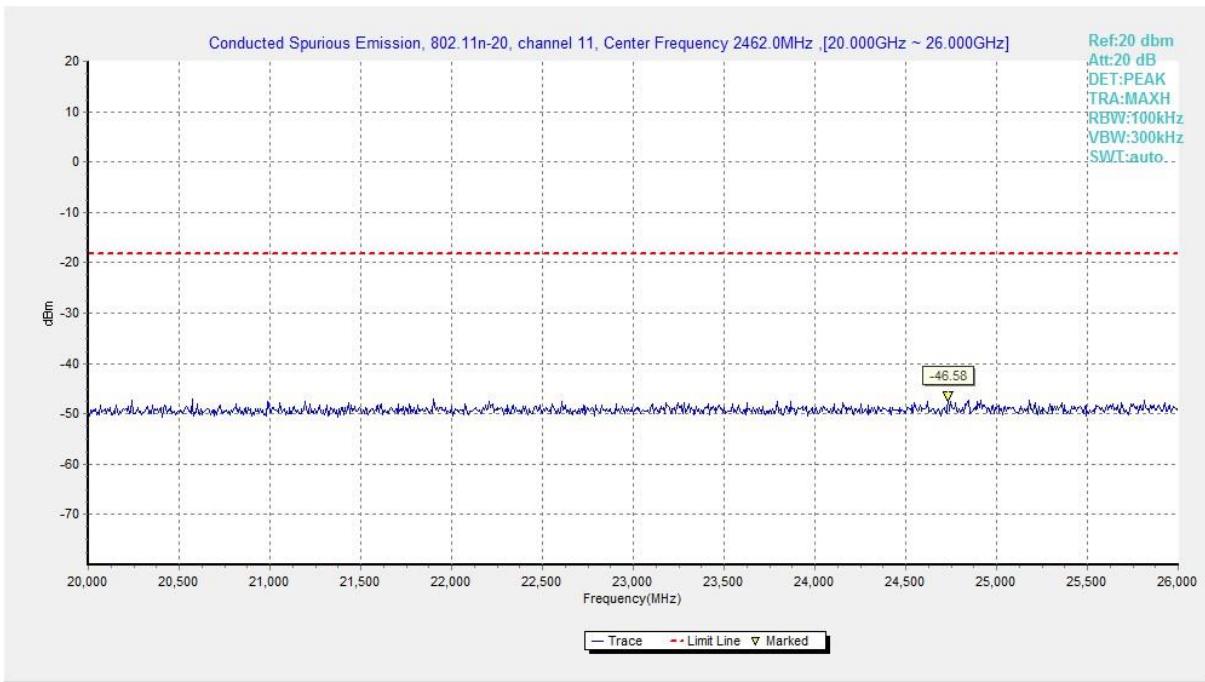


Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)

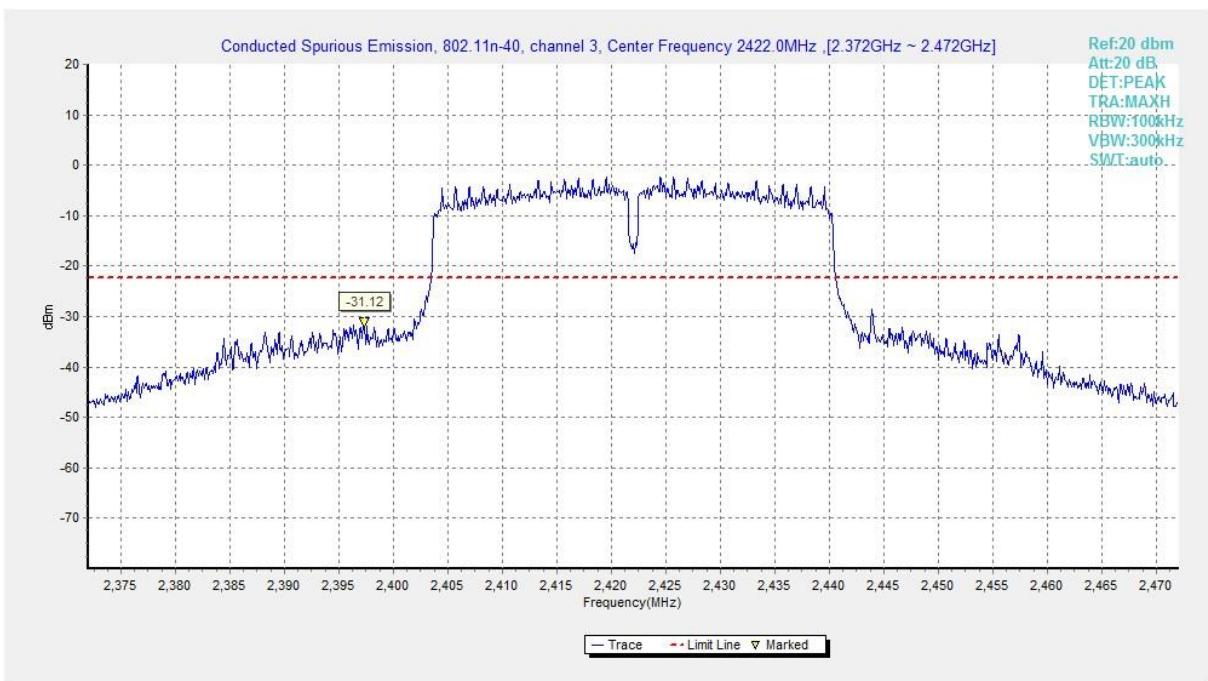


Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)

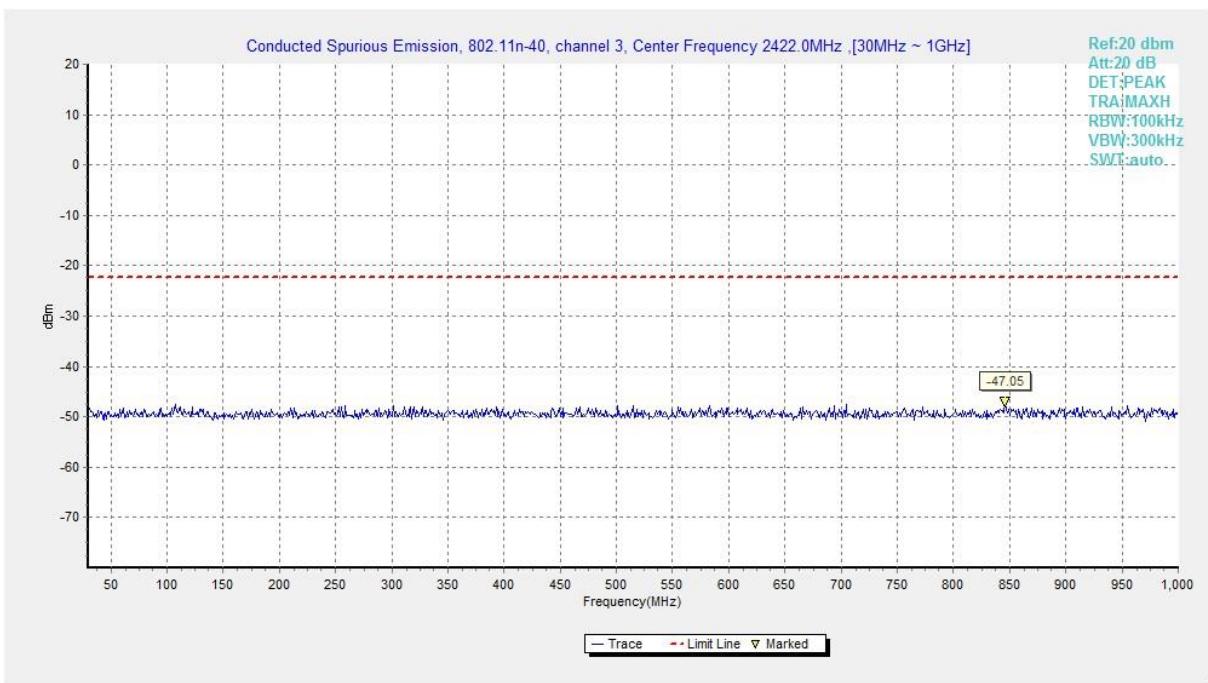


Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)

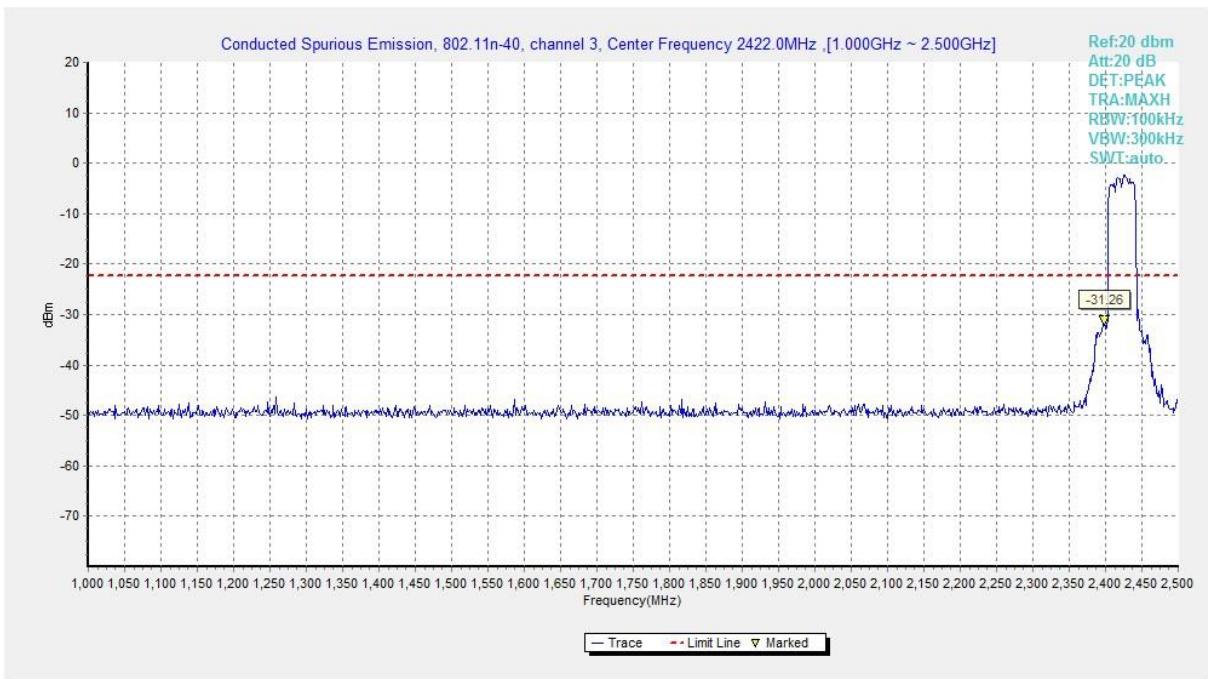


Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)

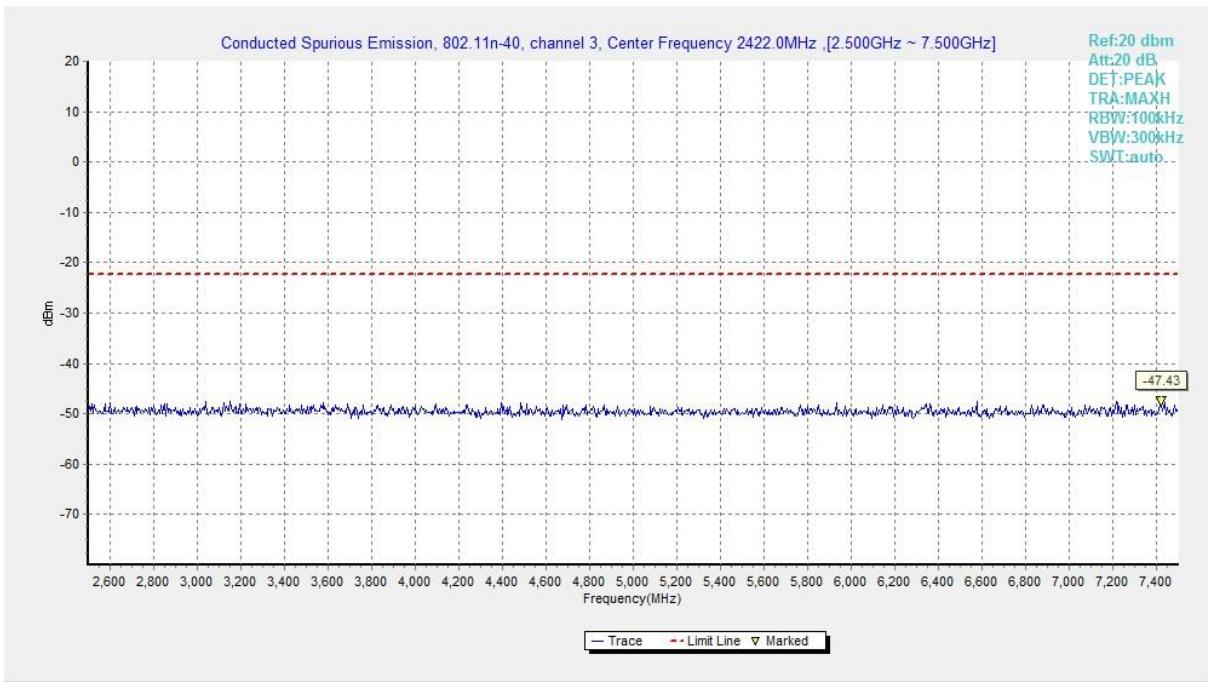


Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)

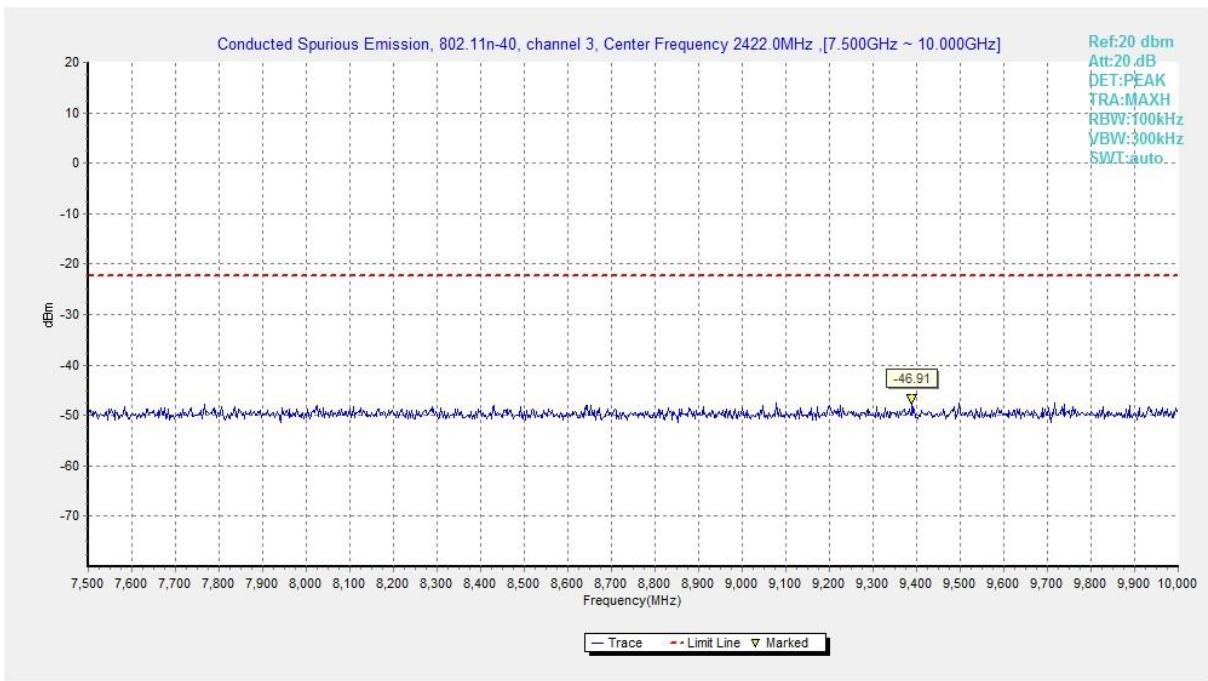


Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)

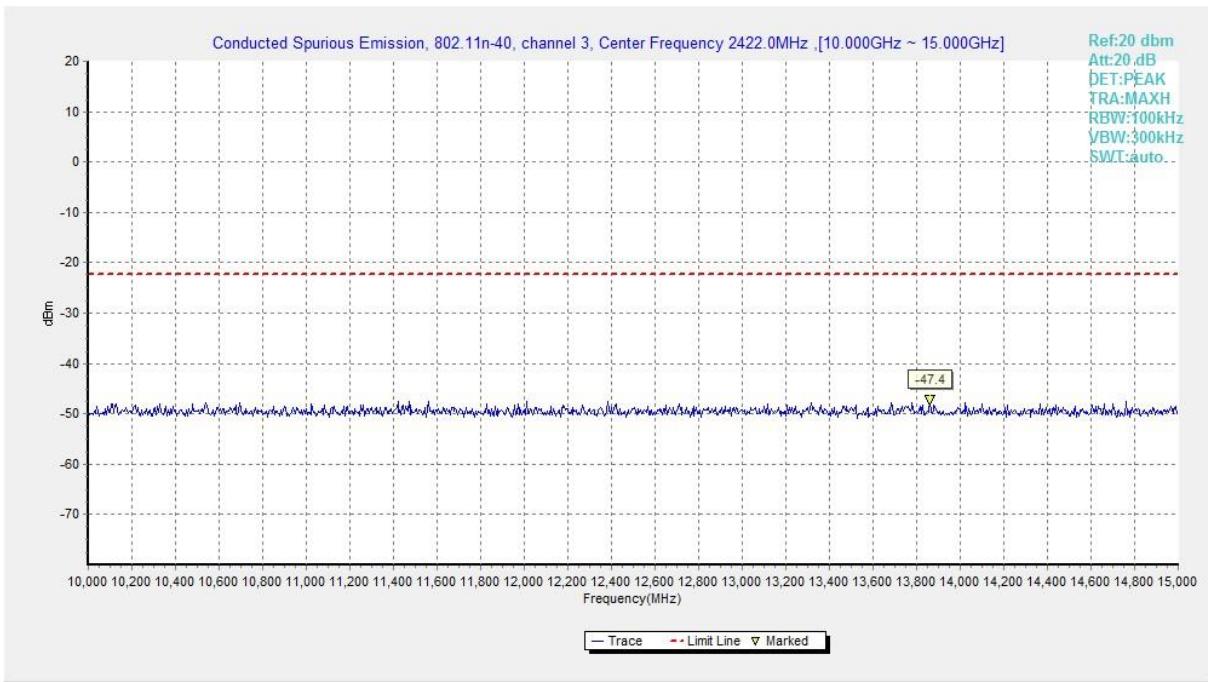


Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)

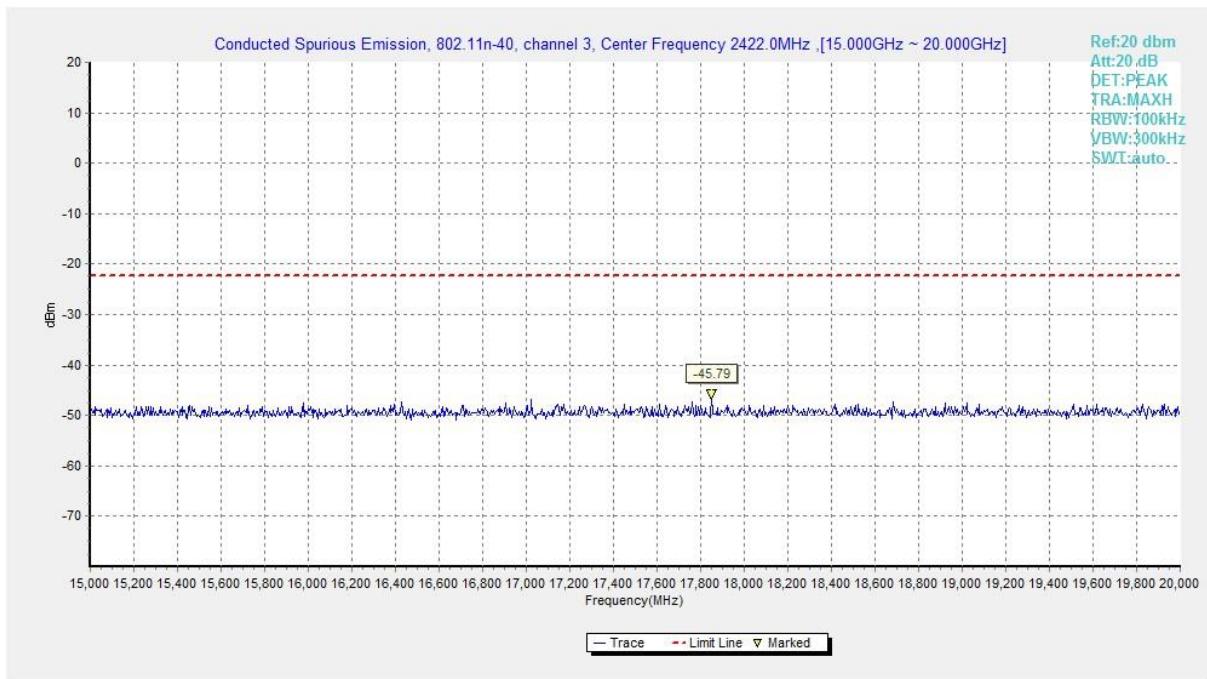


Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)

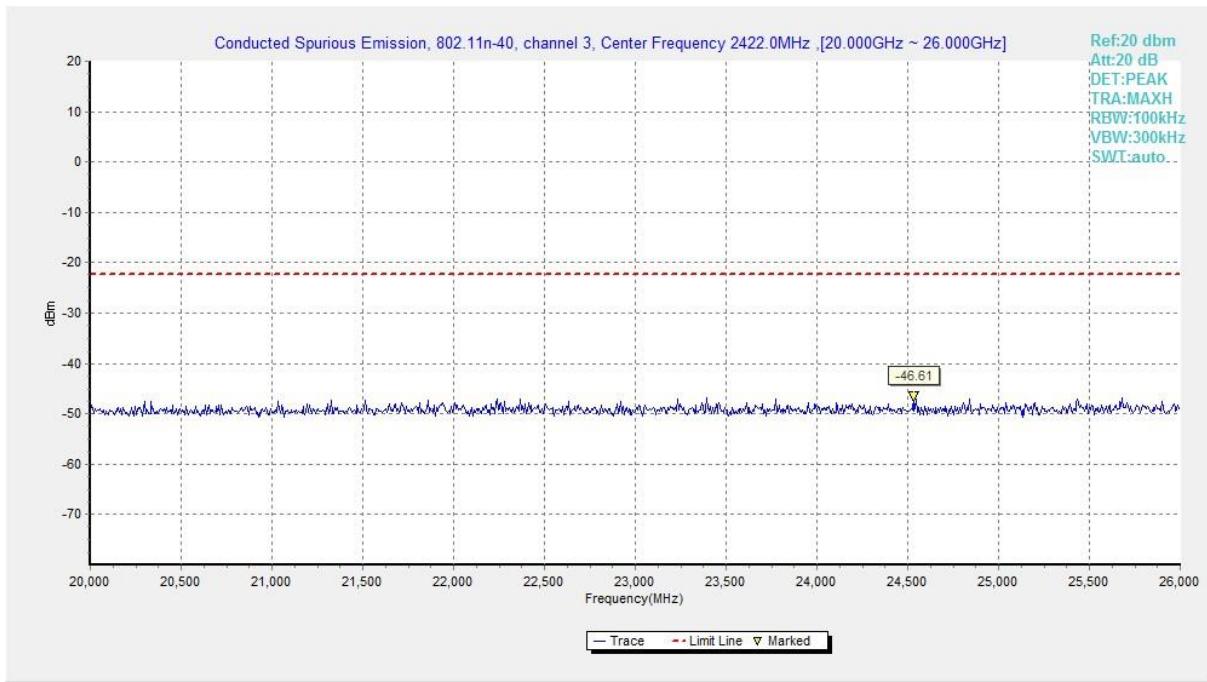


Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)

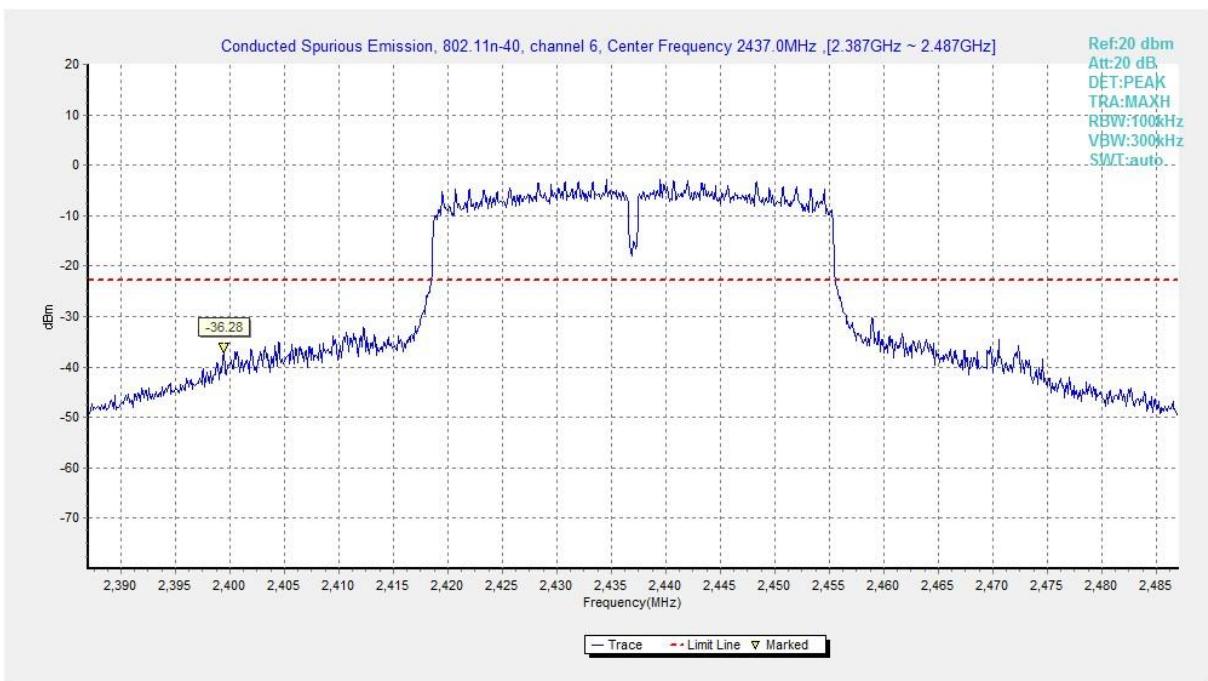


Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

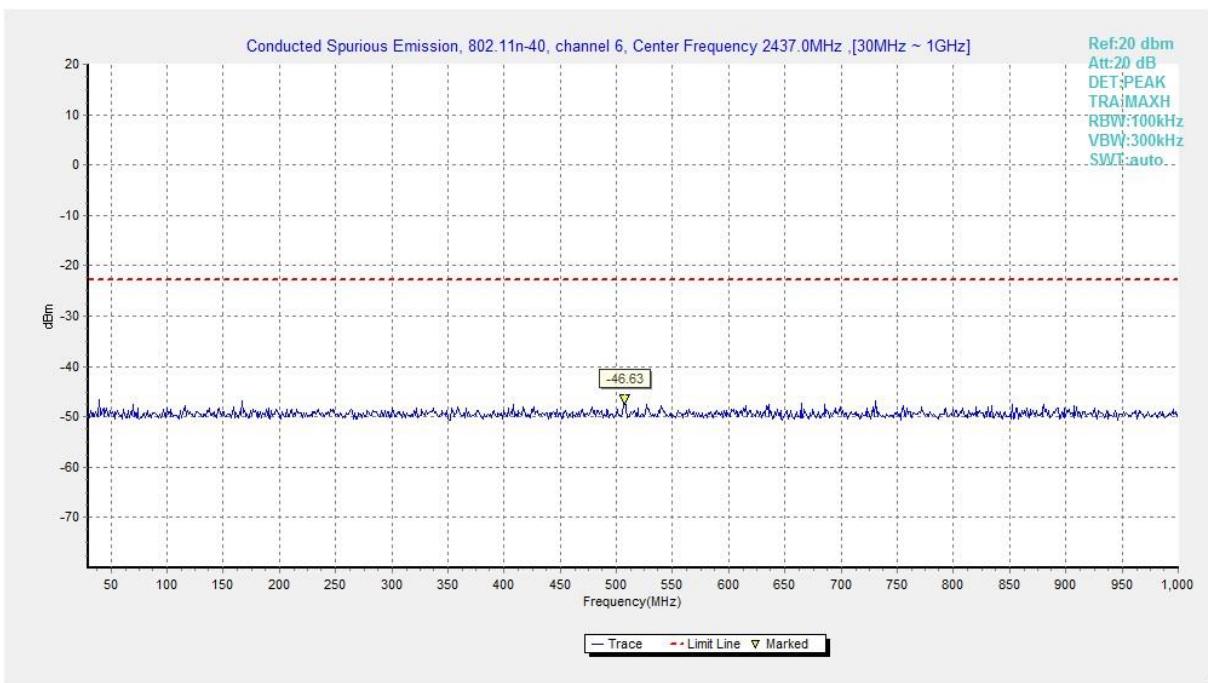


Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

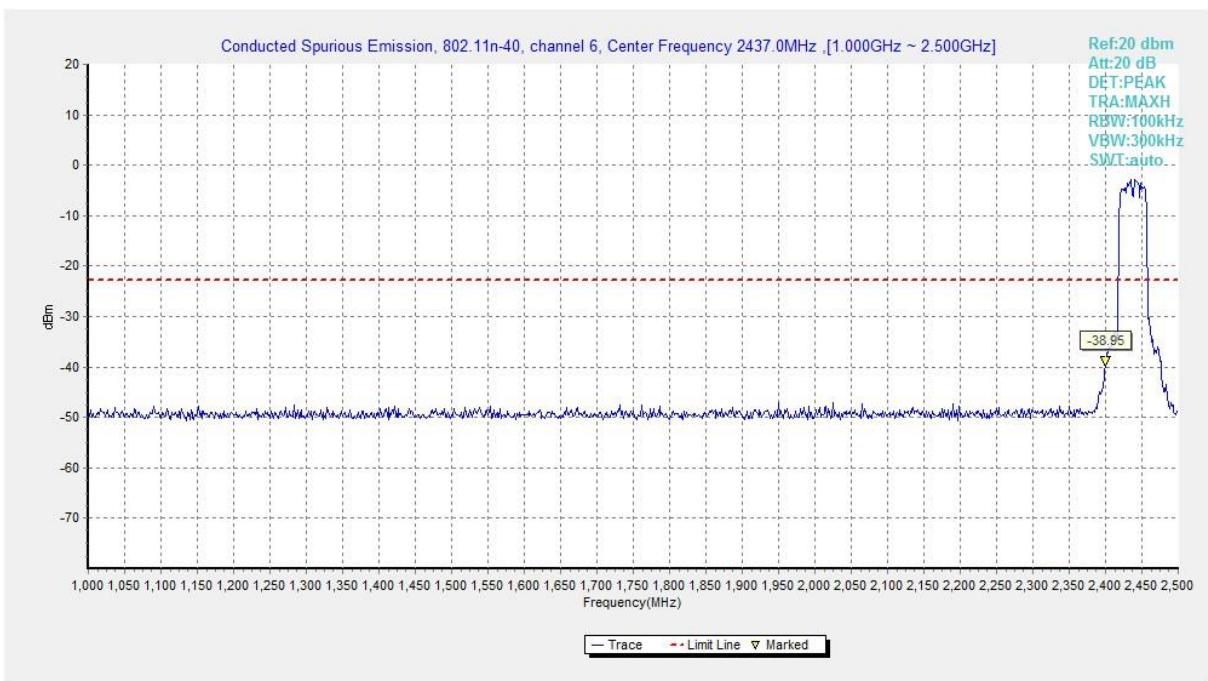


Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

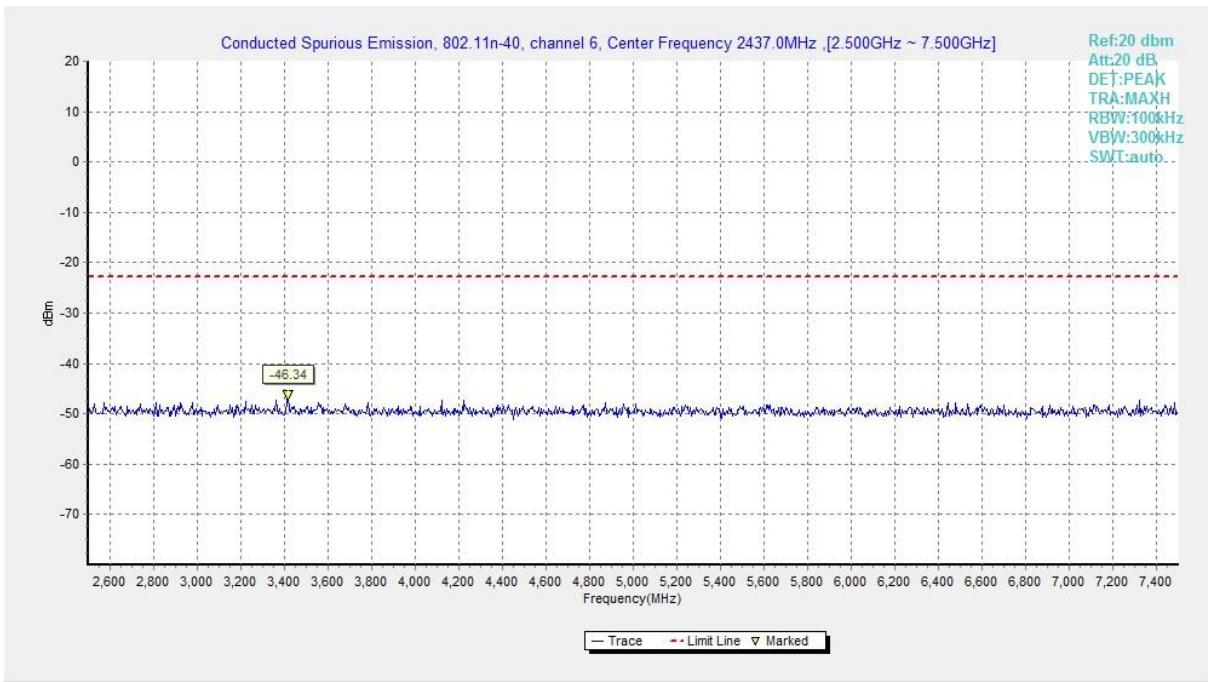


Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

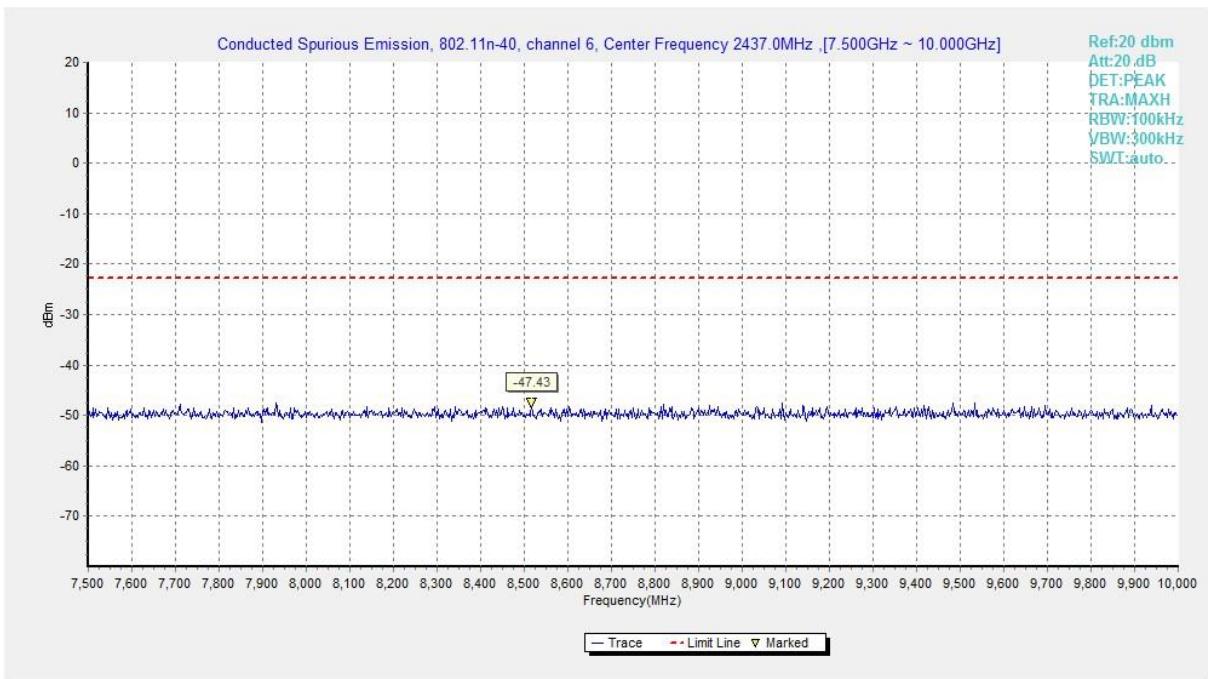


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

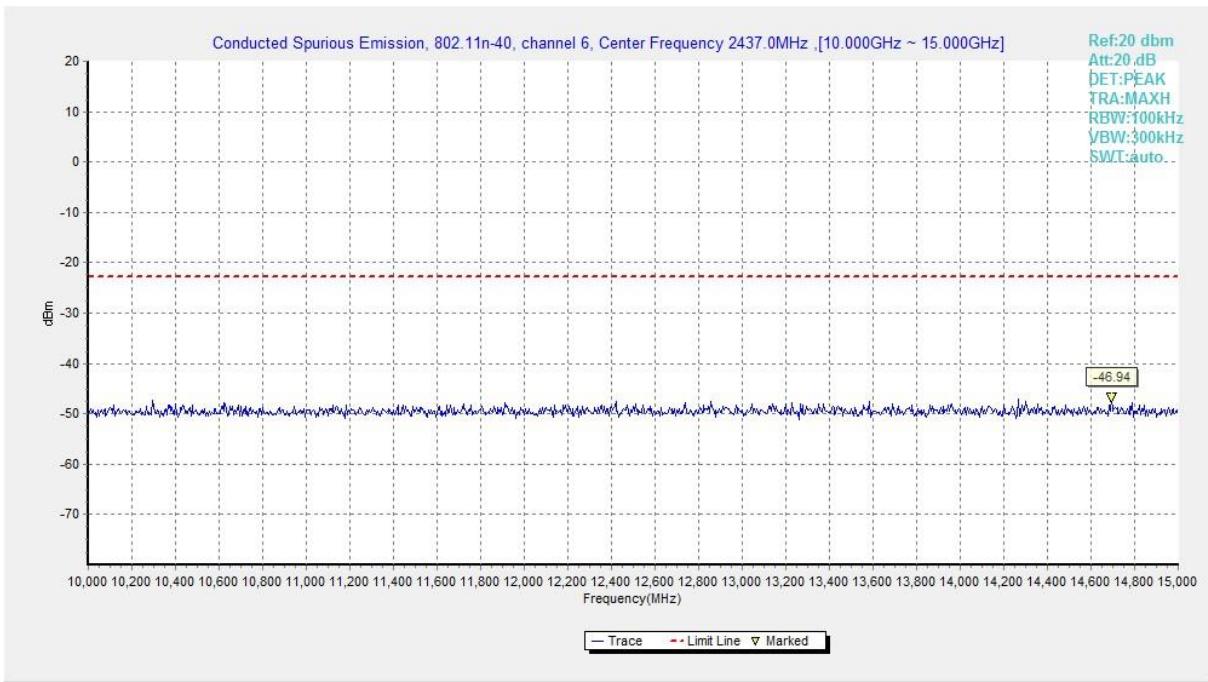


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

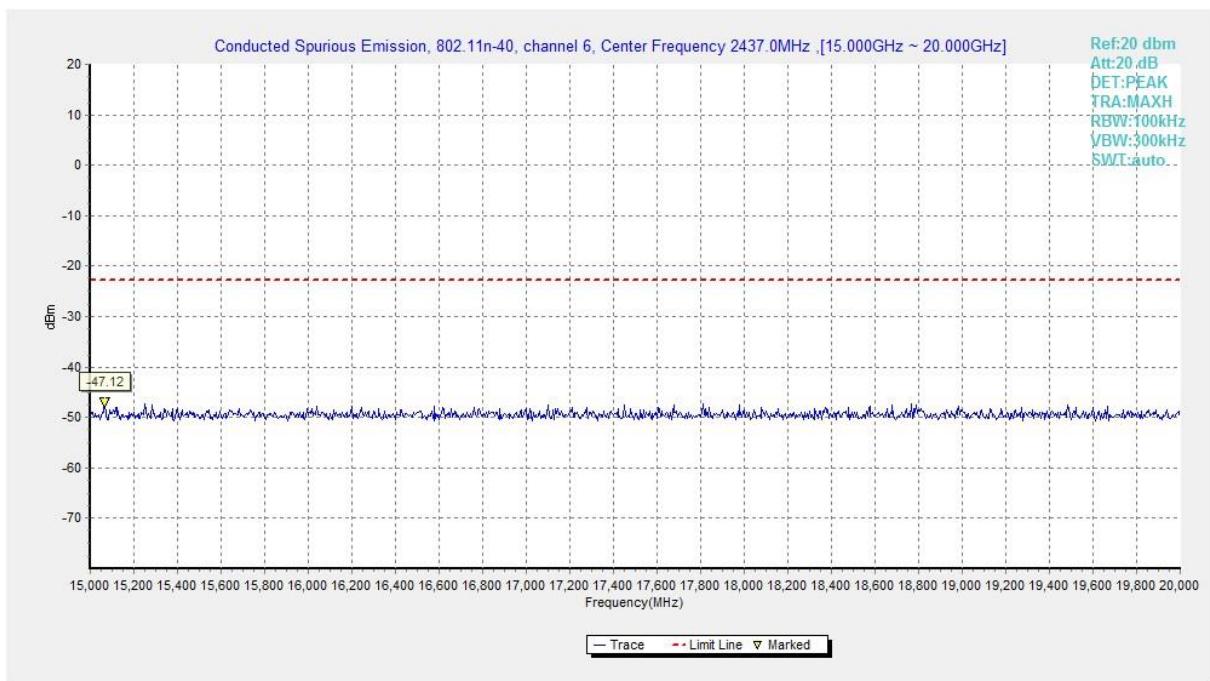


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

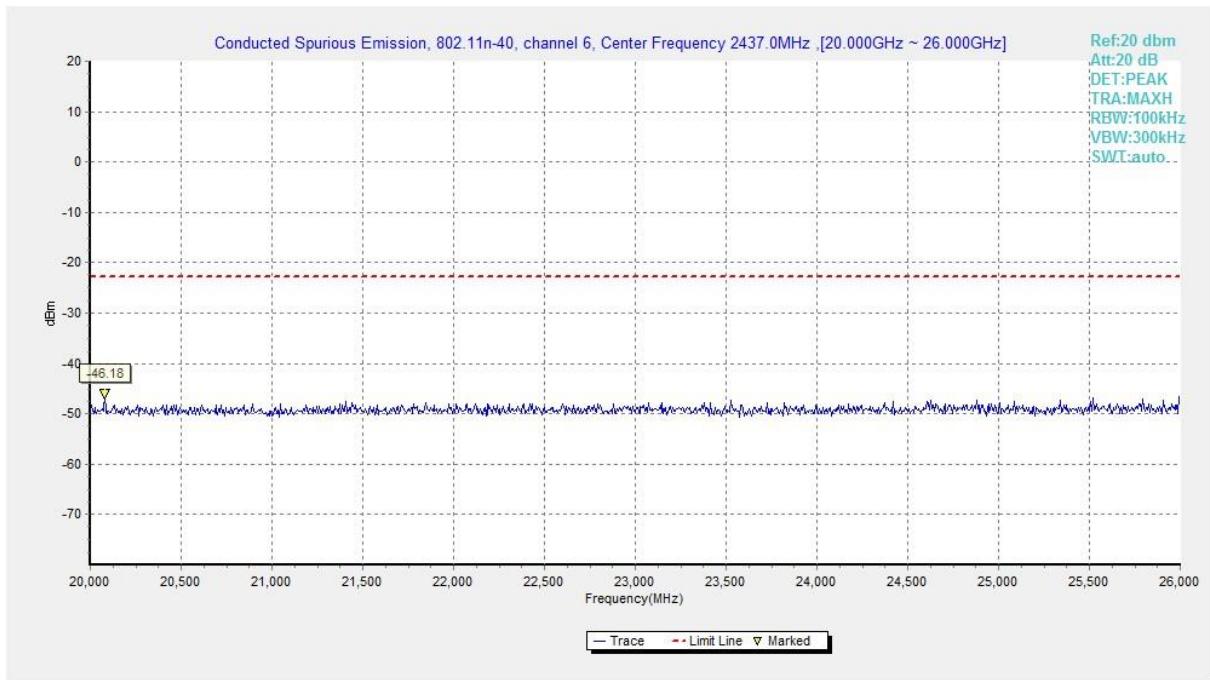


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

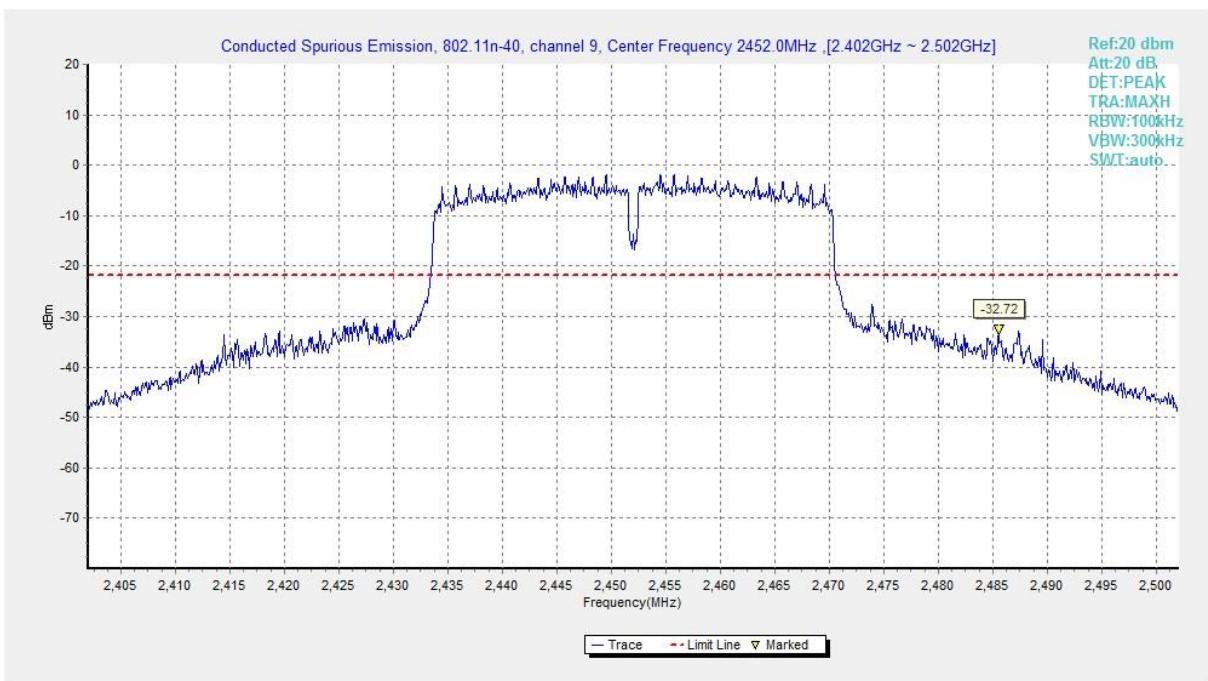


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

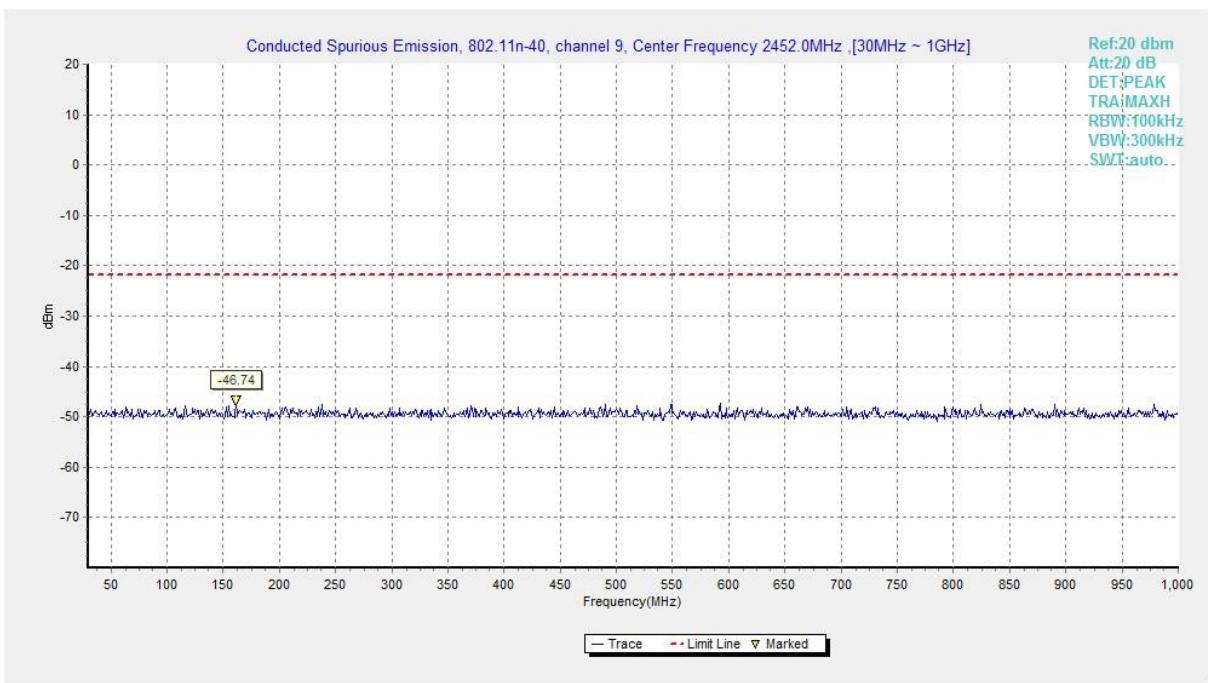


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

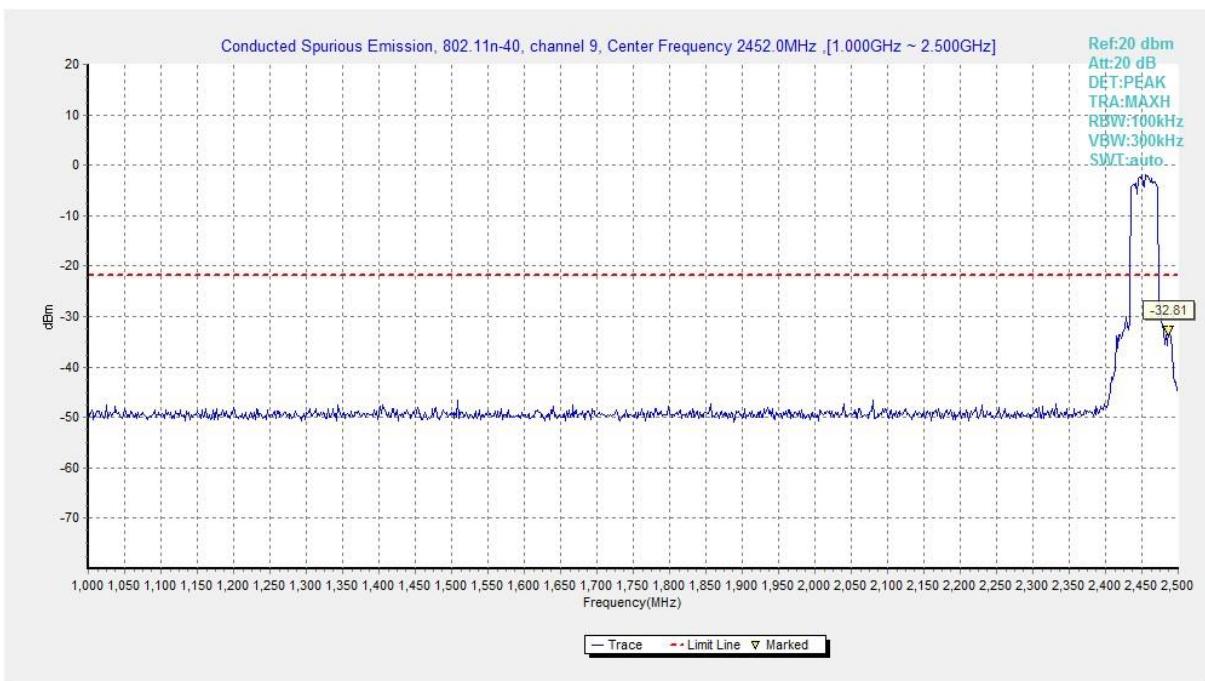


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

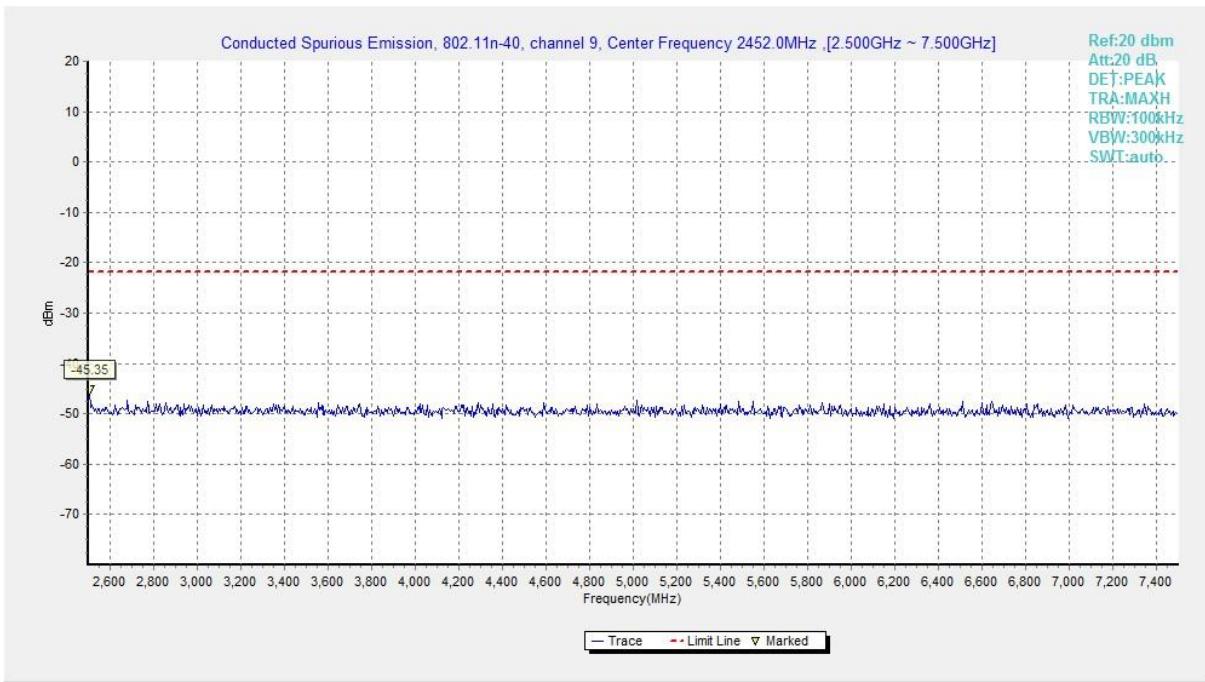


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

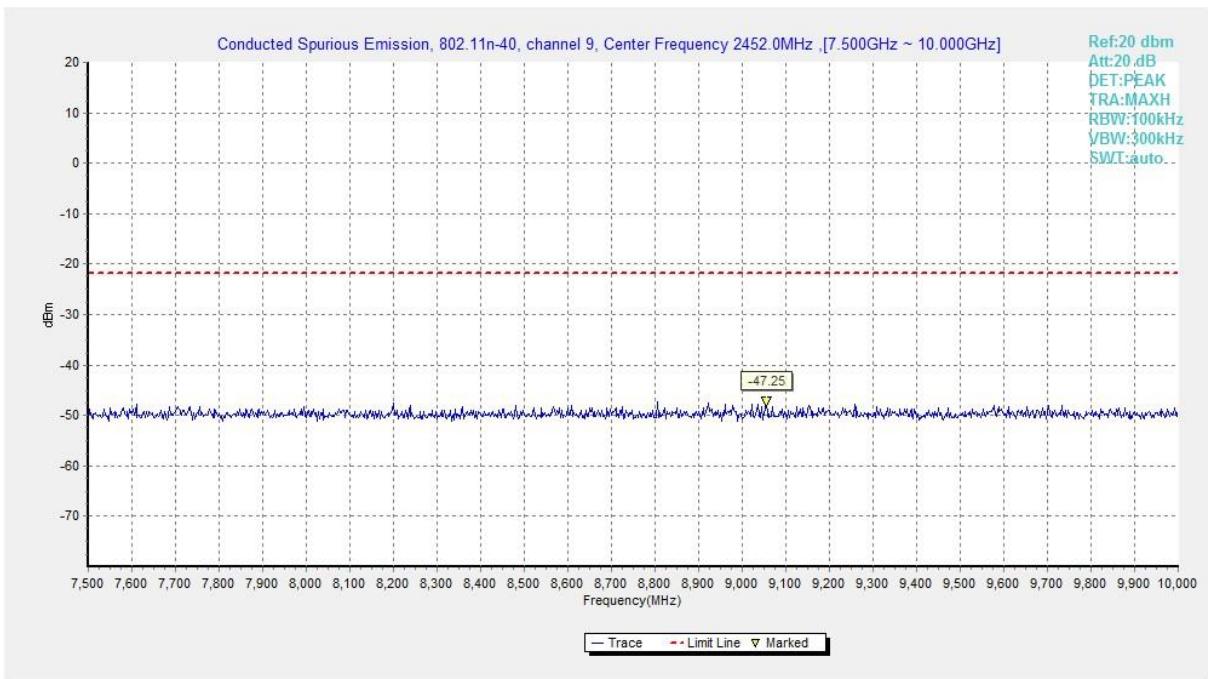


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

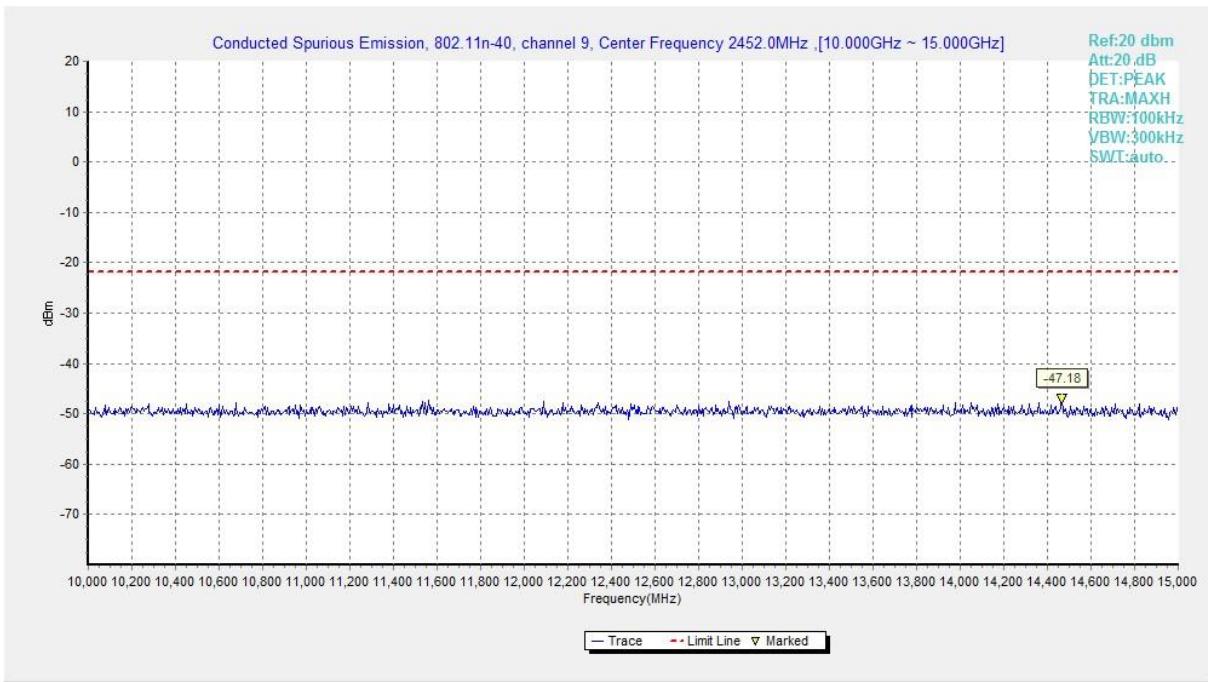


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

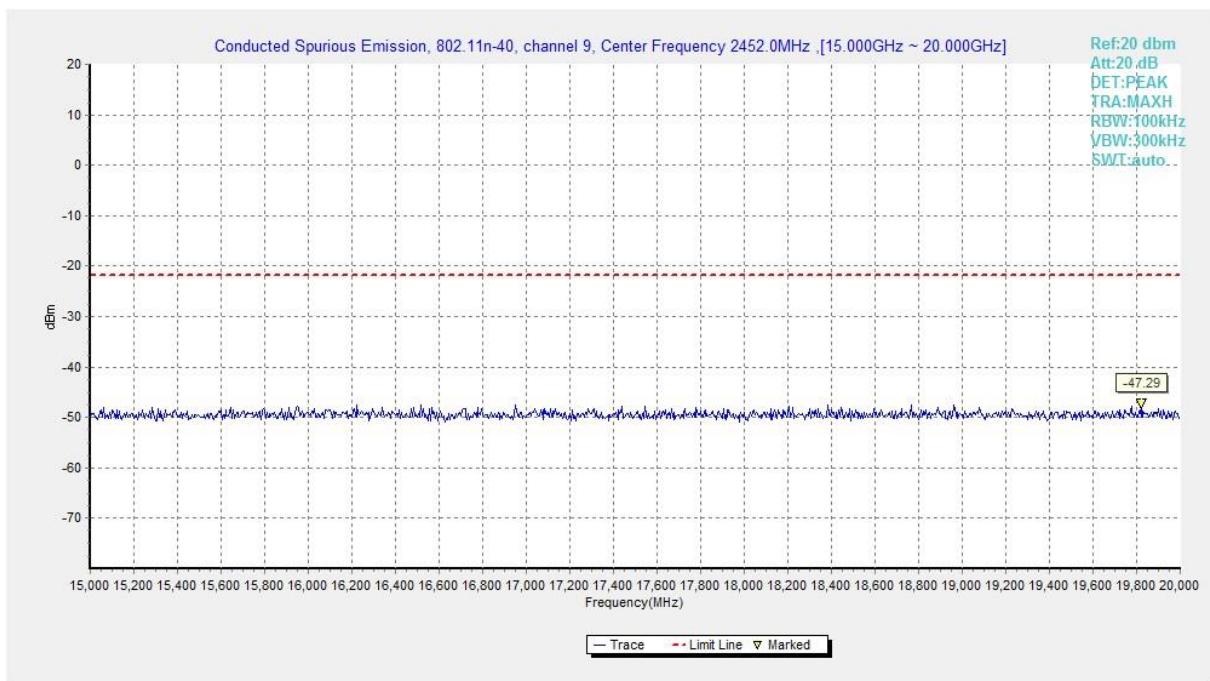


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

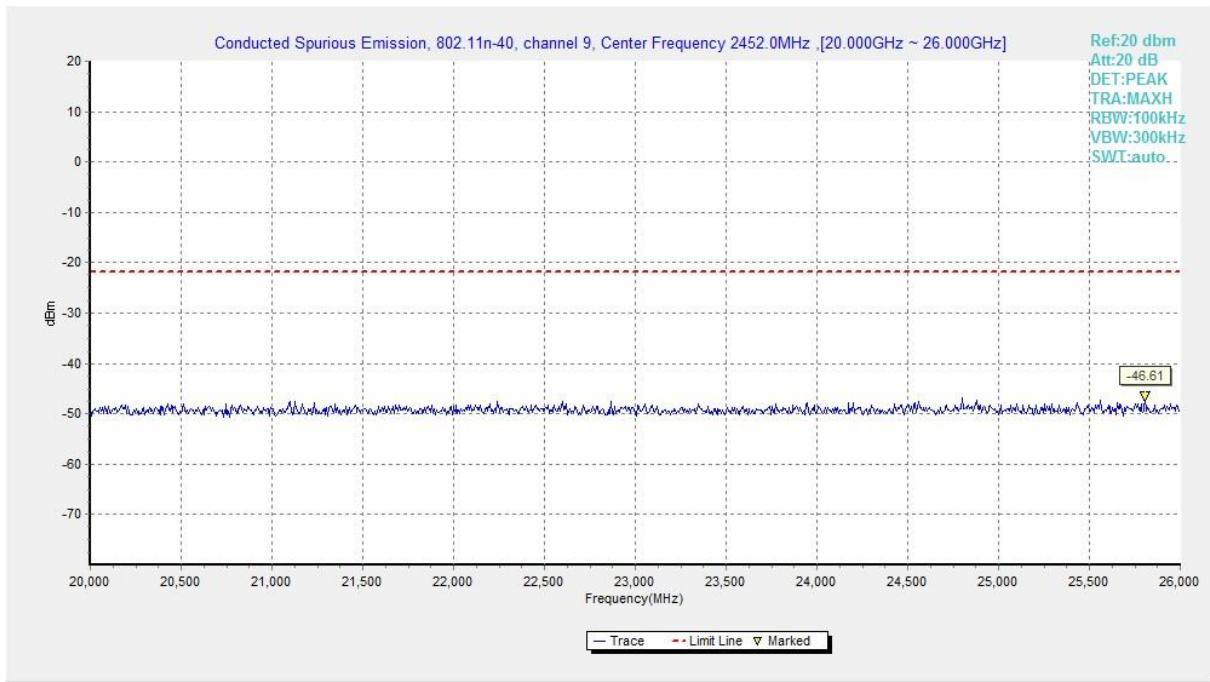


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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(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: EUT2

Measurement Results for Set.10:
802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.43GHz	Fig.A.6.2.1	P
	1	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	9 kHz ~30 MHz	--	P
		30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.2	P
	11	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.3	P
	1	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.4	P
	11	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.5	P
	1	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.6	P
	11	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.7	P
	3	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.8	P
	9	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	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)
2388.600	46.44	2.9	32.0	11.59	54.0	7.6	H	155	28
2389.700	46.44	2.9	32.0	11.60	54.0	7.6	H	155	74
4824.400	35.87	-32.7	34.5	34.12	54.0	18.1	H	155	140
7236.400	38.58	-31.7	36.1	34.22	54.0	15.4	H	155	8
9648.400	38.00	-30.4	37.0	31.32	54.0	16.0	H	155	80
12060.400	43.51	-29.6	39.3	33.83	54.0	10.5	H	155	243

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)
2415.100	46.48	2.9	31.8	11.82	54.0	7.5	H	155	170
2474.500	46.82	2.9	33.0	10.91	54.0	7.2	H	155	150
4873.900	35.91	-32.7	34.5	34.12	54.0	18.1	H	155	20
7311.100	38.32	-31.9	36.1	34.15	54.0	15.7	H	155	180
9748.300	38.46	-30.7	37.2	31.93	54.0	15.5	H	155	202
12184.600	43.92	-29.4	39.2	34.12	54.0	10.1	H	155	8

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	47.08	2.9	32.8	11.39	54.0	6.9	H	155	25
2486.200	47.08	2.9	32.7	11.46	54.0	6.9	H	155	49
4924.300	36.37	-33.1	34.5	34.96	54.0	17.6	H	155	4
7385.800	38.36	-31.8	36.0	34.15	54.0	15.6	H	155	6
9848.200	40.28	-30.1	37.3	33.02	54.0	13.7	H	155	25
12309.700	44.16	-29.7	39.2	34.68	54.0	9.8	H	155	186

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)
2382.422	59.57	2.9	32.0	24.66	74.0	14.4	H	155	22
2385.880	59.89	2.9	32.0	25.01	74.0	14.1	H	155	66
4824.400	42.12	-32.7	34.5	40.36	74.0	31.9	V	155	132
7236.400	43.43	-31.7	36.1	39.07	74.0	30.6	H	155	0
9648.400	44.08	-30.4	37.0	37.40	74.0	29.9	V	155	88
12060.400	47.98	-29.6	39.3	38.30	74.0	26.0	V	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)
2353.800	47.64	-27.8	31.7	43.71	74.0	26.4	H	155	264
2525.600	49.23	-26.8	32.7	43.35	74.0	24.8	H	155	286
4873.900	41.71	-32.7	34.5	39.92	74.0	32.3	V	155	22
7311.100	44.13	-31.9	36.1	39.96	74.0	29.9	V	155	176
9748.300	45.45	-30.7	37.2	38.92	74.0	28.6	H	155	198
12184.600	48.42	-29.4	39.2	38.63	74.0	25.6	H	155	0

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)
2485.130	60.20	2.9	32.7	24.55	74.0	13.8	H	155	22
2491.490	60.28	2.9	32.5	24.80	74.0	13.7	V	155	44
4924.300	42.25	-33.1	34.5	40.83	74.0	31.8	H	155	0
7385.800	43.43	-31.8	36.0	39.23	74.0	30.6	H	155	0
9848.200	44.08	-30.1	37.3	36.82	74.0	29.9	H	155	22
12309.700	47.88	-29.7	39.2	38.40	74.0	26.1	H	155	176

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)
2388.000	46.91	2.9	32.0	12.05	54.0	7.1	H	155	175
2389.900	47.47	2.9	32.0	12.62	54.0	6.5	H	155	194
4824.400	35.94	-32.7	34.5	34.19	54.0	18.1	H	155	215
7236.400	38.55	-31.7	36.1	34.19	54.0	15.5	H	155	196
9648.400	38.02	-30.4	37.0	31.34	54.0	16.0	H	155	241
12060.400	43.50	-29.6	39.3	33.82	54.0	10.5	H	155	259

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)
2402.200	46.98	2.9	31.9	12.22	54.0	7.0	H	155	40
2474.000	47.85	2.9	33.0	11.95	54.0	6.2	H	155	65
4873.900	35.92	-32.7	34.5	34.13	54.0	18.1	H	155	84
7311.100	38.32	-31.9	36.1	34.15	54.0	15.7	H	155	107
9748.300	38.50	-30.7	37.2	31.97	54.0	15.5	H	155	135
12184.600	43.83	-29.4	39.2	34.03	54.0	10.2	H	155	151

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)
2483.500	49.42	2.9	32.8	13.72	54.0	4.6	H	155	6
2484.900	48.35	2.9	32.7	12.69	54.0	5.7	H	155	48
4924.300	36.30	-33.1	34.5	34.88	54.0	17.7	H	155	92
7385.800	38.46	-31.8	36.0	34.25	54.0	15.5	H	155	48
9848.200	40.28	-30.1	37.3	33.03	54.0	13.7	H	155	68
12309.700	44.19	-29.7	39.2	34.72	54.0	9.8	H	155	92

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)
2389.618	61.60	2.9	32.0	26.75	74.0	12.4	V	155	176
2389.828	61.28	2.9	32.0	26.43	74.0	12.7	H	155	198
4824.400	42.25	-32.7	34.5	40.50	74.0	31.8	V	155	220
7236.400	43.45	-31.7	36.1	39.09	74.0	30.6	H	155	198
9648.400	45.10	-30.4	37.0	38.42	74.0	28.9	H	155	242
12060.400	47.96	-29.6	39.3	38.28	74.0	26.0	V	155	264

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)
2365.000	48.51	-27.3	31.9	43.88	74.0	25.5	H	155	88
2517.600	48.51	-26.7	32.6	42.59	74.0	25.5	H	155	110
4873.900	42.33	-32.7	34.5	40.54	74.0	31.7	H	155	88
7311.100	43.55	-31.9	36.1	39.38	74.0	30.5	V	155	110
9748.300	44.17	-30.7	37.2	37.64	74.0	29.8	V	155	132
12184.600	47.94	-29.4	39.2	38.15	74.0	26.1	H	155	154

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)
2383.940	67.81	2.9	32.0	32.92	74.0	6.2	H	155	0
2485.160	64.47	2.9	32.7	28.82	74.0	9.5	H	155	44
4924.300	42.08	-33.1	34.5	40.67	74.0	31.9	V	155	88
7385.800	43.43	-31.8	36.0	39.22	74.0	30.6	V	155	44
9848.200	44.14	-30.1	37.3	36.88	74.0	29.9	V	155	66
12309.700	47.79	-29.7	39.2	38.31	74.0	26.2	H	155	88

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)
2390.000	48.51	2.9	32.0	13.66	54.0	5.5	H	155	268
2388.900	47.87	2.9	32.0	13.01	54.0	6.1	H	155	138
4824.400	35.89	-32.7	34.5	34.14	54.0	18.1	H	155	104
7236.400	38.59	-31.7	36.1	34.23	54.0	15.4	H	155	40
9648.400	38.03	-30.4	37.0	31.35	54.0	16.0	H	155	28
12060.400	43.53	-29.6	39.3	33.86	54.0	10.5	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)
2409.400	48.94	2.9	31.8	14.24	54.0	5.1	H	155	16
2474.400	49.26	2.9	33.0	13.35	54.0	4.7	H	155	48
4873.900	35.98	-32.7	34.5	34.19	54.0	18.0	H	155	80
7311.100	38.38	-31.9	36.1	34.21	54.0	15.6	H	155	8
9748.300	38.49	-30.7	37.2	31.96	54.0	15.5	H	155	102
12184.600	43.86	-29.4	39.2	34.06	54.0	10.1	H	155	118

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)
2483.500	50.50	2.9	32.8	14.81	54.0	3.5	H	155	28
2484.500	49.53	2.9	32.7	13.86	54.0	4.5	H	155	46
4924.300	36.36	-33.1	34.5	34.95	54.0	17.6	H	155	8
7385.800	38.40	-31.8	36.0	34.20	54.0	15.6	H	155	6
9848.200	40.25	-30.1	37.3	33.00	54.0	13.7	H	155	24
12309.700	44.20	-29.7	39.2	34.73	54.0	9.8	H	155	185

802.11n-HT20-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)
2388.498	65.88	2.9	32.0	31.03	74.0	8.1	H	155	264
2389.296	65.57	2.9	32.0	30.72	74.0	8.4	H	155	132
4824.400	42.25	-32.7	34.5	40.50	74.0	31.8	H	155	110
7236.400	43.25	-31.7	36.1	38.88	74.0	30.8	H	155	44
9648.400	44.08	-30.4	37.0	37.40	74.0	29.9	H	155	22
12060.400	47.87	-29.6	39.3	38.19	74.0	26.1	V	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)
2376.600	48.88	-26.5	32.1	43.33	74.0	25.1	H	155	22
2546.600	49.40	-26.8	33.0	43.16	74.0	24.6	H	155	66
4873.900	42.03	-32.7	34.5	40.24	74.0	32.0	V	155	88
7311.100	43.42	-31.9	36.1	39.26	74.0	30.6	V	155	0
9748.300	44.16	-30.7	37.2	37.63	74.0	29.8	H	155	110
12184.600	48.20	-29.4	39.2	38.41	74.0	25.8	H	155	132

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)
2483.880	70.14	2.9	32.8	34.46	74.0	3.9	H	155	22
2484.710	70.57	2.9	32.7	34.91	74.0	3.4	H	155	44
4924.300	42.00	-33.1	34.5	40.59	74.0	32.0	V	155	0
7385.800	44.10	-31.8	36.0	39.90	74.0	29.9	H	155	0
9848.200	44.23	-30.1	37.3	36.97	74.0	29.8	V	155	22
12309.700	47.87	-29.7	39.2	38.39	74.0	26.1	H	155	176

802.11n-HT40-Average

Ch3

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)
2388.400	52.79	2.9	32.0	17.93	54.0	1.2	H	155	92
2389.600	53.26	2.9	32.0	18.42	54.0	0.7	H	155	26
4844.200	35.74	-32.7	34.5	33.93	54.0	18.3	H	155	222
7266.100	38.73	-31.9	36.1	34.49	54.0	15.3	H	155	248
9688.000	37.85	-30.7	37.1	31.47	54.0	16.2	H	155	46
12109.900	43.60	-29.5	39.3	33.83	54.0	10.4	H	155	68

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)
2386.900	52.86	2.9	32.0	17.99	54.0	1.1	H	155	8
2474.600	53.02	2.9	33.0	17.10	54.0	1.0	H	155	28
4873.900	35.97	-32.7	34.5	34.18	54.0	18.0	H	155	119
7311.100	38.42	-31.9	36.1	34.25	54.0	15.6	H	155	146
9748.300	38.51	-30.7	37.2	31.98	54.0	15.5	H	155	76
12184.600	43.94	-29.4	39.2	34.14	54.0	10.1	H	155	94

Ch9

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)
2483.500	49.54	2.9	32.8	13.84	54.0	4.5	H	155	48
2486.100	48.95	2.9	32.7	13.33	54.0	5.0	H	155	6
4903.600	36.34	-32.9	34.5	34.73	54.0	17.7	H	155	312
7356.100	38.52	-31.9	36.1	34.36	54.0	15.5	H	155	48
9807.700	39.43	-30.4	37.3	32.51	54.0	14.6	H	155	68
12260.200	44.17	-29.6	39.2	34.55	54.0	9.8	H	155	80

802.11n-HT40-Peak

Ch3

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)
2384.004	70.22	2.9	32.0	35.33	74.0	3.8	H	155	88
2388.988	72.72	2.9	32.0	37.87	74.0	1.3	H	155	22
4844.200	41.90	-32.7	34.5	40.09	74.0	32.1	V	155	220
7266.100	43.44	-31.9	36.1	39.20	74.0	30.6	V	155	242
9688.000	45.21	-30.7	37.1	38.83	74.0	28.8	V	155	44
12109.900	48.06	-29.5	39.3	38.29	74.0	25.9	V	155	66

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)
2372.600	48.50	-26.8	32.1	43.26	74.0	25.5	H	155	0
2516.000	48.95	-26.6	32.6	43.02	74.0	25.1	H	155	22
4873.900	42.05	-32.7	34.5	40.26	74.0	32.0	H	155	110
7311.100	43.58	-31.9	36.1	39.41	74.0	30.4	V	155	132
9748.300	45.03	-30.7	37.2	38.50	74.0	29.0	V	155	66
12184.600	48.12	-29.4	39.2	38.33	74.0	25.9	V	155	88

Ch9

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)
2483.630	73.81	2.9	32.8	38.12	74.0	0.2	H	155	0
2484.280	73.76	2.9	32.7	38.08	74.0	0.2	H	155	22
4903.600	41.83	-32.9	34.5	40.22	74.0	32.2	V	155	308
7356.100	44.14	-31.9	36.1	39.99	74.0	29.9	H	155	44
9807.700	45.01	-30.4	37.3	38.10	74.0	29.0	V	155	66
12260.200	48.21	-29.6	39.2	38.59	74.0	25.8	H	155	88

Test graphs as below:

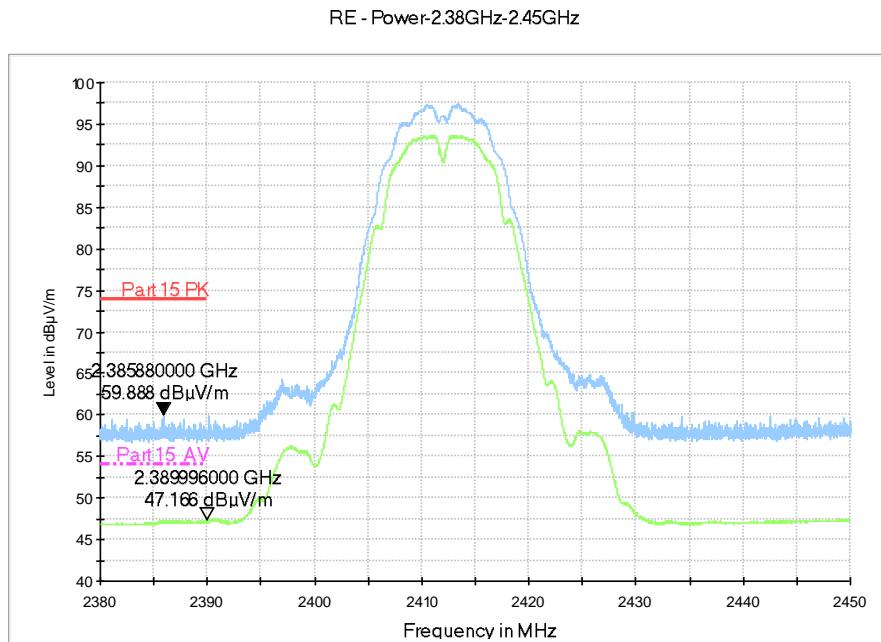


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz

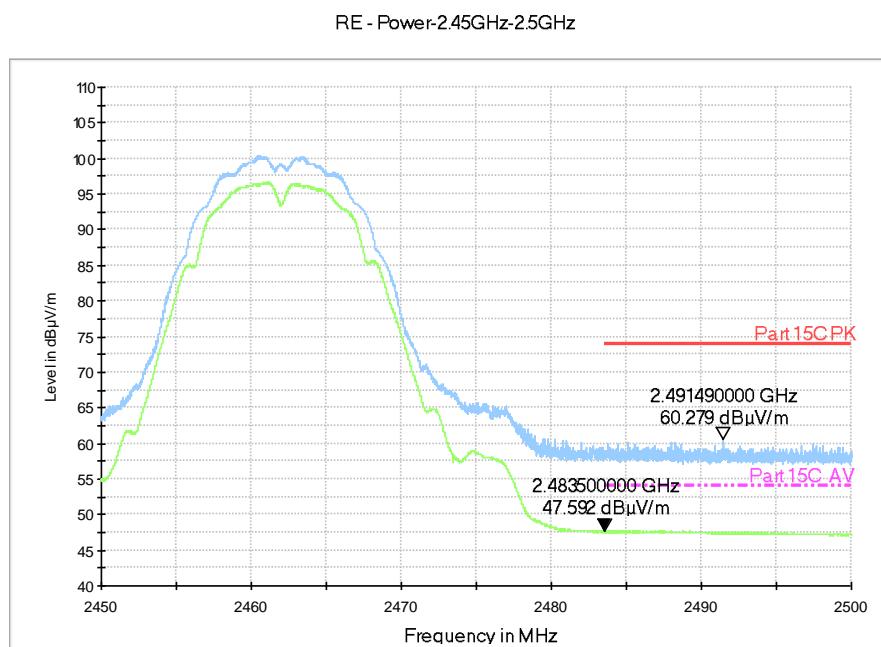


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

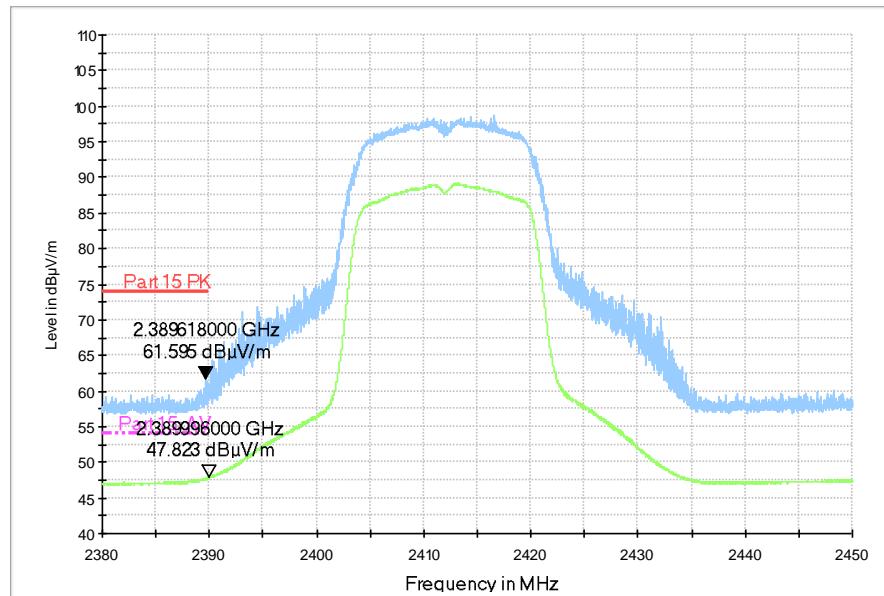


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

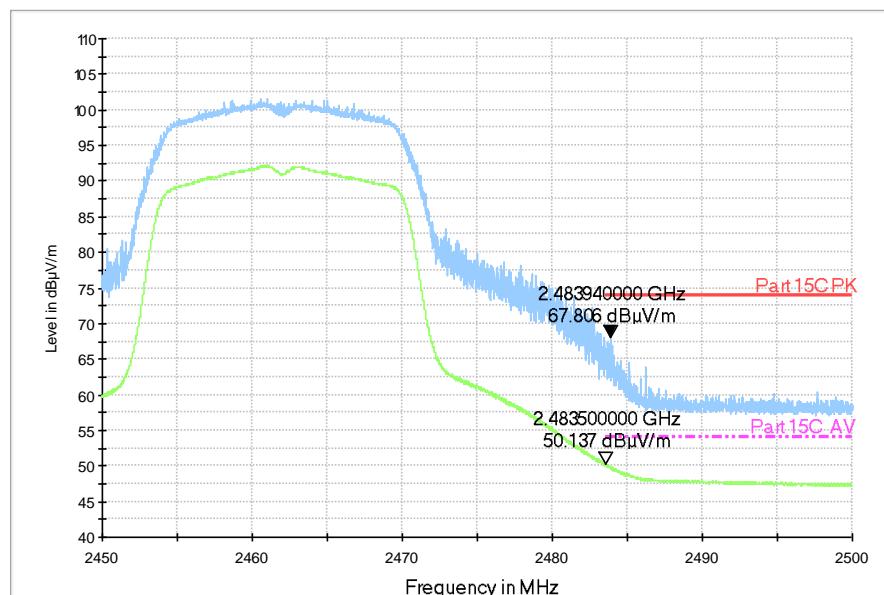


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

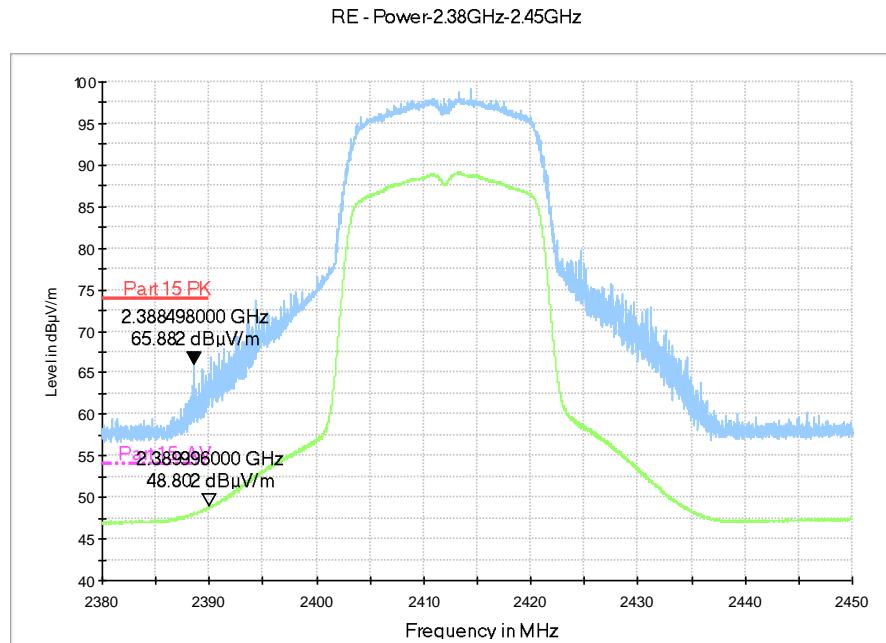


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

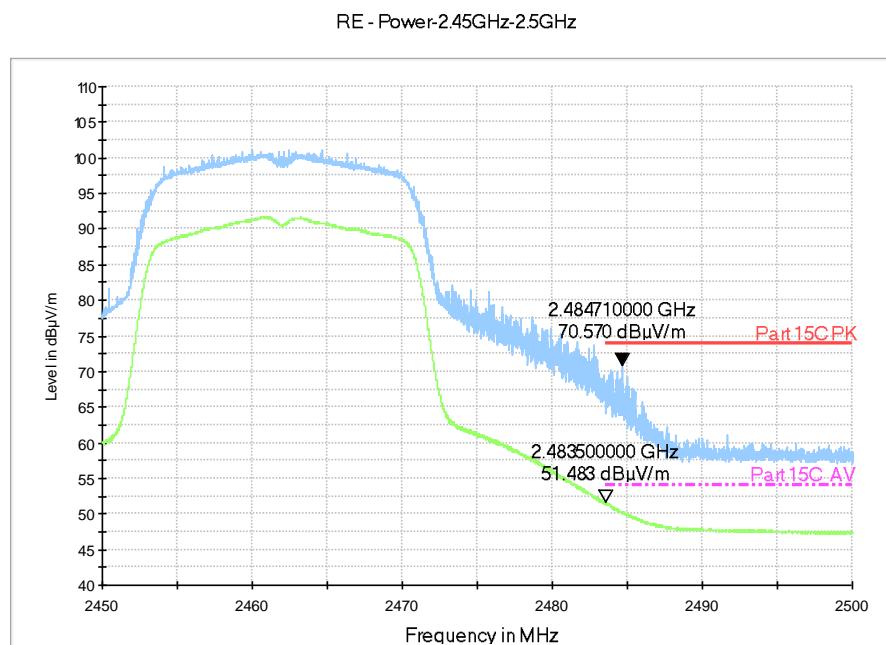


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

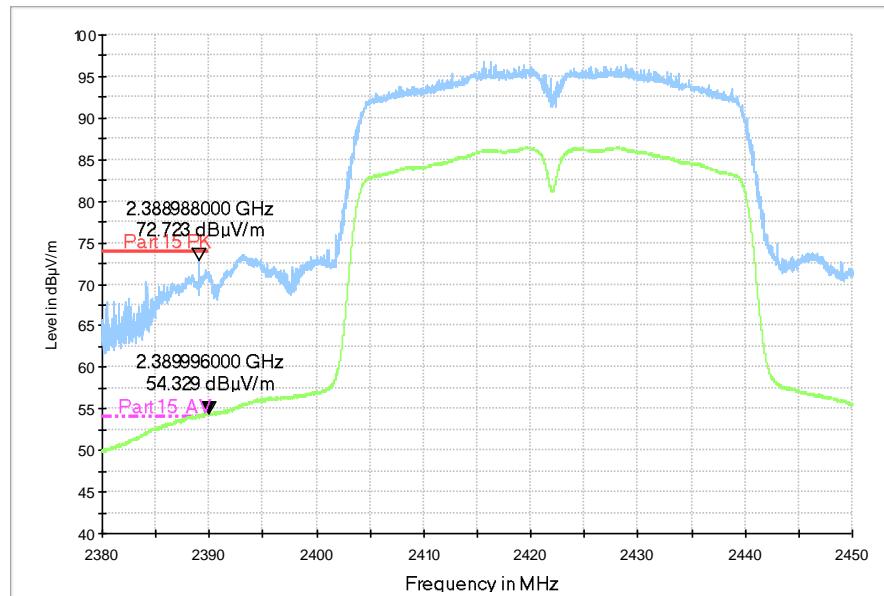


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

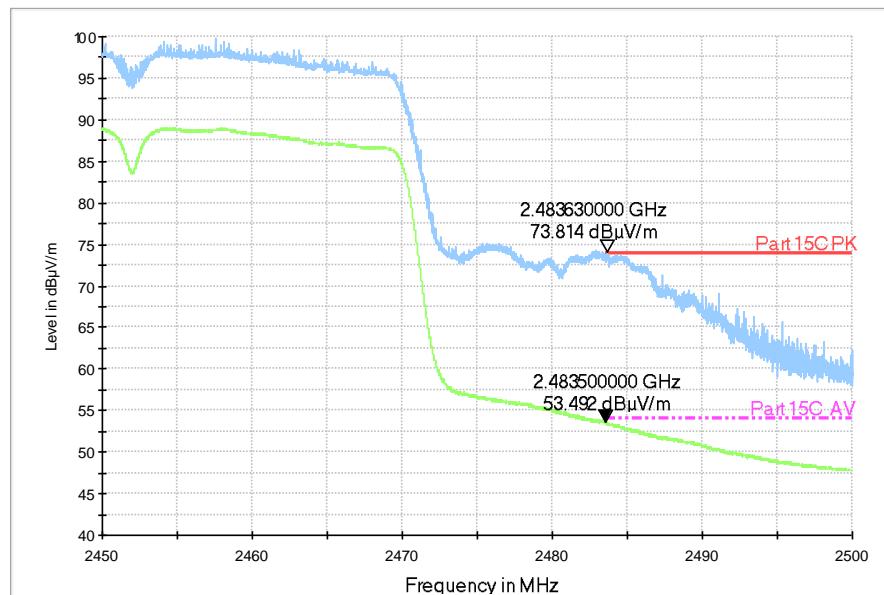


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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.³⁶ Record the six highest EUT emissions relative to the limit of each of the current-carrying conductors of the power cords of the equipment that comprises the EUT over the frequency range specified by the procuring or regulatory agency. Diagram or photograph the test setup that was used. See Clause 8 for full reporting requirements.

Test Condition:

Voltage (V)	Frequency (Hz)
120	60

Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB μ V)	Result (dB μ V)		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.

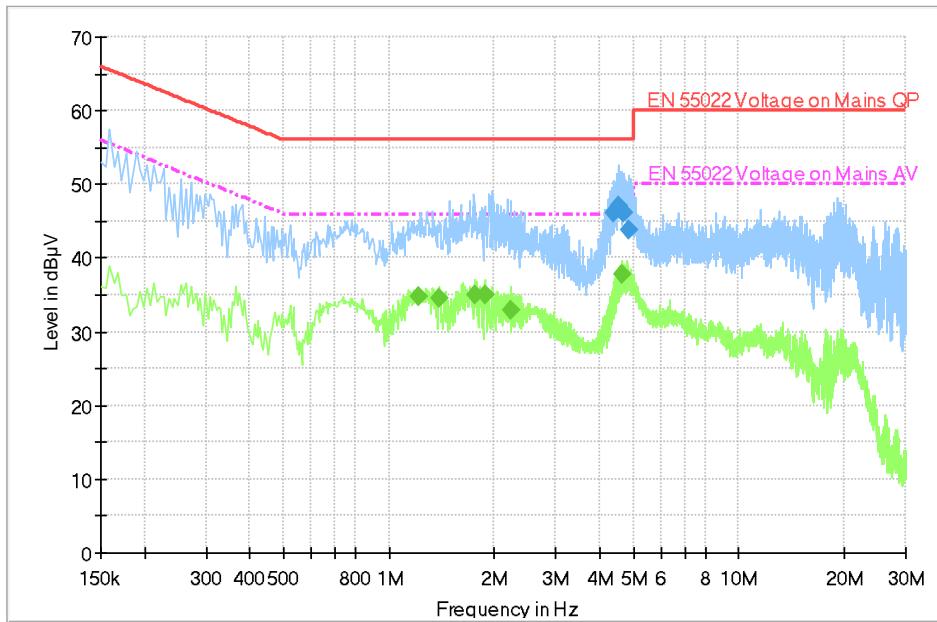
WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB μ V)	Result (dB μ V)		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:

Traffic: Set.10

Fig.A.7.1 AC Power line Conducted Emission-802.11b

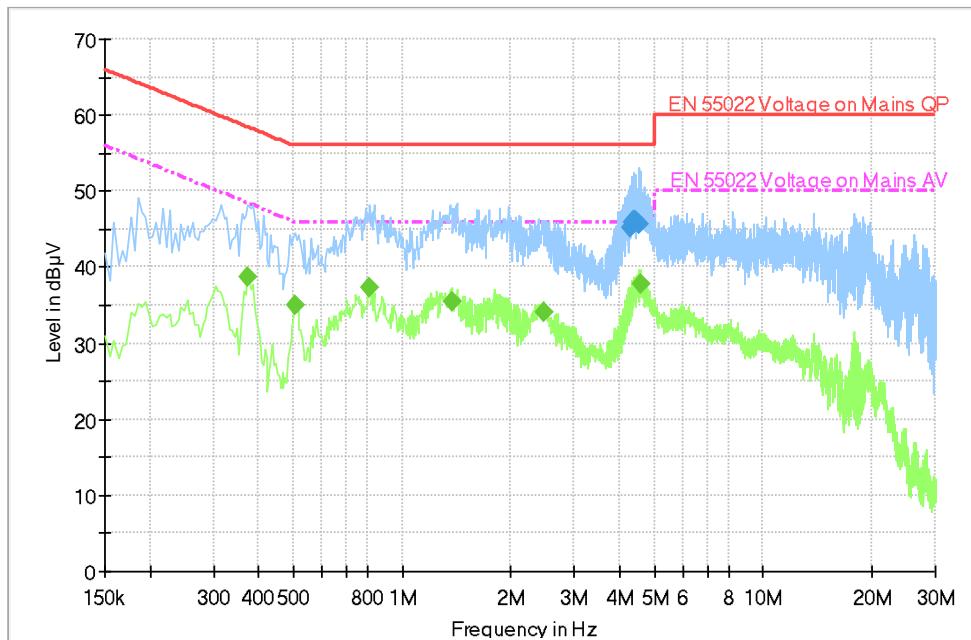
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
4.407000	46.1	2000.0	9.000	L1	10.3	9.9	56.0
4.524000	46.7	2000.0	9.000	L1	10.3	9.3	56.0
4.555500	47.1	2000.0	9.000	L1	10.3	8.9	56.0
4.623000	46.4	2000.0	9.000	L1	10.3	9.6	56.0
4.672500	46.1	2000.0	9.000	L1	10.3	9.9	56.0
4.875000	43.7	2000.0	9.000	L1	10.3	12.3	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.216500	34.8	2000.0	9.000	L1	10.2	11.2	46.0
1.396500	34.6	2000.0	9.000	L1	10.2	11.4	46.0
1.765500	34.9	2000.0	9.000	L1	10.2	11.1	46.0
1.878000	35.0	2000.0	9.000	L1	10.2	11.0	46.0
2.238000	33.0	2000.0	9.000	L1	10.2	13.0	46.0
4.650000	37.8	2000.0	9.000	L1	10.3	8.2	46.0

Idle: Set.10

Fig.A.7.2 AC Power line Conducted Emission-Idle

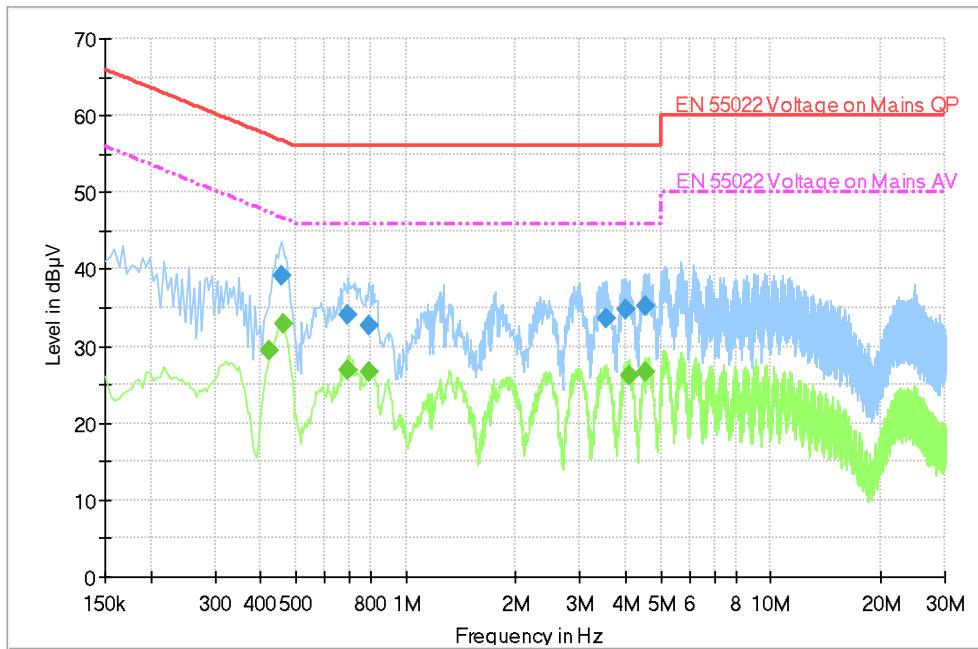
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
4.308000	45.3	2000.0	9.000	L1	10.3	10.7	56.0
4.339500	45.9	2000.0	9.000	L1	10.3	10.1	56.0
4.398000	46.2	2000.0	9.000	L1	10.3	9.8	56.0
4.407000	45.8	2000.0	9.000	L1	10.3	10.2	56.0
4.447500	46.2	2000.0	9.000	L1	10.3	9.8	56.0
4.542000	45.6	2000.0	9.000	L1	10.3	10.4	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.375000	38.6	2000.0	9.000	L1	10.2	9.7	48.4
0.505500	35.1	2000.0	9.000	L1	10.2	10.9	46.0
0.811500	37.3	2000.0	9.000	L1	10.2	8.7	46.0
1.369500	35.4	2000.0	9.000	L1	10.2	10.6	46.0
2.467500	34.2	2000.0	9.000	L1	10.2	11.8	46.0
4.591500	37.7	2000.0	9.000	L1	10.3	8.3	46.0

Traffic: Set.11

Fig.A.7.3 AC Power line Conducted Emission-802.11b

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

Final Result 1

Frequency (MHz)	QuasiPeak (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
4.308000	45.3	2000.0	9.000	L1	10.3	10.7	56.0
4.339500	45.9	2000.0	9.000	L1	10.3	10.1	56.0
4.398000	46.2	2000.0	9.000	L1	10.3	9.8	56.0
4.407000	45.8	2000.0	9.000	L1	10.3	10.2	56.0
4.447500	46.2	2000.0	9.000	L1	10.3	9.8	56.0
4.542000	45.6	2000.0	9.000	L1	10.3	10.4	56.0

Final Result 2

Frequency (MHz)	Average (dB μ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.375000	38.6	2000.0	9.000	L1	10.2	9.7	48.4
0.505500	35.1	2000.0	9.000	L1	10.2	10.9	46.0
0.811500	37.3	2000.0	9.000	L1	10.2	8.7	46.0
1.369500	35.4	2000.0	9.000	L1	10.2	10.6	46.0
2.467500	34.2	2000.0	9.000	L1	10.2	11.8	46.0
4.591500	37.7	2000.0	9.000	L1	10.3	8.3	46.0



ANNEX B: Accreditation Certificate

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

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 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communiqué dated January 2009).*

2016-09-29 through 2017-09-30

Effective Dates



For the National Voluntary Laboratory Accreditation Program

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