

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

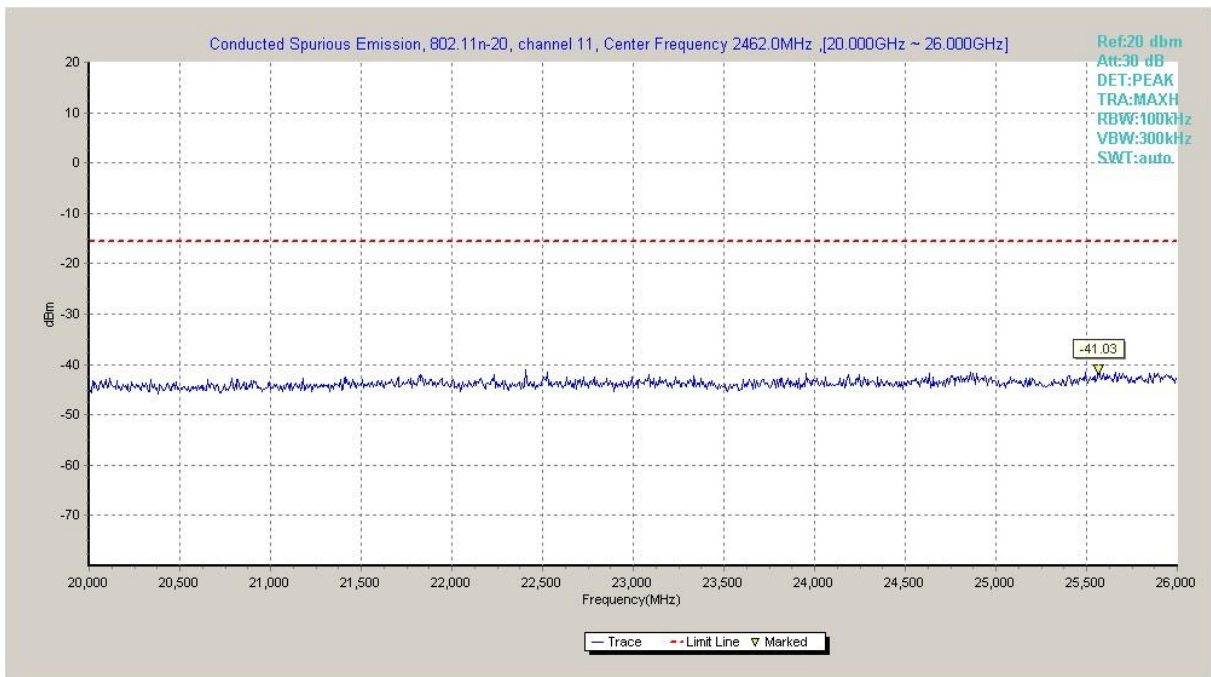


Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)

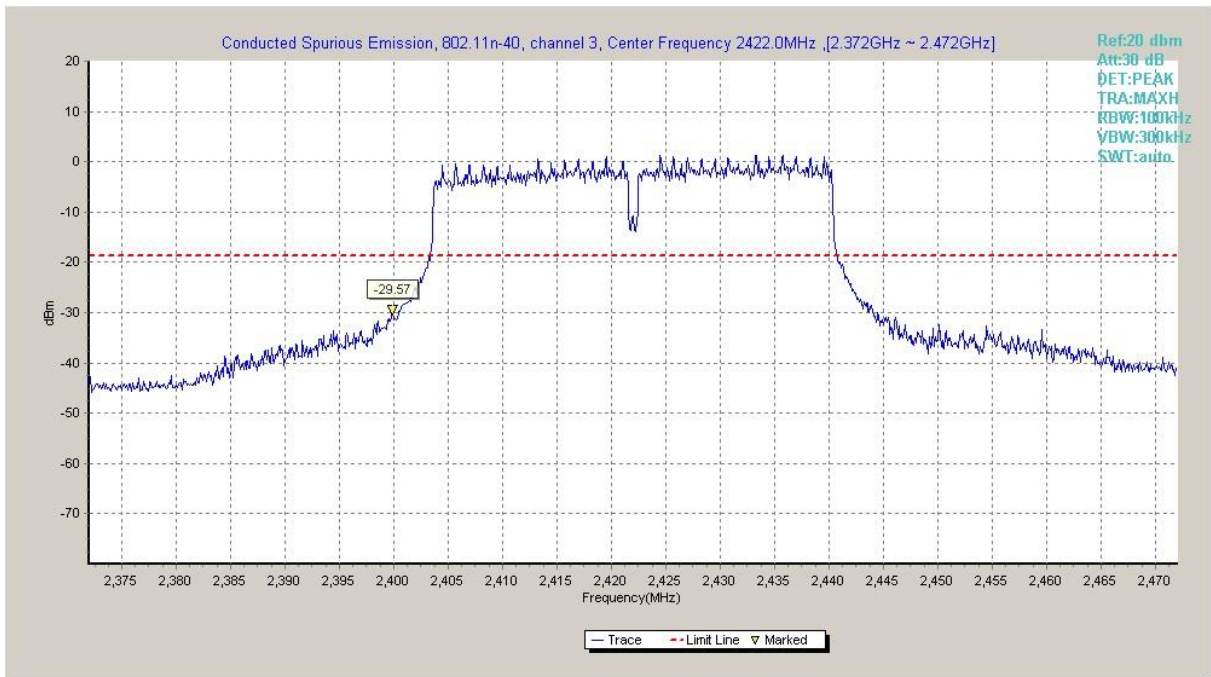


Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)

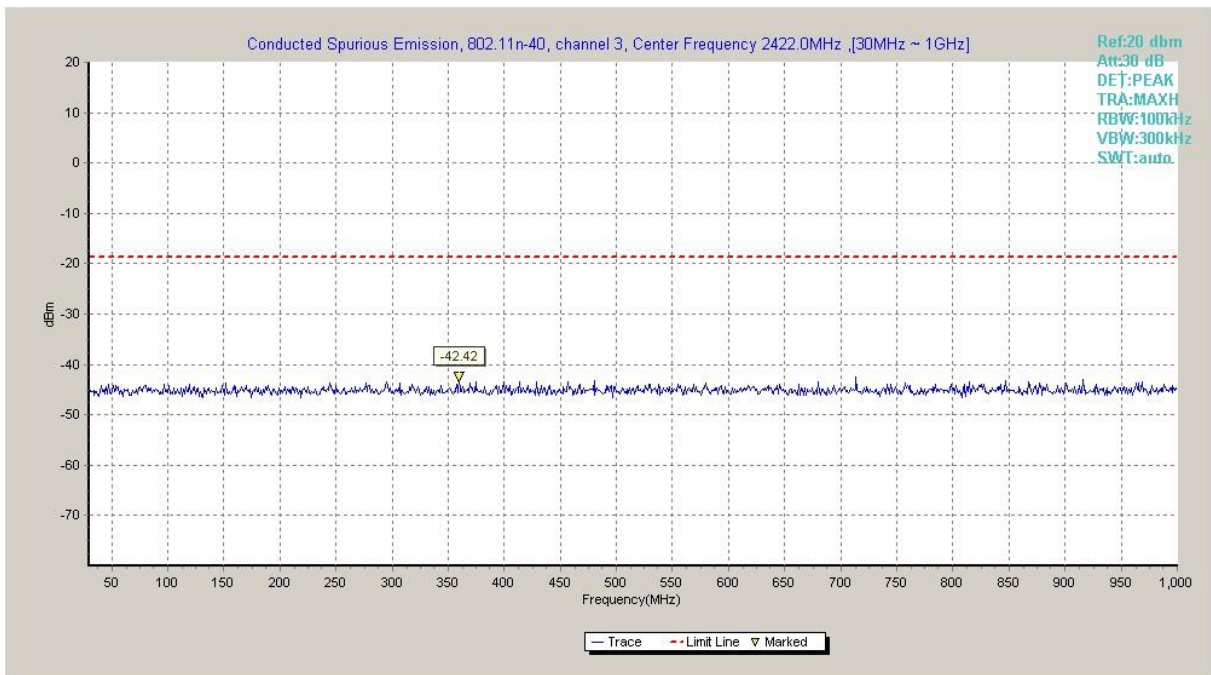


Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)

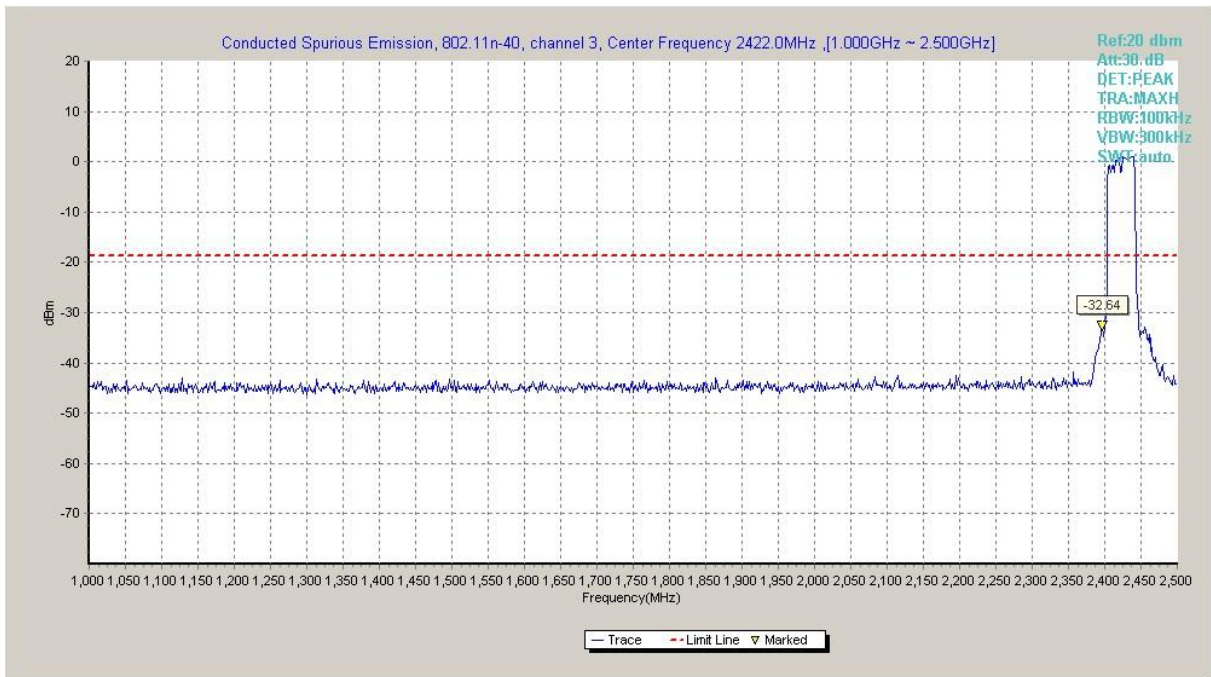


Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)

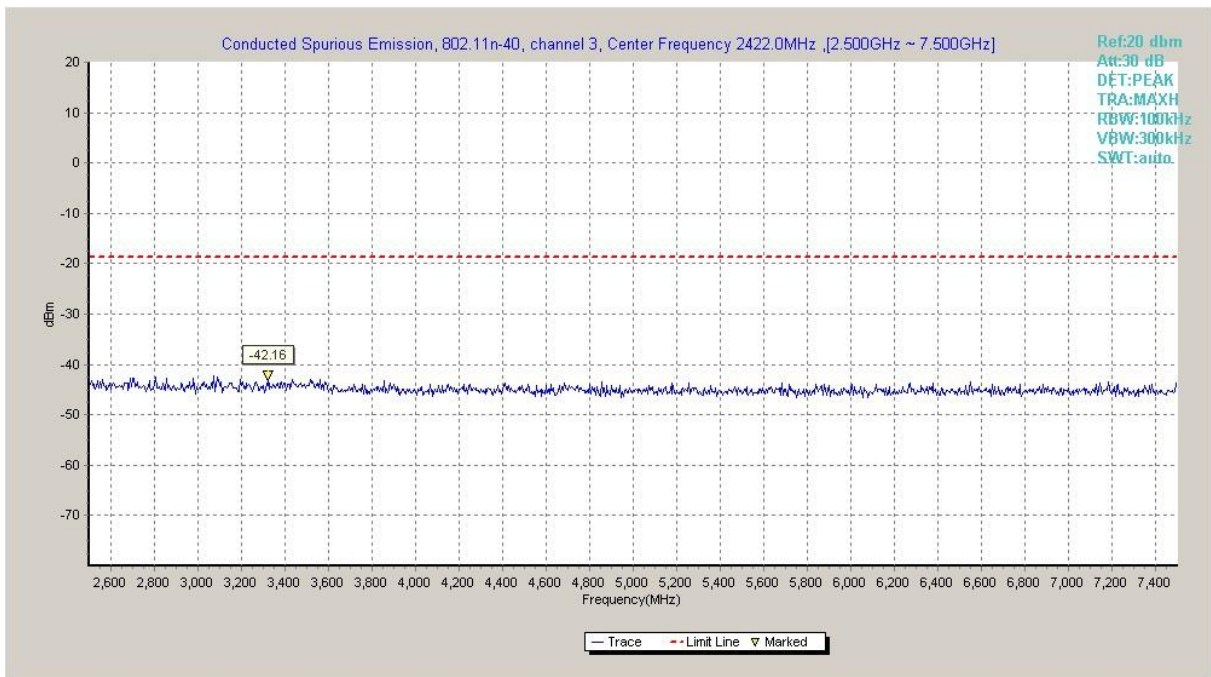


Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)

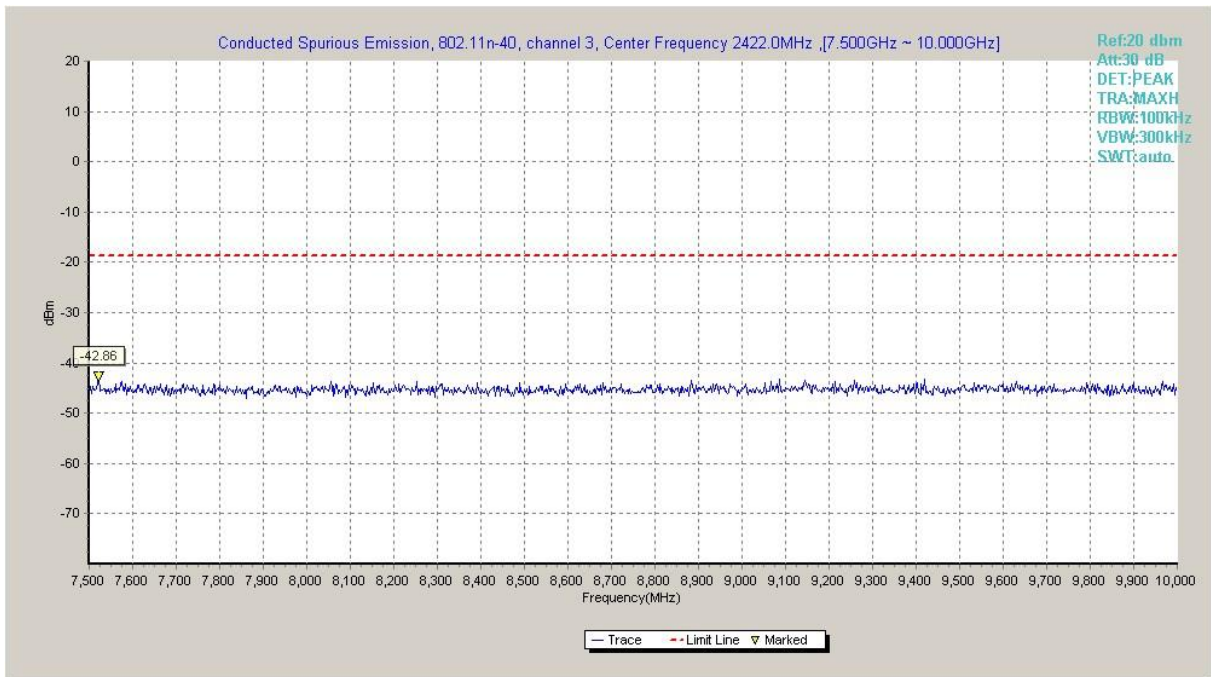


Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)

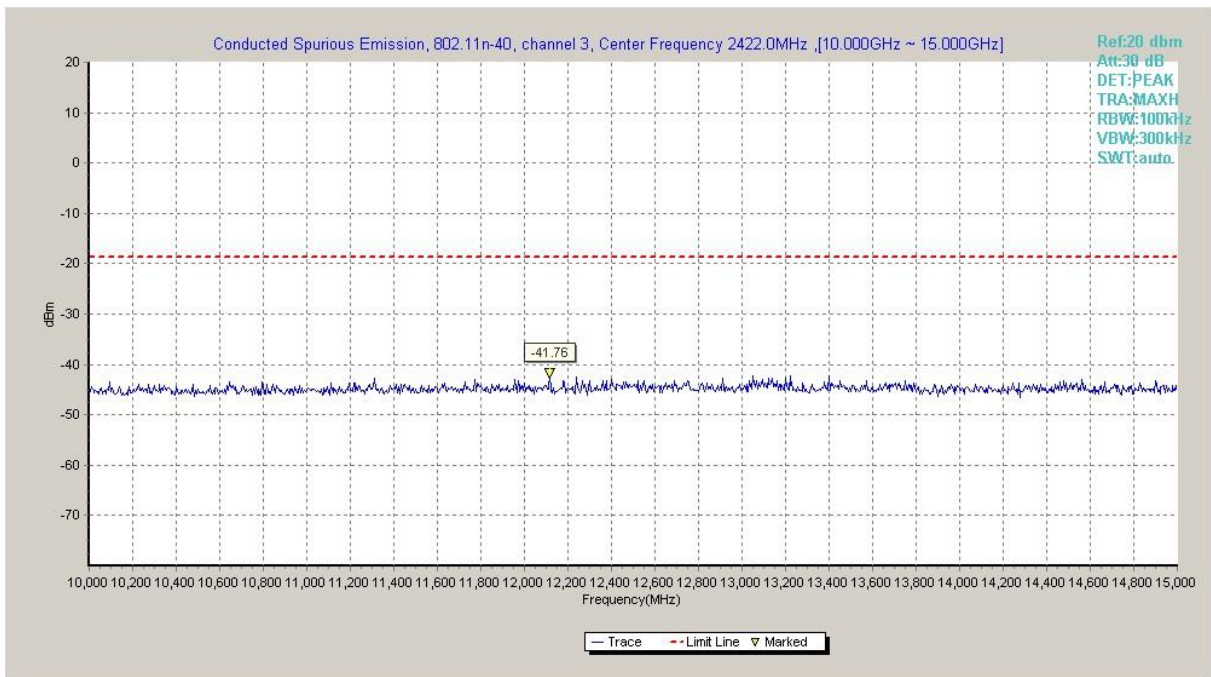


Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)

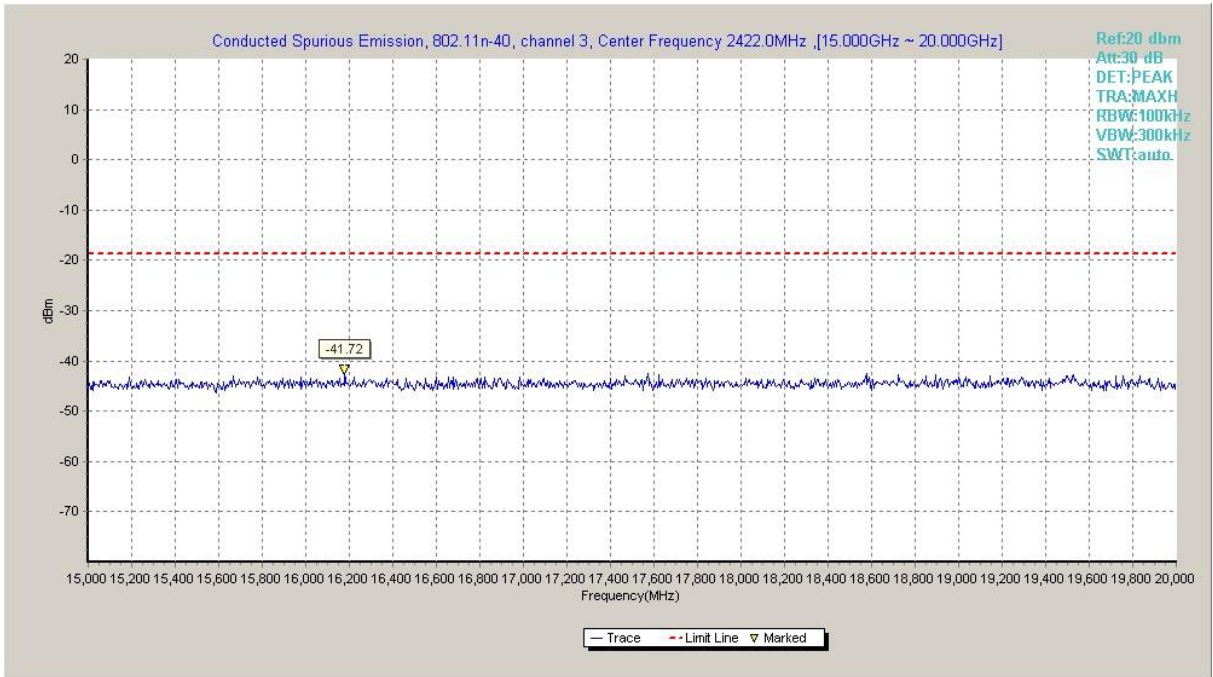


Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)

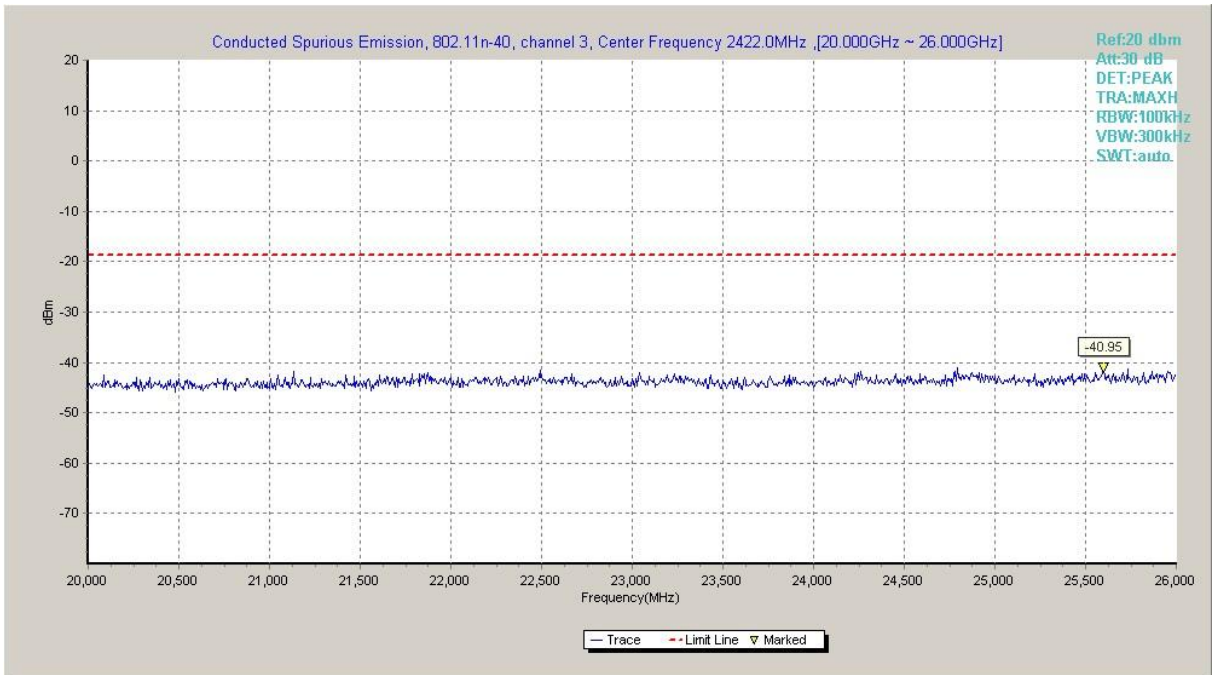


Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)

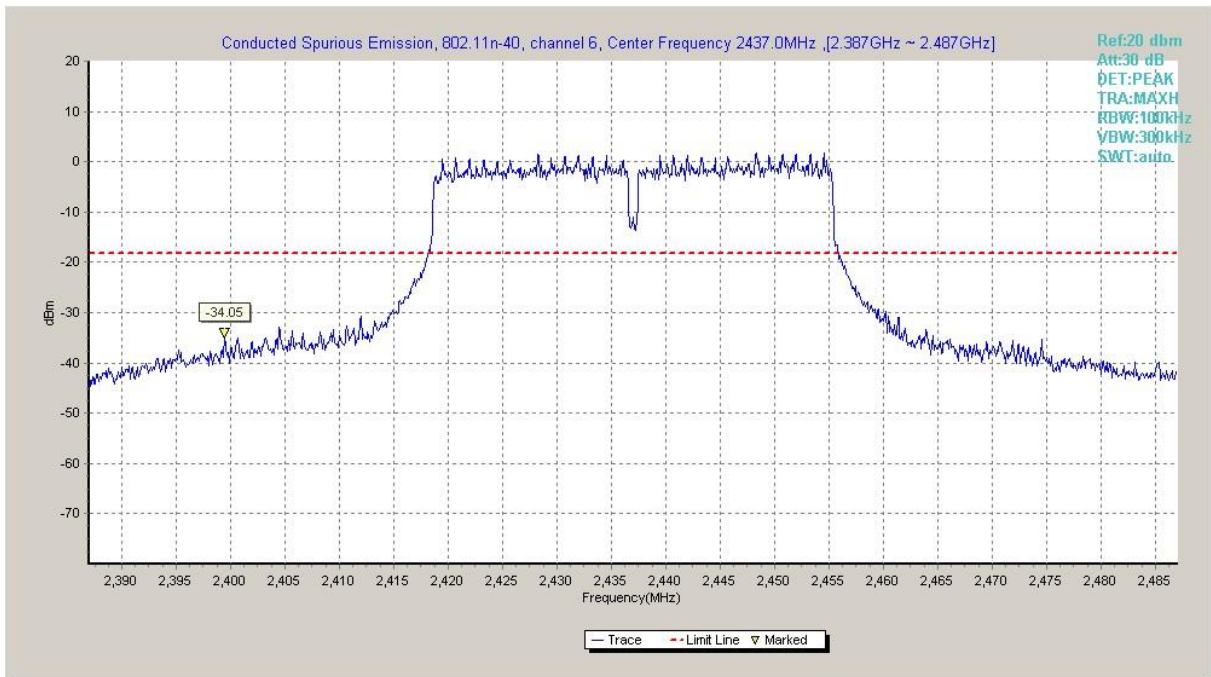


Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

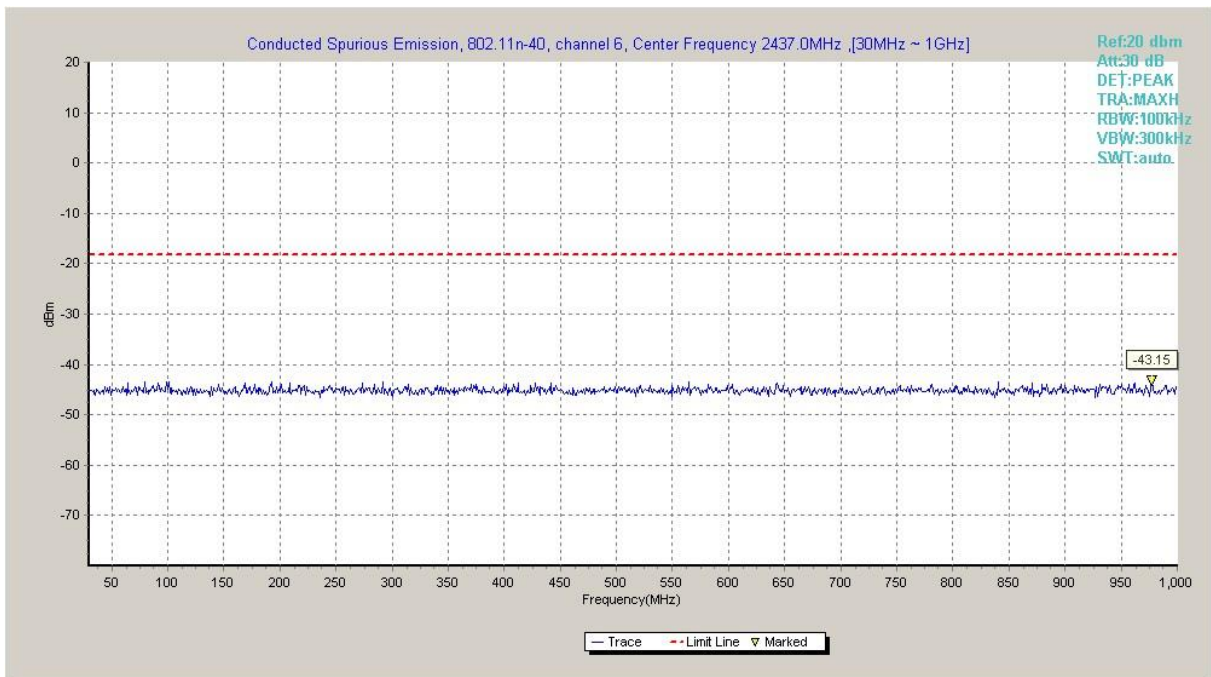


Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

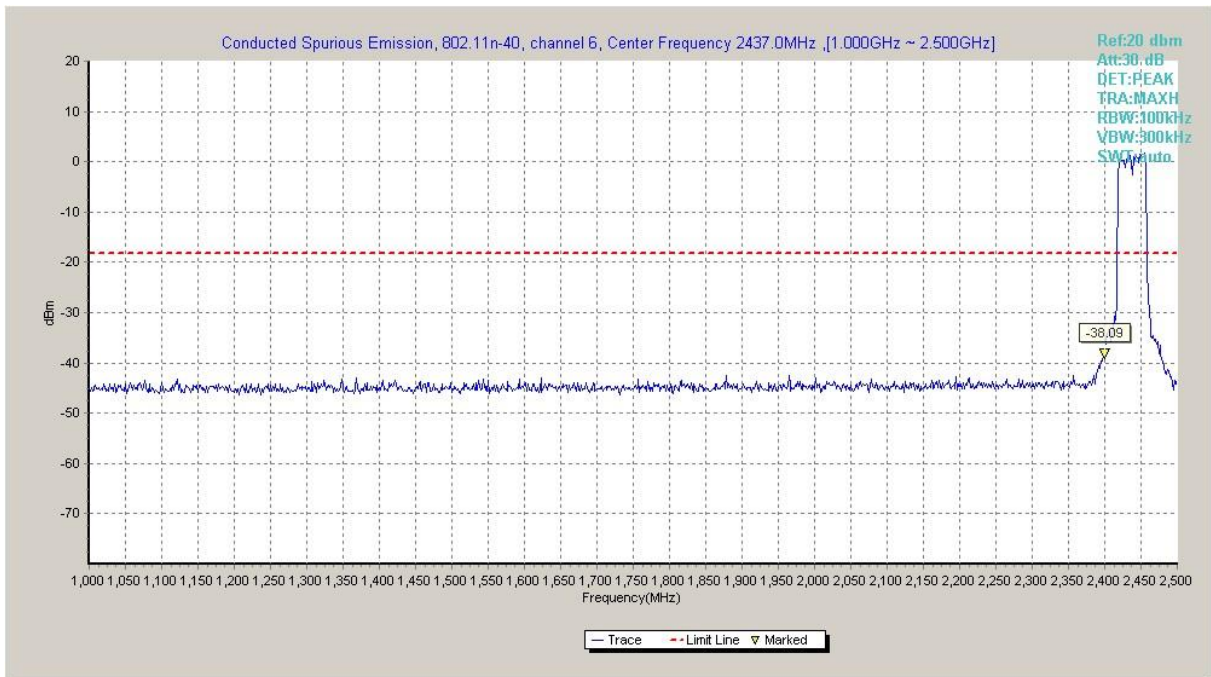


Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

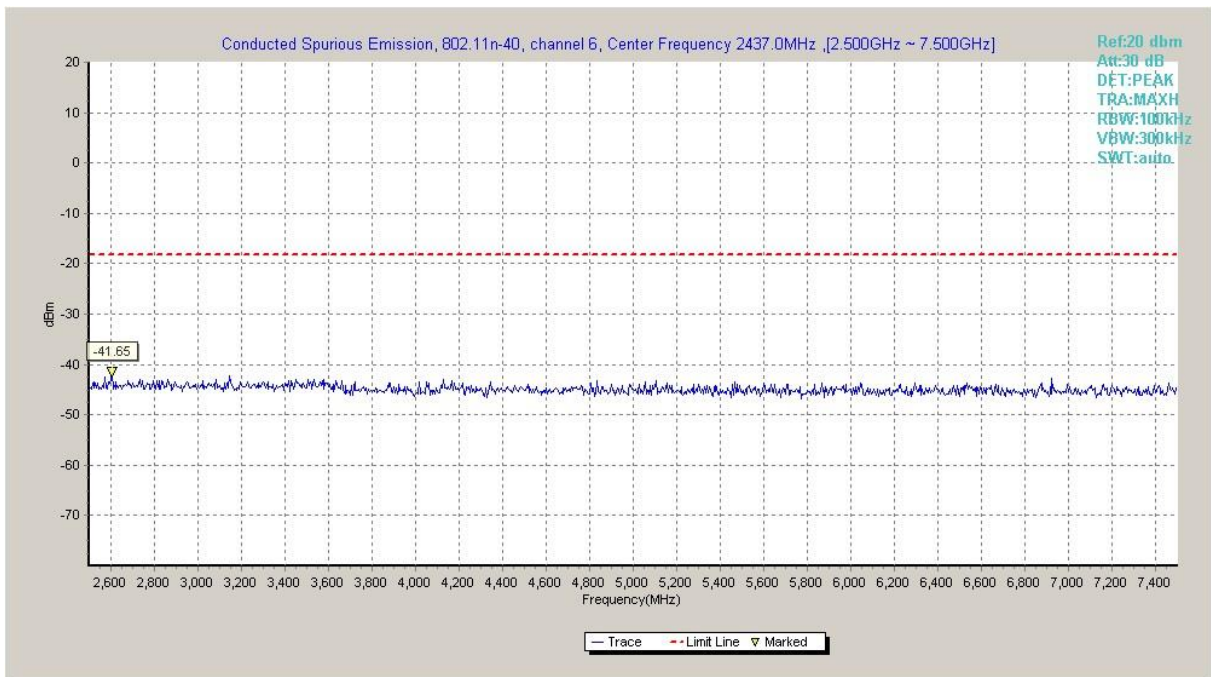


Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

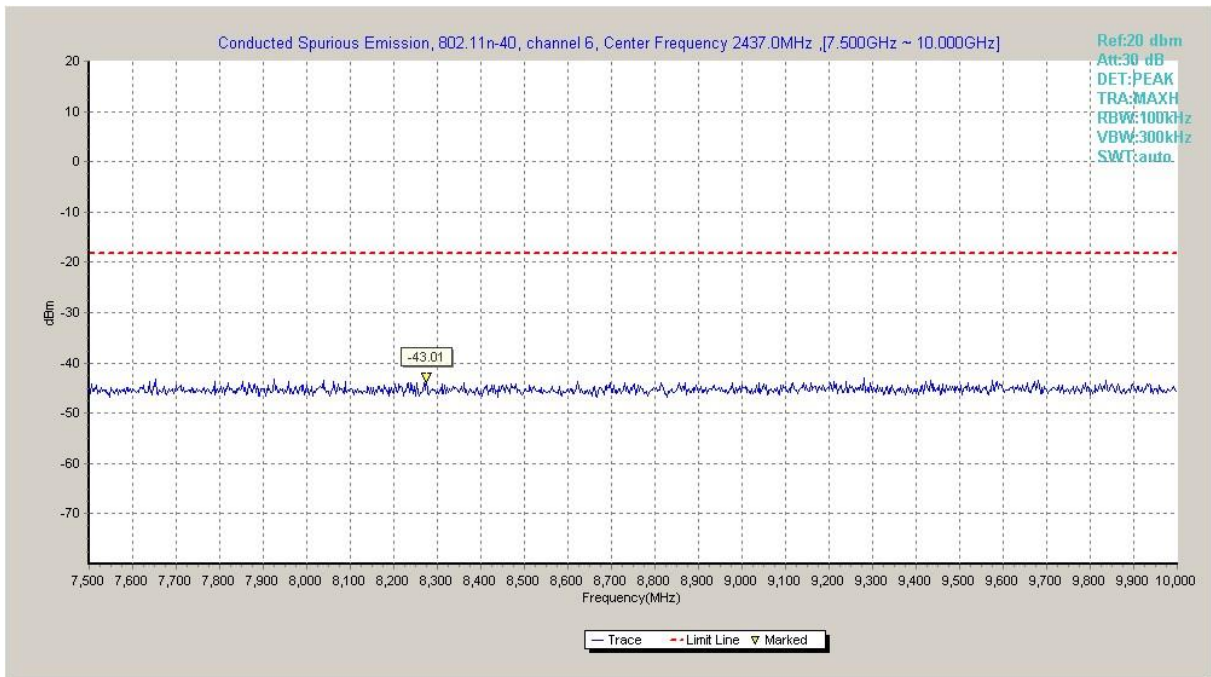


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

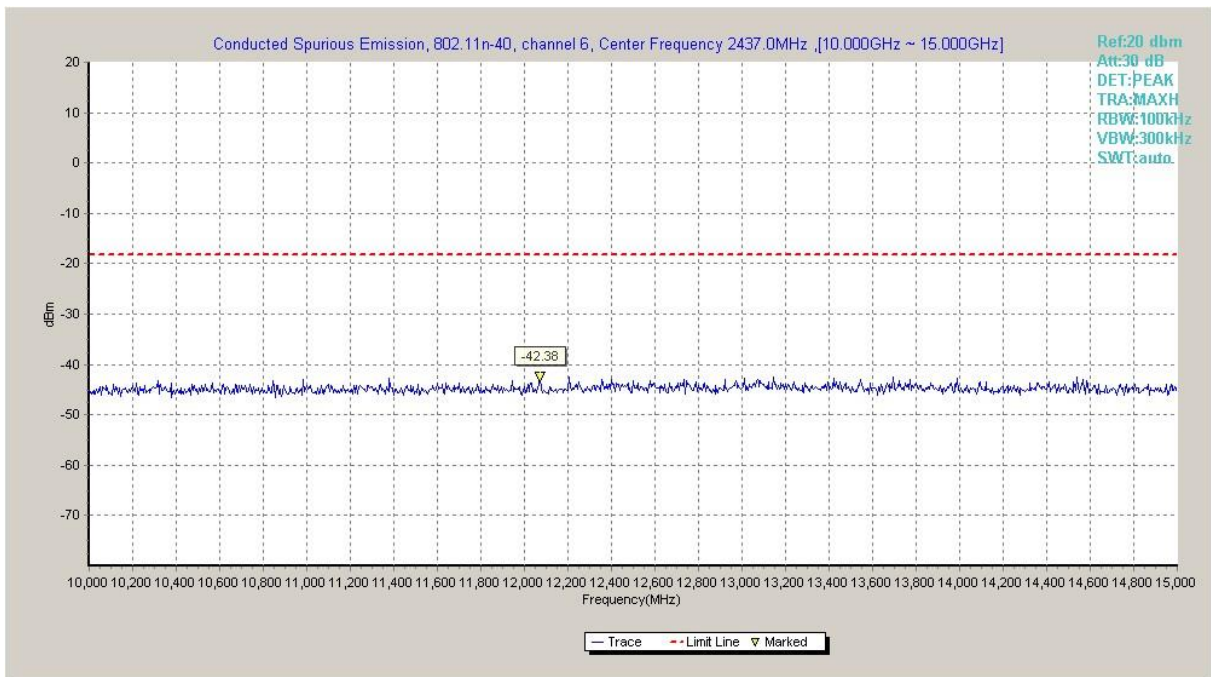


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

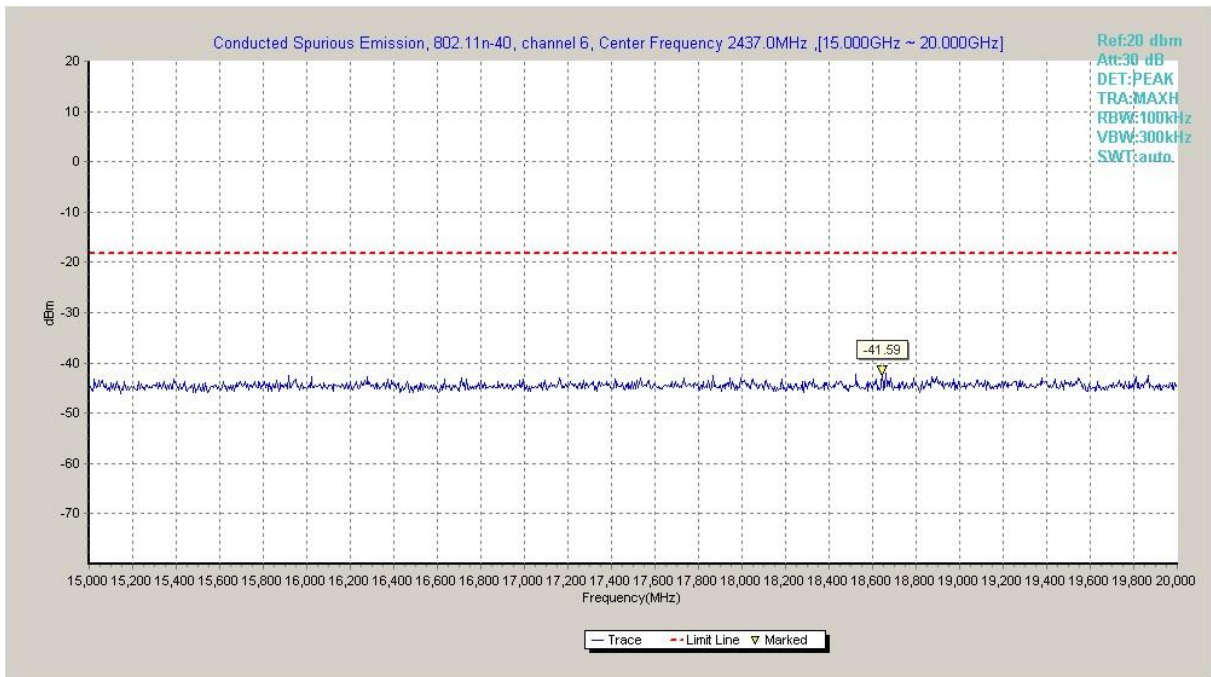


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

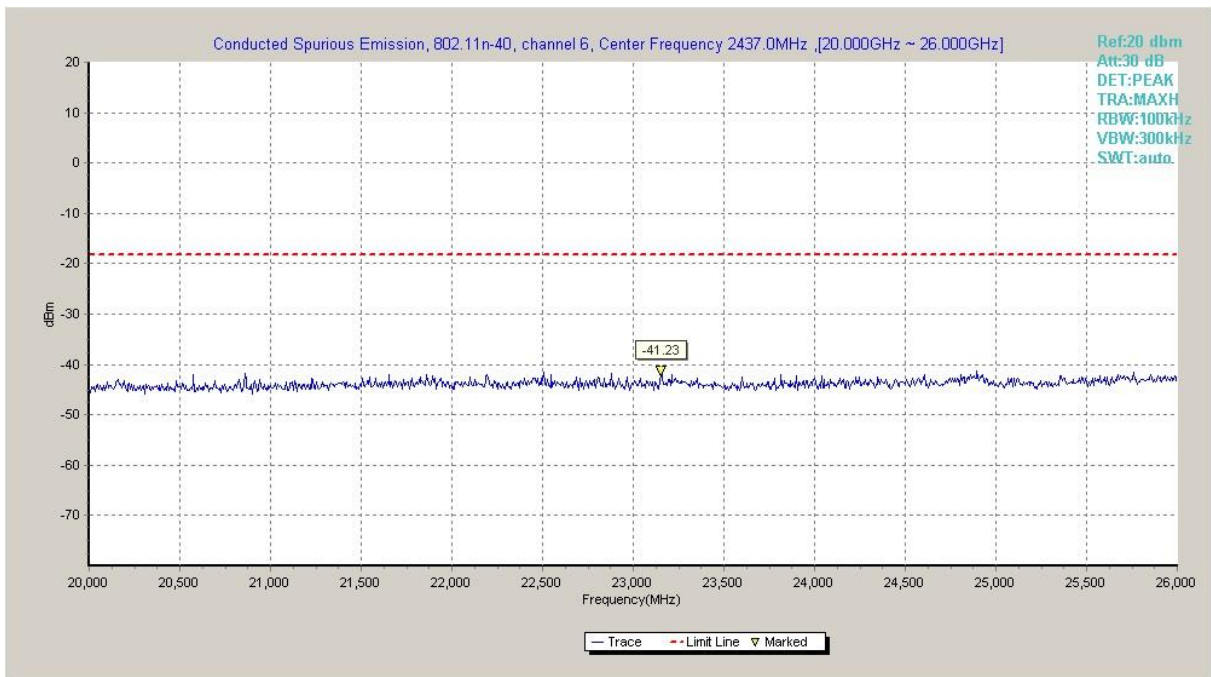


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

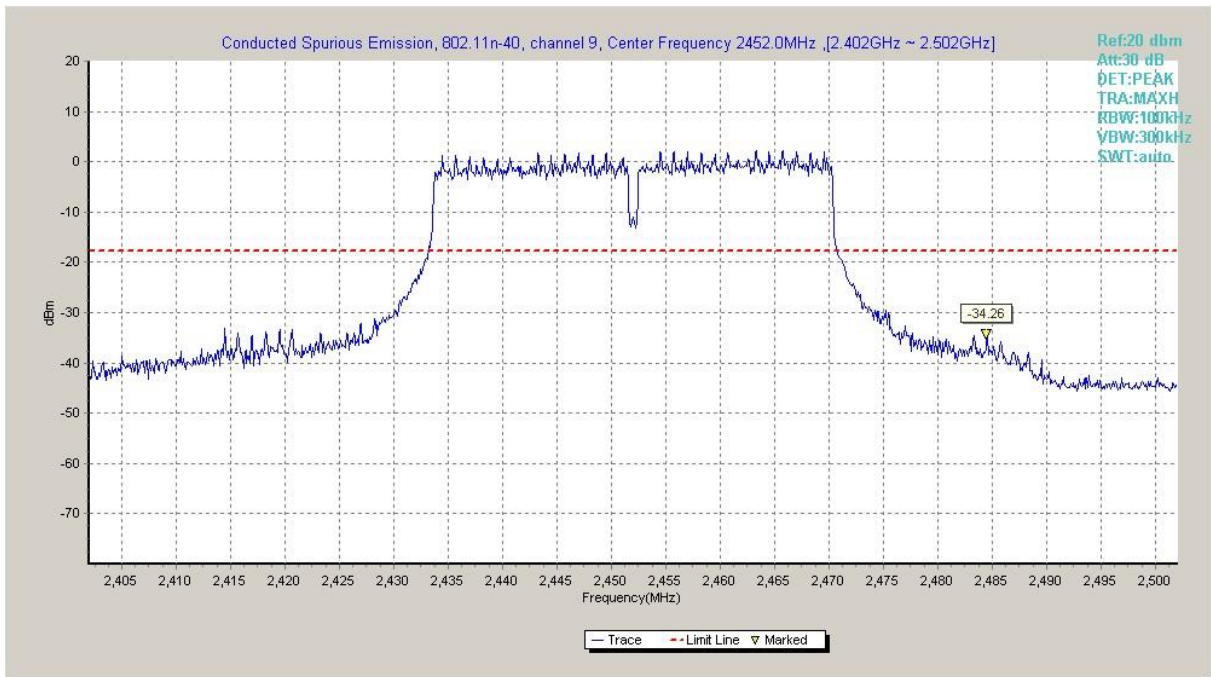


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

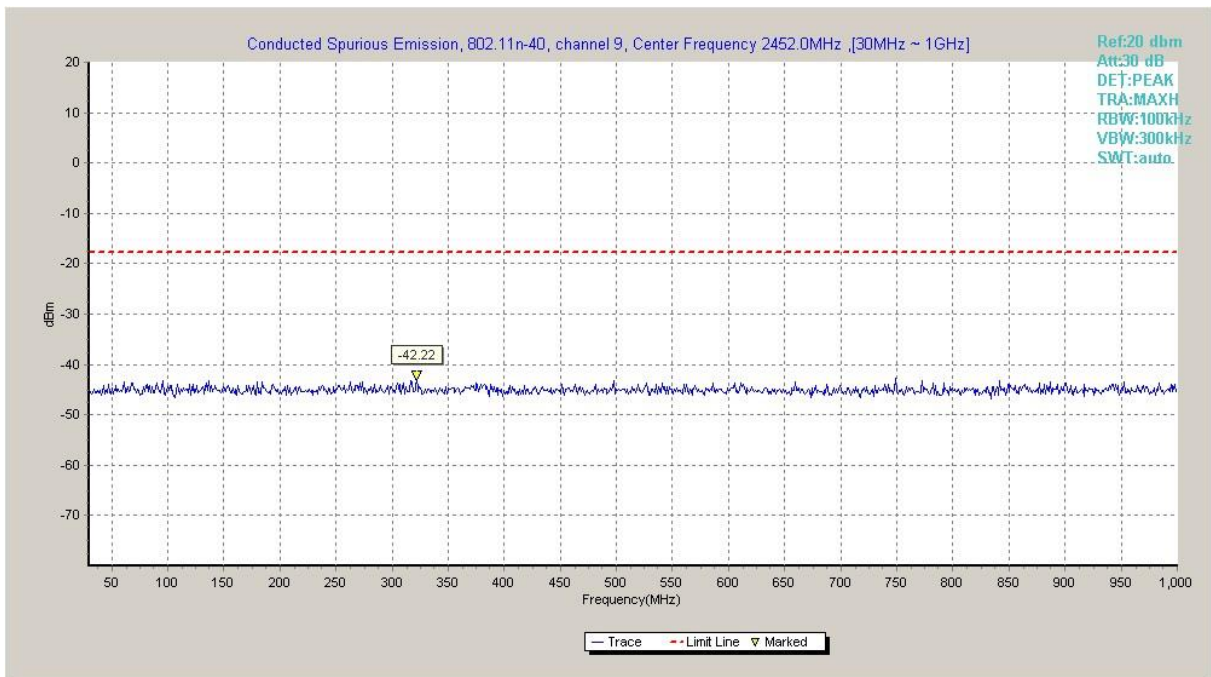


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

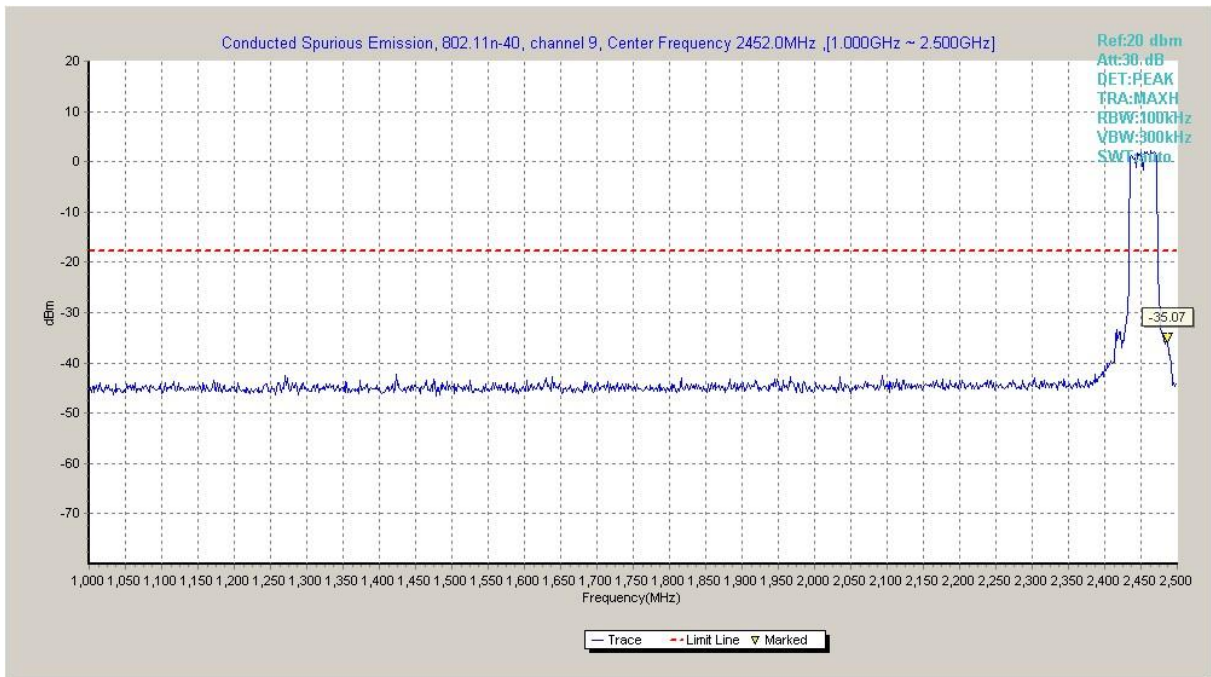


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

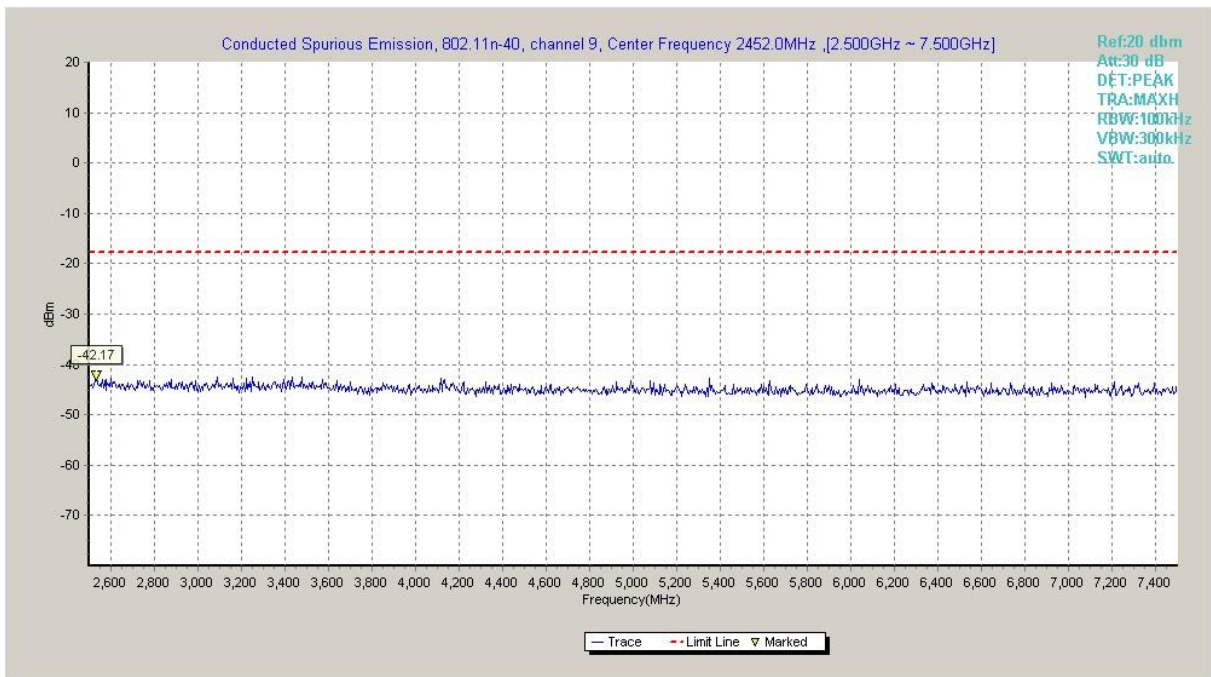


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

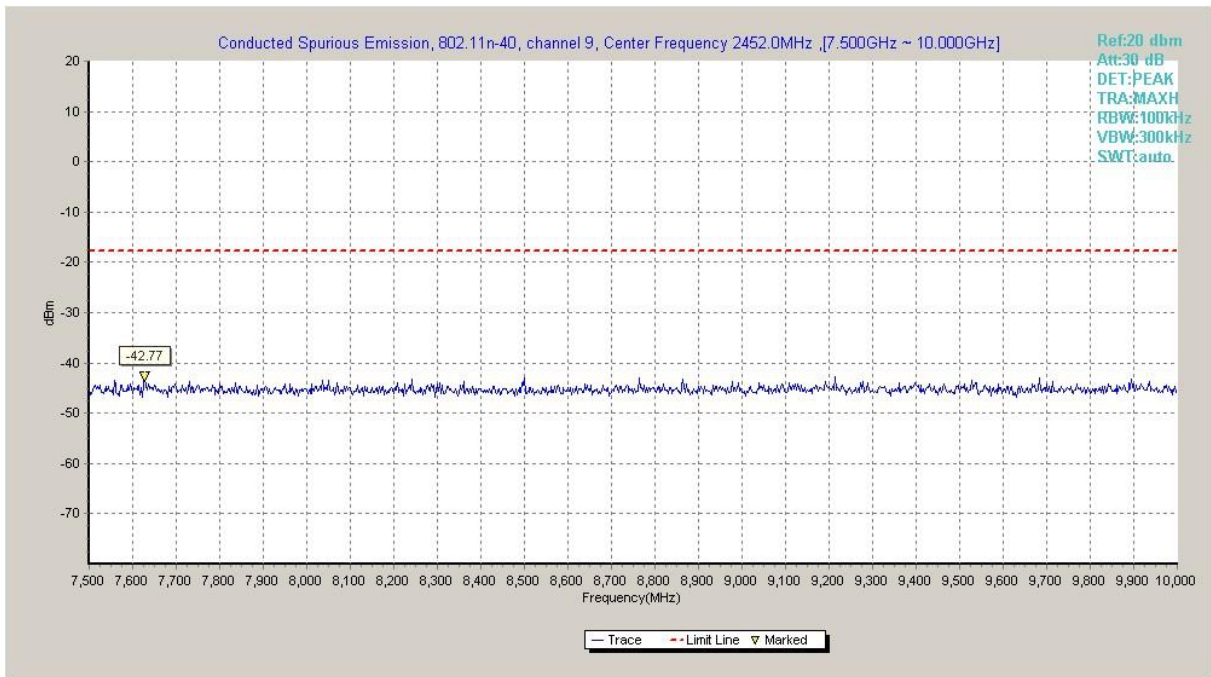


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

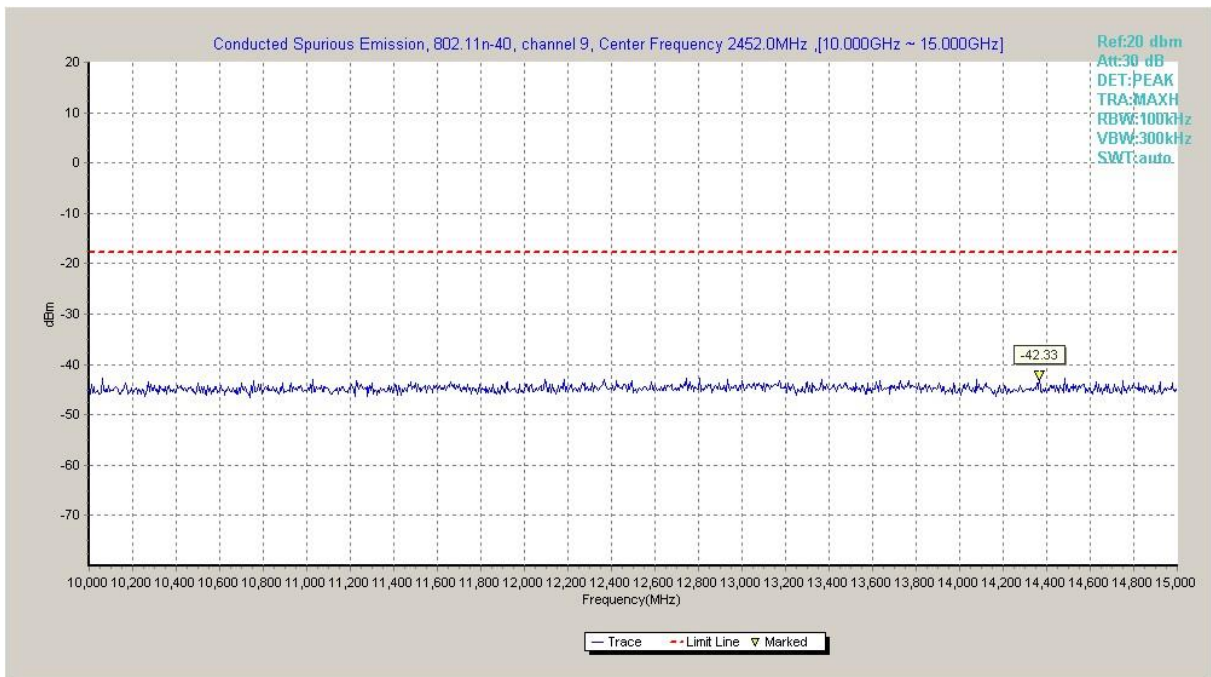


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

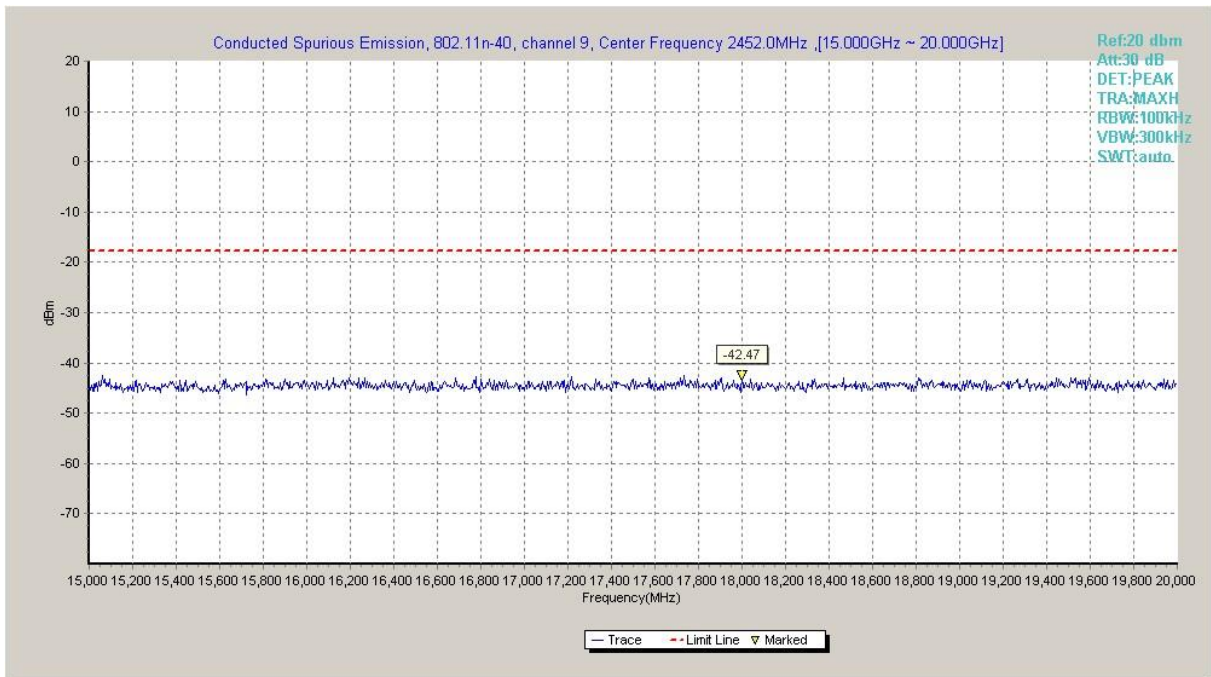


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

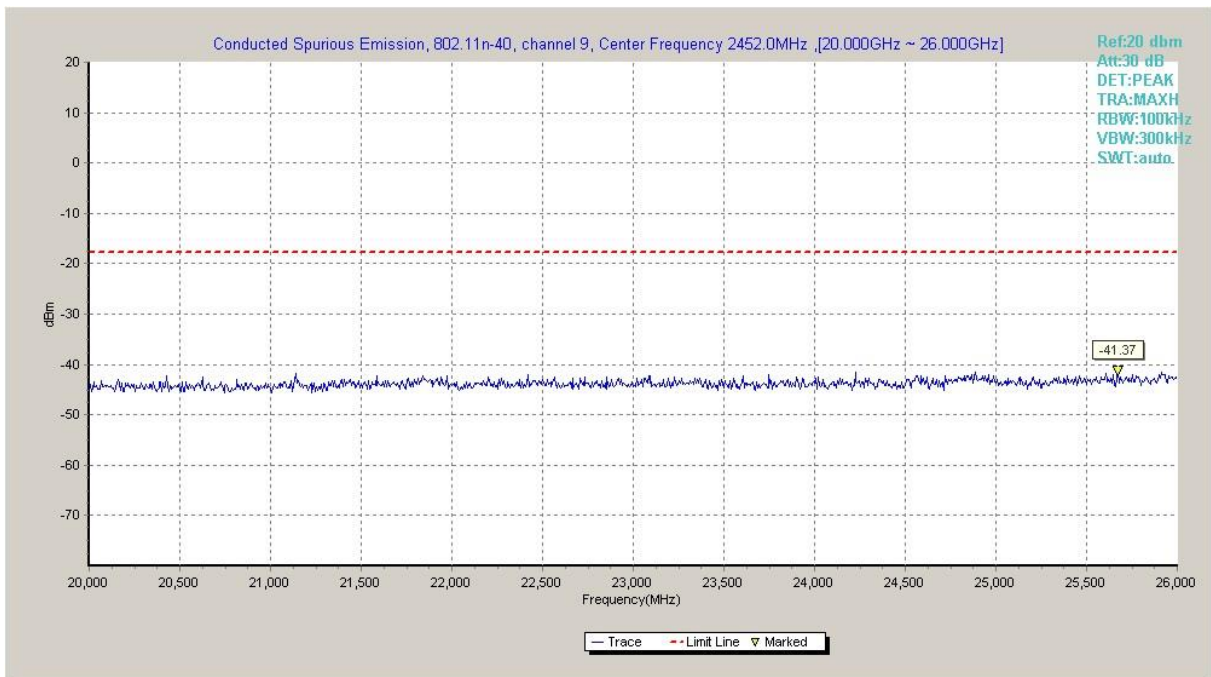


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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(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
	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
	Power	18 GHz~ 26.5 GHz	--	P
		2.45GHz ~2.5GHz	Fig.A.6.2.2	P
		11	1 GHz ~ 3 GHz	--
	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)
2383.700	46.63	2.9	32.0	11.73	54.0	7.4	H	155	4
2387.900	46.68	2.9	32.0	11.82	54.0	7.3	H	155	26
4824.000	37.51	-32.8	34.5	35.76	54.0	16.5	H	155	72
7236.000	38.08	-31.7	36.1	33.71	54.0	15.9	H	155	90
9648.000	38.61	-30.4	37.0	31.93	54.0	15.4	H	155	46
12060.000	42.98	-29.6	39.3	33.31	54.0	11.0	H	155	16

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)
2388.600	46.65	2.9	32.0	11.79	54.0	7.4	H	155	8
2498.100	46.84	2.9	32.4	11.54	54.0	7.2	H	155	28
4874.000	38.02	-32.7	34.5	36.22	54.0	16.0	H	155	135
7311.000	37.81	-31.9	36.1	33.65	54.0	16.2	H	155	156
9748.000	39.05	-30.7	37.2	32.52	54.0	15.0	H	155	180
12185.000	43.43	-29.4	39.2	33.64	54.0	10.6	H	155	204

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)
2487.800	46.74	2.9	32.6	11.17	54.0	7.3	H	155	174
2495.800	46.81	2.9	32.4	11.45	54.0	7.2	H	155	195
4924.000	38.91	-33.1	34.5	37.50	54.0	15.1	H	155	140
7386.000	37.88	-31.8	36.0	33.68	54.0	16.1	H	155	8
9848.000	39.86	-30.1	37.3	32.61	54.0	14.1	H	155	80
12310.000	43.81	-29.7	39.2	34.34	54.0	10.2	H	155	243



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)
2383.570	59.95	2.9	32.0	25.06	74.0	14.0	H	155	0
2388.988	59.56	2.9	32.0	24.71	74.0	14.4	V	155	22
4824.000	47.60	-32.8	34.5	45.85	74.0	26.4	V	155	66
7236.000	42.20	-31.7	36.1	37.84	74.0	31.8	V	155	88
9648.000	42.04	-30.4	37.0	35.36	74.0	32.0	V	155	44
12060.000	46.67	-29.6	39.3	37.00	74.0	27.3	H	155	22

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)
2363.800	48.42	-27.4	31.9	43.88	74.0	25.6	V	155	0
2507.900	48.19	-26.4	32.4	42.21	74.0	25.8	V	155	22
4874.000	43.22	-32.7	34.5	41.43	74.0	30.8	H	155	132
7311.000	43.36	-31.9	36.1	39.19	74.0	30.6	V	155	154
9748.000	42.62	-30.7	37.2	36.09	74.0	31.4	V	155	176
12185.000	47.46	-29.4	39.2	37.66	74.0	26.5	H	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)
2484.360	59.41	2.9	32.7	23.74	74.0	14.6	V	155	176
2492.840	59.88	2.9	32.5	24.44	74.0	14.1	V	155	198
4924.000	44.24	-33.1	34.5	42.83	74.0	29.8	V	155	132
7386.000	42.92	-31.8	36.0	38.71	74.0	31.1	H	155	0
9848.000	44.06	-30.1	37.3	36.81	74.0	29.9	V	155	88
12310.000	47.05	-29.7	39.2	37.58	74.0	26.9	V	155	242



802.11g - Average
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2384.300	46.62	2.9	32.0	11.73	54.0	7.4	H	155	40
2388.200	46.64	2.9	32.0	11.78	54.0	7.4	H	155	65
4824.000	37.52	-32.8	34.5	35.77	54.0	16.5	H	155	222
7236.000	38.12	-31.7	36.1	33.76	54.0	15.9	H	155	190
9648.000	38.72	-30.4	37.0	32.04	54.0	15.3	H	155	240
12060.000	43.01	-29.6	39.3	33.34	54.0	11.0	H	155	270

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2387.900	46.69	2.9	32.0	11.83	54.0	7.3	H	155	28
2486.800	46.79	2.9	32.7	11.18	54.0	7.2	H	155	6
4874.000	38.10	-32.7	34.5	36.31	54.0	15.9	H	155	92
7311.000	37.82	-31.9	36.1	33.66	54.0	16.2	H	155	112
9748.000	39.12	-30.7	37.2	32.60	54.0	14.9	H	155	136
12185.000	43.54	-29.4	39.2	33.75	54.0	10.5	H	155	156

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2484.700	46.81	2.9	32.7	11.14	54.0	7.2	H	155	152
2490.400	46.75	2.9	32.6	11.24	54.0	7.3	H	155	174
4924.000	38.90	-33.1	34.5	37.48	54.0	15.1	H	155	72
7386.000	37.91	-31.8	36.0	33.71	54.0	16.1	H	155	136
9848.000	39.94	-30.1	37.3	32.69	54.0	14.1	H	155	94
12310.000	43.62	-29.7	39.2	34.15	54.0	10.4	H	155	48



802.11g - Peak
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2383.626	59.69	2.9	32.0	24.80	74.0	14.3	V	155	44
2389.576	59.38	2.9	32.0	24.53	74.0	14.6	H	155	66
4824.000	42.38	-32.8	34.5	40.63	74.0	31.6	V	155	220
7236.000	43.23	-31.7	36.1	38.86	74.0	30.8	V	155	198
9648.000	42.25	-30.4	37.0	35.56	74.0	31.8	H	155	242
12060.000	47.19	-29.6	39.3	37.52	74.0	26.8	V	155	264

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2366.780	47.60	-27.2	32.0	42.83	74.0	26.4	V	155	22
2508.600	47.88	-26.5	32.4	41.90	74.0	26.1	H	155	0
4874.000	43.57	-32.7	34.5	41.78	74.0	30.4	H	155	88
7311.000	42.93	-31.9	36.1	38.76	74.0	31.1	H	155	110
9748.000	41.73	-30.7	37.2	35.20	74.0	32.3	H	155	132
12185.000	46.22	-29.4	39.2	36.43	74.0	27.8	H	155	154

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2488.780	60.22	2.9	32.6	24.67	74.0	13.8	H	155	154
2496.430	60.12	2.9	32.4	24.77	74.0	13.9	V	155	176
4924.000	43.07	-33.1	34.5	41.66	74.0	30.9	H	155	66
7386.000	42.75	-31.8	36.0	38.54	74.0	31.3	V	155	132
9848.000	44.39	-30.1	37.3	37.13	74.0	29.6	H	155	88
12310.000	47.61	-29.7	39.2	38.14	74.0	26.4	V	155	44



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)
2382.900	46.63	2.9	32.0	11.73	54.0	7.4	H	155	180
2388.600	46.68	2.9	32.0	11.82	54.0	7.3	H	155	202
4824.000	37.52	-32.8	34.5	35.77	54.0	16.5	H	155	312
7236.000	38.00	-31.7	36.1	33.64	54.0	16.0	H	155	46
9648.000	37.52	-30.4	37.0	30.84	54.0	16.5	H	155	70
12060.000	42.84	-29.6	39.3	33.16	54.0	11.2	H	155	92

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)
2385.100	46.65	2.9	32.0	11.77	54.0	7.4	H	155	28
2485.100	46.77	2.9	32.7	11.12	54.0	7.2	H	155	74
4874.000	38.22	-32.7	34.5	36.43	54.0	15.8	H	155	92
7311.000	37.83	-31.9	36.1	33.67	54.0	16.2	H	155	268
9748.000	39.12	-30.7	37.2	32.59	54.0	14.9	H	155	292
12185.000	39.12	-29.4	39.2	29.33	54.0	14.9	H	155	316

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)
2484.700	46.68	2.9	32.7	11.02	54.0	7.3	H	155	86
2492.200	46.73	2.9	32.5	11.27	54.0	7.3	H	155	107
4924.000	38.93	-33.1	34.5	37.52	54.0	15.1	H	155	72
7386.000	37.93	-31.8	36.0	33.73	54.0	16.1	H	155	92
9848.000	39.85	-30.1	37.3	32.59	54.0	14.2	H	155	40
12310.000	43.79	-29.7	39.2	34.32	54.0	10.2	H	155	6



802.11n-HT20-Peak

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2382.422	60.09	2.9	32.0	25.19	74.0	13.9	H	155	176
2387.224	59.81	2.9	32.0	24.94	74.0	14.2	H	155	198
4824.000	41.17	-32.8	34.5	39.42	74.0	32.8	V	155	308
7236.000	42.95	-31.7	36.1	38.59	74.0	31.1	H	155	44
9648.000	41.38	-30.4	37.0	34.70	74.0	32.6	H	155	66
12060.000	46.83	-29.6	39.3	37.15	74.0	27.2	V	155	88

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2375.896	48.29	-26.6	32.1	42.78	74.0	25.7	H	155	22
2646.638	49.24	-26.7	33.6	42.33	74.0	24.8	H	155	66
4874.000	42.09	-32.7	34.5	40.30	74.0	31.9	H	155	88
7311.000	43.23	-31.9	36.1	39.06	74.0	30.8	H	155	264
9748.000	42.11	-30.7	37.2	35.58	74.0	31.9	H	155	286
12185.000	47.16	-29.4	39.2	37.37	74.0	26.8	H	155	308

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2486.120	59.64	2.9	32.7	24.02	74.0	14.4	H	155	88
2494.450	60.11	2.9	32.5	24.72	74.0	13.9	H	155	110
4924.000	41.93	-33.1	34.5	40.52	74.0	32.1	V	155	66
7386.000	44.16	-31.8	36.0	39.95	74.0	29.8	H	155	88
9848.000	45.37	-30.1	37.3	38.11	74.0	28.6	V	155	44
12310.000	48.07	-29.7	39.2	38.59	74.0	25.9	V	155	0



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)
2387.100	46.65	2.9	32.0	11.78	54.0	7.4	H	155	175
2389.100	46.75	2.9	32.0	11.90	54.0	7.3	H	155	194
4844.000	38.42	-32.7	34.5	36.61	54.0	15.6	H	155	296
7266.000	38.01	-31.9	36.1	33.78	54.0	16.0	H	155	314
9688.000	37.38	-30.7	37.1	31.00	54.0	16.6	H	155	90
12110.000	43.02	-29.5	39.3	33.25	54.0	11.0	H	155	112

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)
2385.200	46.64	2.9	32.0	11.76	54.0	7.4	H	155	4
2490.500	46.76	2.9	32.6	11.26	54.0	7.2	H	155	2
4874.000	37.93	-32.7	34.5	36.14	54.0	16.1	H	155	25
7311.000	37.94	-31.9	36.1	33.78	54.0	16.1	H	155	350
9748.000	39.23	-30.7	37.2	32.70	54.0	14.8	H	155	92
12185.000	43.49	-29.4	39.2	33.69	54.0	10.5	H	155	85

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)
2486.000	46.77	2.9	32.7	11.14	54.0	7.2	H	155	135
2493.500	46.78	2.9	32.5	11.36	54.0	7.2	H	155	160
4904.000	38.50	-32.9	34.5	36.90	54.0	15.5	H	155	92
7356.000	37.77	-31.9	36.1	33.62	54.0	16.2	H	155	115
9808.000	39.54	-30.4	37.3	32.62	54.0	14.5	H	155	112
12260.000	43.68	-29.6	39.2	34.06	54.0	10.3	H	155	85



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)
2387.812	60.42	2.9	32.0	25.55	74.0	13.6	H	155	176
2389.996	60.05	2.9	32.0	25.20	74.0	14.0	H	155	198
4844.000	40.52	-32.7	34.5	38.71	74.0	33.5	V	155	286
7266.000	42.45	-31.9	36.1	38.22	74.0	31.5	H	155	308
9688.000	41.87	-30.7	37.1	35.49	74.0	32.1	V	155	88
12110.000	47.67	-29.5	39.3	37.90	74.0	26.3	V	155	110

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)
2364.000	48.20	-27.3	31.9	43.65	74.0	25.8	H	155	0
2513.400	48.69	-26.6	32.5	42.74	74.0	25.3	H	155	0
4874.000	40.58	-32.7	34.5	38.79	74.0	33.4	V	155	22
7311.000	42.64	-31.9	36.1	38.47	74.0	31.4	V	155	352
9748.000	41.92	-30.7	37.2	35.39	74.0	32.1	V	155	88
12185.000	47.67	-29.4	39.2	37.87	74.0	26.3	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)
2484.810	60.23	2.9	32.7	24.57	74.0	13.8	H	155	132
2485.540	59.93	2.9	32.7	24.29	74.0	14.1	H	155	154
4904.000	41.23	-32.9	34.5	39.62	74.0	32.8	V	155	88
7356.000	42.41	-31.9	36.1	38.26	74.0	31.6	H	155	110
9808.000	44.78	-30.4	37.3	37.86	74.0	29.2	V	155	110
12260.000	47.21	-29.6	39.2	37.58	74.0	26.8	V	155	88

Test graphs as below:

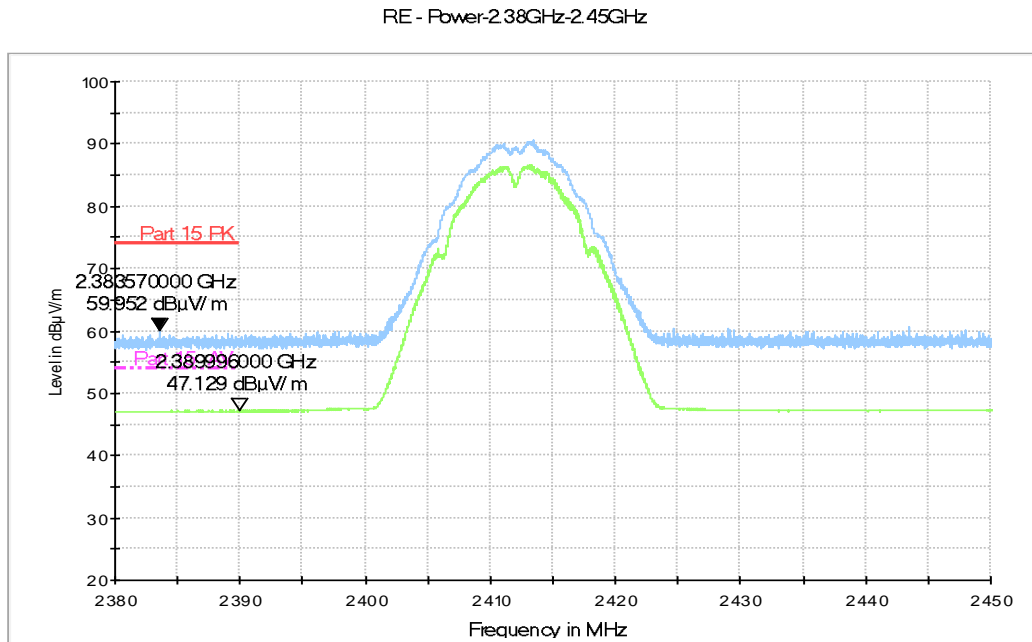


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz

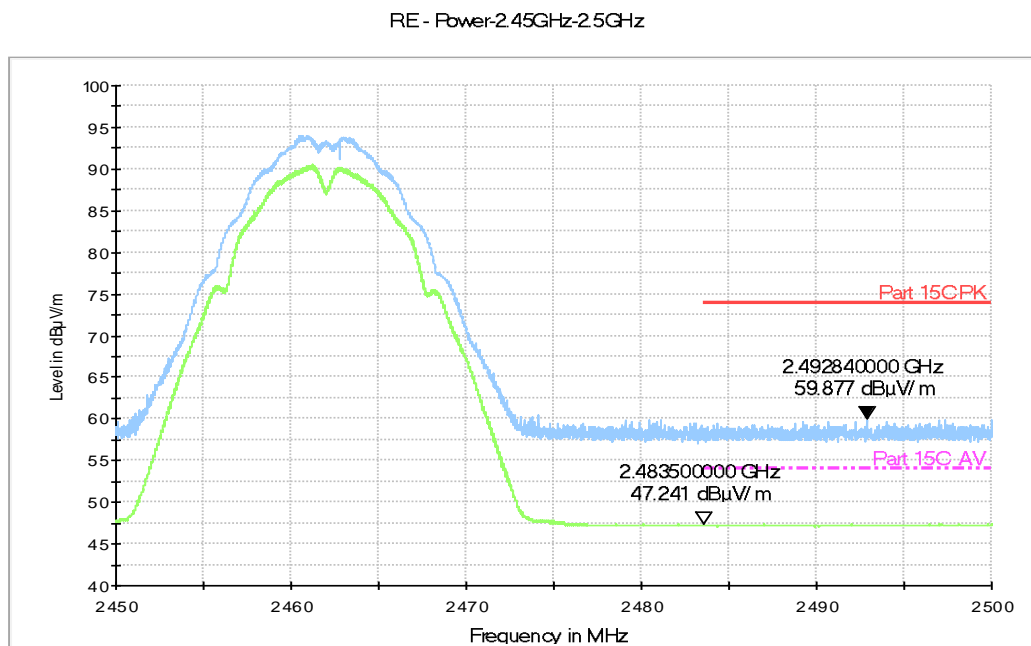


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

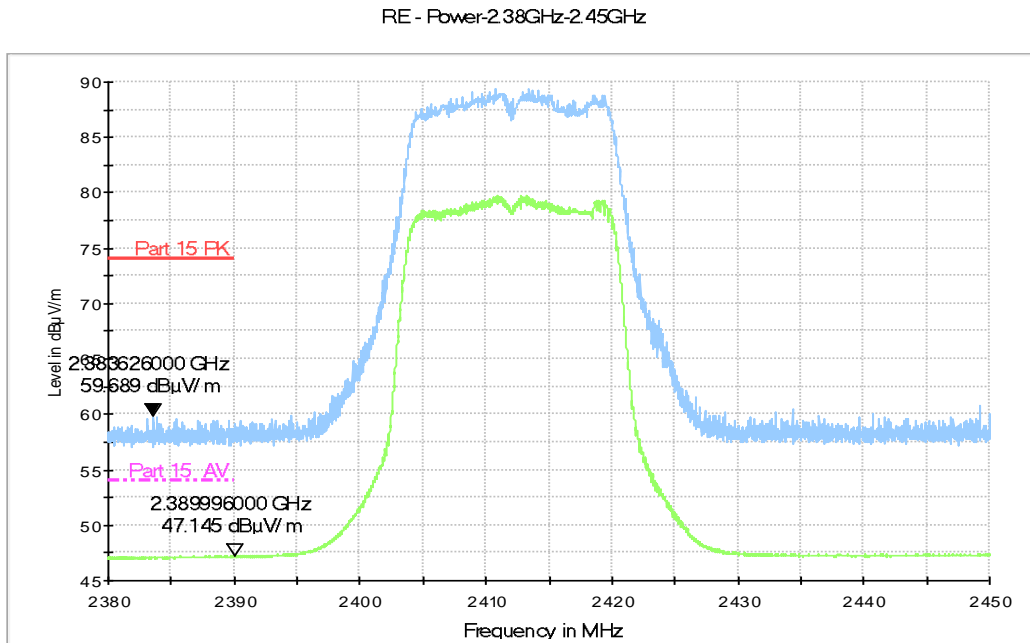


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz

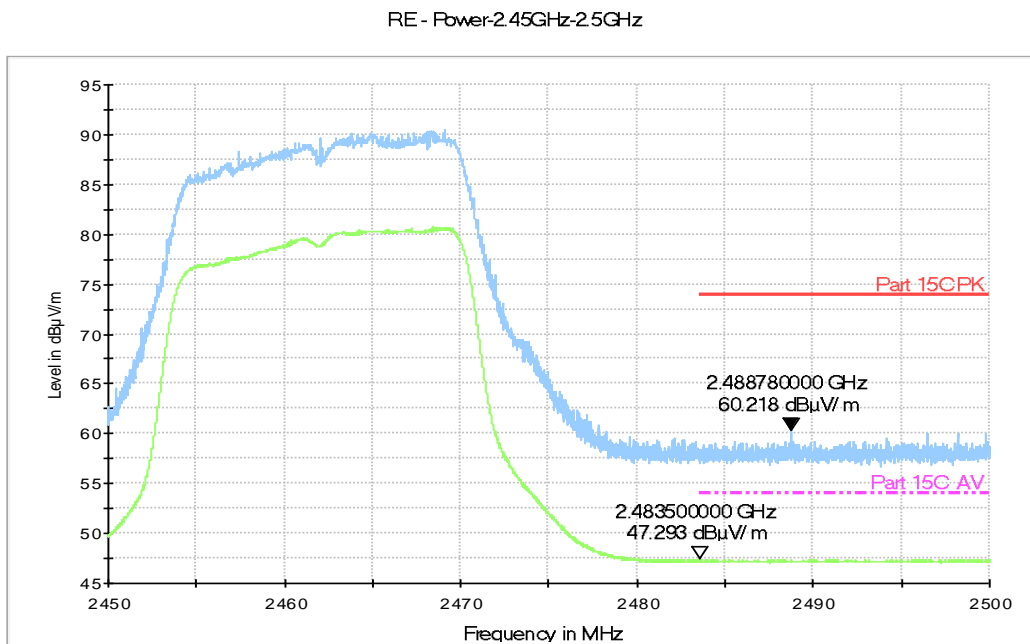


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

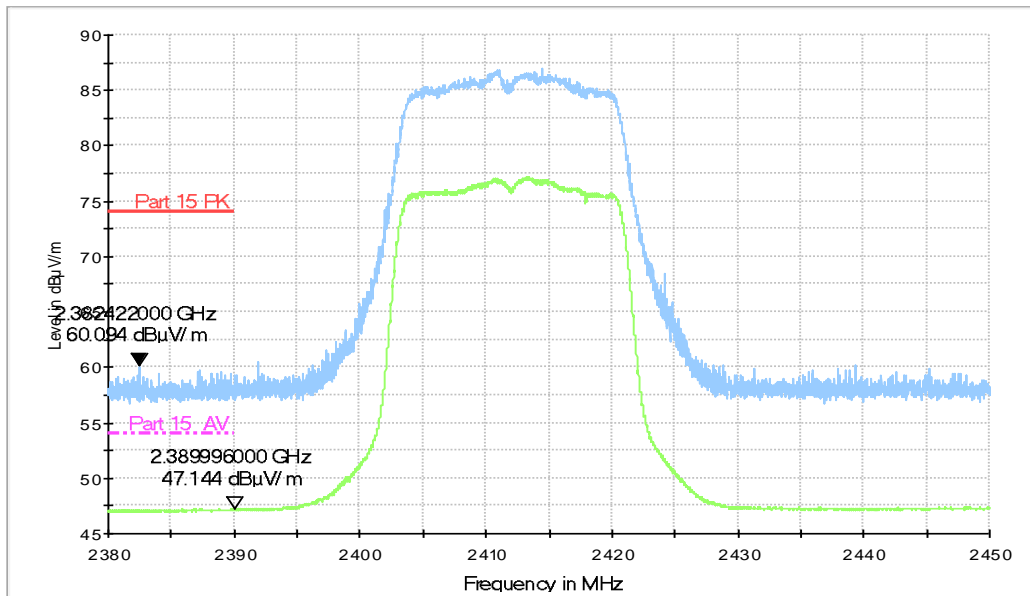


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

RE - Power-2.45GHz-2.5GHz

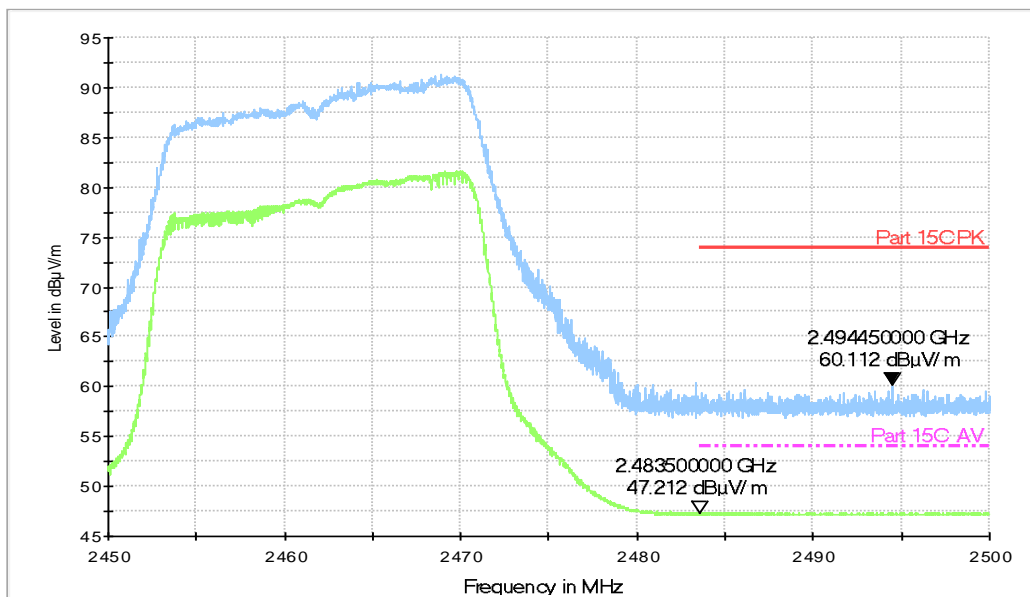


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

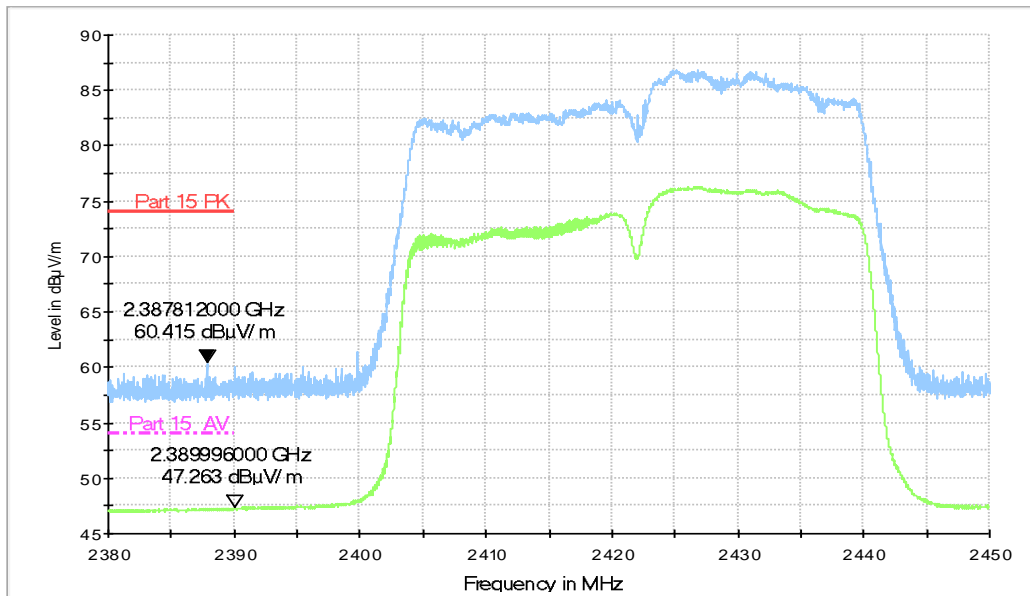


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

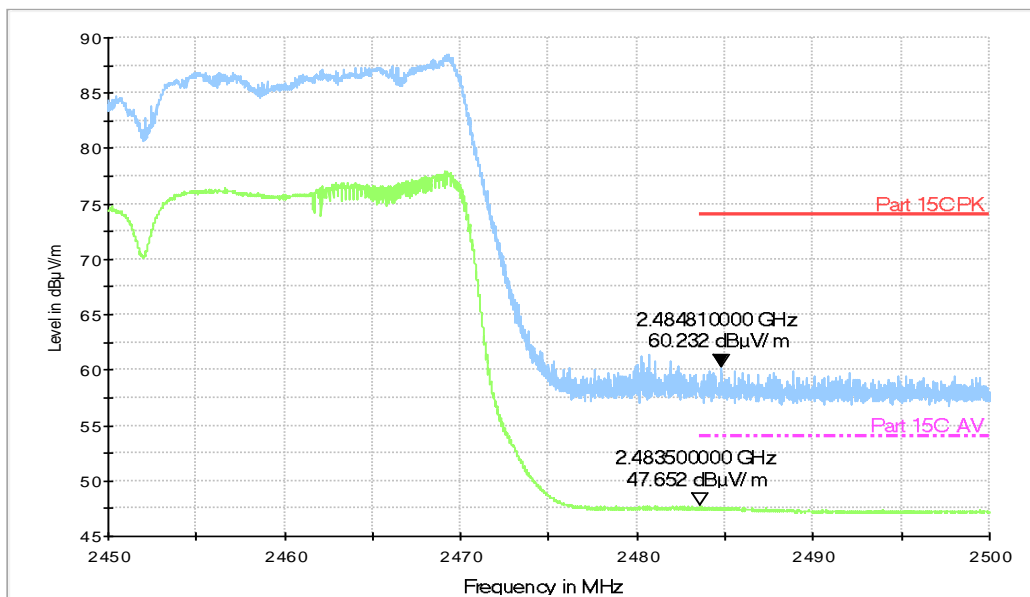


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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

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.11

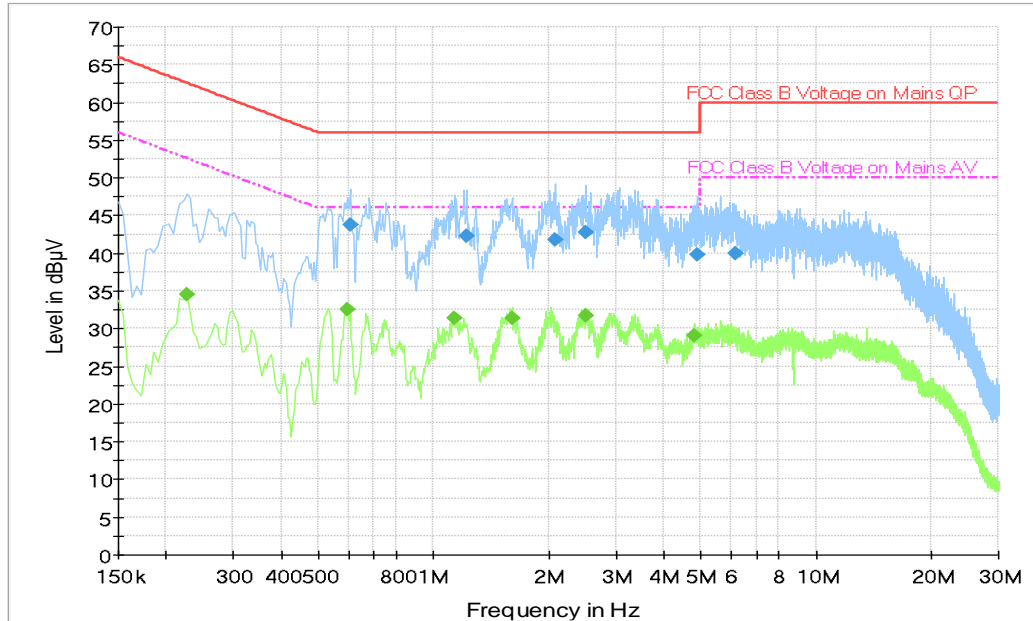


Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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 h (kHz)	Filter	Line	Corr. (dB)	Margi n (dB)	Limit (dBµV)
0.604500	43.8	2000.	9.000	On	L1	19.8	12.2	56.0
1.216500	42.3	2000.	9.000	On	L1	19.6	13.7	56.0
2.085000	41.8	2000.	9.000	On	L1	19.7	14.2	56.0
2.494500	42.7	2000.	9.000	On	L1	19.7	13.3	56.0
4.879500	39.8	2000.	9.000	On	L1	19.6	16.2	56.0
6.139500	39.9	2000.	9.000	On	L1	19.7	20.1	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.226500	34.6	2000.	9.000	On	L1	19.8	18.0	52.6
0.595500	32.4	2000.	9.000	On	L1	19.8	13.6	46.0
1.135500	31.3	2000.	9.000	On	L1	19.6	14.7	46.0
1.603500	31.4	2000.	9.000	On	L1	19.7	14.6	46.0
2.508000	31.6	2000.	9.000	On	L1	19.7	14.4	46.0
4.821000	29.0	2000.	9.000	On	L1	19.6	17.0	46.0

Idle: Set.11

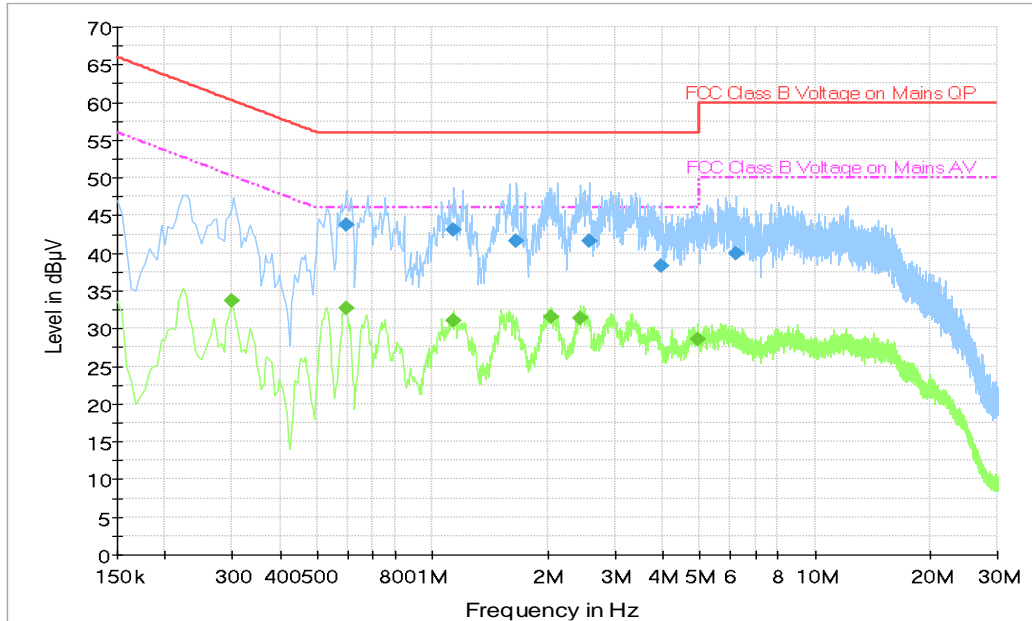


Fig.A.7.2 AC Powerline Conducted Emission-Idle

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 h (kHz)	Filter	Line	Corr. (dB)	Margi n (dB)	Limit (dBµV)
0.595500	43.8	2000.	9.000	On	L1	19.8	12.2	56.0
1.135500	43.0	2000.	9.000	On	L1	19.6	13.0	56.0
1.662000	41.7	2000.	9.000	On	L1	19.7	14.3	56.0
2.575500	41.6	2000.	9.000	On	L1	19.7	14.4	56.0
3.961500	38.3	2000.	9.000	On	L1	19.6	17.7	56.0
6.238500	40.0	2000.	9.000	On	L1	19.7	20.0	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.298500	33.6	2000.	9.000	On	L1	19.8	16.7	50.3
0.595500	32.6	2000.	9.000	On	L1	19.8	13.4	46.0
1.135500	31.0	2000.	9.000	On	L1	19.6	15.0	46.0
2.044500	31.6	2000.	9.000	On	L1	19.7	14.4	46.0
2.431500	31.4	2000.	9.000	On	L1	19.7	14.6	46.0
4.942500	28.6	2000.	9.000	On	L1	19.6	17.4	46.0

ANNEX B: Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p> 	
<hr/> <p>Certificate of Accreditation to ISO/IEC 17025:2005</p> <hr/>	
<p>NVLAP LAB CODE: 600118-0</p>	
<p>Telecommunication Technology Labs, CAICT Beijing China</p>	
<p><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p>	
<p>Electromagnetic Compatibility & Telecommunications</p>	
<p><i>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 Communique dated January 2009).</i></p>	
<hr/> <p>2017-08-22 through 2018-09-30 <i>Effective Dates</i></p>	 <hr/> <p><i>David S. Laman</i> For the National Voluntary Laboratory Accreditation Program</p>

END OF REPORT