

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

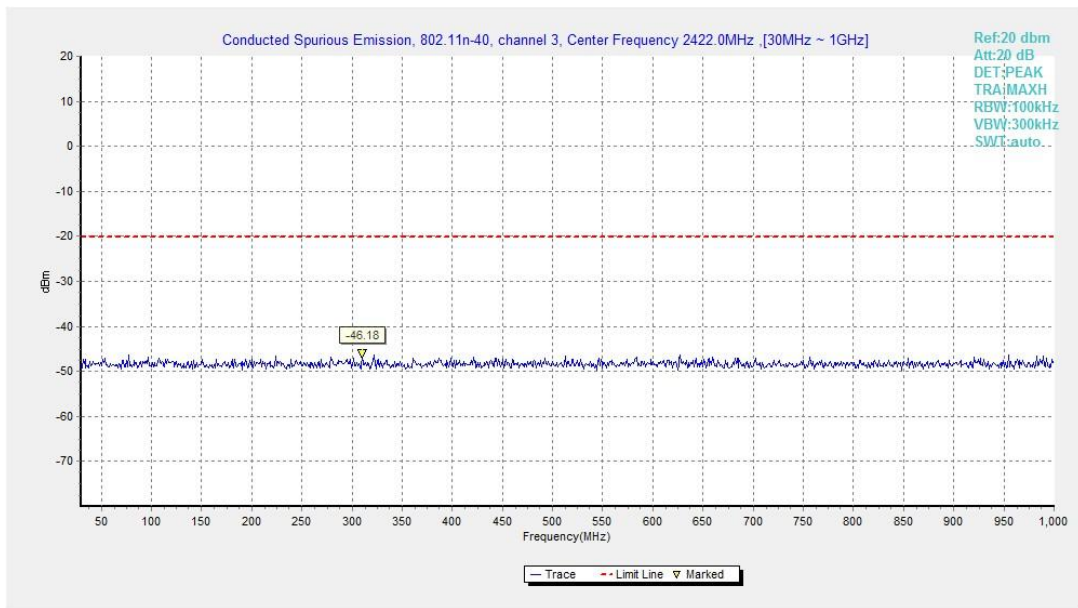


Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)

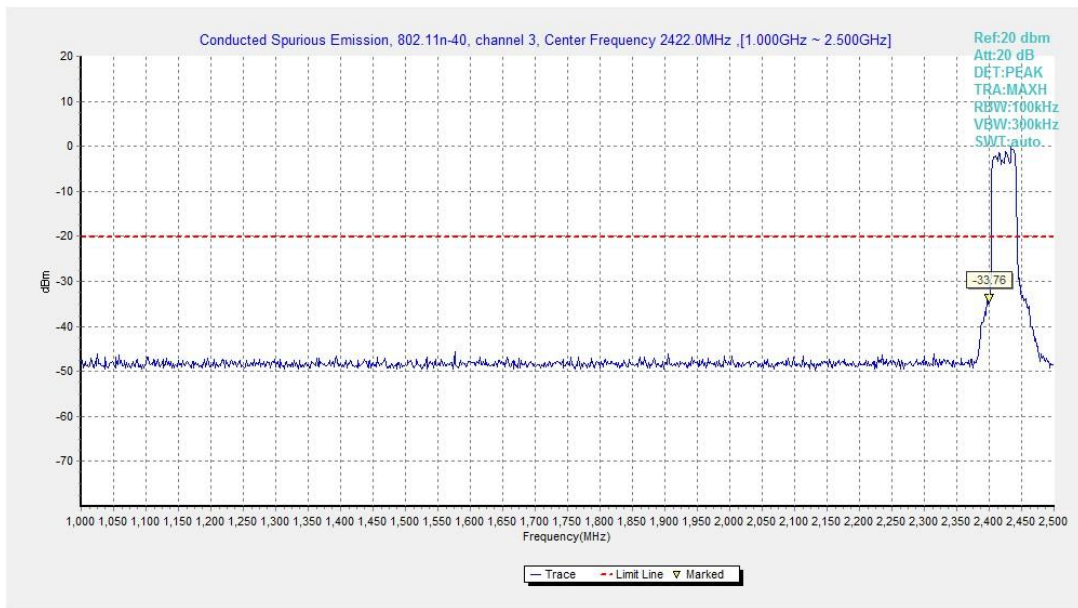


Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)

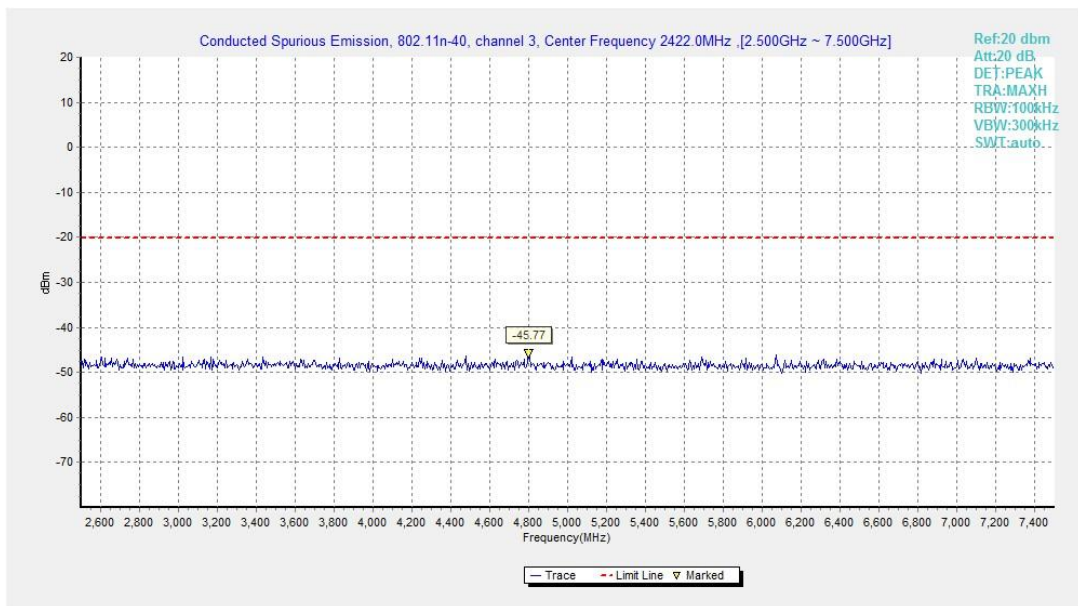


Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)

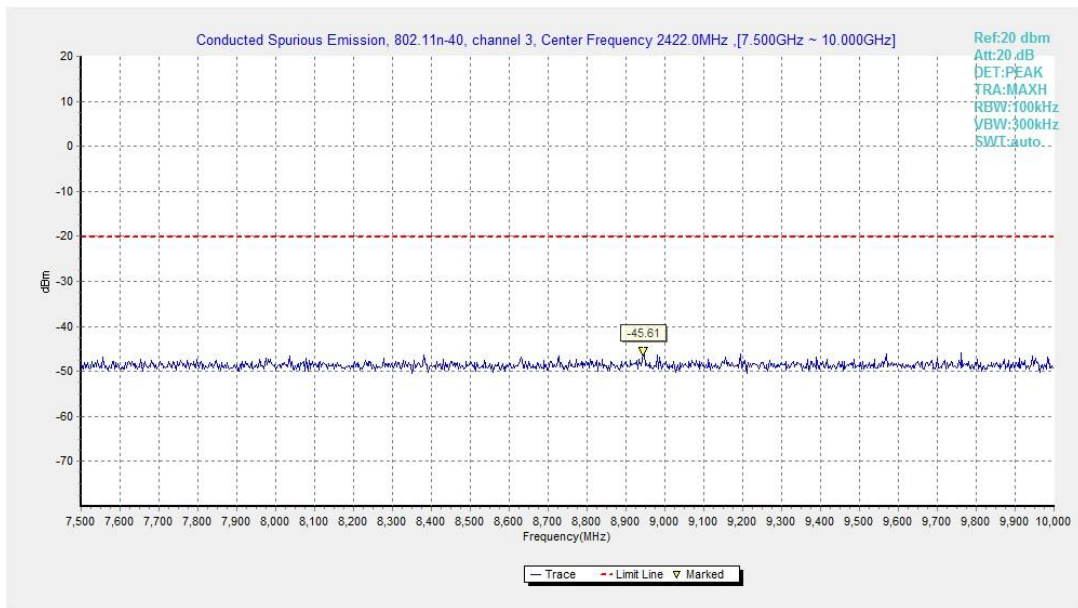


Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)

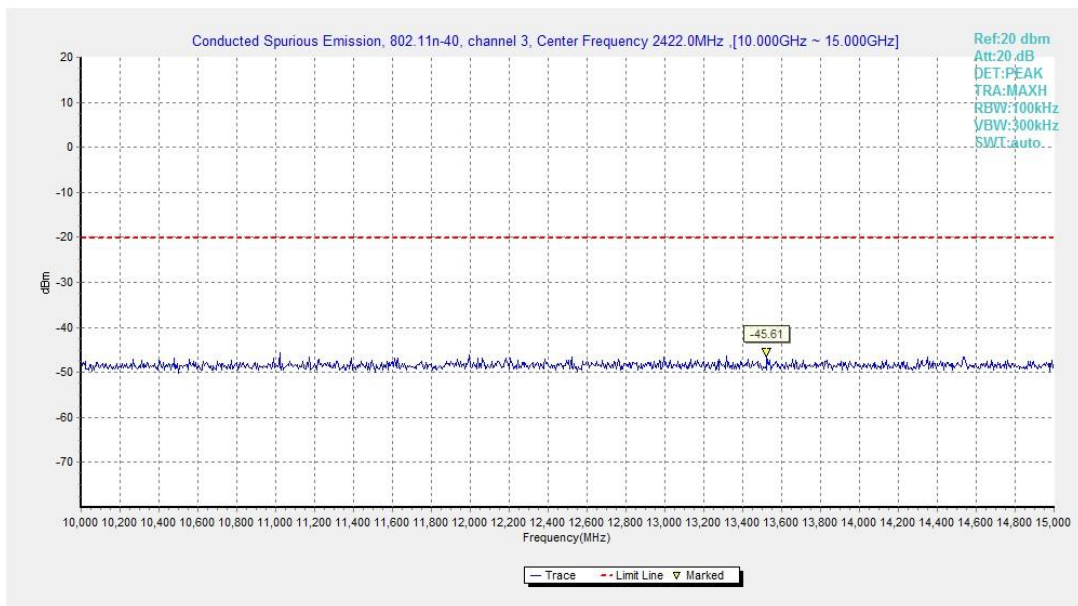


Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)

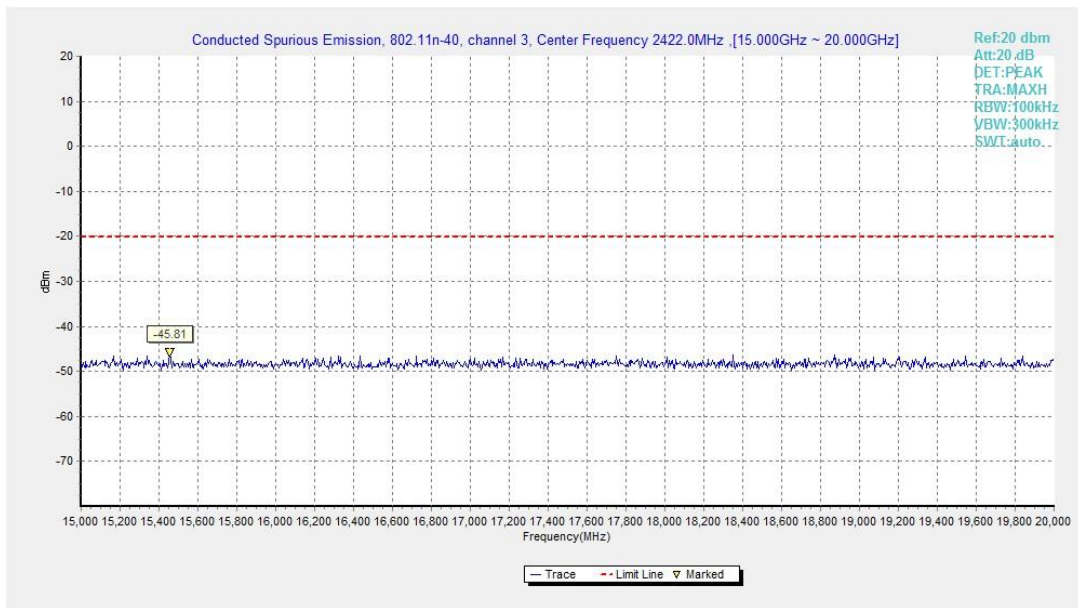


Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)

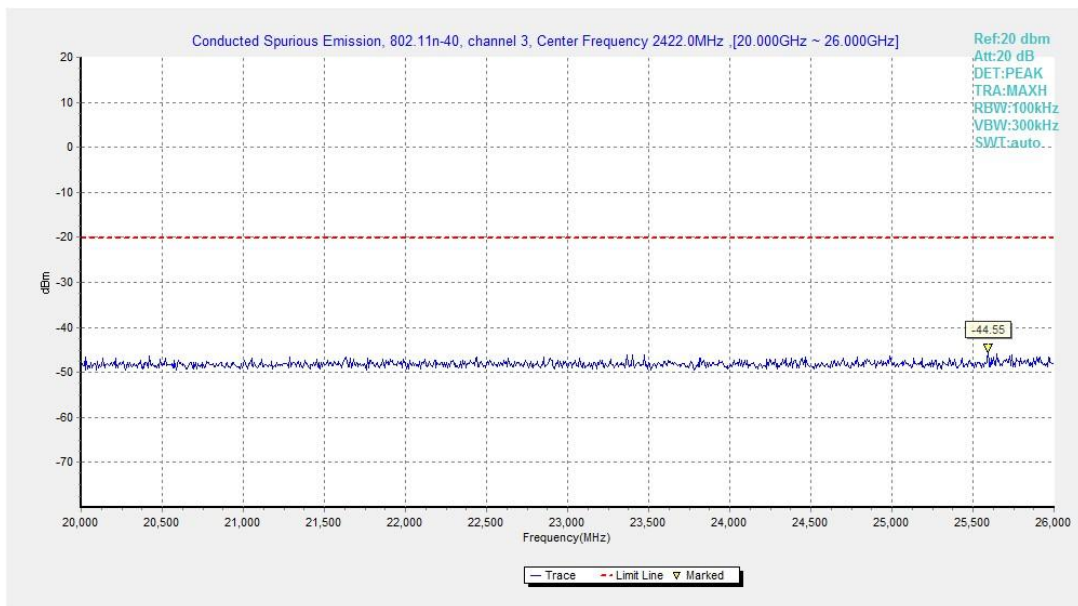


Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)

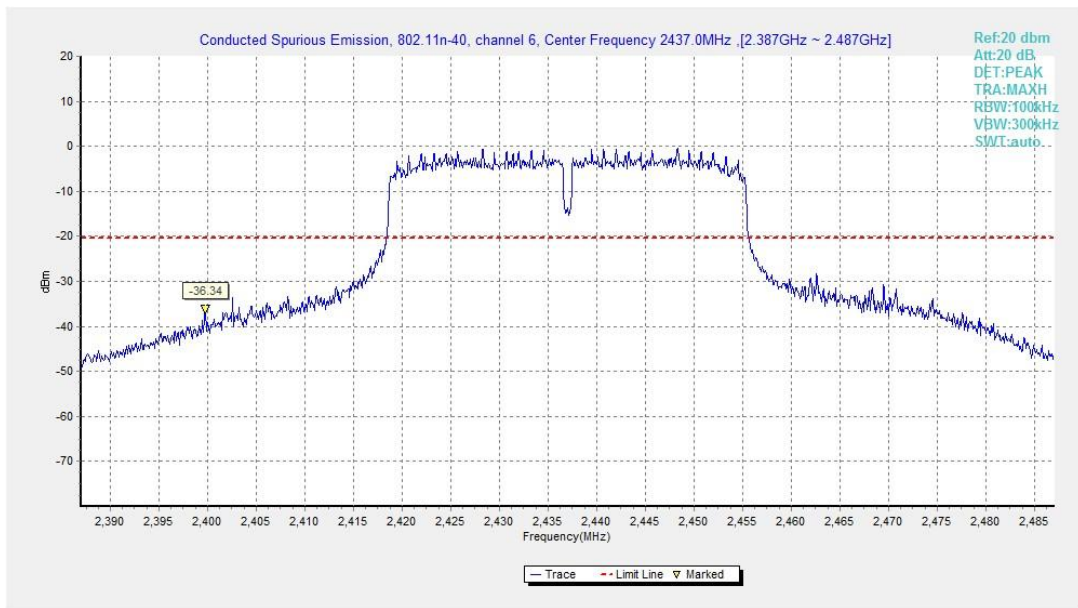


Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)

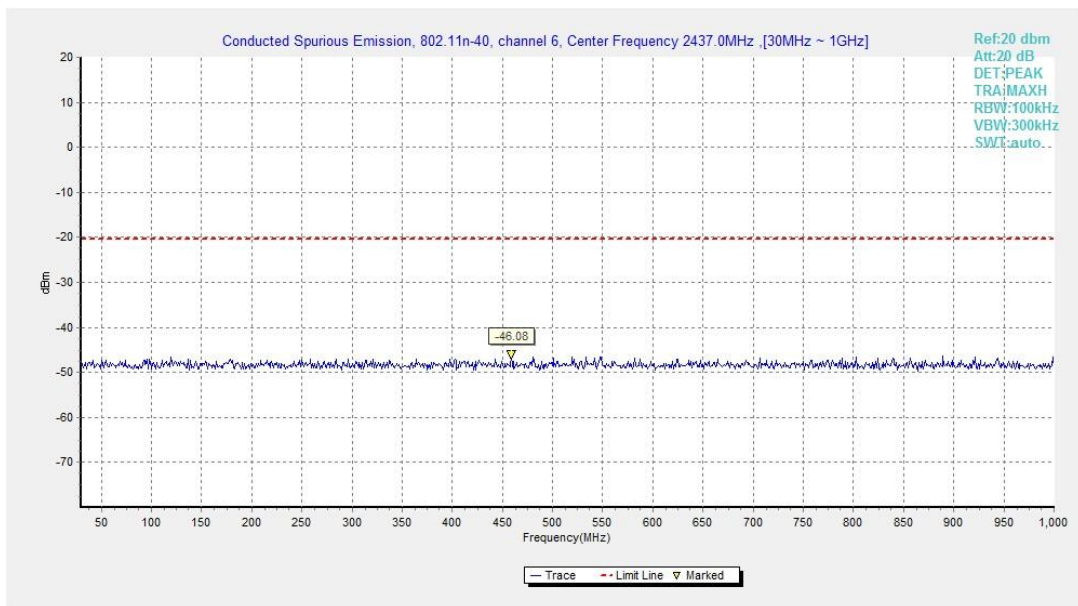


Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)

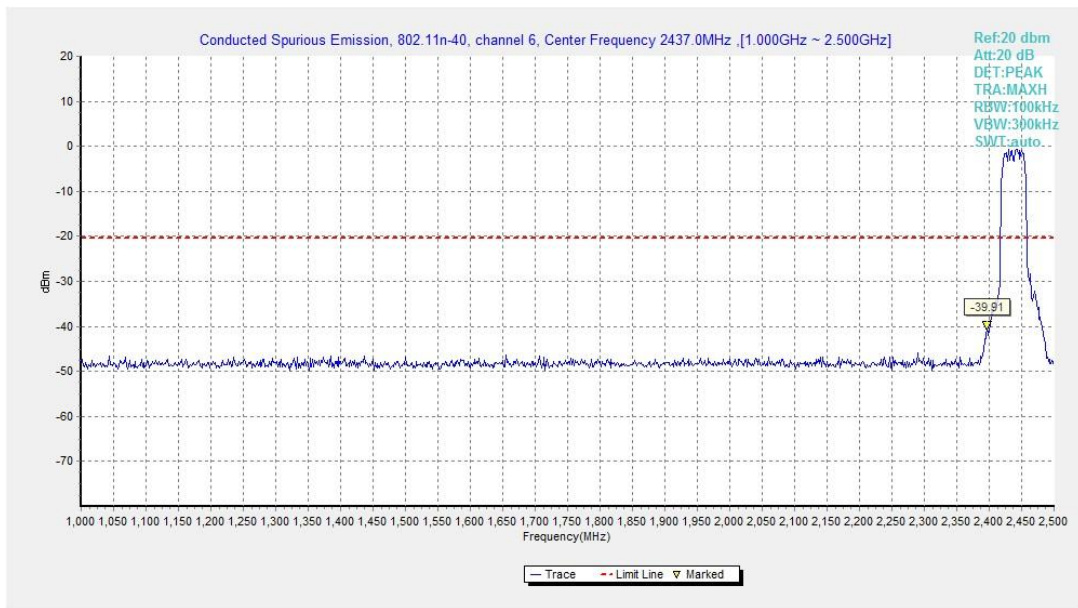


Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)

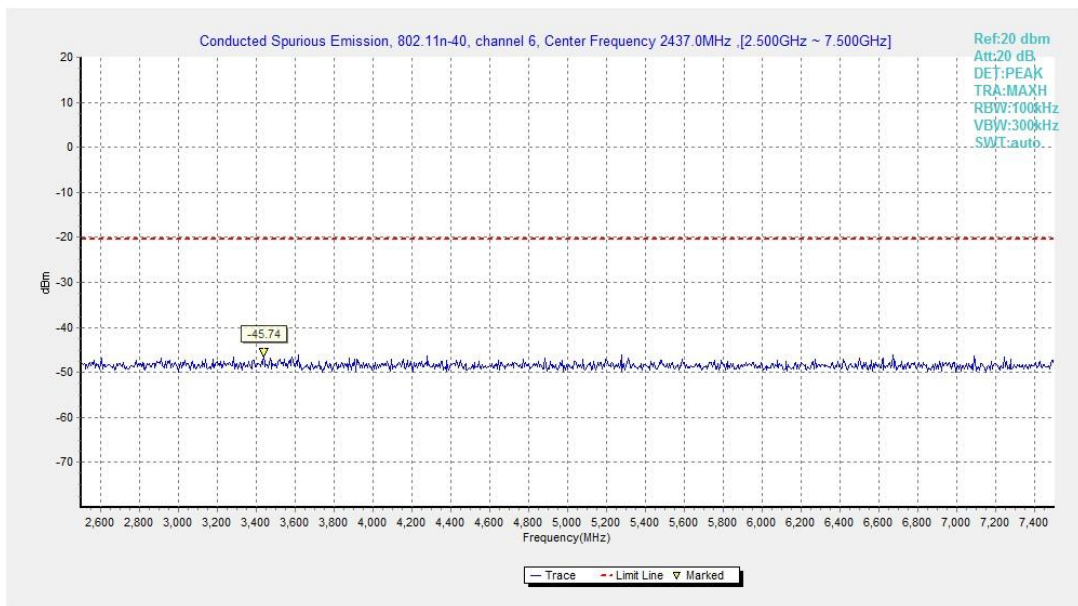


Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)

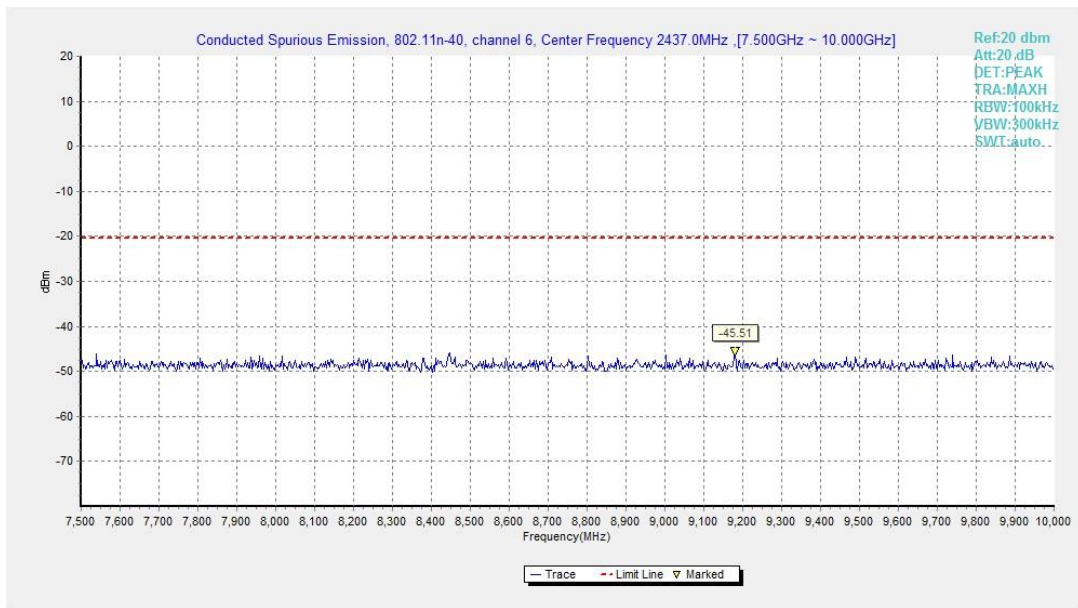


Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

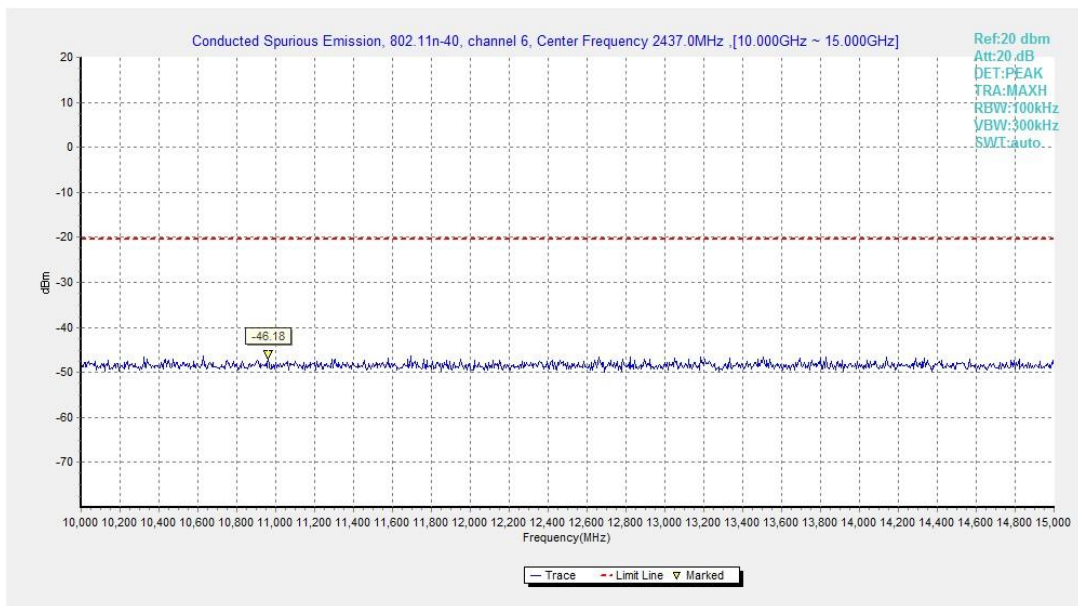


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

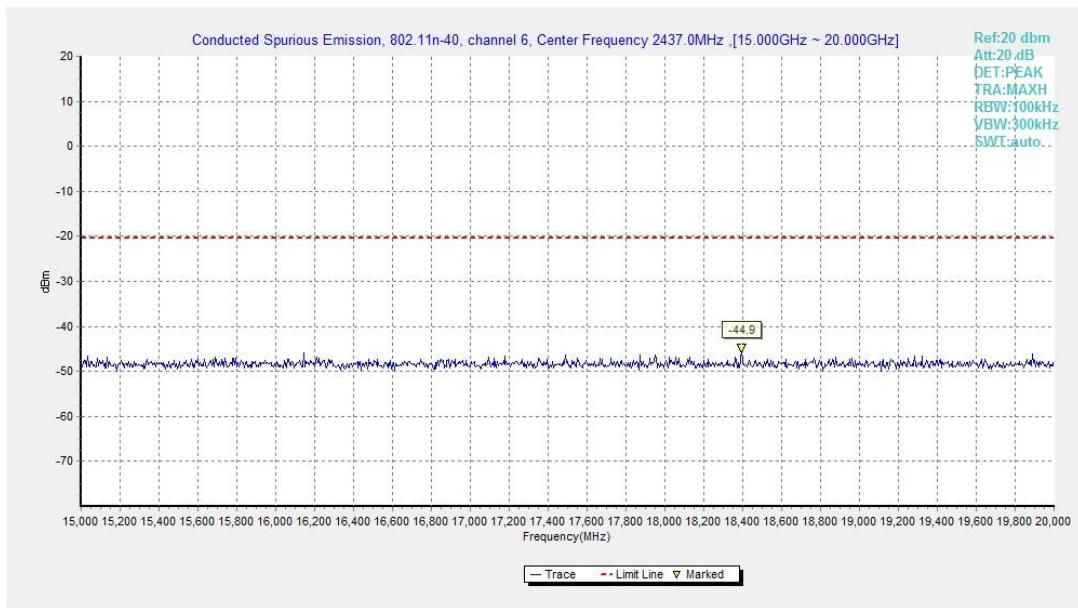


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

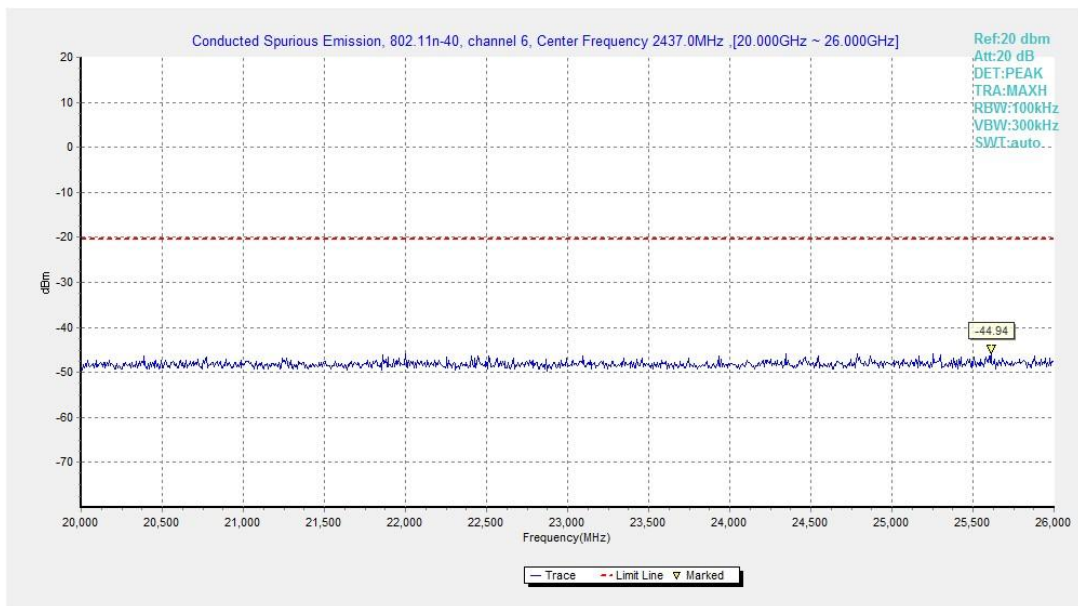


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

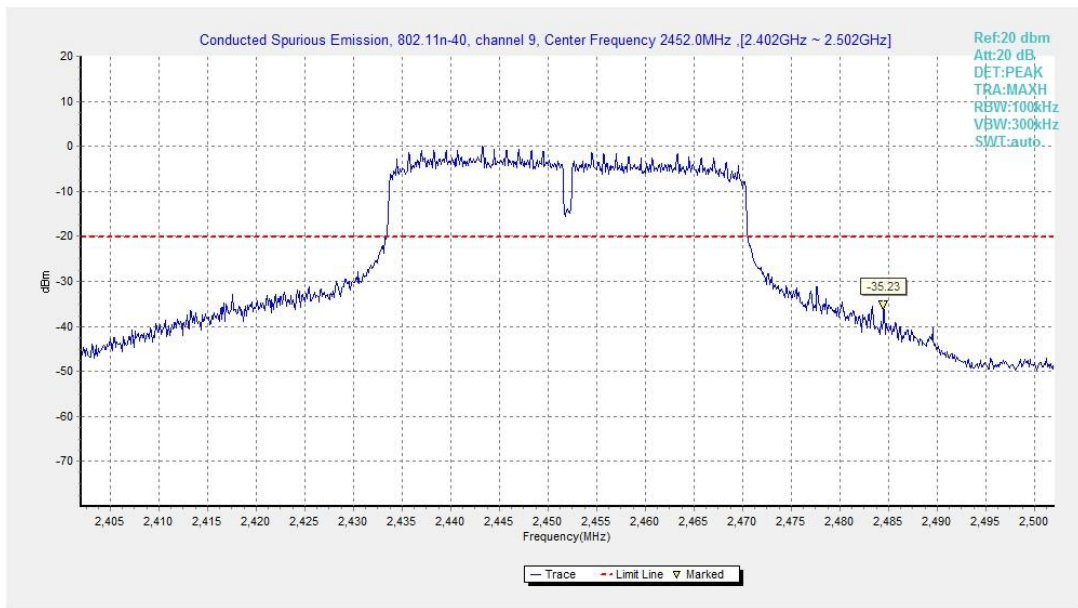


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

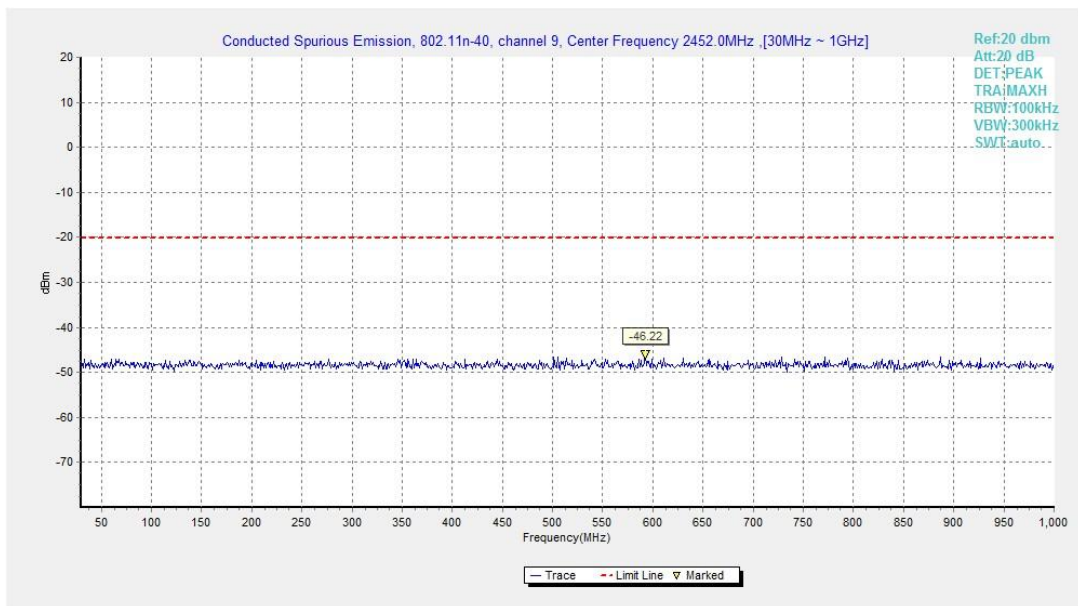


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

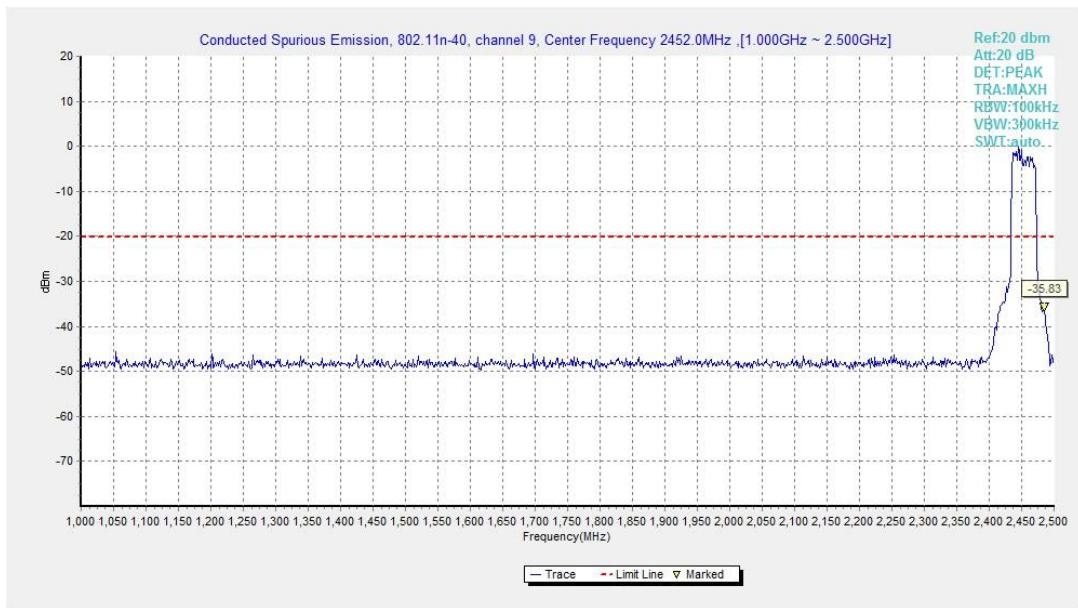


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

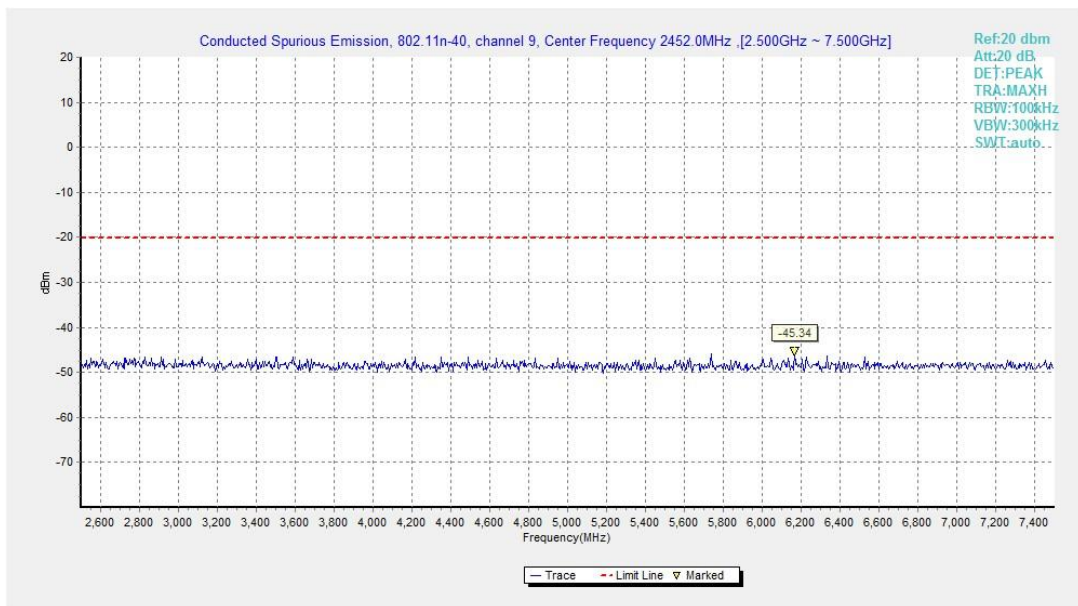


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

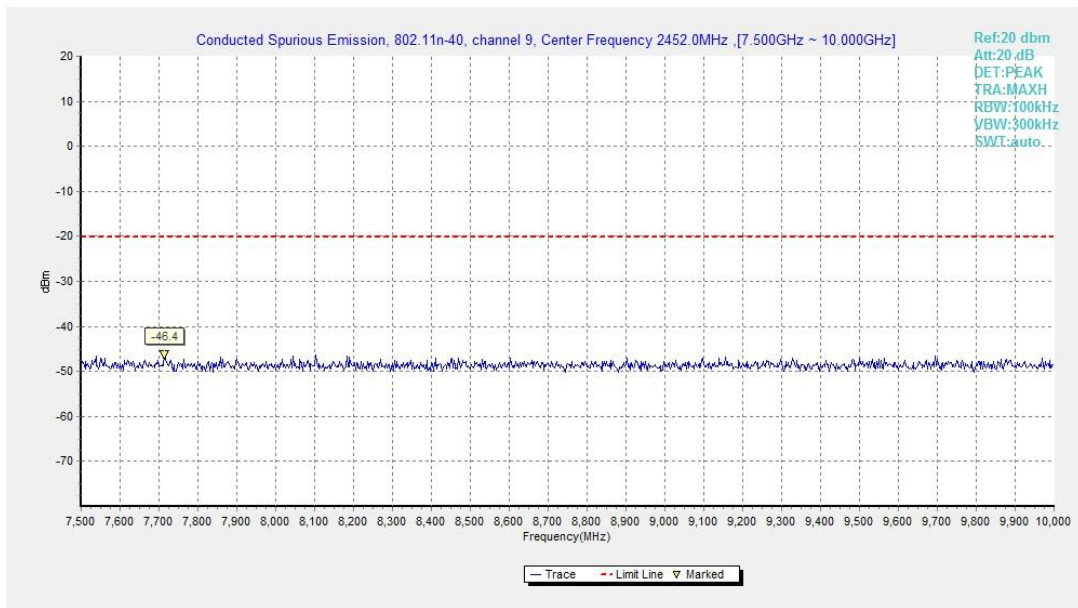


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

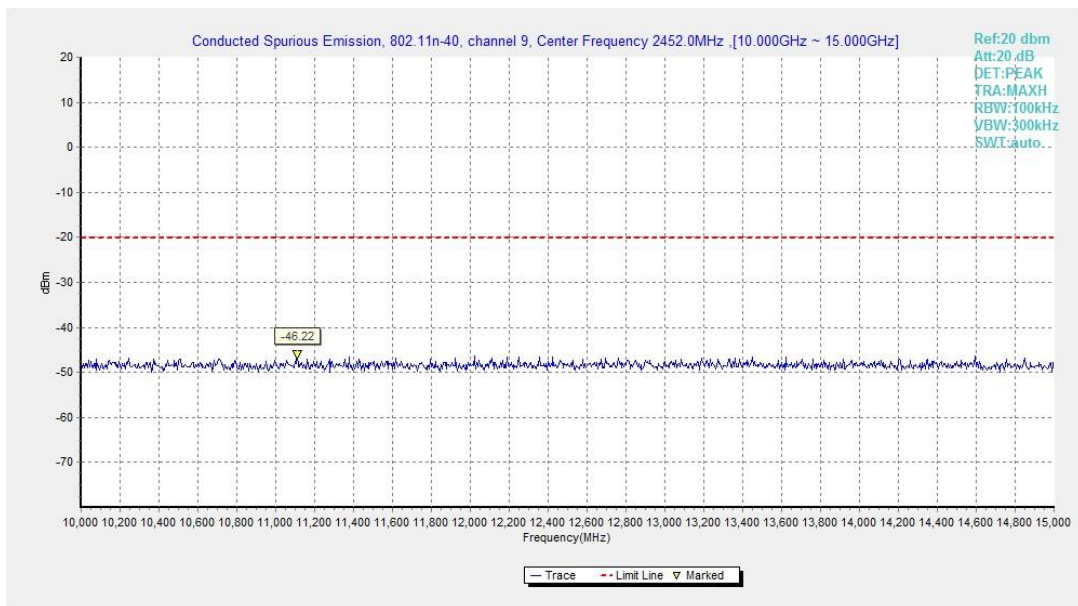


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

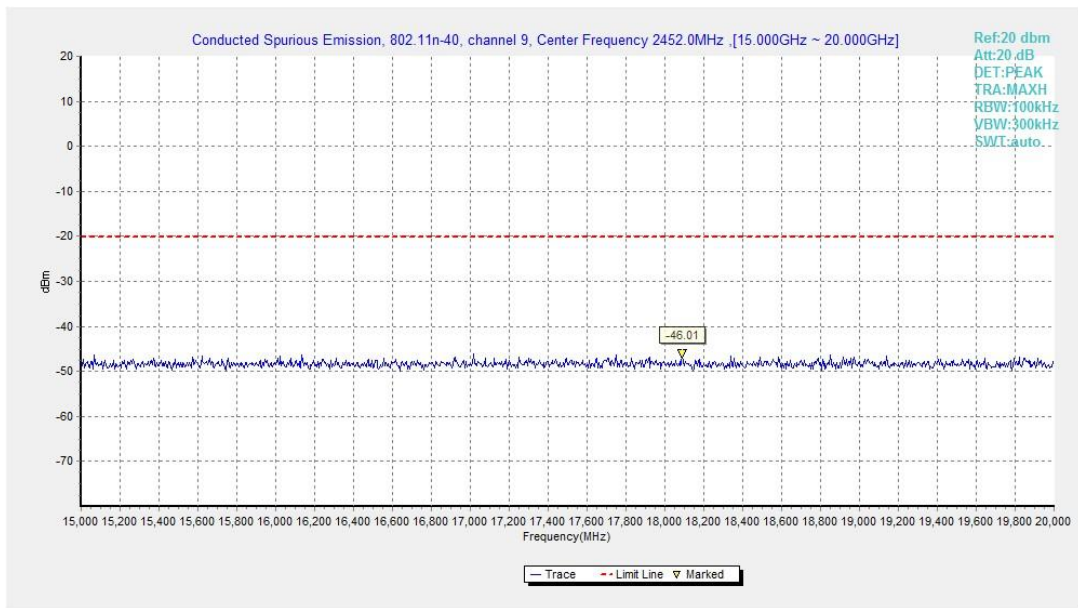


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

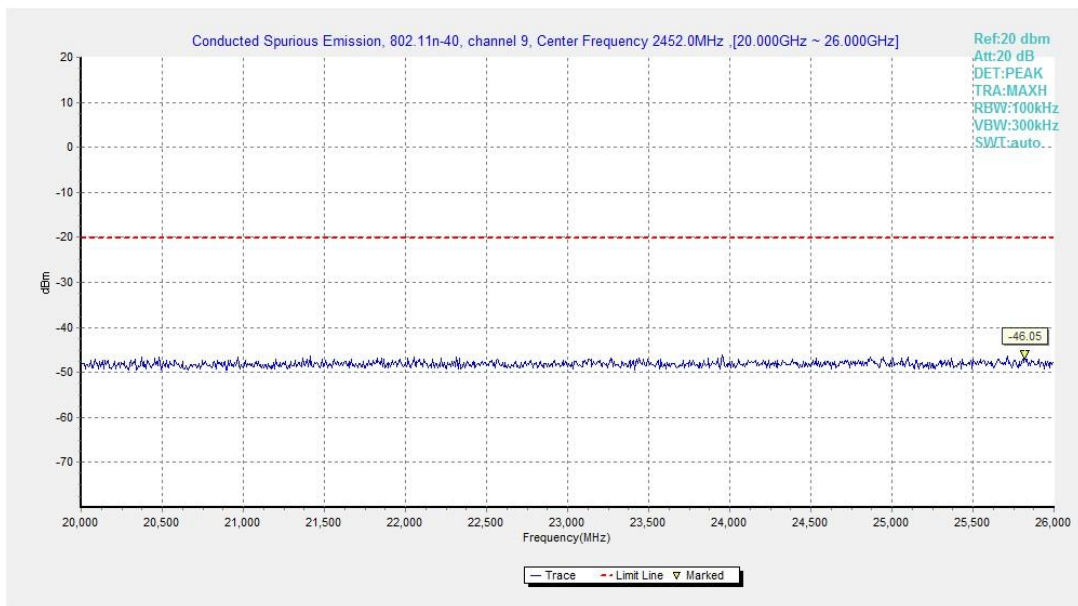


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

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(μ V/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 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
802.11b	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

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.1	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.6.2.2	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.6.2.1	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.6.2.2	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 (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)
2387.200	49.26	2.9	32.0	14.39	54.0	4.7	H	155	46
2387.800	49.51	2.9	32.0	14.65	54.0	4.5	H	155	60
4824.000	35.28	-32.8	34.5	33.54	54.0	18.7	H	155	116
7236.000	38.02	-31.7	36.1	33.66	54.0	16.0	H	155	8
9648.000	40.21	-30.4	37.0	33.53	54.0	13.8	H	155	128
12060.000	43.22	-29.6	39.3	33.54	54.0	10.8	H	155	94

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)
2389.300	46.42	2.9	32.0	11.57	54.0	7.6	H	155	92
2485.000	47.13	2.9	32.7	11.47	54.0	6.9	H	155	136
4873.500	35.33	-32.7	34.5	33.54	54.0	18.7	H	155	8
7311.000	37.91	-31.9	36.1	33.74	54.0	16.1	H	155	70
9748.500	39.91	-30.7	37.2	33.38	54.0	14.1	H	155	48
12184.500	43.50	-29.4	39.2	33.70	54.0	10.5	H	155	246

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)
2484.400	49.41	2.9	32.7	13.74	54.0	4.6	H	155	226
2486.400	49.67	2.9	32.7	14.06	54.0	4.3	H	155	92
4924.500	37.18	-33.1	34.5	35.77	54.0	16.8	H	155	70
7386.000	37.75	-31.8	36.0	33.54	54.0	16.3	H	155	8
9847.500	40.70	-30.1	37.3	33.45	54.0	13.3	H	155	48
12310.500	43.43	-29.7	39.2	33.96	54.0	10.6	H	155	246

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)
2387.098	60.61	2.9	32.0	25.74	74.0	13.4	H	155	44
2388.190	60.82	2.9	32.0	25.96	74.0	13.2	H	155	66
4824.000	40.21	-32.8	34.5	38.46	74.0	33.8	V	155	110
7236.000	40.62	-31.7	36.1	36.26	74.0	33.4	V	155	0
9648.000	44.73	-30.4	37.0	38.05	74.0	29.3	H	155	132
12060.000	46.35	-29.6	39.3	36.67	74.0	27.7	H	155	88

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)
2373.486	49.85	-26.8	32.1	44.53	74.0	24.2	H	155	88
2610.667	52.00	-26.8	33.1	45.77	74.0	22.0	V	155	132
4874.250	42.11	-32.7	34.5	40.32	74.0	31.9	H	155	0
7311.000	41.62	-31.9	36.1	37.45	74.0	32.4	H	155	66
9748.500	41.62	-30.7	37.2	35.09	74.0	32.4	V	155	44
12185.250	42.11	-29.4	39.2	32.32	74.0	31.9	V	155	242

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)
2484.610	61.49	2.9	32.7	25.83	74.0	12.5	H	155	220
2486.480	61.38	2.9	32.7	25.77	74.0	12.6	V	155	88
4923.750	43.86	-33.1	34.5	42.44	74.0	30.1	H	155	66
7386.000	42.17	-31.8	36.0	37.97	74.0	31.8	H	155	0
9848.250	44.03	-30.1	37.3	36.78	74.0	30.0	H	155	44
12309.750	44.86	-29.7	39.2	35.38	74.0	29.1	V	155	242

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)
2389.100	48.71	2.9	32.0	13.86	54.0	5.3	H	155	6
2390.000	49.86	2.9	32.0	15.02	54.0	4.1	H	155	26
4824.000	35.15	-32.8	34.5	33.40	54.0	18.8	H	155	92
7236.000	37.78	-31.7	36.1	33.42	54.0	16.2	H	155	24
9648.000	40.18	-30.4	37.0	33.49	54.0	13.8	H	155	136
12060.000	43.35	-29.6	39.3	33.68	54.0	10.7	H	155	356

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)
2382.514	48.57	2.9	32.0	13.67	54.0	5.4	H	155	8
2489.662	48.79	2.9	32.6	13.27	54.0	5.2	H	155	6
4873.500	35.34	-32.7	34.5	33.55	54.0	18.7	H	155	25
7311.000	37.51	-31.9	36.1	33.34	54.0	16.5	H	155	70
9748.500	39.94	-30.7	37.2	33.40	54.0	14.1	H	155	135
12184.500	43.56	-29.4	39.2	33.77	54.0	10.4	H	155	270

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)
2483.620	49.56	2.9	32.8	13.87	54.0	4.4	H	155	170
2484.180	49.12	2.9	32.7	13.45	54.0	4.9	H	155	150
4924.500	35.19	-33.1	34.5	33.78	54.0	18.8	H	155	20
7386.000	37.77	-31.8	36.0	33.56	54.0	16.2	H	155	180
9847.500	40.74	-30.1	37.3	33.49	54.0	13.3	H	155	202
12310.500	43.42	-29.7	39.2	33.94	54.0	10.6	H	155	8

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)
2389.600	70.89	2.9	32.0	36.04	74.0	3.1	V	155	0
2389.716	70.39	2.9	32.0	35.54	74.0	3.6	V	155	22
4824.000	40.80	-32.8	34.5	39.05	74.0	33.2	V	155	88
7236.000	41.49	-31.7	36.1	37.12	74.0	32.5	V	155	22
9648.000	44.03	-30.4	37.0	37.35	74.0	30.0	H	155	132
12060.000	46.10	-29.6	39.3	36.42	74.0	27.9	H	155	352

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)
2379.645	51.99	-26.3	32.1	46.26	74.0	22.0	H	155	0
2780.461	52.93	-26.3	33.3	45.91	74.0	21.1	V	155	0
4874.250	39.05	-32.7	34.5	37.26	74.0	35.0	V	155	22
7311.000	40.33	-31.9	36.1	36.17	74.0	33.7	V	155	66
9747.750	43.84	-30.7	37.2	37.32	74.0	30.2	V	155	132
12185.250	45.58	-29.4	39.2	35.79	74.0	28.4	V	155	274

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)
2483.615	71.98	2.9	32.8	36.29	74.0	2.0	H	155	176
2483.736	73.80	2.9	32.8	38.12	74.0	0.2	H	155	154
4923.750	39.33	-33.1	34.5	37.91	74.0	34.7	V	155	22
7386.000	42.35	-31.8	36.0	38.15	74.0	31.6	V	155	176
9848.250	44.56	-30.1	37.3	37.30	74.0	29.4	H	155	198
2483.615	71.98	2.9	32.8	36.29	74.0	2.0	H	155	176

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)
2389.100	47.73	2.9	32.0	12.88	54.0	6.3	H	155	25
2390.000	48.46	2.9	32.0	13.61	54.0	5.5	H	155	49
4824.000	35.14	-32.8	34.5	33.39	54.0	18.9	H	155	4
7236.000	37.72	-31.7	36.1	33.36	54.0	16.3	H	155	6
9648.000	40.25	-30.4	37.0	33.56	54.0	13.8	H	155	25
2389.100	47.73	2.9	32.0	12.88	54.0	6.3	H	155	25

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)
2385.430	47.18	2.9	32.0	12.30	54.0	6.8	H	155	4
2486.823	47.07	2.9	32.7	11.47	54.0	6.9	H	155	2
4874.250	35.23	-32.7	34.5	33.44	54.0	18.8	H	155	25
7311.000	37.51	-31.9	36.1	33.35	54.0	16.5	H	155	350
9747.750	39.90	-30.7	37.2	33.38	54.0	14.1	H	155	92
12185.250	43.48	-29.4	39.2	33.69	54.0	10.5	H	155	85

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)
2483.720	51.00	2.9	32.8	15.32	54.0	3.0	H	155	135
2484.460	50.42	2.9	32.7	14.75	54.0	3.6	H	155	160
4923.750	35.16	-33.1	34.5	33.75	54.0	18.8	H	155	92
7386.000	37.72	-31.8	36.0	33.52	54.0	16.3	H	155	115
9848.250	40.75	-30.1	37.3	33.49	54.0	13.3	H	155	112
12310.500	43.48	-29.7	39.2	34.01	54.0	10.5	H	155	85

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)
2389.702	71.47	2.9	32.0	36.63	74.0	2.5	H	155	22
2389.856	71.94	2.9	32.0	37.09	74.0	2.1	V	155	44
4824.000	38.45	-32.8	34.5	36.70	74.0	35.6	H	155	0
7236.000	40.75	-31.7	36.1	36.38	74.0	33.3	H	155	0
9648.000	44.70	-30.4	37.0	38.02	74.0	29.3	H	155	22
12060.000	46.16	-29.6	39.3	36.48	74.0	27.8	H	155	176

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)
2375.896	50.29	-26.6	32.1	44.78	74.0	23.7	H	155	0
2646.638	52.44	-26.7	33.6	45.53	74.0	21.6	H	155	0
4874.250	39.11	-32.7	34.5	37.32	74.0	34.9	V	155	22
7311.000	40.52	-31.9	36.1	36.35	74.0	33.5	V	155	352
9747.750	43.33	-30.7	37.2	36.80	74.0	30.7	V	155	88
12185.250	45.69	-29.4	39.2	35.90	74.0	28.3	V	155	88

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)
2483.943	72.61	2.9	32.7	36.93	74.0	1.4	H	155	132
2484.276	71.56	2.9	32.7	35.88	74.0	2.4	H	155	154
4923.750	39.81	-33.1	34.5	38.39	74.0	34.2	V	155	88
7386.000	40.68	-31.8	36.0	36.47	74.0	33.3	H	155	110
9848.250	43.83	-30.1	37.3	36.57	74.0	30.2	V	155	110
12310.500	45.28	-29.7	39.2	35.80	74.0	28.7	V	155	88

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)
2389.562	48.37	2.9	32.0	13.52	54.0	5.6	H	155	5
2387.985	48.65	2.9	32.0	13.79	54.0	5.4	H	155	25
4844.000	35.22	-32.7	34.5	33.41	54.0	18.8	H	155	356
7266.000	37.62	-31.9	36.1	33.38	54.0	16.4	H	155	350
9688.000	39.88	-30.7	37.1	33.50	54.0	14.1	H	155	185
12110.000	43.47	-29.5	39.3	33.70	54.0	10.5	H	155	187

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)
2381.256	48.61	2.9	32.0	13.70	54.0	5.4	H	155	90
2484.418	48.78	2.9	32.7	13.11	54.0	5.2	H	155	68
4874.000	35.29	-32.7	34.5	33.50	54.0	18.7	H	155	115
7311.000	37.68	-31.9	36.1	33.52	54.0	16.3	H	155	6
9747.750	40.16	-30.7	37.2	33.63	54.0	13.8	H	155	25
12185.000	43.53	-29.4	39.2	33.74	54.0	10.5	H	155	48

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)
2485.502	48.18	2.9	32.7	12.54	54.0	5.8	H	155	20
2486.106	47.96	2.9	32.7	12.34	54.0	6.0	H	155	45
4904.000	35.39	-32.9	34.5	33.78	54.0	18.6	H	155	240
7356.000	37.68	-31.9	36.1	33.53	54.0	16.3	H	155	180
9808.000	40.26	-30.4	37.3	33.34	54.0	13.7	H	155	85
12260.000	43.55	-29.6	39.2	33.92	54.0	10.5	H	155	25

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)
2389.828	68.32	2.9	32.0	33.47	74.0	5.7	H	155	0
2389.597	66.86	2.9	32.0	32.01	74.0	7.1	H	155	22
4844.000	41.91	-32.7	34.5	40.10	74.0	32.1	H	155	352
7266.000	44.03	-31.9	36.1	39.79	74.0	30.0	V	155	352
9688.000	45.81	-30.7	37.1	39.42	74.0	28.2	V	155	176
12110.000	48.87	-29.5	39.3	39.10	74.0	25.1	V	155	176

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)
2374.568	50.33	-26.7	32.1	44.92	74.0	23.7	H	155	88
2585.624	51.61	-26.9	33.0	45.50	74.0	22.4	H	155	66
4874.000	41.68	-32.7	34.5	39.89	74.0	32.3	V	155	110
7311.000	43.25	-31.9	36.1	39.09	74.0	30.7	H	155	0
9747.750	46.29	-30.7	37.2	39.77	74.0	27.7	H	155	22
12185.000	47.70	-29.4	39.2	37.91	74.0	26.3	V	155	44

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)
2484.056	62.74	2.9	32.7	27.06	74.0	11.3	H	155	22
2485.070	63.14	2.9	32.7	27.49	74.0	10.9	H	155	44
4904.000	41.80	-32.9	34.5	40.20	74.0	32.2	H	155	242
7356.000	43.26	-31.9	36.1	39.11	74.0	30.7	H	155	176
9808.000	46.04	-30.4	37.3	39.12	74.0	28.0	H	155	88
12260.000	47.37	-29.6	39.2	37.75	74.0	26.6	V	155	22

Test graphs as below:

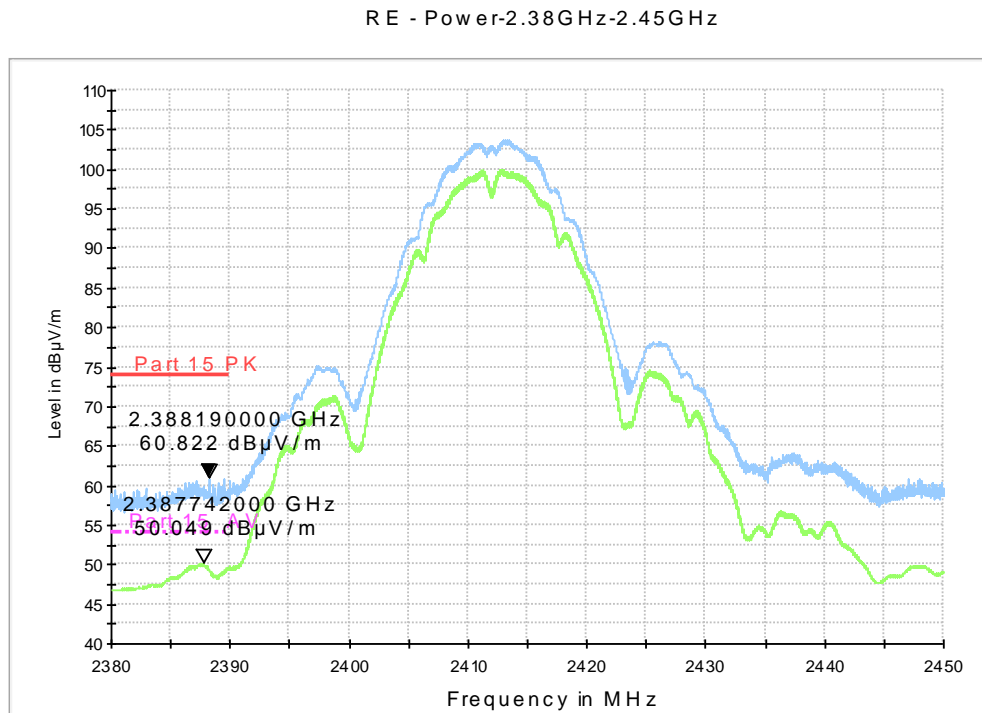


Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz

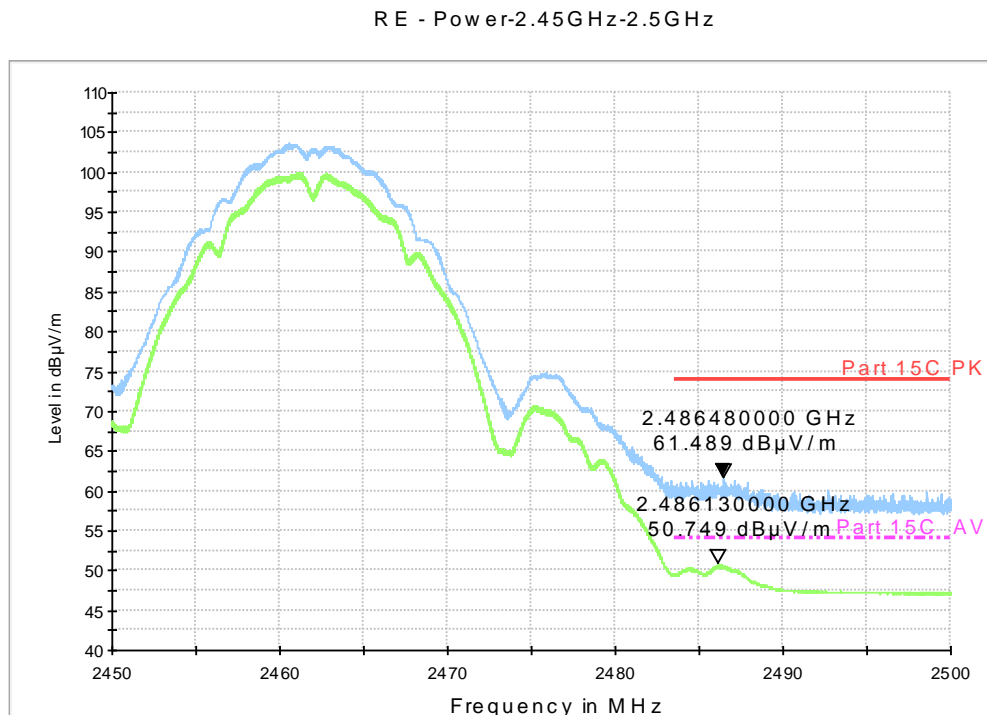


Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

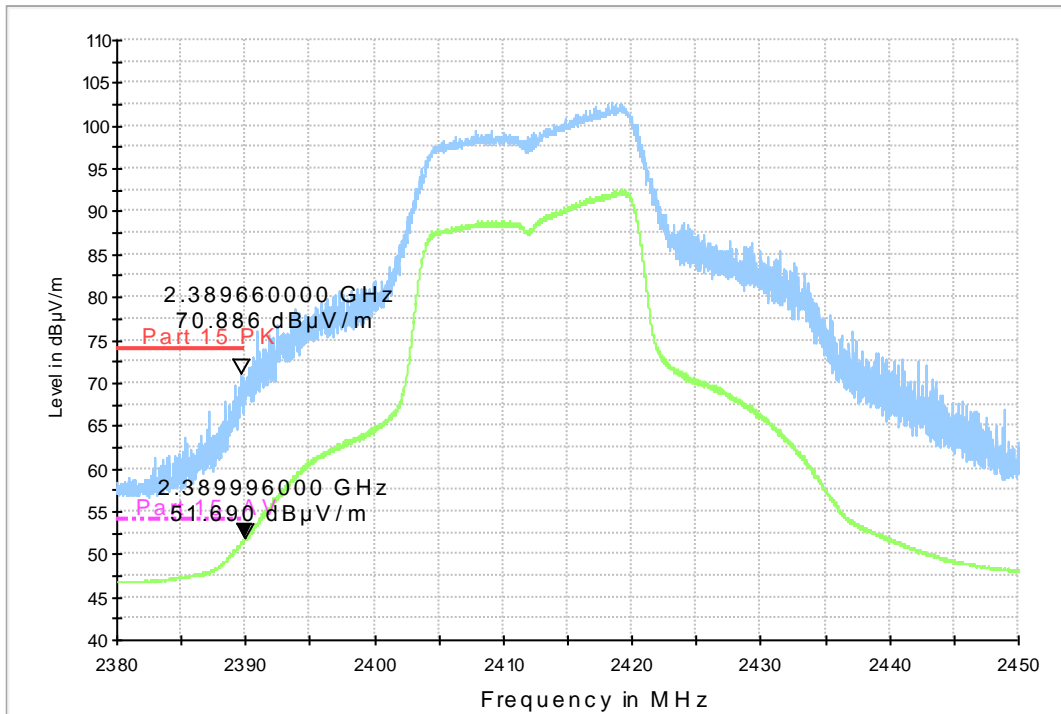


Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

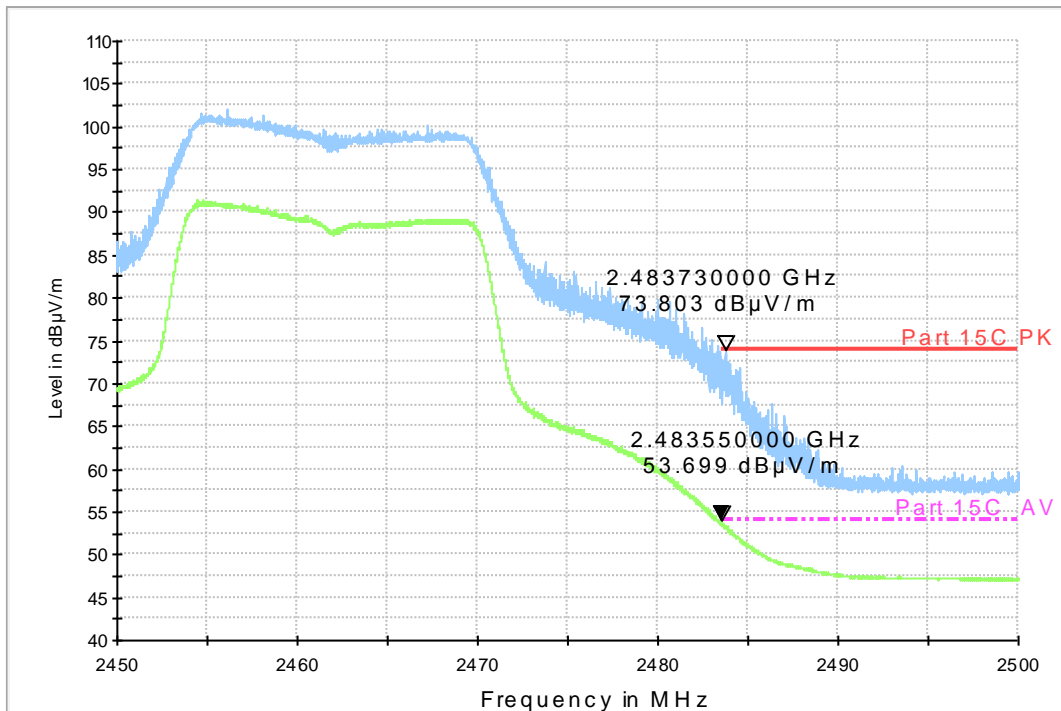


Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

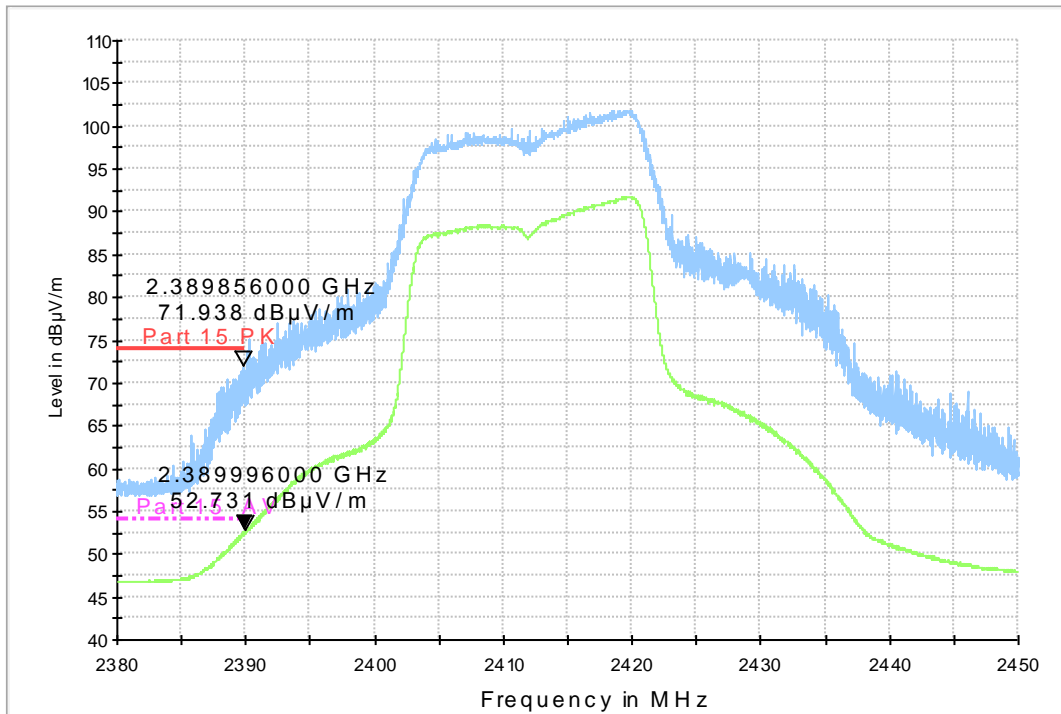


Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz

RE - Power-2.45GHz-2.5GHz

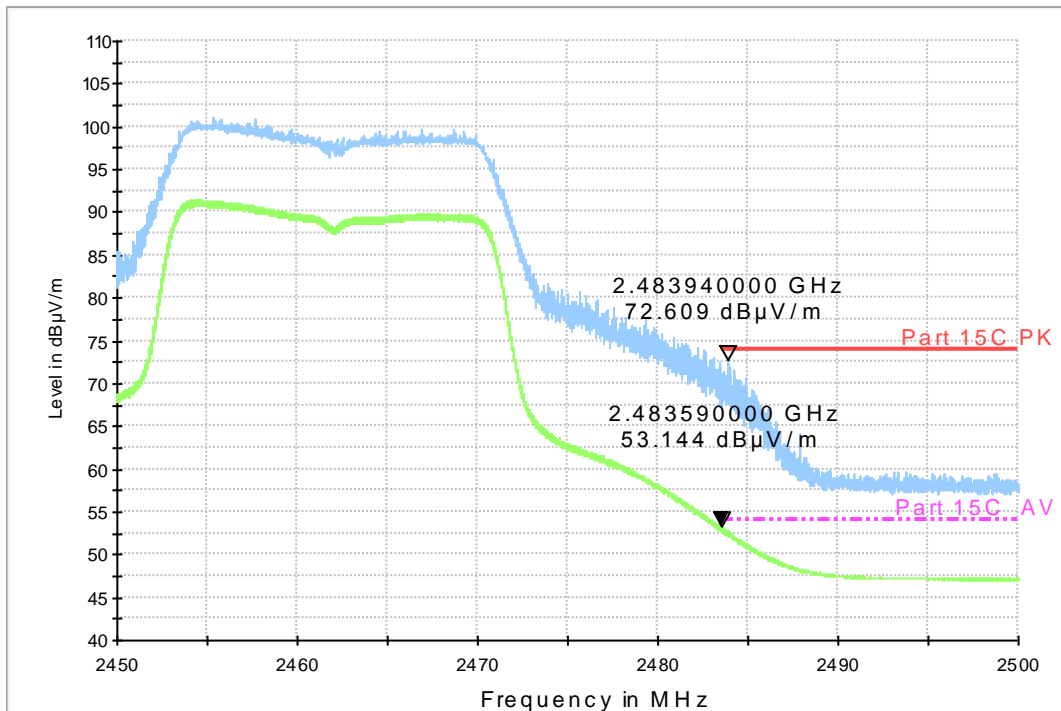


Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz

RE - Power-2.38GHz-2.45GHz

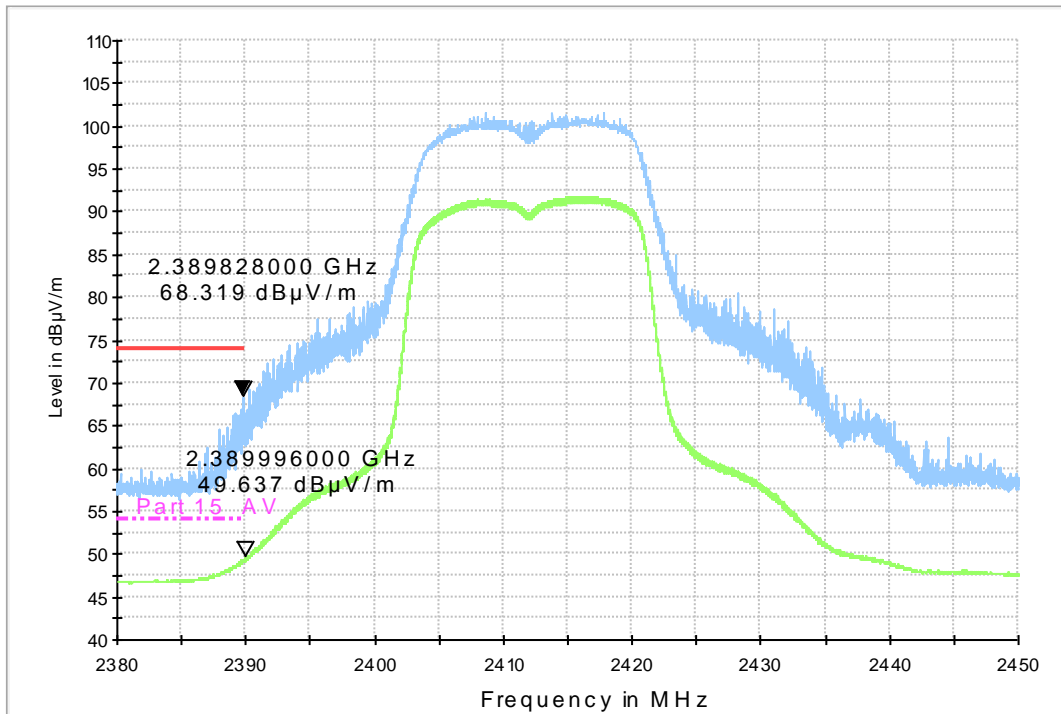


Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.43GHz

RE - Power-2.45GHz-2.5GHz

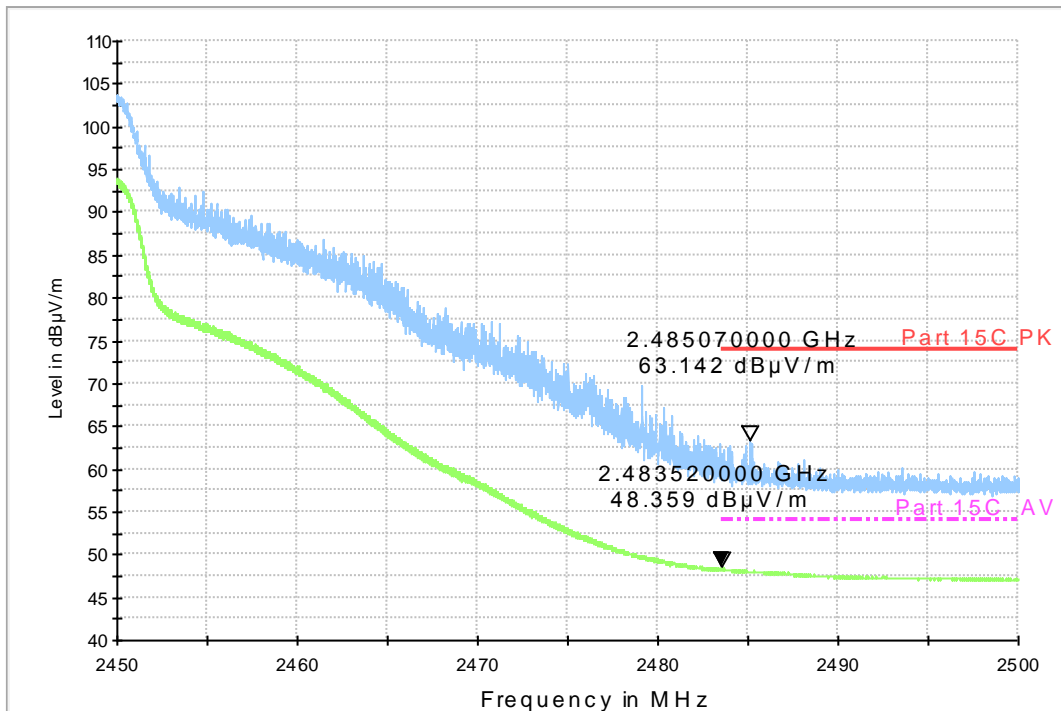


Fig.A.6.2.8 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch9, 2.45 GHz - 2.50GHz

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

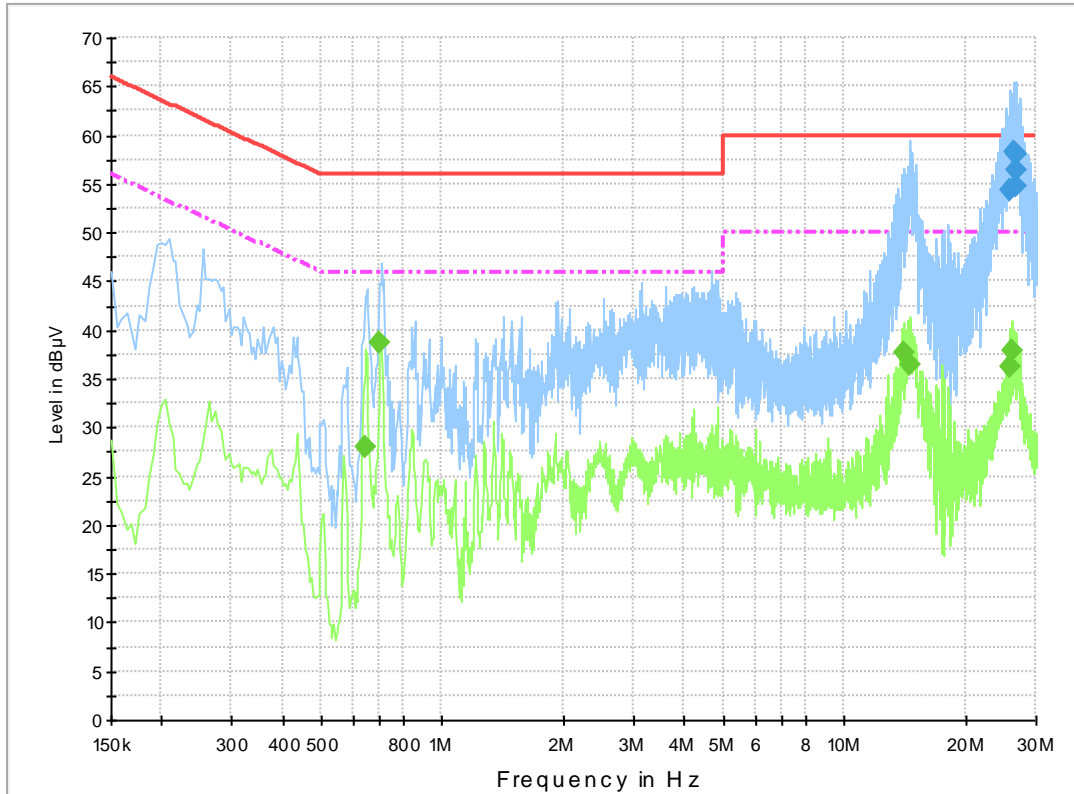


Fig.A.7.1 AC Powerline Conducted Emission-802.11b

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)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
25.795500	54.4	GND	N	11.1	5.6	60.0
26.538000	58.3	GND	L1	11.4	1.7	60.0
26.601000	58.1	GND	L1	11.4	1.9	60.0
26.637000	58.0	GND	L1	11.4	2.0	60.0
26.664000	56.4	GND	N	11.1	3.6	60.0
26.839500	54.8	GND	L1	11.4	5.2	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.645000	27.9	GND	L1	10.2	18.1	46.0
0.699000	38.7	GND	L1	10.2	7.4	46.0
14.023500	37.8	GND	L1	10.8	12.2	50.0
14.599500	36.4	GND	L1	10.8	13.6	50.0
25.903500	36.2	GND	L1	11.4	13.8	50.0
26.106000	37.9	GND	L1	11.4	12.1	50.0

Idle: Set.11

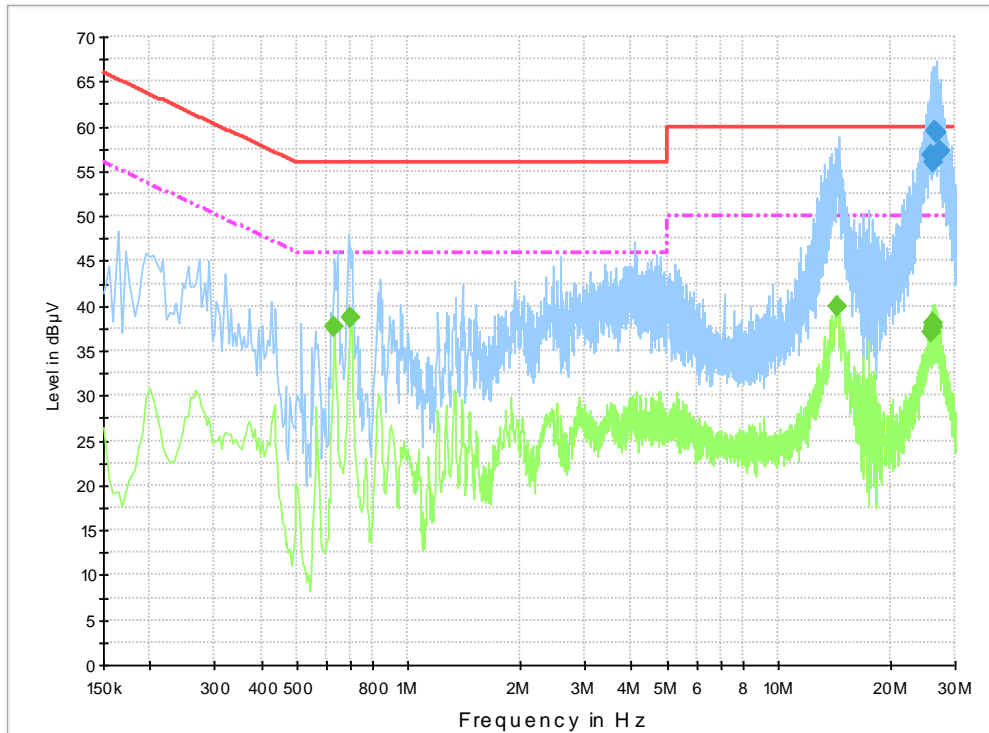


Fig.A.7.2 AC Powerline Conducted Emission-Idle

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)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
25.867500	56.7	GND	L1	11.4	3.3	60.0
25.998000	56.0	GND	N	11.1	4.0	60.0
26.556000	59.4	GND	N	11.1	0.6	60.0
26.623500	59.3	GND	N	11.1	0.7	60.0
26.691000	56.8	GND	N	11.1	3.2	60.0
27.312000	57.3	GND	L1	11.4	2.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.631500	37.7	GND	L1	10.2	8.3	46.0
0.699000	38.6	GND	L1	10.2	7.4	46.0
14.352000	40.0	GND	N	10.8	10.0	50.0
25.867500	37.1	GND	L1	11.4	12.9	50.0
25.998000	37.7	GND	L1	11.4	12.3	50.0
26.065500	38.0	GND	L1	11.4	12.0	50.0

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

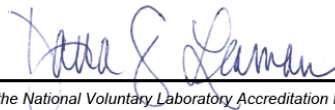
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:*

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 Communique dated January 2009).*

2016-09-29 through 2017-09-30
Effective Dates




For the National Voluntary Laboratory Accreditation Program

END OF REPORT