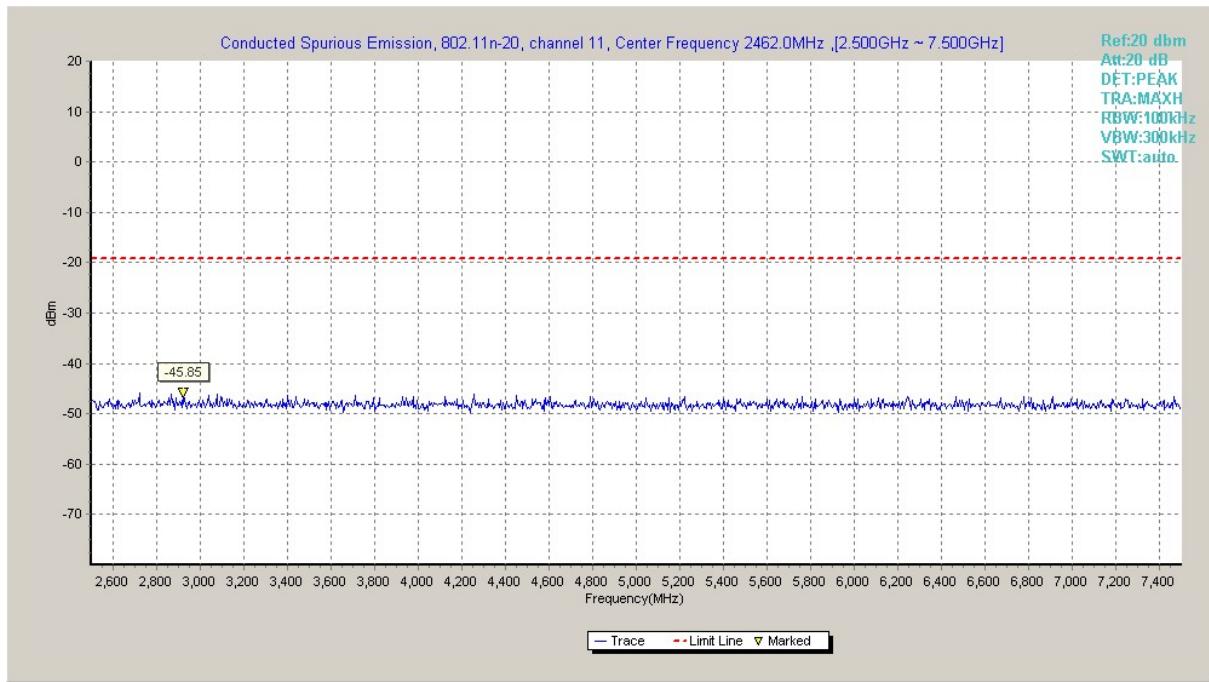
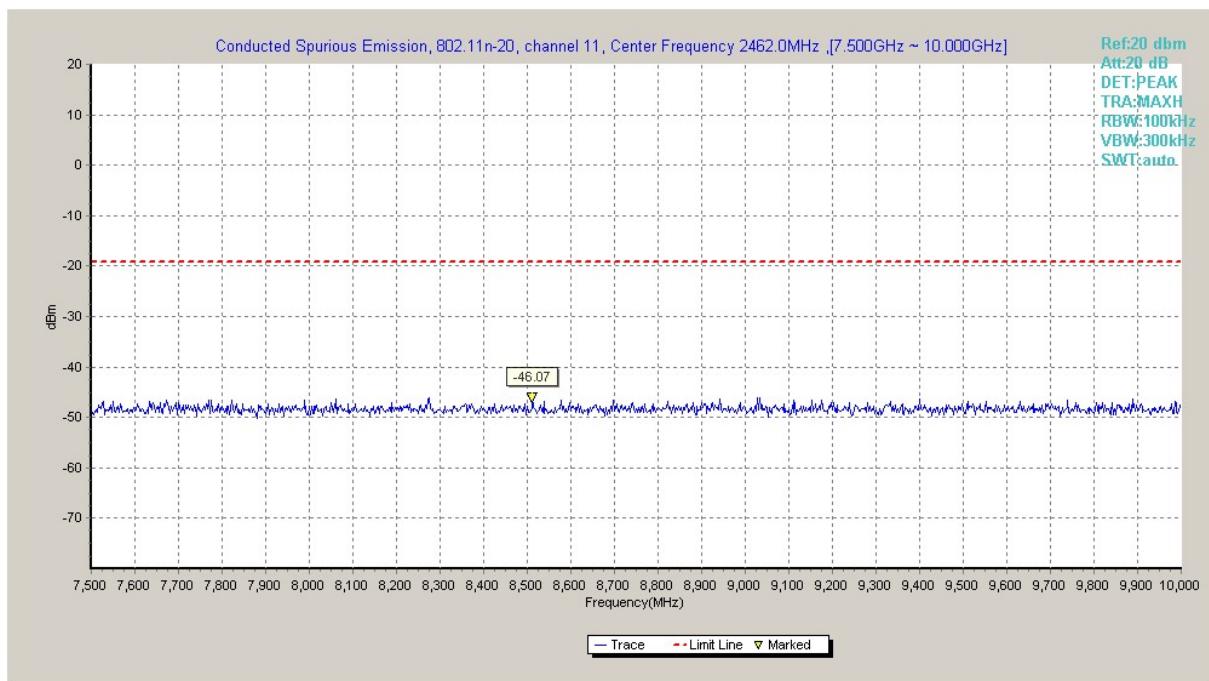


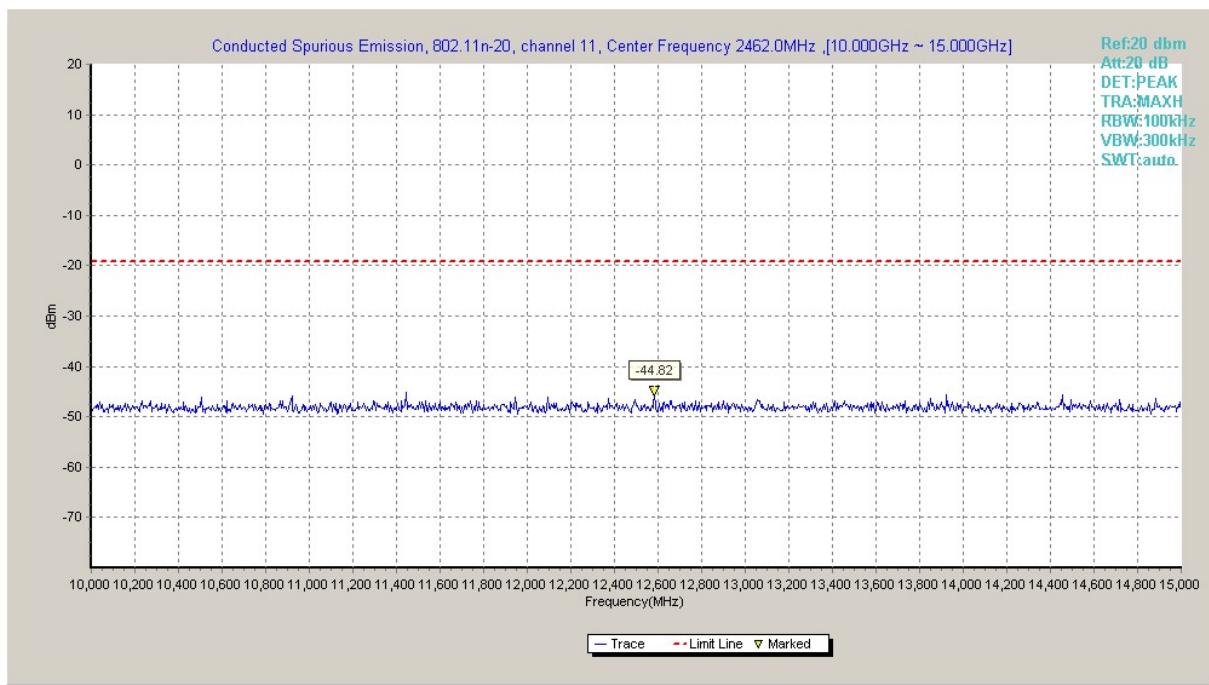
**Fig.A.6.1.67 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 1 GHz-2.5 GHz)**



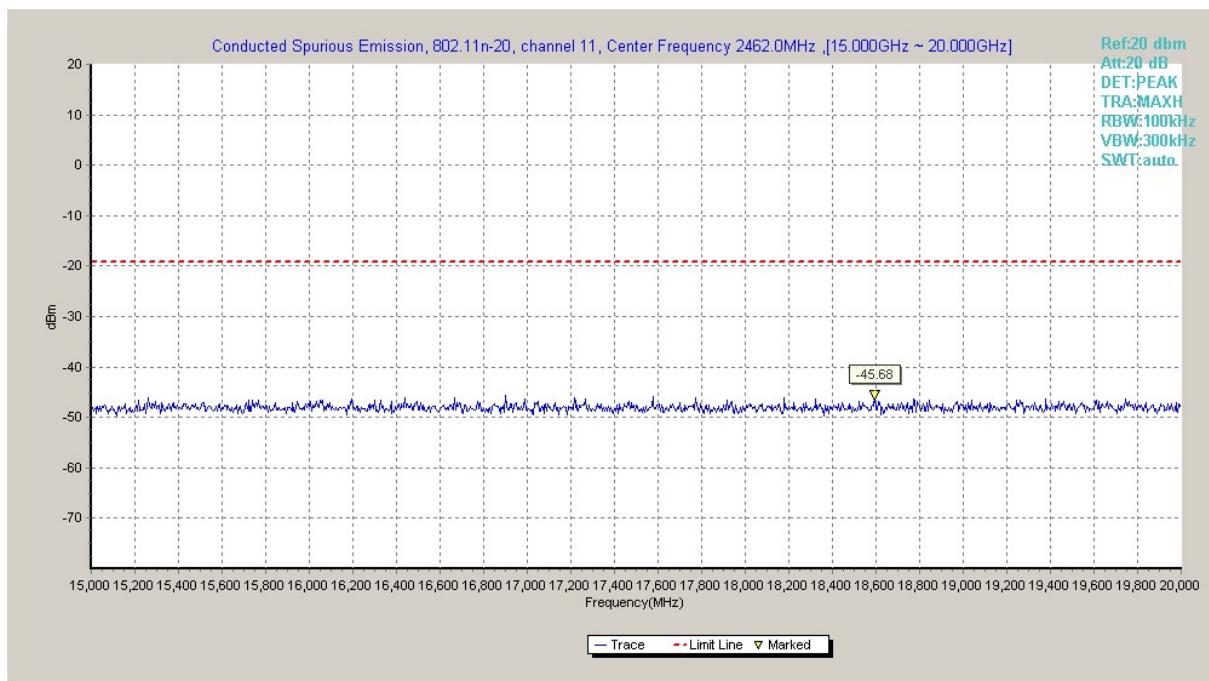
**Fig.A.6.1.68 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 2.5 GHz-7.5 GHz)**



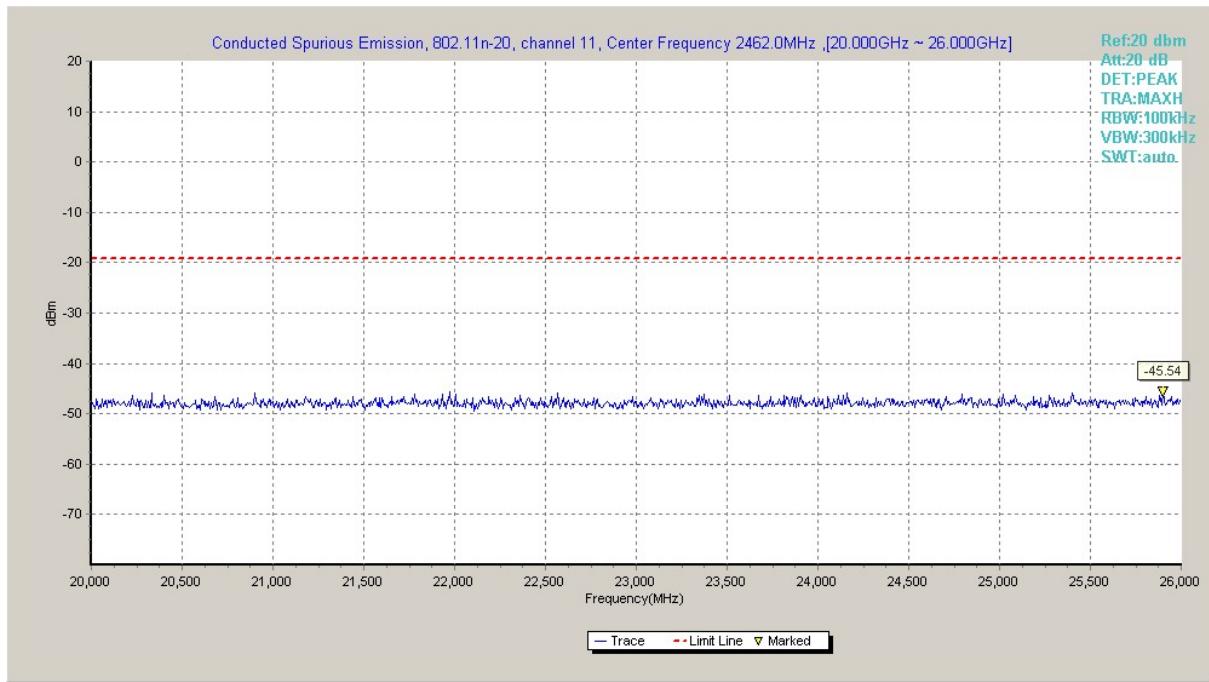
**Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)**



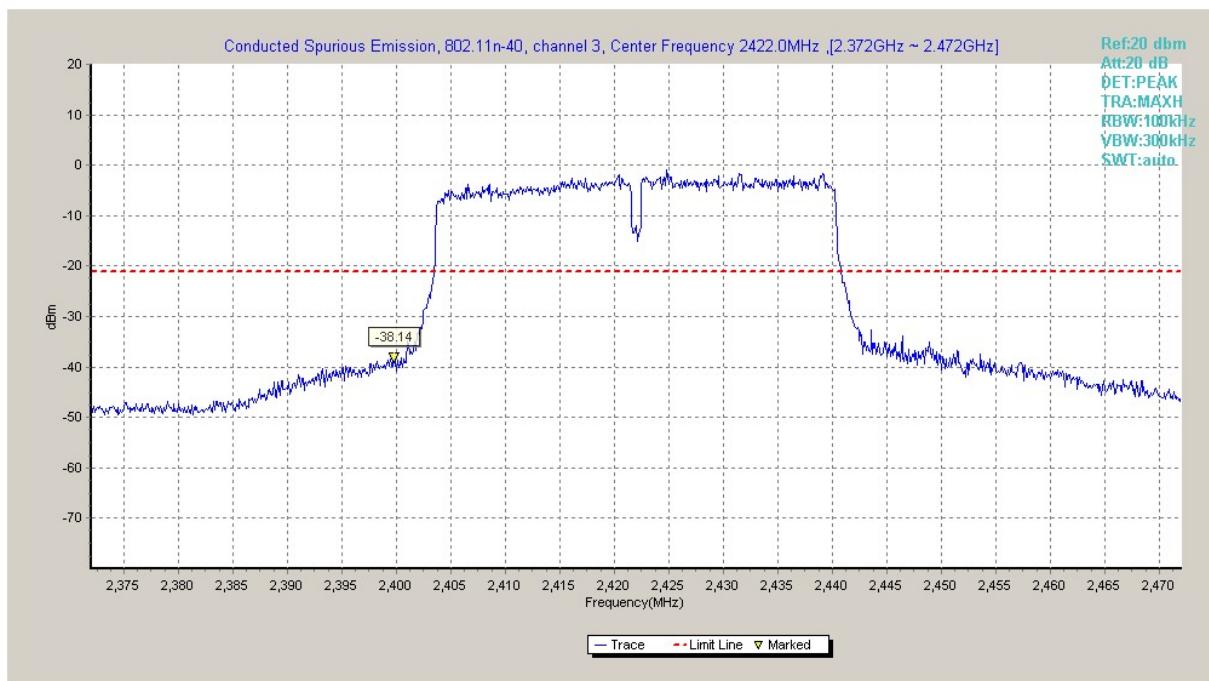
**Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)**



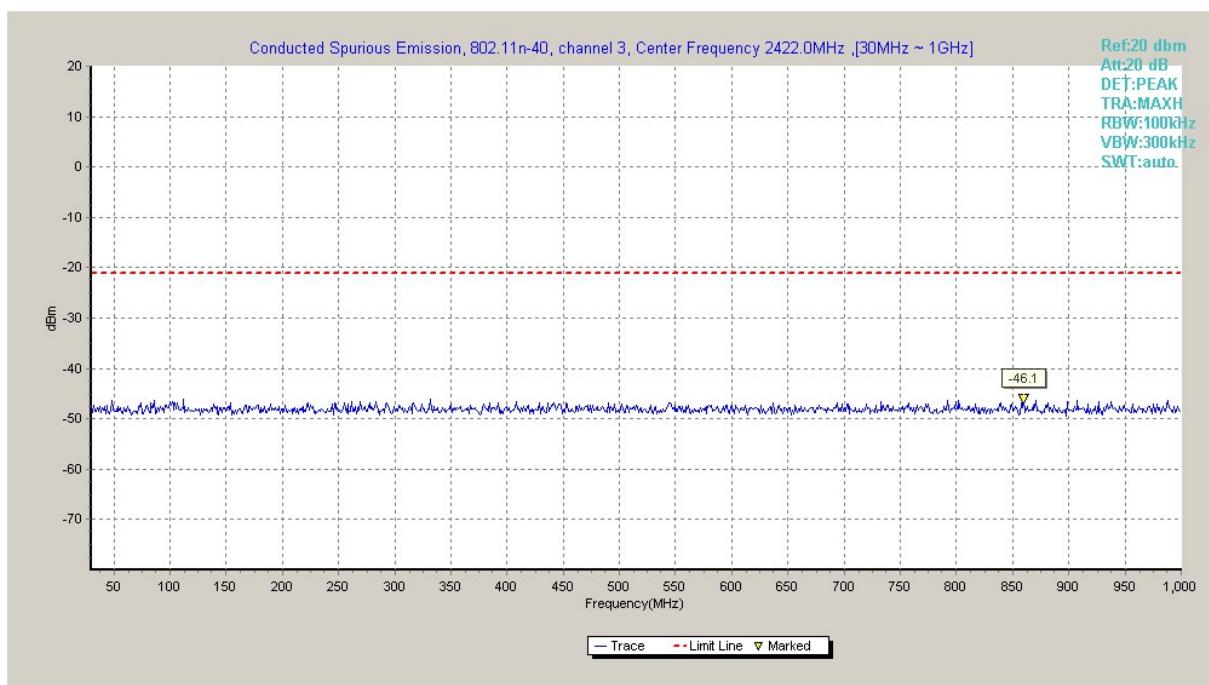
**Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)**



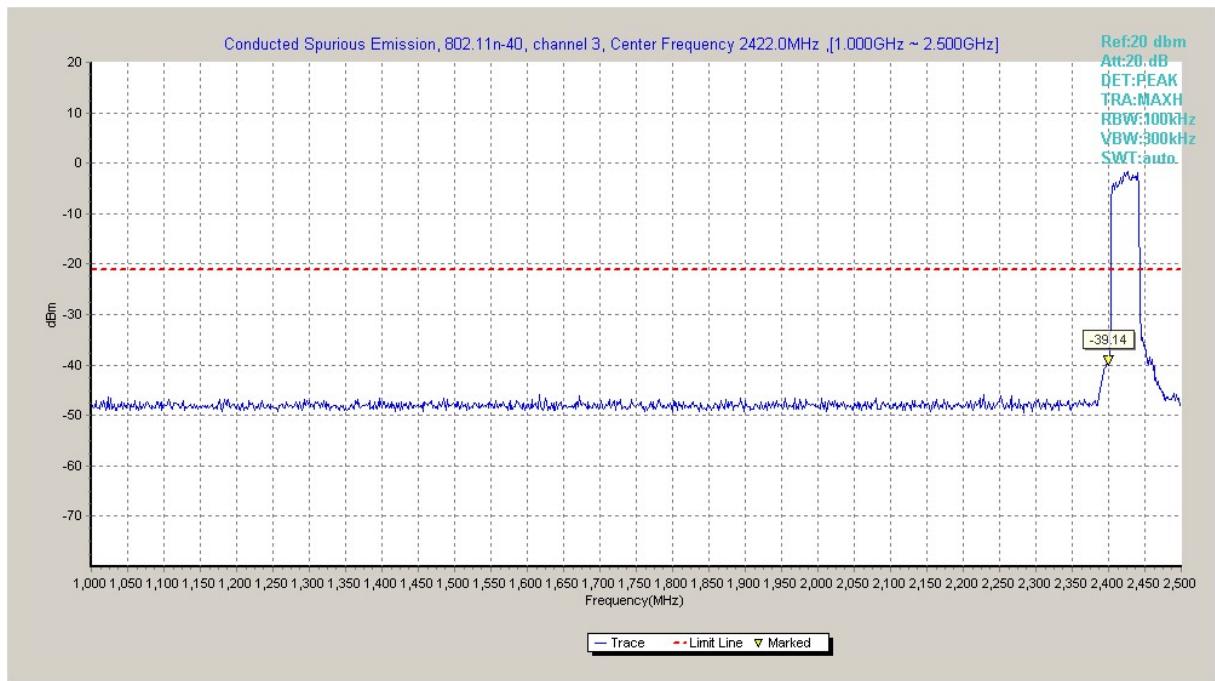
**Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)**



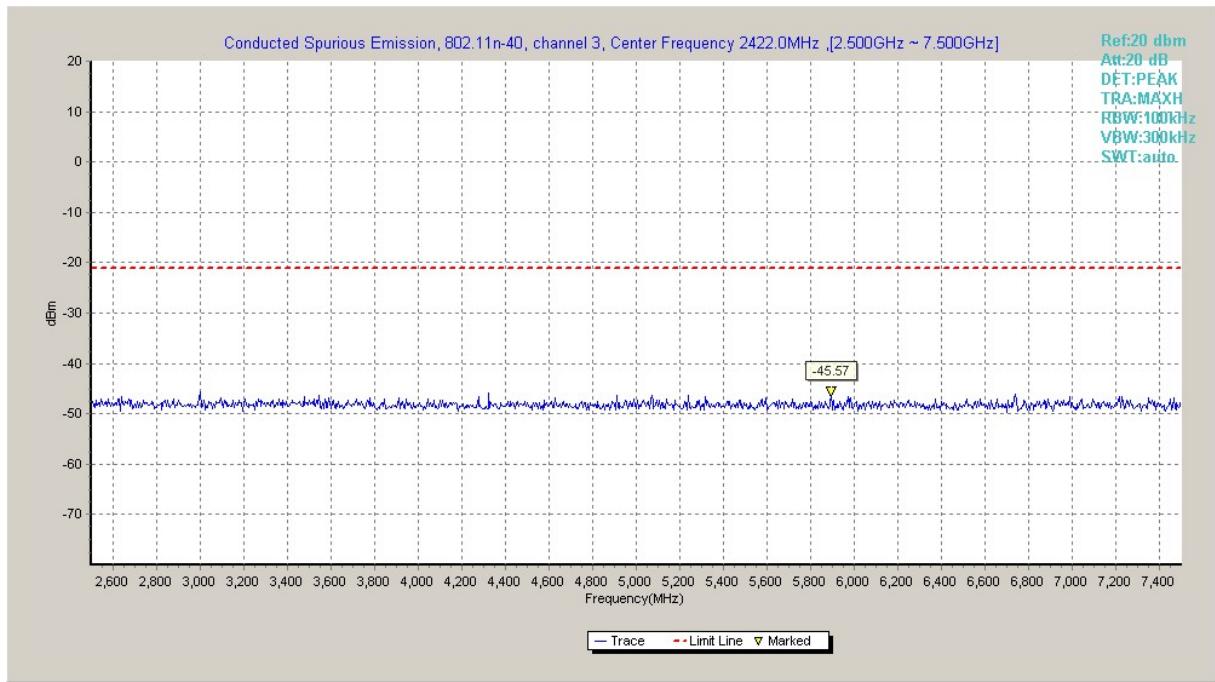
**Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)**



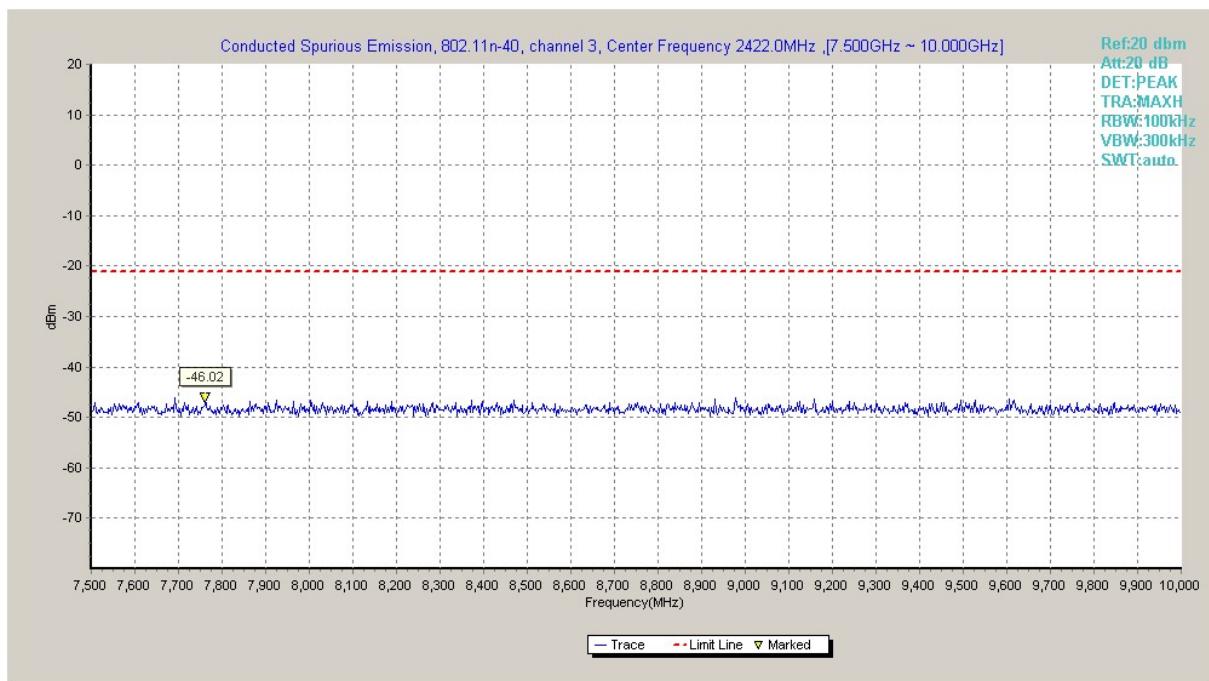
**Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)**



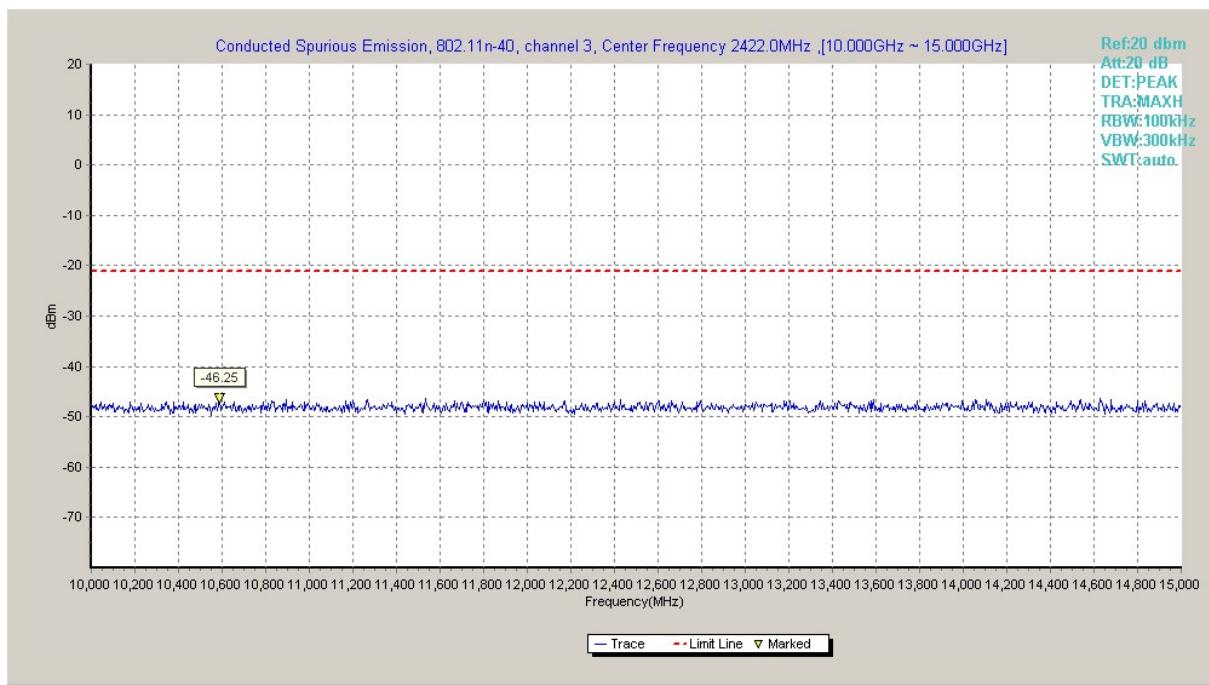
**Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)**



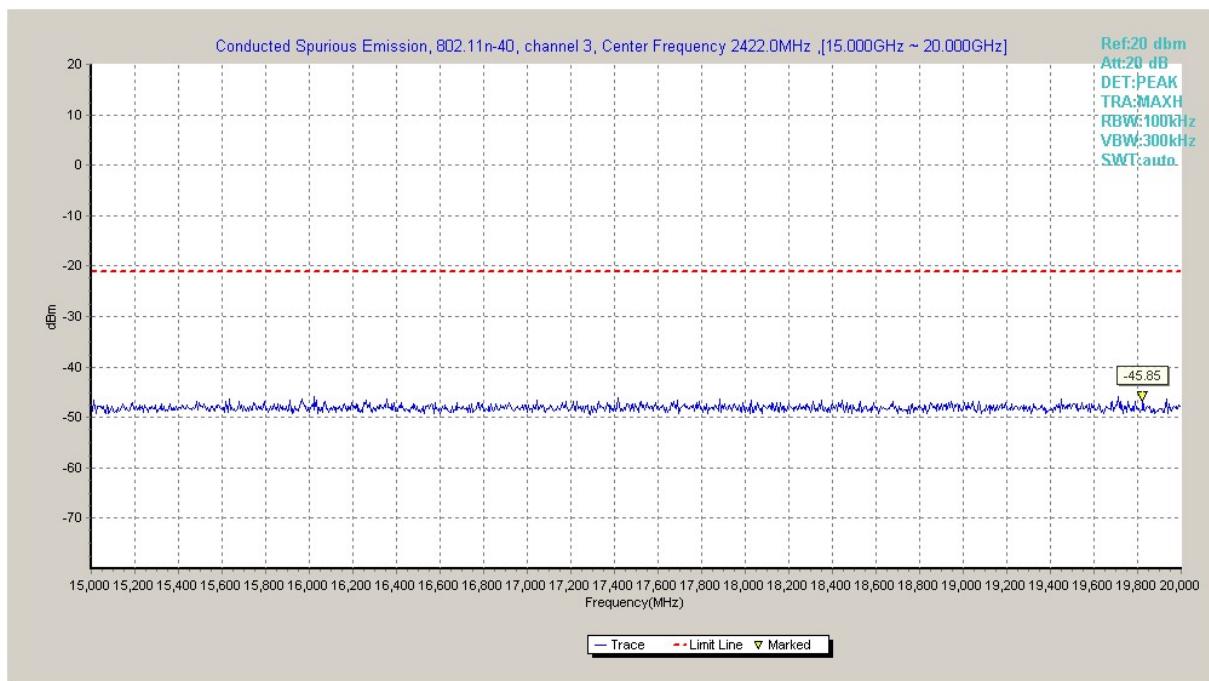
**Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)**



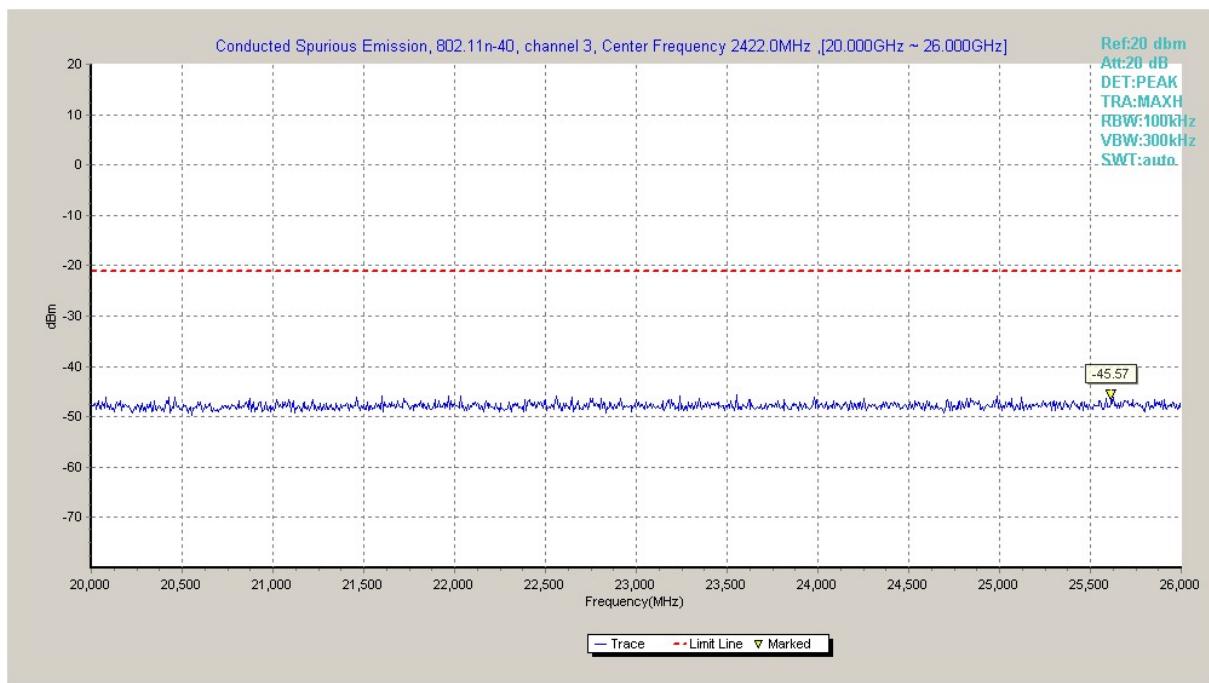
**Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)**



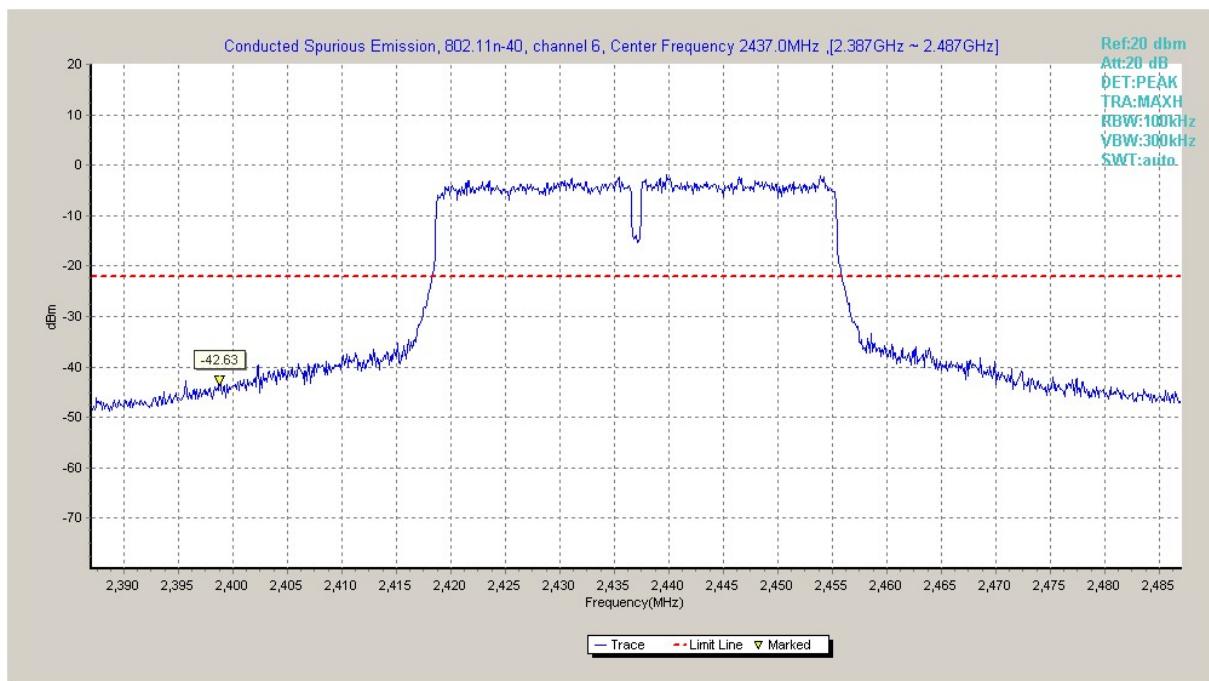
**Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)**



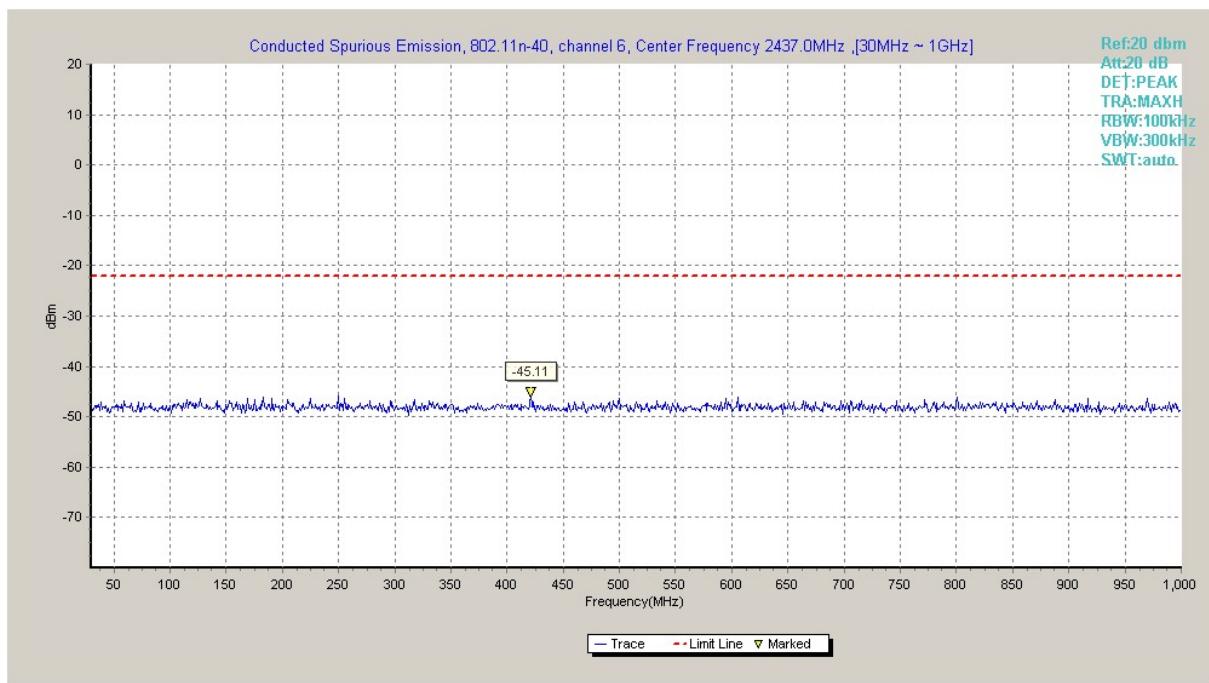
**Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)**



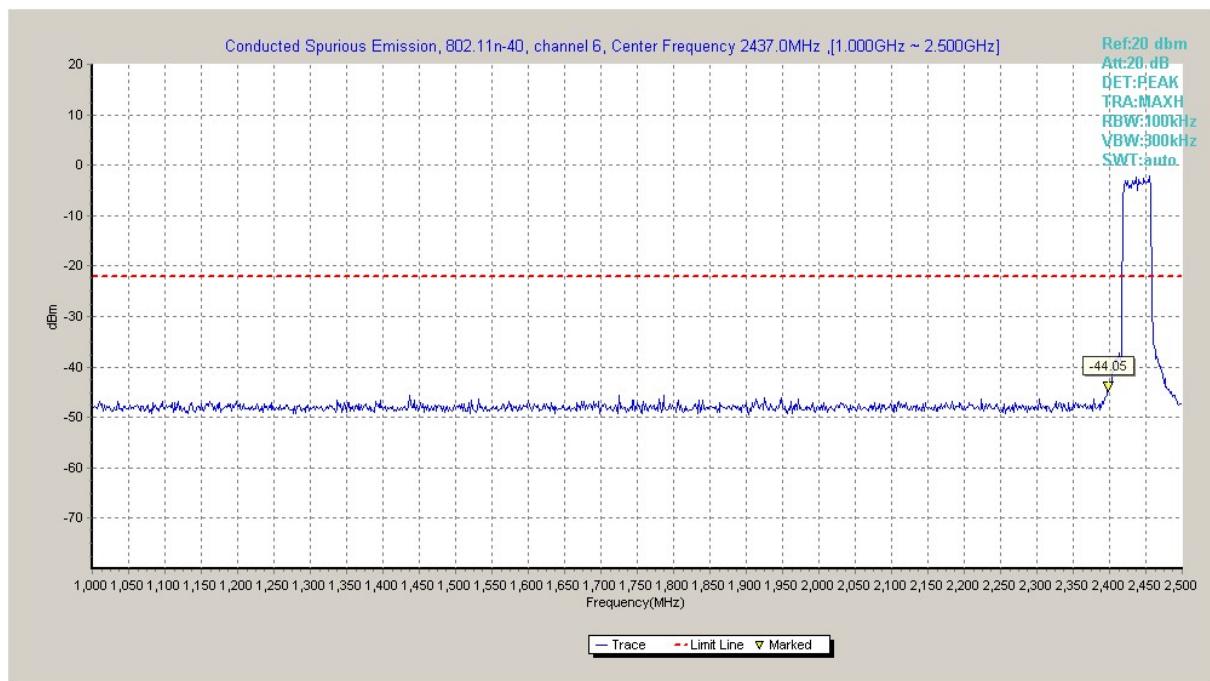
**Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)**



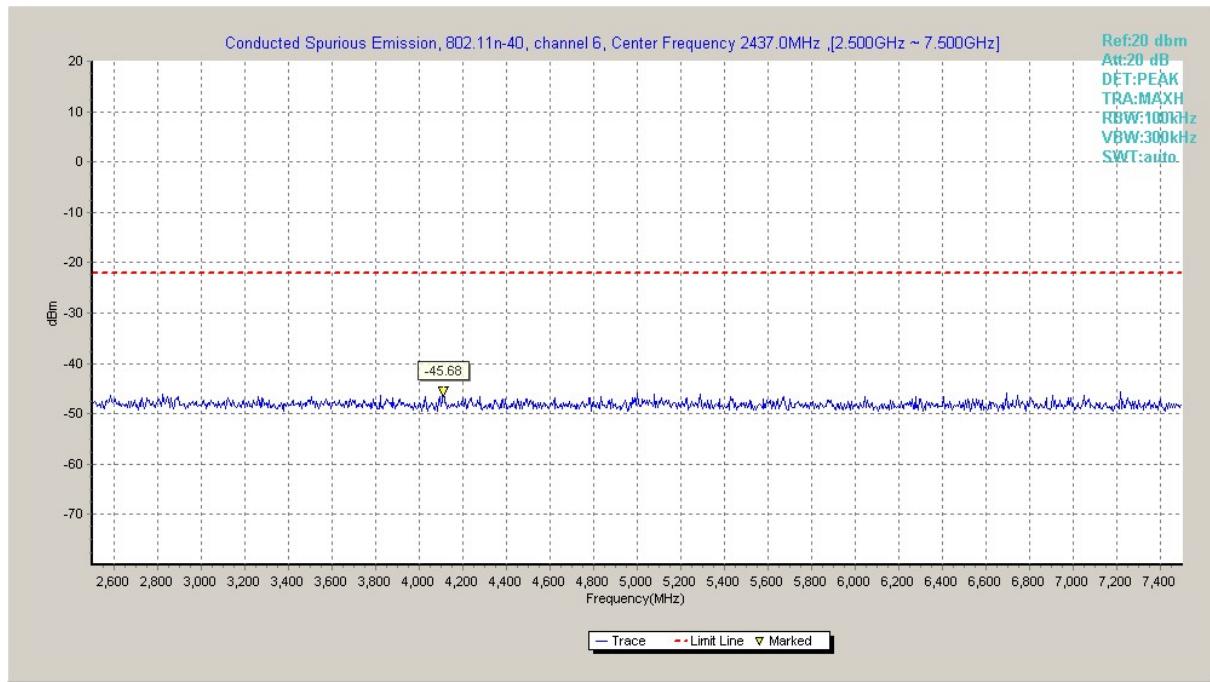
**Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)**



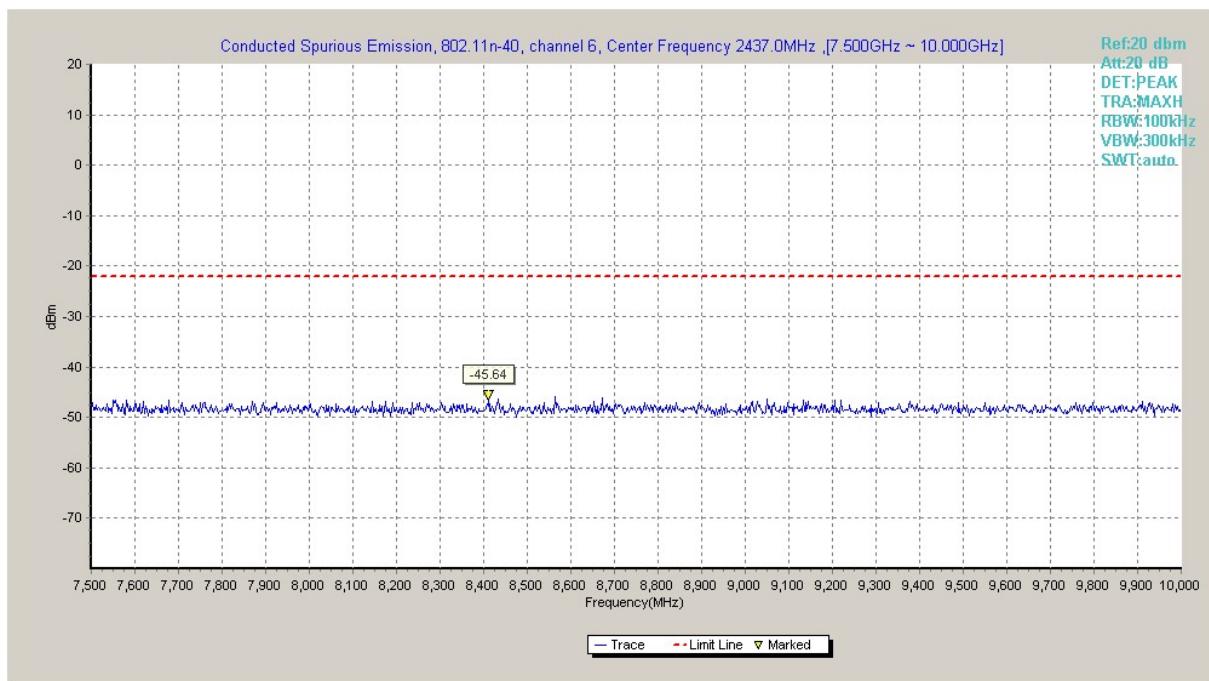
**Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



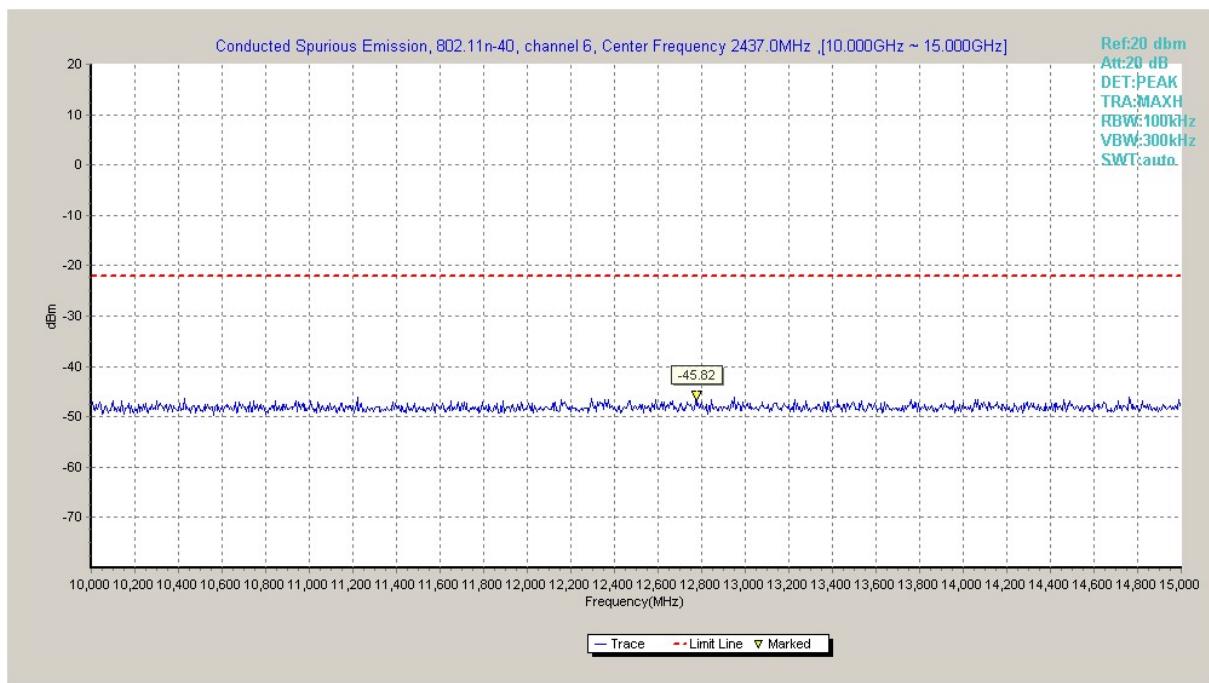
**Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



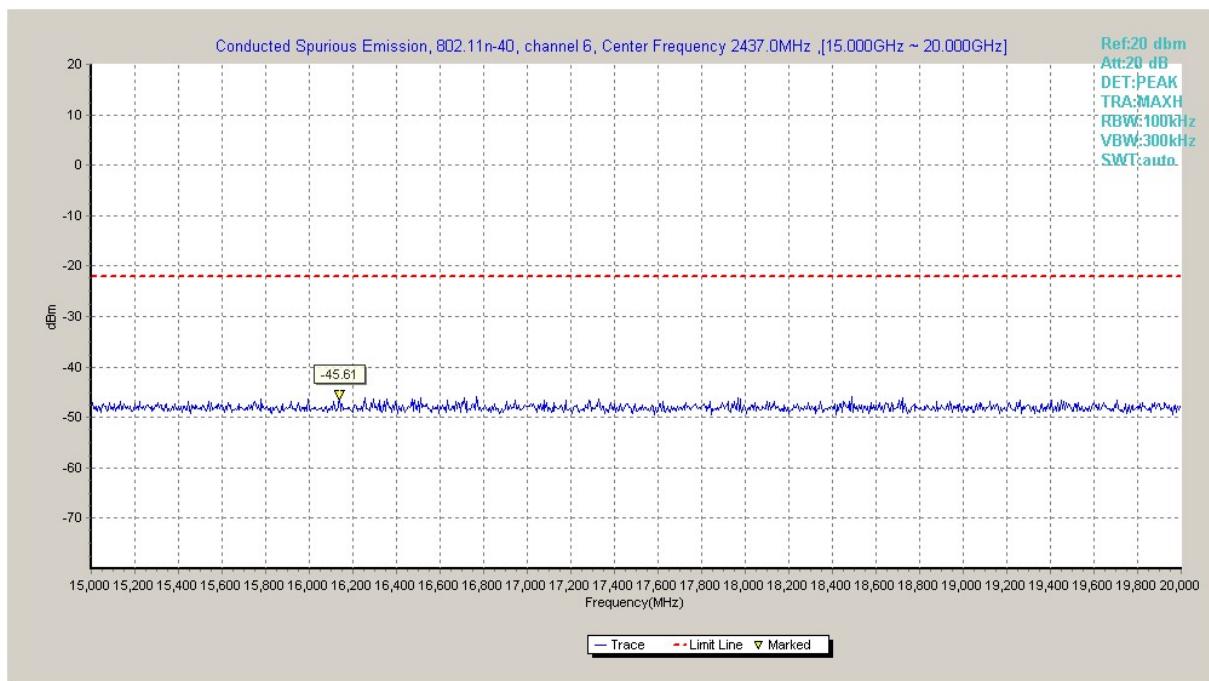
**Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)**



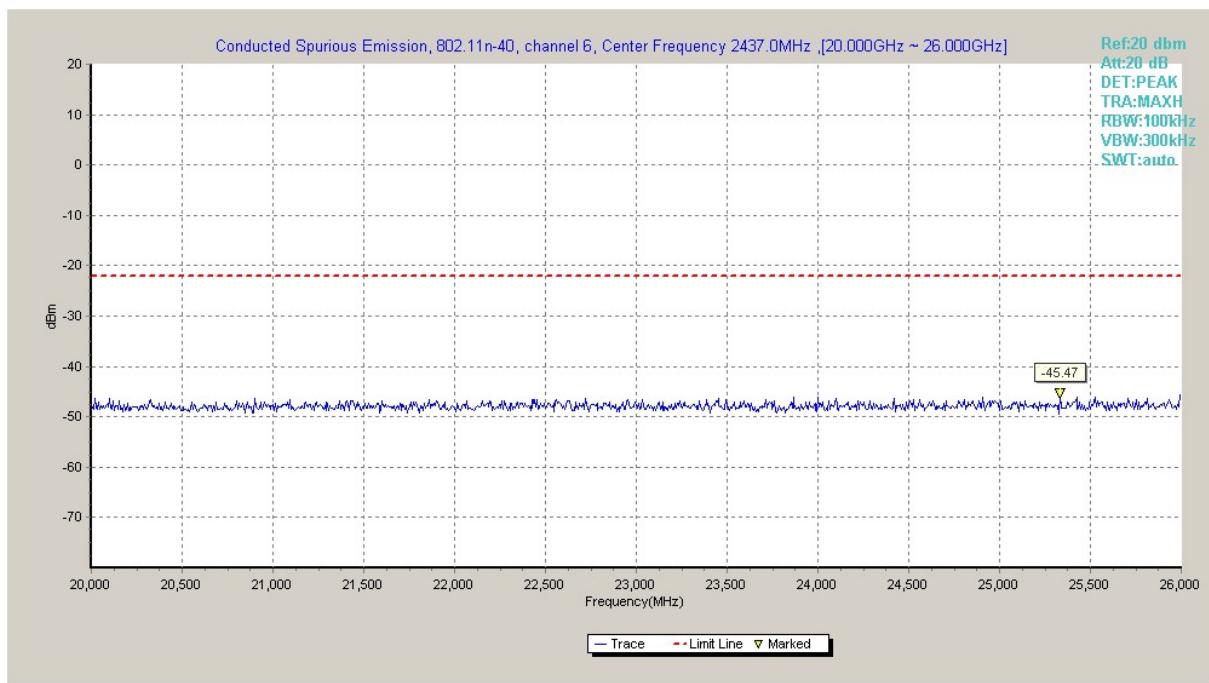
**Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**



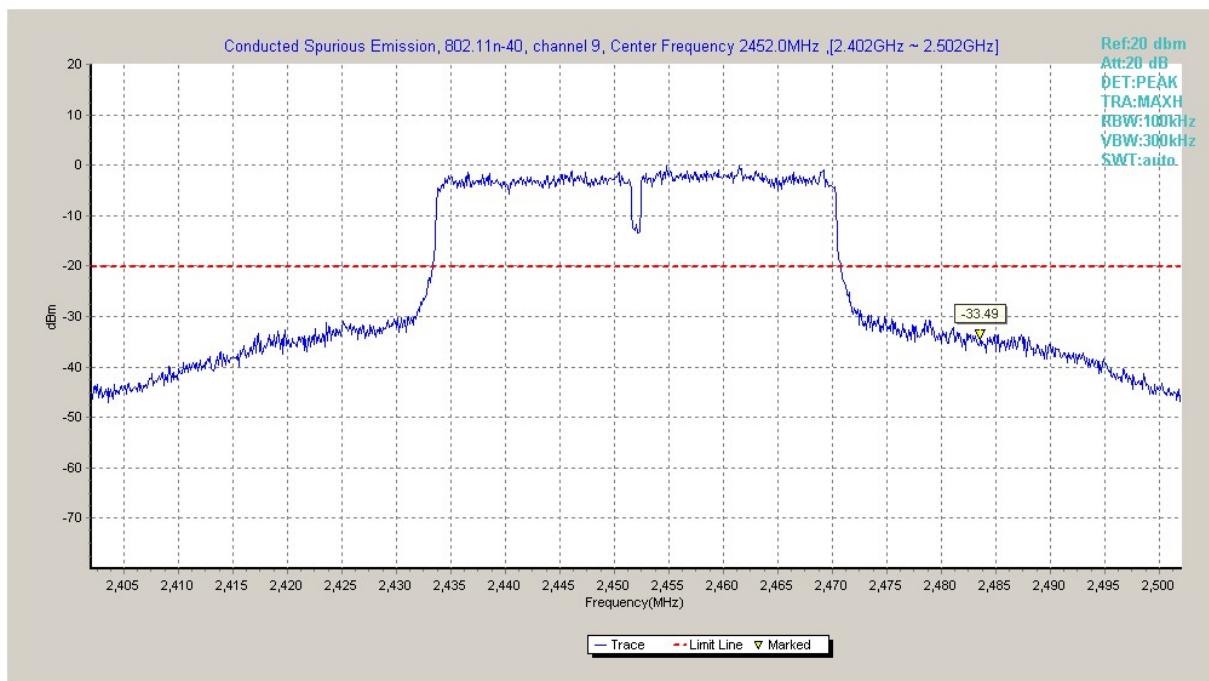
**Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)**



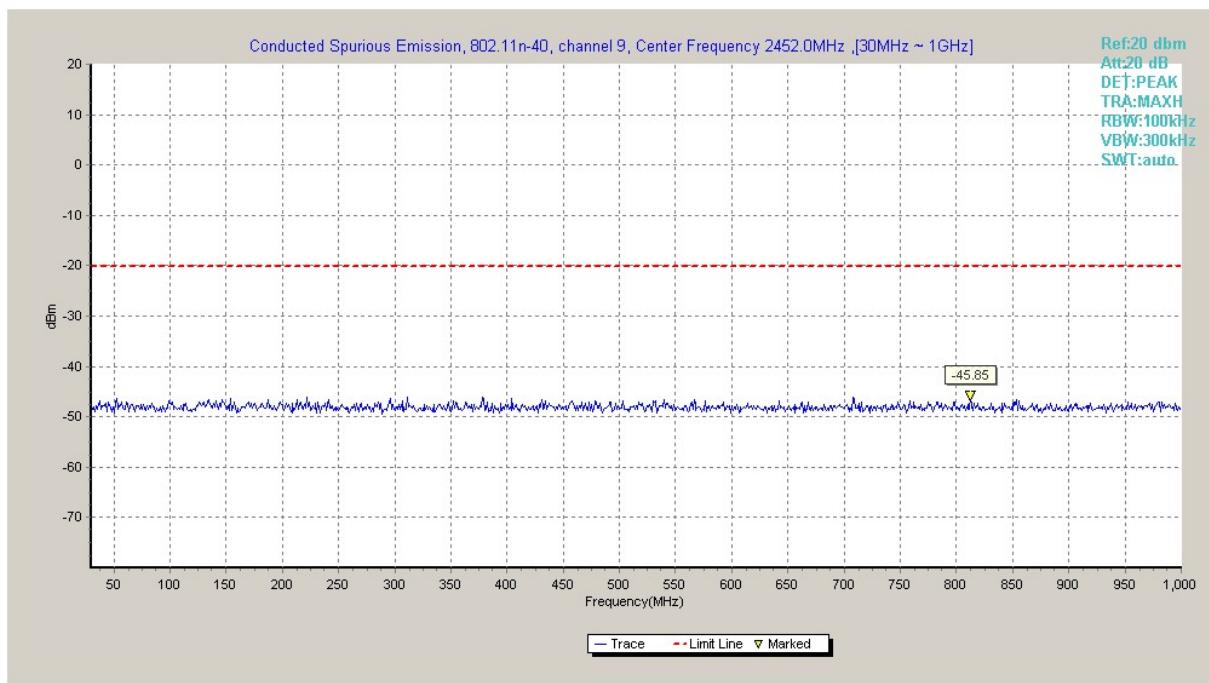
**Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)**



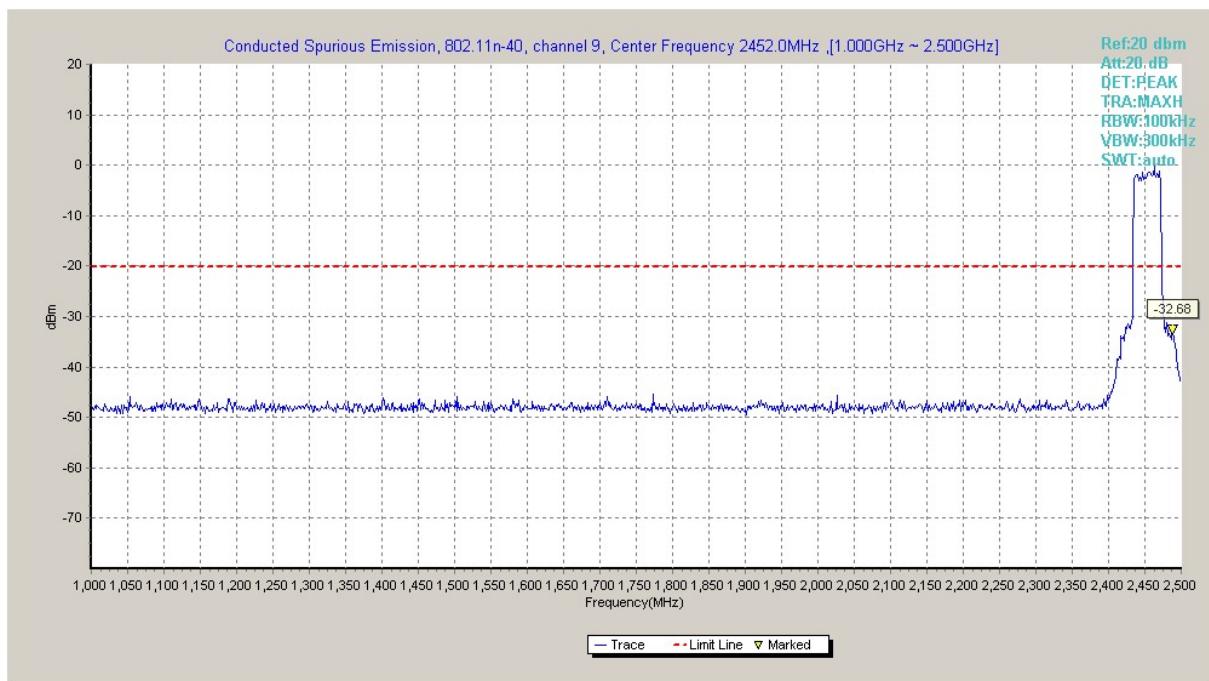
**Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)**



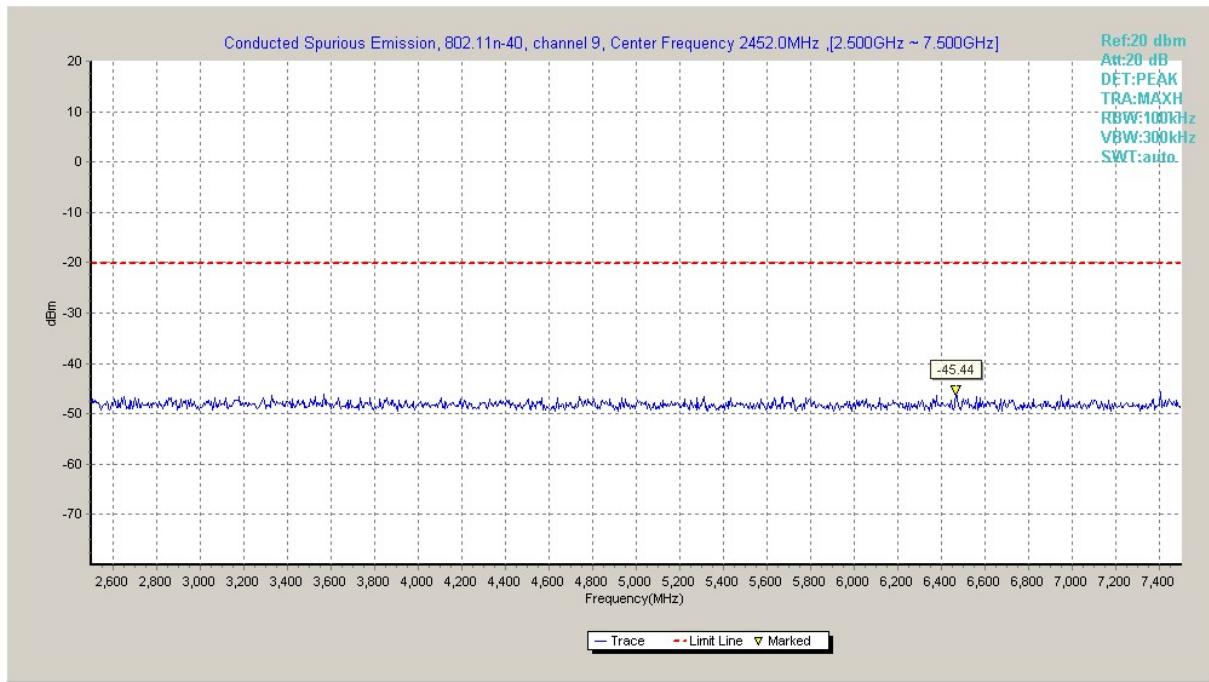
**Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)**



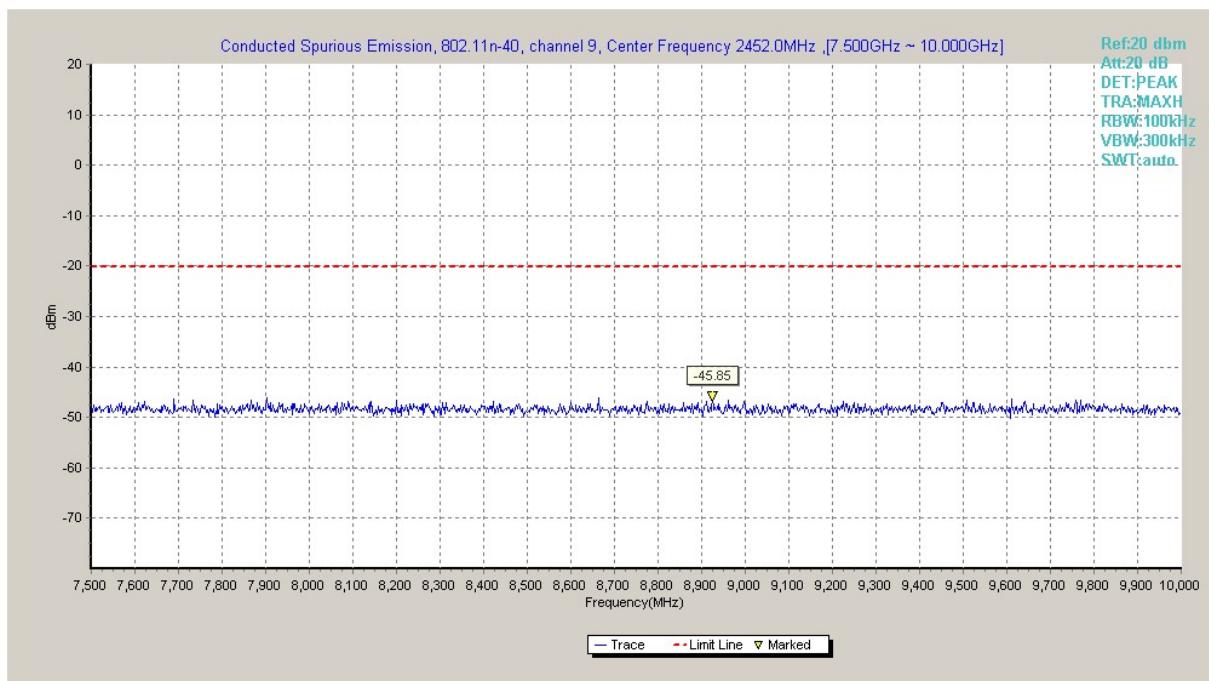
**Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



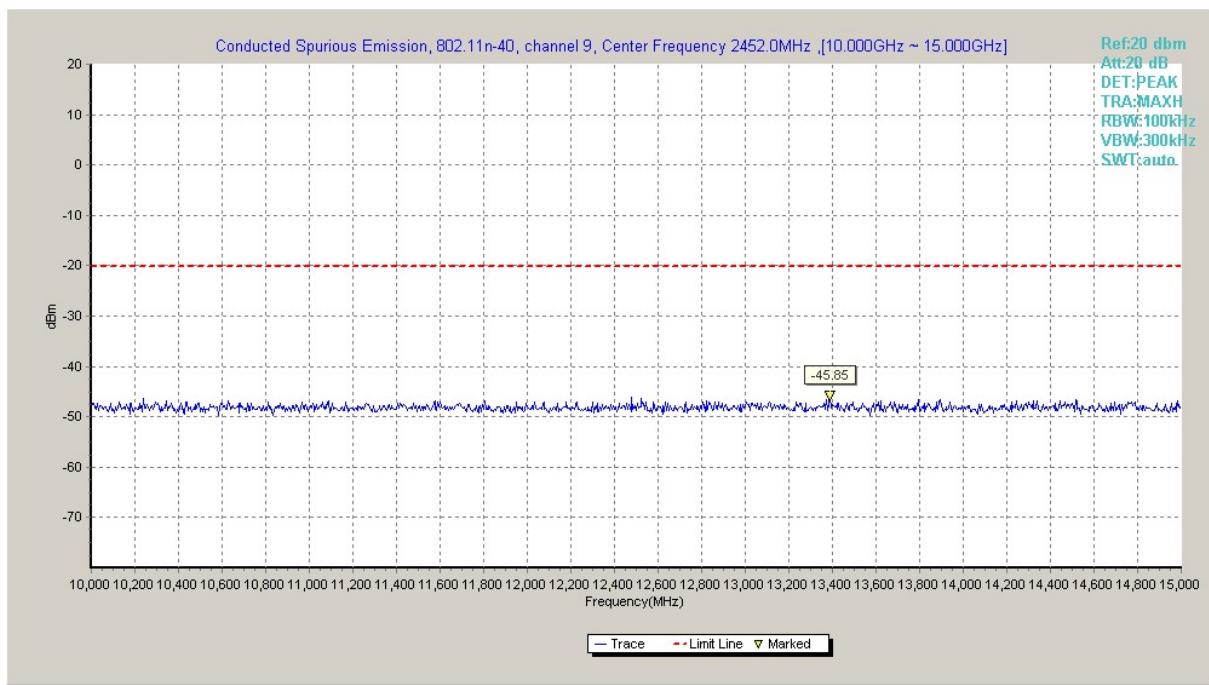
**Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)**



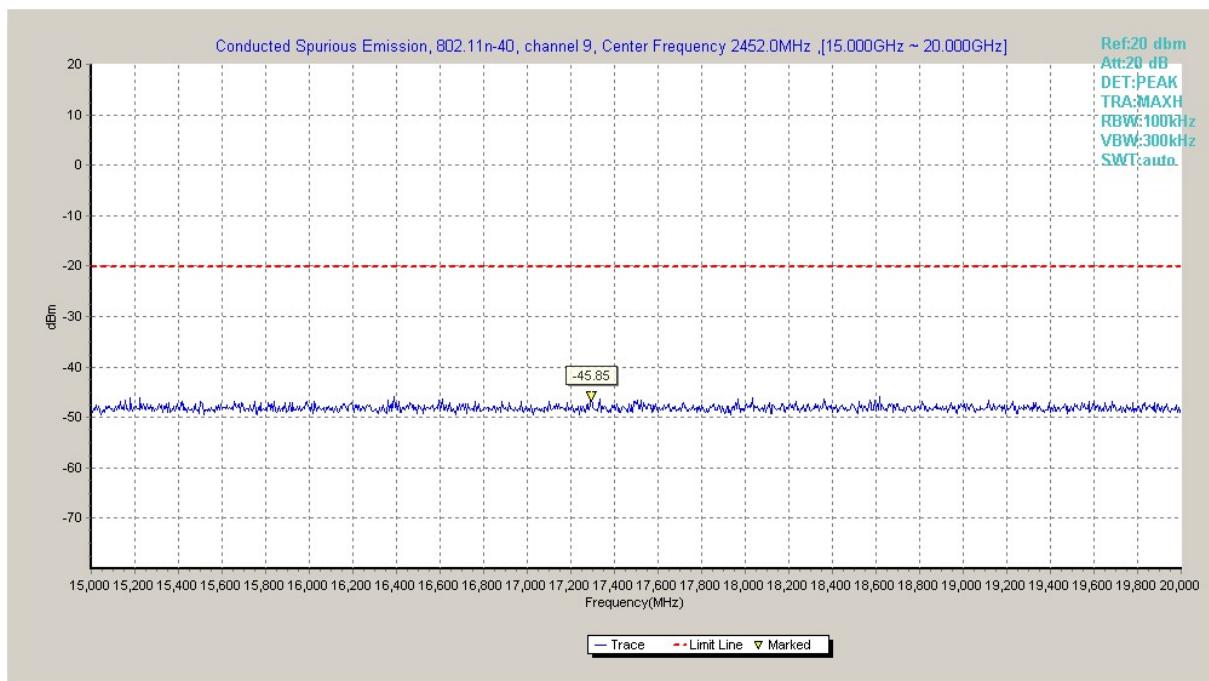
**Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)**



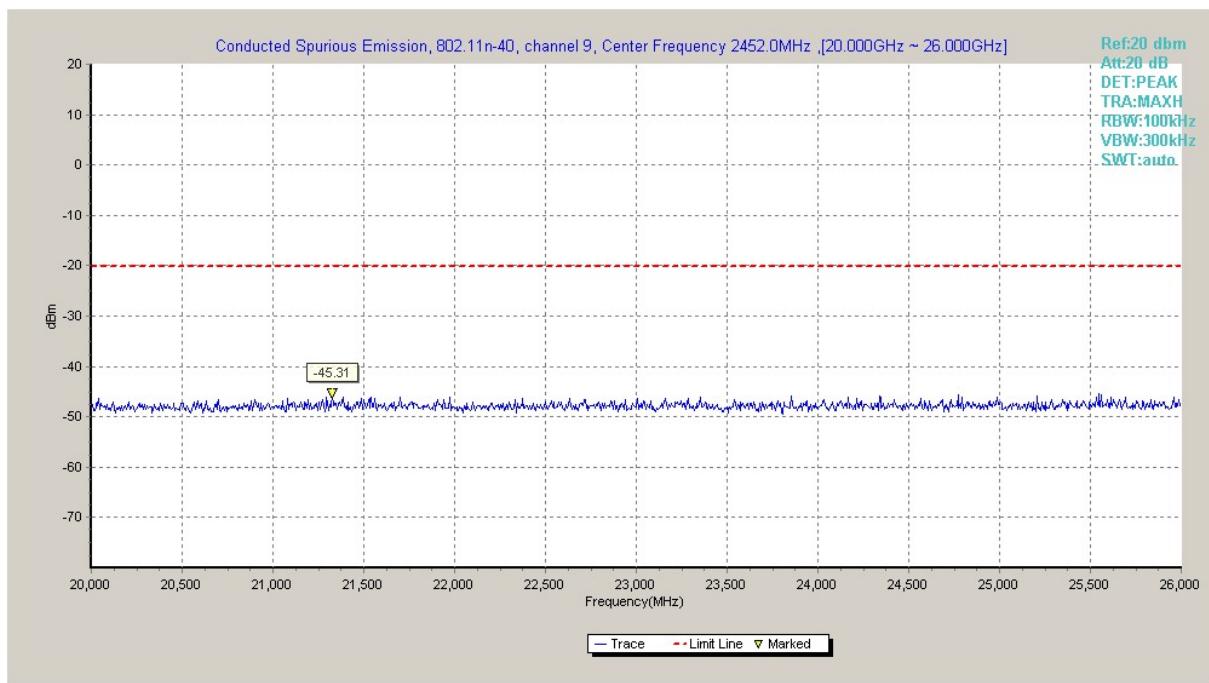
**Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)**



**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( $\mu$ V/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

**Test Condition**

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3/10 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/1MHz	15
4000-18000	1MHz/1MHz	40
18000-26500	1MHz/1MHz	20

**EUT ID: EUT1**

**Measurement Results for Set.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 $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2384.700	47.11	2.9	32.0	12.23	54.0	6.9	H	155	28
2390.000	47.18	2.9	32.0	12.33	54.0	6.8	H	155	48
4824.000	35.53	-32.8	34.5	33.78	54.0	18.5	H	155	8
7236.000	38.39	-31.7	36.1	34.02	54.0	15.6	H	155	16
9648.000	37.86	-30.4	37.0	31.18	54.0	16.1	H	155	228
12060.000	43.43	-29.6	39.3	33.76	54.0	10.6	H	155	92

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2422.900	47.81	2.9	31.7	13.20	54.0	6.2	H	155	28
2450.500	47.83	2.9	32.4	12.55	54.0	6.2	H	155	49
4874.000	35.60	-32.7	34.5	33.81	54.0	18.4	H	155	246
7311.000	38.17	-31.9	36.1	34.01	54.0	15.8	H	155	182
9748.000	38.39	-30.7	37.2	31.86	54.0	15.6	H	155	94
12185.000	43.86	-29.4	39.2	34.06	54.0	10.1	H	155	42

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.62	2.9	32.8	11.93	54.0	6.4	H	155	98
2490.400	47.69	2.9	32.6	12.18	54.0	6.3	H	155	135
4924.000	35.84	-33.1	34.5	34.43	54.0	18.2	H	155	4
7386.000	38.27	-31.8	36.0	34.07	54.0	15.7	H	155	74
9848.000	40.09	-30.1	37.3	32.83	54.0	13.9	H	155	48
12310.000	44.18	-29.7	39.2	34.70	54.0	9.8	H	155	246

**802.11b-Peak**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2385.474	60.60	2.9	32.0	25.73	74.0	13.4	H	155	22
2389.058	60.42	2.9	32.0	25.56	74.0	13.6	H	155	44
4824.000	38.63	-32.8	34.5	36.88	74.0	35.4	V	155	0
7236.000	40.77	-31.7	36.1	36.40	74.0	33.2	H	155	22
9648.000	42.37	-30.4	37.0	35.68	74.0	31.6	H	155	242
12060.000	46.41	-29.6	39.3	36.74	74.0	27.6	H	155	88

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2357.120	48.61	-27.7	31.8	44.51	74.0	25.4	H	155	22
2516.800	49.93	-26.6	32.6	44.01	74.0	24.1	H	155	44
4873.500	39.50	-32.7	34.5	37.71	74.0	34.5	V	155	242
7311.000	39.96	-31.9	36.1	35.80	74.0	34.0	H	155	176
9748.500	42.94	-30.7	37.2	36.41	74.0	31.1	V	155	88
12185.250	45.83	-29.4	39.2	36.04	74.0	28.2	V	155	22

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2489.490	61.16	2.9	32.6	25.63	74.0	12.8	H	155	88
2495.770	61.21	2.9	32.4	25.85	74.0	12.8	H	155	132
4923.750	39.77	-33.1	34.5	38.35	74.0	34.2	H	155	0
7386.000	40.97	-31.8	36.0	36.77	74.0	33.0	V	155	66
9848.250	42.08	-30.1	37.3	34.82	74.0	31.9	V	155	44
12309.750	46.35	-29.7	39.2	36.87	74.0	27.7	H	155	242

**802.11g - Average**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2383.000	47.04	2.9	32.0	12.15	54.0	7.0	H	155	92
2390.000	47.15	2.9	32.0	12.30	54.0	6.9	H	155	68
4824.000	35.42	-32.8	34.5	33.68	54.0	18.6	H	155	118
7236.000	38.41	-31.7	36.1	34.04	54.0	15.6	H	155	354
9648.000	37.88	-30.4	37.0	31.19	54.0	16.1	H	155	18
12060.000	43.45	-29.6	39.3	33.78	54.0	10.5	H	155	38

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2423.000	48.34	2.9	31.7	13.74	54.0	5.7	H	155	180
2456.600	48.81	2.9	32.5	13.38	54.0	5.2	H	155	200
4874.000	35.47	-32.7	34.5	33.68	54.0	18.5	H	155	225
7311.000	38.13	-31.9	36.1	33.97	54.0	15.9	H	155	202
9748.000	38.35	-30.7	37.2	31.82	54.0	15.7	H	155	245
12185.000	43.88	-29.4	39.2	34.09	54.0	10.1	H	155	268

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	48.60	2.9	32.8	12.91	54.0	5.4	H	155	92
2486.800	48.10	2.9	32.7	12.49	54.0	5.9	H	155	115
4924.000	35.93	-33.1	34.5	34.51	54.0	18.1	H	155	135
7386.000	38.20	-31.8	36.0	33.99	54.0	15.8	H	155	168
9848.000	40.12	-30.1	37.3	32.87	54.0	13.9	H	155	184
12310.000	44.11	-29.7	39.2	34.63	54.0	9.9	H	155	202

**802.11g - Peak**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2385.292	60.47	2.9	32.0	25.59	74.0	13.5	H	155	88
2389.702	60.02	2.9	32.0	25.17	74.0	14.0	H	155	66
4824.000	38.82	-32.8	34.5	37.07	74.0	35.2	H	155	110
7236.000	40.52	-31.7	36.1	36.16	74.0	33.5	V	155	0
9648.000	41.29	-30.4	37.0	34.61	74.0	32.7	H	155	22
12060.000	45.84	-29.6	39.3	36.16	74.0	28.2	H	155	44

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2357.840	48.52	-27.7	31.8	44.39	74.0	25.5	H	155	176
2518.460	49.54	-26.7	32.6	43.63	74.0	24.5	H	155	198
4874.250	38.33	-32.7	34.5	36.54	74.0	35.7	H	155	220
7311.000	40.91	-31.9	36.1	36.75	74.0	33.1	H	155	198
9747.750	40.67	-30.7	37.2	34.15	74.0	33.3	V	155	242
12185.250	45.99	-29.4	39.2	36.20	74.0	28.0	H	155	264

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.570	65.50	2.9	32.8	29.81	74.0	8.5	H	155	88
2484.290	64.83	2.9	32.7	29.16	74.0	9.2	H	155	110
4923.750	39.88	-33.1	34.5	38.47	74.0	34.1	V	155	132
7386.000	40.40	-31.8	36.0	36.20	74.0	33.6	V	155	154
9848.250	42.86	-30.1	37.3	35.60	74.0	31.1	H	155	176
2483.570	65.50	2.9	32.8	29.81	74.0	8.5	H	155	88

**802.11n-HT20-Average**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2386.900	47.16	2.9	32.0	12.30	54.0	6.8	H	155	180
2390.000	47.14	2.9	32.0	12.30	54.0	6.9	H	155	204
4824.000	35.53	-32.8	34.5	33.79	54.0	18.5	H	155	222
7236.000	38.41	-31.7	36.1	34.05	54.0	15.6	H	155	245
9648.000	37.89	-30.4	37.0	31.20	54.0	16.1	H	155	72
12060.000	43.35	-29.6	39.3	33.68	54.0	10.6	H	155	94

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2422.900	47.93	2.9	31.7	13.33	54.0	6.1	H	155	268
2456.100	48.61	2.9	32.5	13.19	54.0	5.4	H	155	290
4874.000	35.55	-32.7	34.5	33.76	54.0	18.4	H	155	312
7311.000	38.17	-31.9	36.1	34.01	54.0	15.8	H	155	46
9748.000	38.35	-30.7	37.2	31.82	54.0	15.7	H	155	70
12185.000	43.88	-29.4	39.2	34.09	54.0	10.1	H	155	92

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.95	2.9	32.8	12.26	54.0	6.1	H	155	48
2490.600	47.78	2.9	32.6	12.28	54.0	6.2	H	155	70
4924.000	35.94	-33.1	34.5	34.52	54.0	18.1	H	155	92
7386.000	38.29	-31.8	36.0	34.08	54.0	15.7	H	155	112
9848.000	40.13	-30.1	37.3	32.88	54.0	13.9	H	155	136
12310.000	44.19	-29.7	39.2	34.71	54.0	9.8	H	155	156

**802.11n-HT20-Peak**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2383.066	60.73	2.9	32.0	25.84	74.0	13.3	H	155	176
2388.666	60.32	2.9	32.0	25.47	74.0	13.7	H	155	198
4824.000	39.17	-32.8	34.5	37.42	74.0	34.8	H	155	220
7236.000	41.52	-31.7	36.1	37.16	74.0	32.5	V	155	242
9648.000	40.01	-30.4	37.0	33.33	74.0	34.0	H	155	66
12060.000	45.32	-29.6	39.3	35.64	74.0	28.7	H	155	88

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2368.810	48.45	-27.1	32.0	43.53	74.0	25.5	H	155	264
2572.580	50.03	-26.8	33.0	43.85	74.0	24.0	H	155	286
4874.250	39.20	-32.7	34.5	37.40	74.0	34.8	V	155	308
7311.000	40.60	-31.9	36.1	36.43	74.0	33.4	H	155	44
9747.750	41.53	-30.7	37.2	35.01	74.0	32.5	H	155	66
12185.250	47.02	-29.4	39.2	37.23	74.0	27.0	V	155	88

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.590	62.03	2.9	32.8	26.34	74.0	12.0	H	155	44
2484.950	62.17	2.9	32.7	26.52	74.0	11.8	H	155	66
4923.750	40.00	-33.1	34.5	38.58	74.0	34.0	H	155	88
7386.000	40.41	-31.8	36.0	36.20	74.0	33.6	H	155	110
9848.250	44.08	-30.1	37.3	36.82	74.0	29.9	H	155	132
12309.750	45.30	-29.7	39.2	35.82	74.0	28.7	H	155	154

**802.11n-HT40-Average**

Ch3

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2387.700	47.37	2.9	32.0	12.50	54.0	6.6	H	155	8
2390.000	47.52	2.9	32.0	12.68	54.0	6.5	H	155	26
4843.500	35.37	-32.7	34.5	33.56	54.0	18.6	H	155	72
7266.000	38.50	-31.9	36.1	34.27	54.0	15.5	H	155	136
9688.500	37.75	-30.7	37.1	31.37	54.0	16.3	H	155	94
12109.500	43.60	-29.5	39.3	33.83	54.0	10.4	H	155	48

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2412.300	47.67	2.9	31.8	12.99	54.0	6.3	H	155	180
2468.300	47.98	2.9	32.8	12.23	54.0	6.0	H	155	202
4873.500	35.60	-32.7	34.5	33.81	54.0	18.4	H	155	222
7311.000	38.16	-31.9	36.1	34.00	54.0	15.8	H	155	190
9748.500	38.32	-30.7	37.2	31.79	54.0	15.7	H	155	240
12184.500	43.94	-29.4	39.2	34.15	54.0	10.1	H	155	270

Ch9

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.66	2.9	32.8	11.97	54.0	6.3	H	155	28
2489.000	47.80	2.9	32.6	12.25	54.0	6.2	H	155	74
4903.500	35.94	-32.9	34.5	34.33	54.0	18.1	H	155	140
7356.000	38.18	-31.9	36.1	34.03	54.0	15.8	H	155	8
9808.500	39.28	-30.3	37.3	32.35	54.0	14.7	H	155	80
12259.500	44.07	-29.6	39.2	34.45	54.0	9.9	H	155	243

**802.11n-HT40-Peak**

Ch3

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.540	60.54	2.9	32.0	25.69	74.0	13.5	H	155	0
2389.646	60.79	2.9	32.0	25.94	74.0	13.2	H	155	22
4844.250	42.34	-32.7	34.5	40.54	74.0	31.7	H	155	66
7266.000	43.61	-31.9	36.1	39.37	74.0	30.4	V	155	132
9687.750	44.55	-30.7	37.1	38.17	74.0	29.4	H	155	88
12110.250	48.86	-29.5	39.3	39.09	74.0	25.1	V	155	44

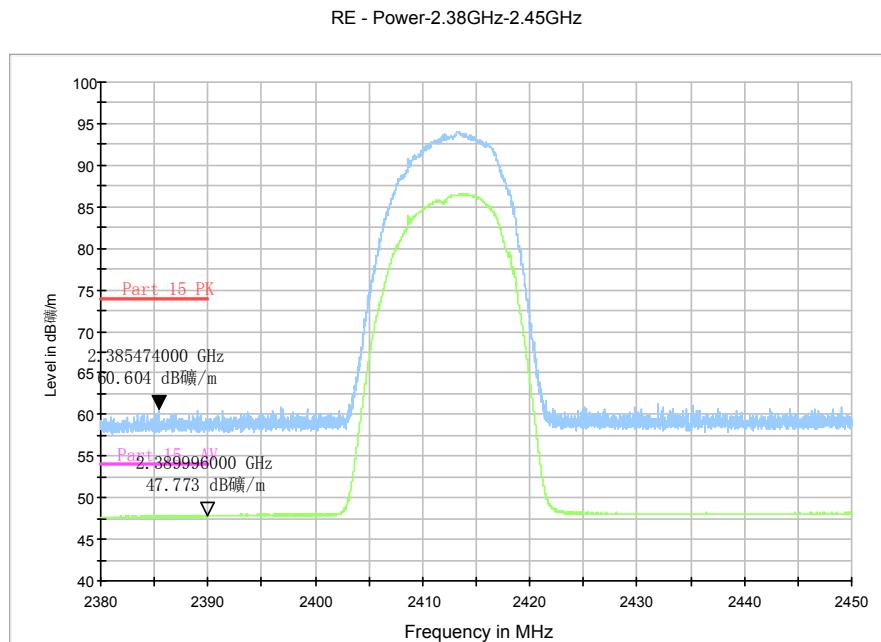
Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2356.130	47.86	-27.7	31.8	43.82	74.0	26.1	H	155	176
2812.650	51.73	-26.0	33.4	44.35	74.0	22.3	H	155	198
4874.250	39.05	-32.7	34.5	37.26	74.0	34.9	V	155	220
7311.000	40.58	-31.9	36.1	36.42	74.0	33.4	V	155	198
9747.750	41.23	-30.7	37.2	34.70	74.0	32.8	H	155	242
12185.250	46.13	-29.4	39.2	36.33	74.0	27.9	V	155	264

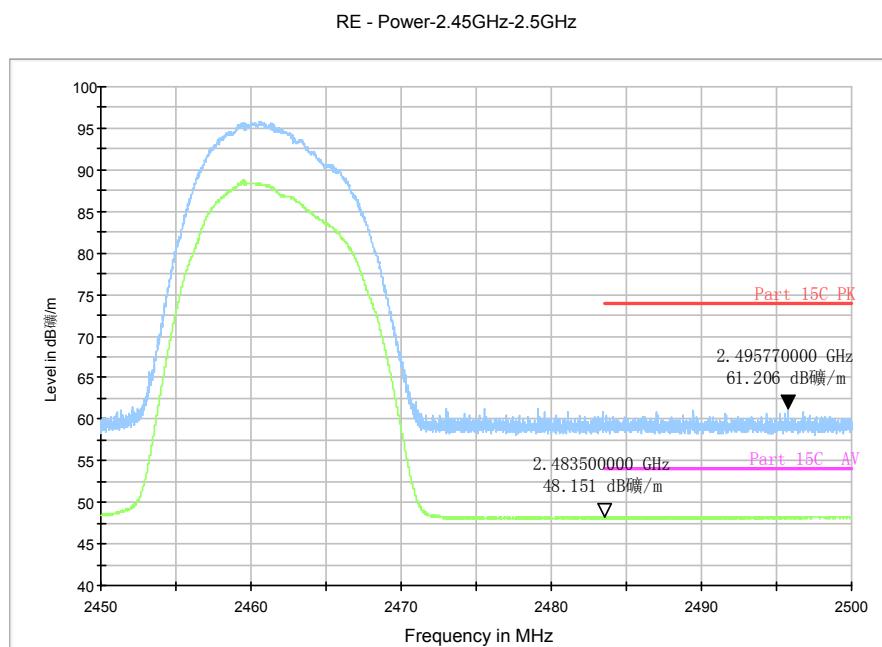
Ch9

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2486.680	61.09	2.9	32.7	25.49	74.0	12.9	H	155	22
2491.800	61.00	2.9	32.5	25.53	74.0	13.0	H	155	66
4904.250	39.17	-32.9	34.5	37.57	74.0	34.8	V	155	132
7356.000	41.68	-31.9	36.1	37.53	74.0	32.3	H	155	0
9807.750	42.13	-30.4	37.3	35.21	74.0	31.9	V	155	88
12260.250	45.71	-29.6	39.2	36.08	74.0	28.3	V	155	242

Test graphs as below:

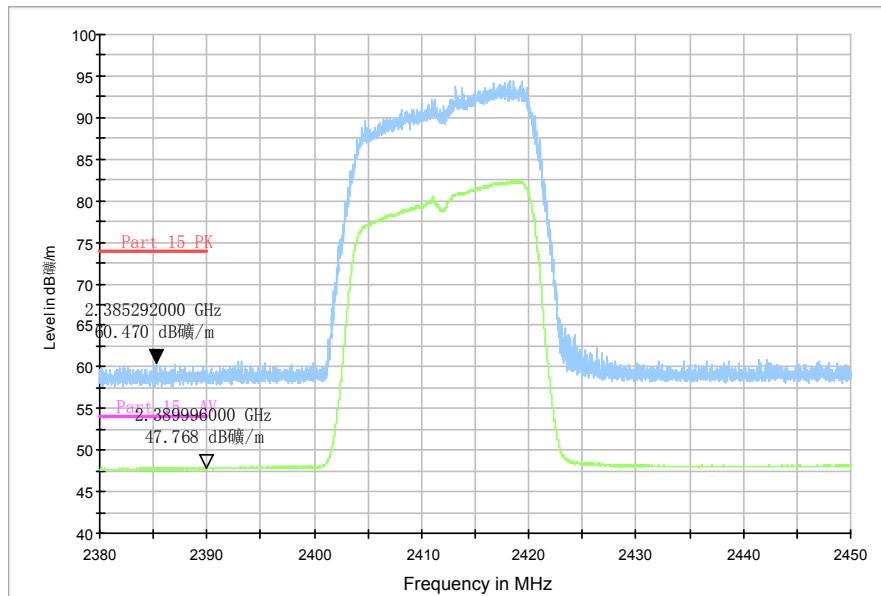


**Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz**



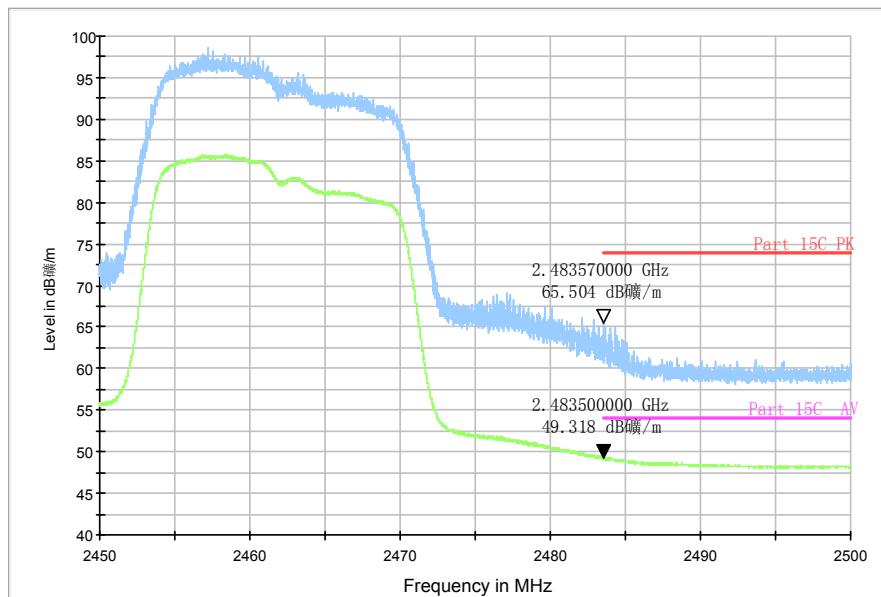
**Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



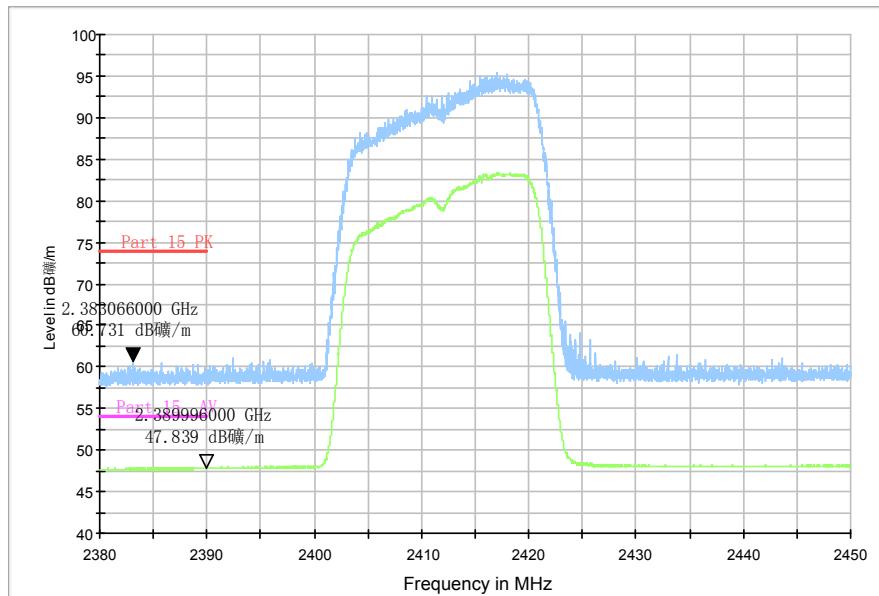
**Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz**

RE - Power-2.45GHz-2.5GHz



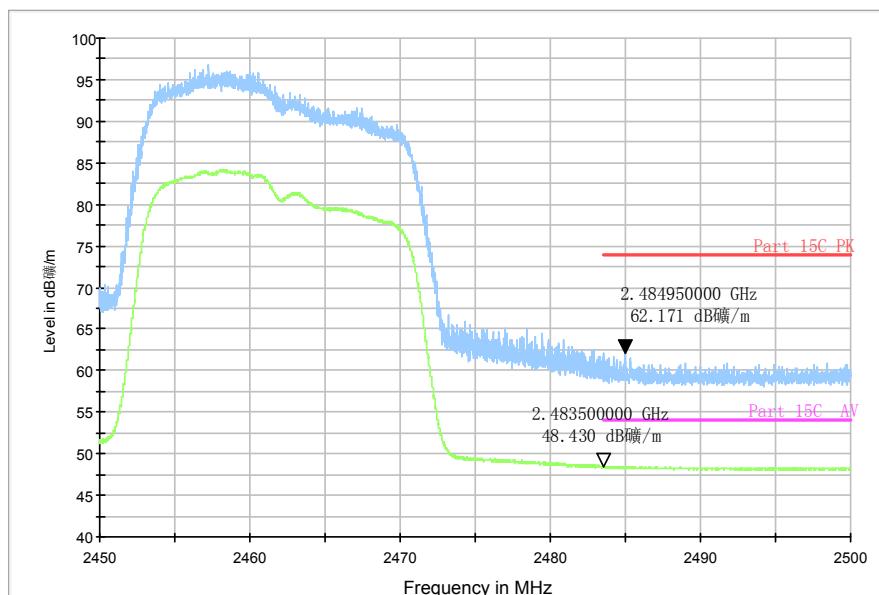
**Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



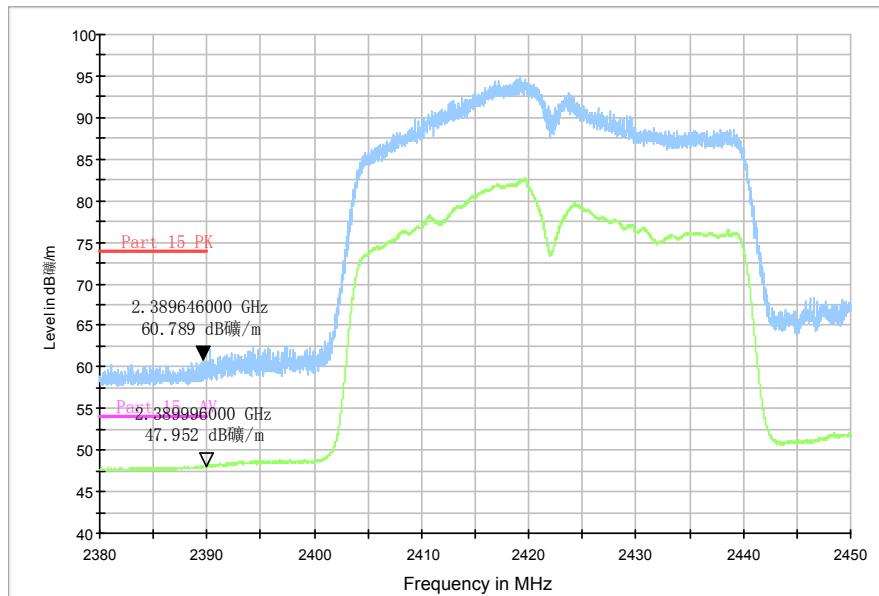
**Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz**

RE - Power-2.45GHz-2.5GHz



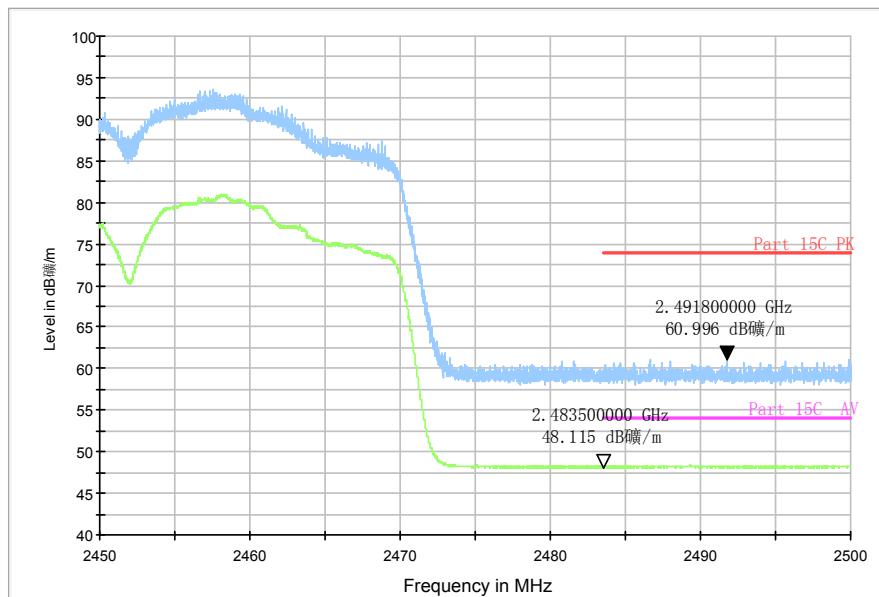
**Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

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.<sup>36</sup> 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 $\mu$ V)	Result (dB $\mu$ V)		Conclusion	
		With charger			
		802.11b	Idle		
0.15 to 0.5	66 to 56	Fig.A.7.1 Fig.A.7.3	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.

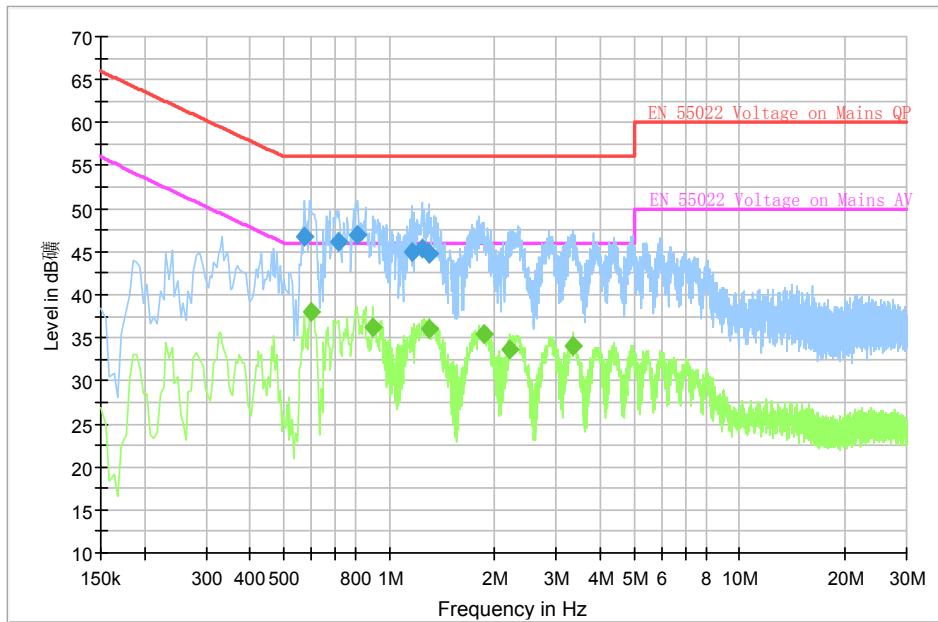
WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dB $\mu$ V)	Result (dB $\mu$ V)		Conclusion	
		With charger			
		802.11b	Idle		
0.15 to 0.5	56 to 46	Fig.A.7.1 Fig.A.7.3	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**

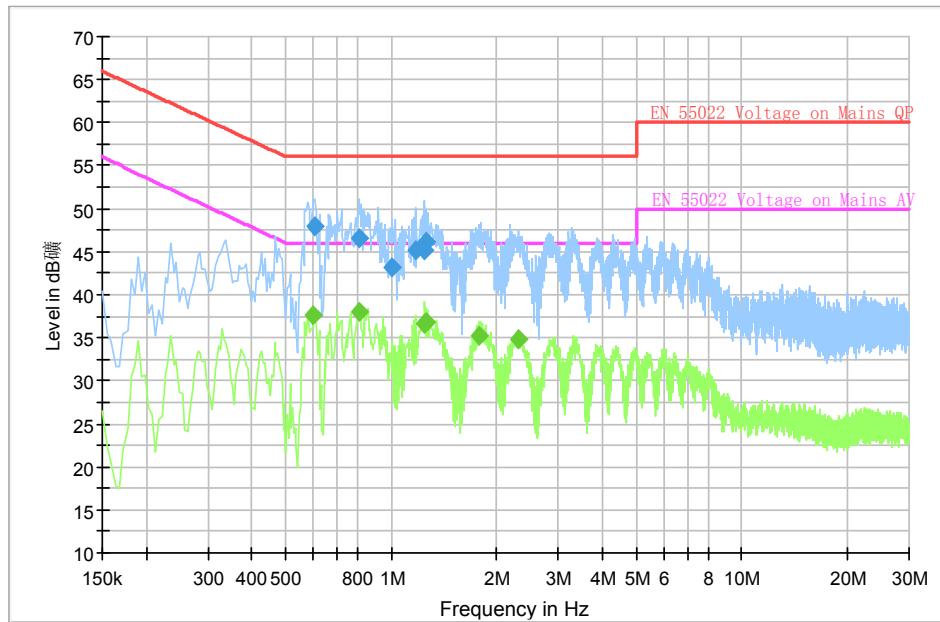
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.573000	46.8	2000.0	9.000	L1	10.2	9.2	56.0
0.717000	46.2	2000.0	9.000	L1	10.2	9.8	56.0
0.811500	47.0	2000.0	9.000	L1	10.2	9.0	56.0
1.158000	45.1	2000.0	9.000	L1	10.2	10.9	56.0
1.239000	45.3	2000.0	9.000	L1	10.2	10.7	56.0
1.297500	44.7	2000.0	9.000	L1	10.2	11.3	56.0

## Final Result 2

Frequency (MHz)	Average (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.600000	38.0	2000.0	9.000	L1	10.2	8.0	46.0
0.901500	36.3	2000.0	9.000	L1	10.2	9.7	46.0
1.306500	36.0	2000.0	9.000	L1	10.2	10.0	46.0
1.855500	35.3	2000.0	9.000	L1	10.2	10.7	46.0
2.215500	33.7	2000.0	9.000	L1	10.2	12.3	46.0
3.349500	34.0	2000.0	9.000	L1	10.3	12.0	46.0

**Idle: Set.10**

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

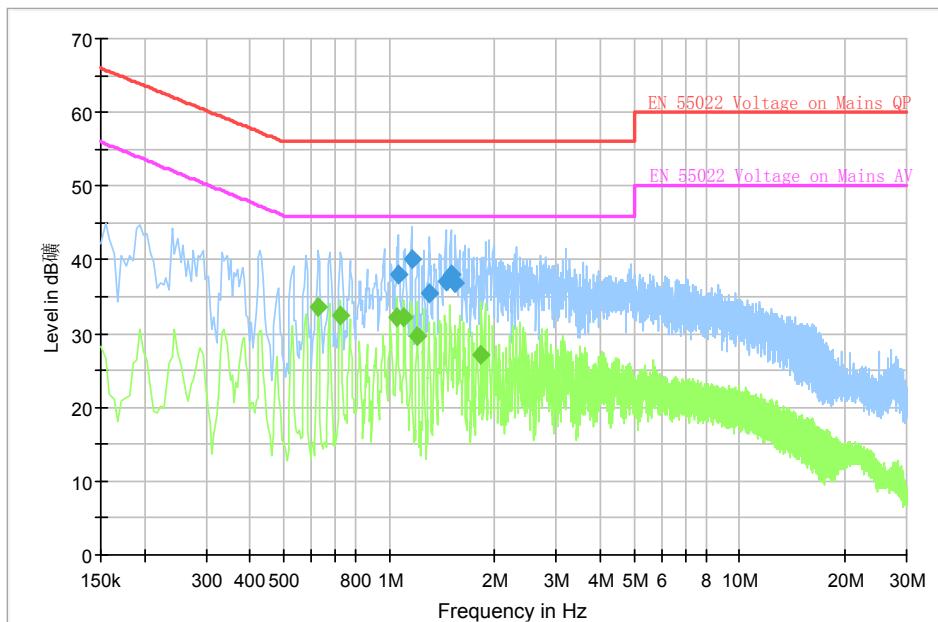
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.604500	47.9	2000.0	9.000	L1	10.2	8.1	56.0
0.807000	46.5	2000.0	9.000	L1	10.2	9.5	56.0
1.009500	43.2	2000.0	9.000	L1	10.2	12.8	56.0
1.171500	45.1	2000.0	9.000	L1	10.2	10.9	56.0
1.239000	45.2	2000.0	9.000	L1	10.2	10.8	56.0
1.257000	46.2	2000.0	9.000	L1	10.2	9.8	56.0

## Final Result 2

Frequency (MHz)	Average (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.600000	37.7	2000.0	9.000	L1	10.2	8.3	46.0
0.807000	38.1	2000.0	9.000	L1	10.2	7.9	46.0
1.248000	36.6	2000.0	9.000	L1	10.2	9.4	46.0
1.257000	36.8	2000.0	9.000	L1	10.2	9.2	46.0
1.779000	35.3	2000.0	9.000	L1	10.2	10.7	46.0
2.319000	34.7	2000.0	9.000	L1	10.2	11.3	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 $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
1.063500	38.0	2000.0	9.000	N	10.2	18.0	56.0
1.158000	40.1	2000.0	9.000	N	10.2	15.9	56.0
1.306500	35.4	2000.0	9.000	N	10.2	20.6	56.0
1.450500	37.1	2000.0	9.000	N	10.2	18.9	56.0
1.500000	38.0	2000.0	9.000	N	10.2	18.0	56.0
1.545000	36.9	2000.0	9.000	N	10.2	19.1	56.0

## Final Result 2

Frequency (MHz)	Average (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.627000	33.7	2000.0	9.000	L1	10.2	12.3	46.0
0.726000	32.6	2000.0	9.000	L1	10.2	13.4	46.0
1.054500	32.3	2000.0	9.000	L1	10.2	13.8	46.0
1.104000	32.3	2000.0	9.000	L1	10.2	13.7	46.0
1.203000	29.6	2000.0	9.000	L1	10.2	16.4	46.0
1.828500	27.1	2000.0	9.000	L1	10.2	18.9	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\*\*\*