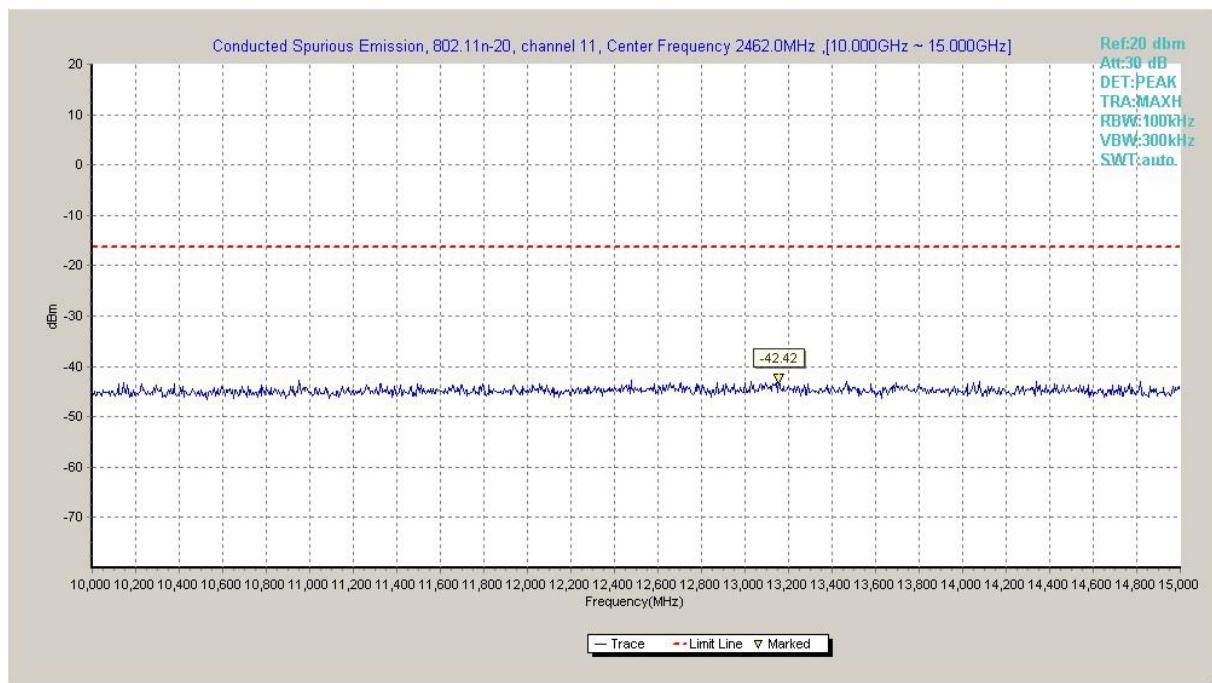
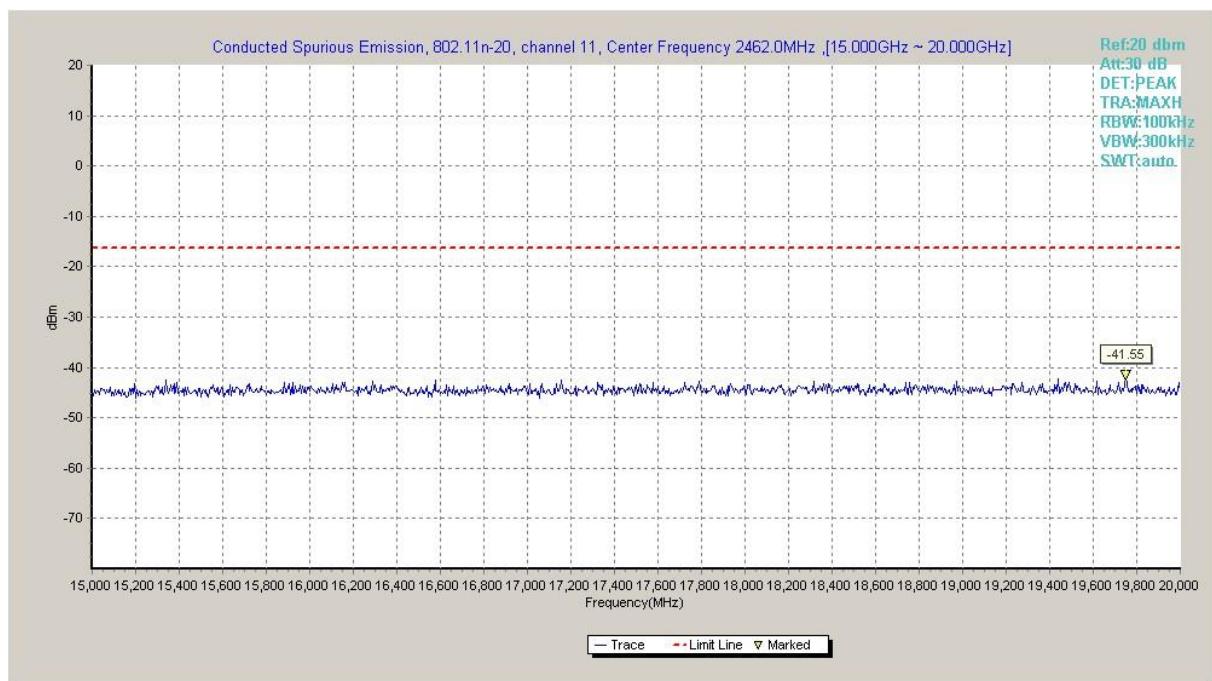


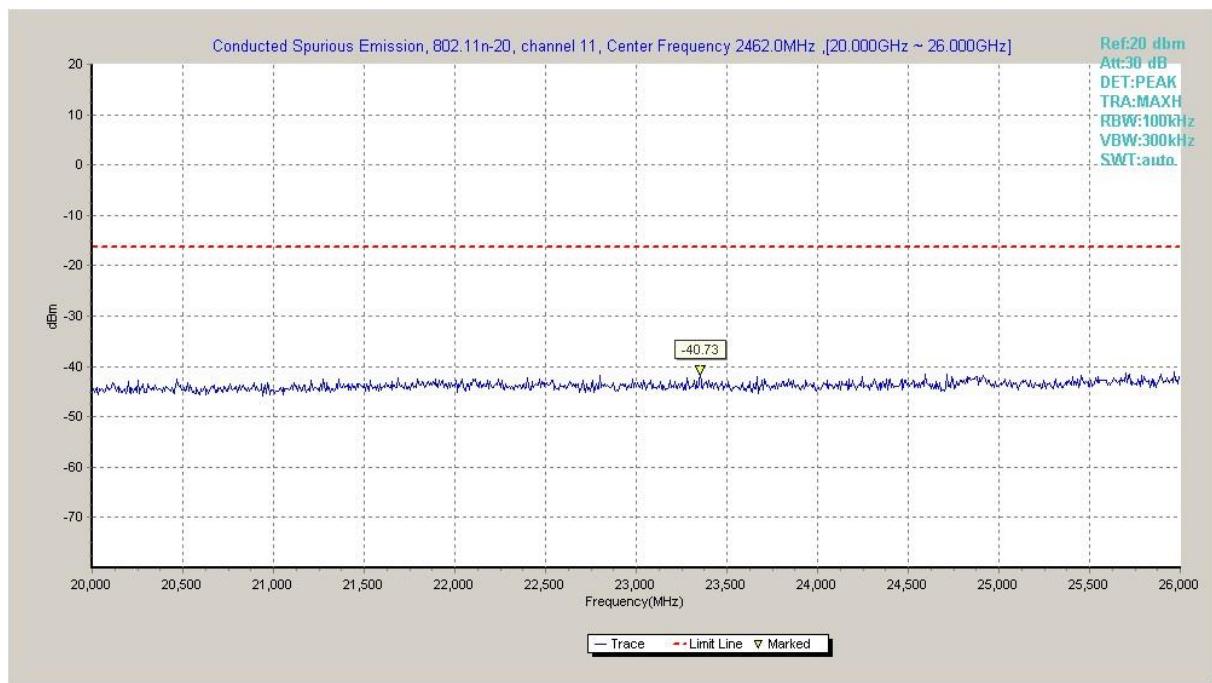
**Fig.A.6.1.69 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 7.5 GHz-10 GHz)**



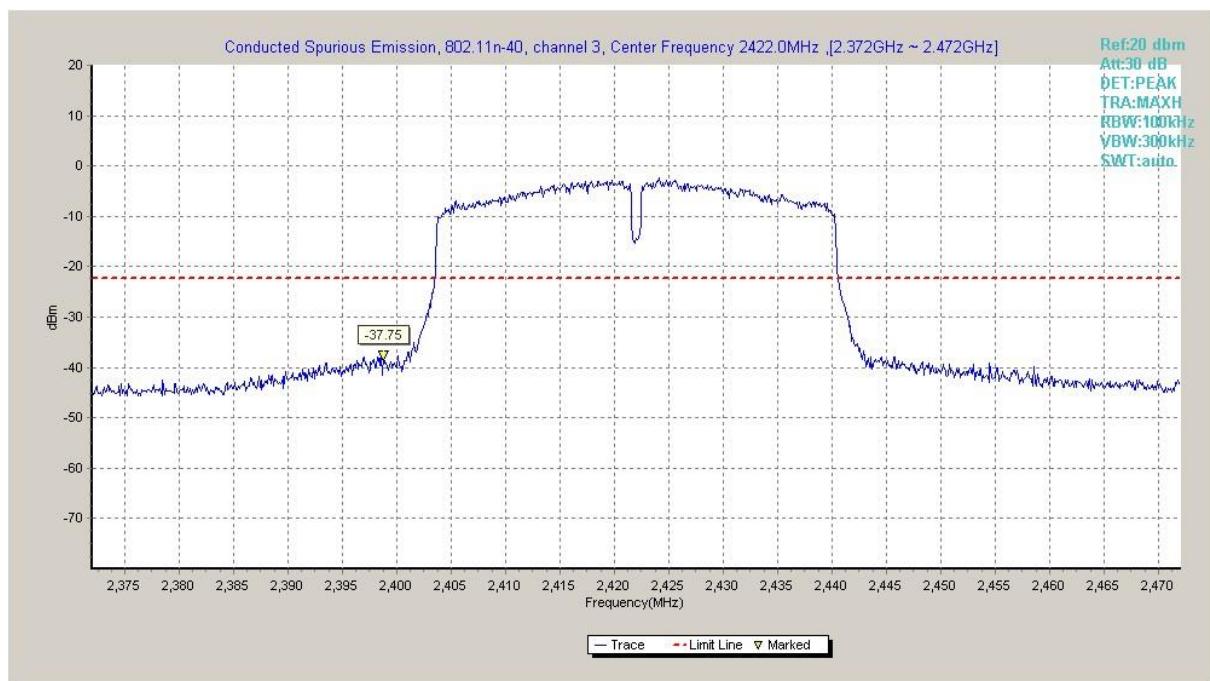
**Fig.A.6.1.70 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 10 GHz-15 GHz)**



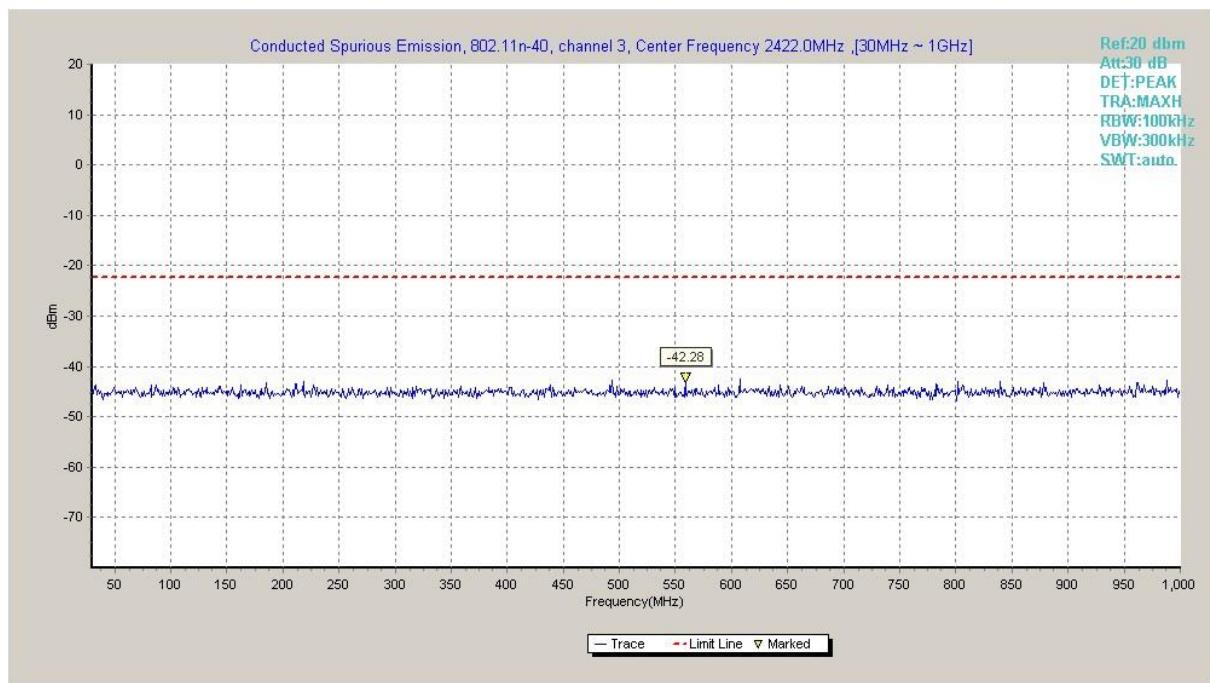
**Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)**



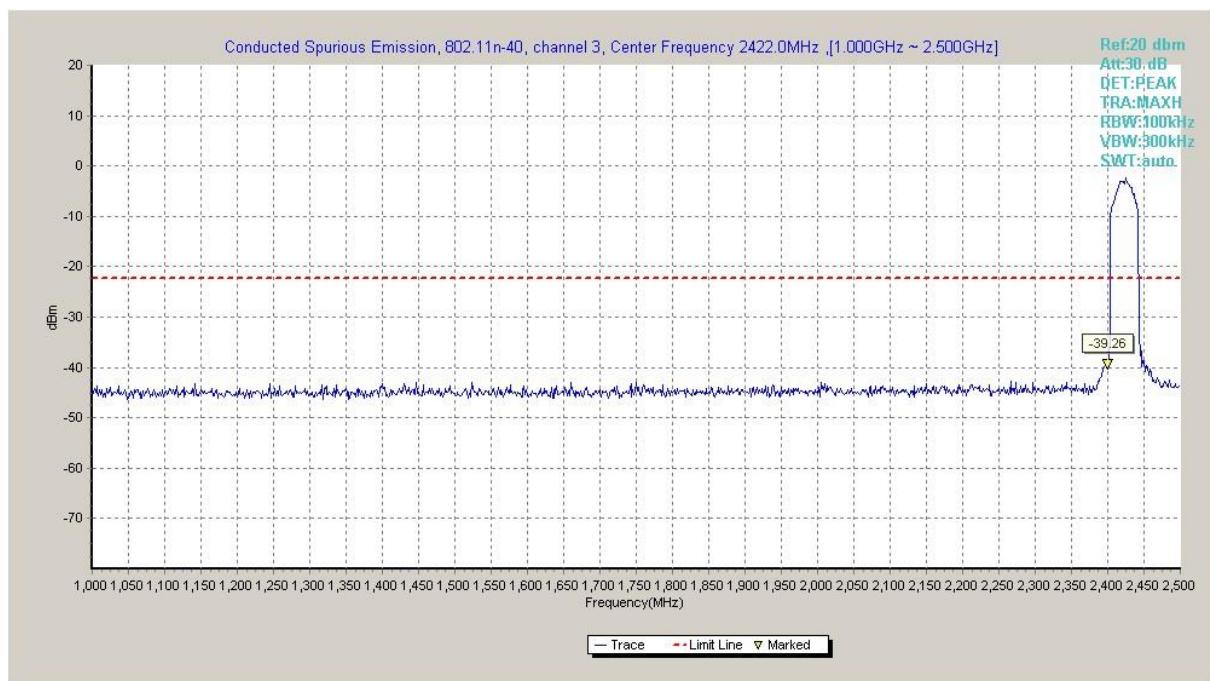
**Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)**



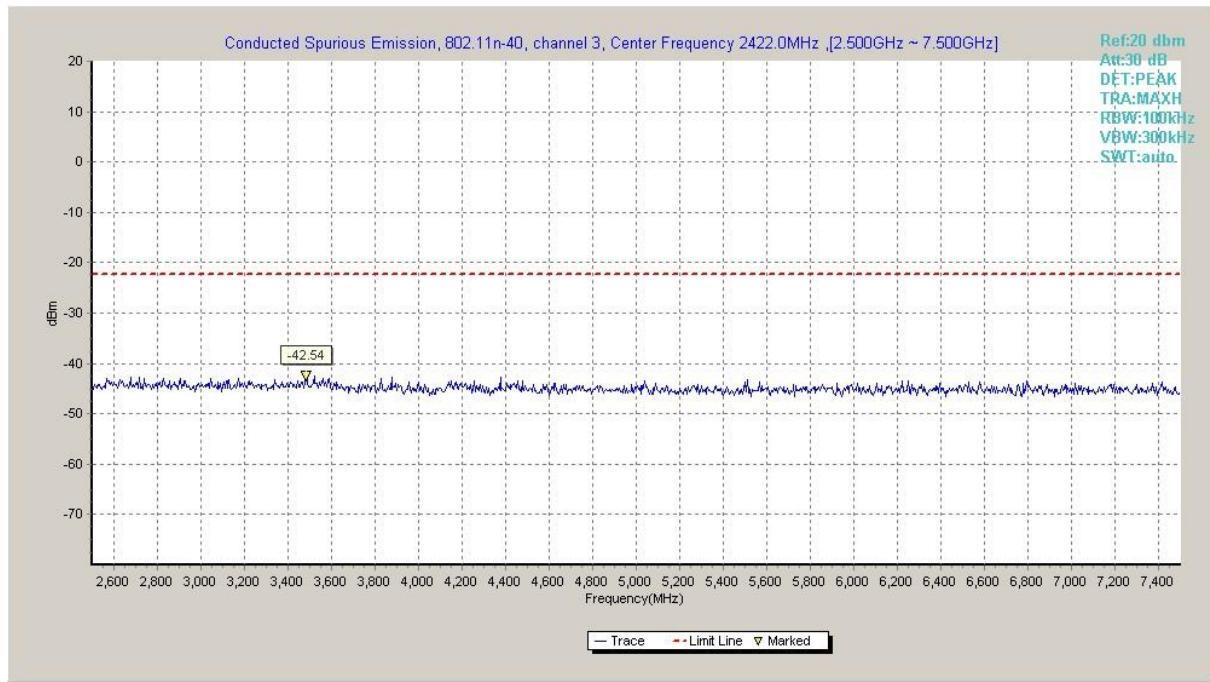
**Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)**



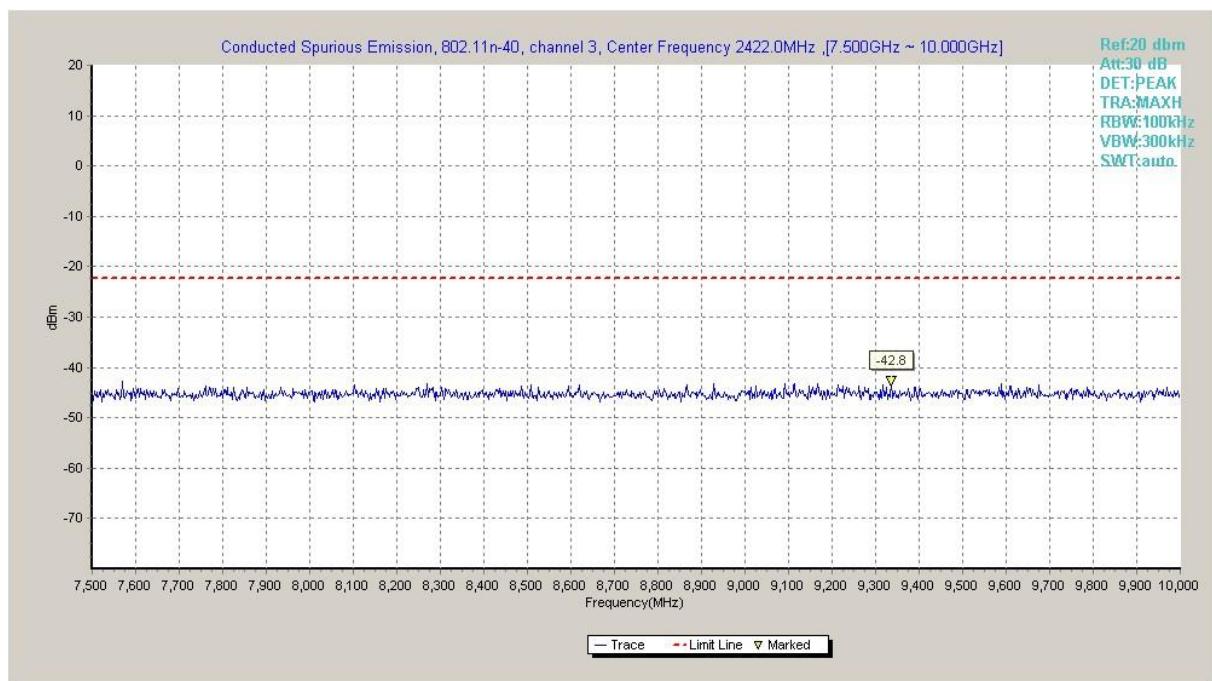
**Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)**



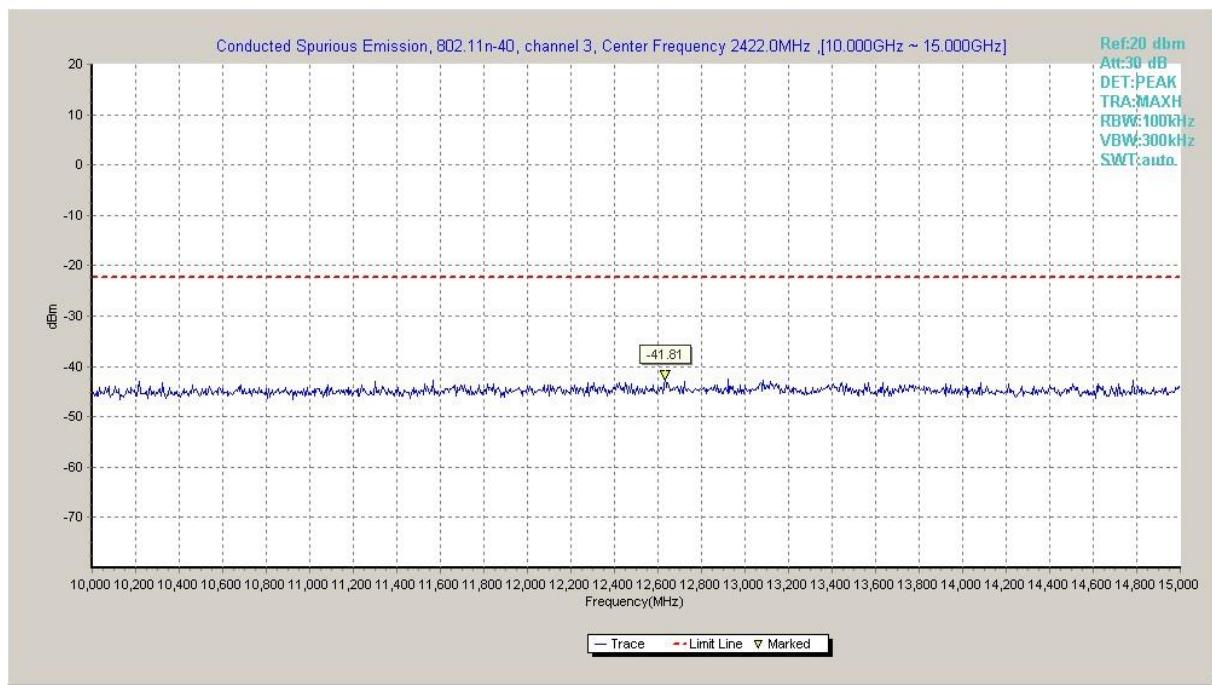
**Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)**



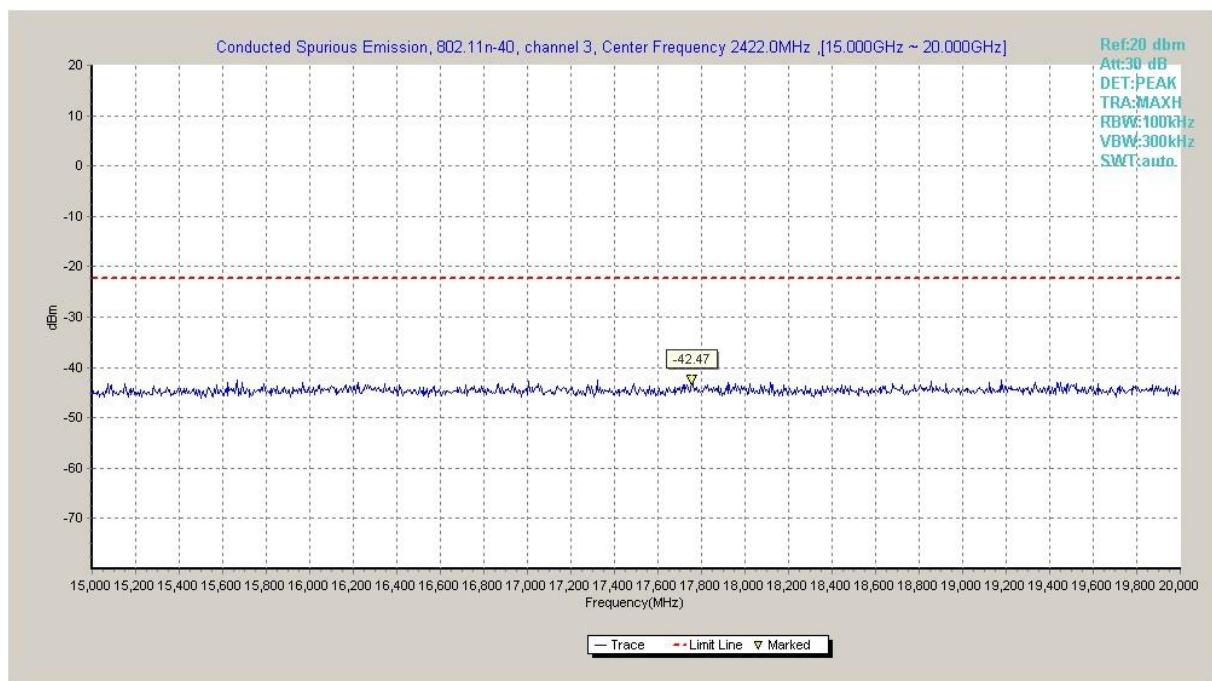
**Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)**



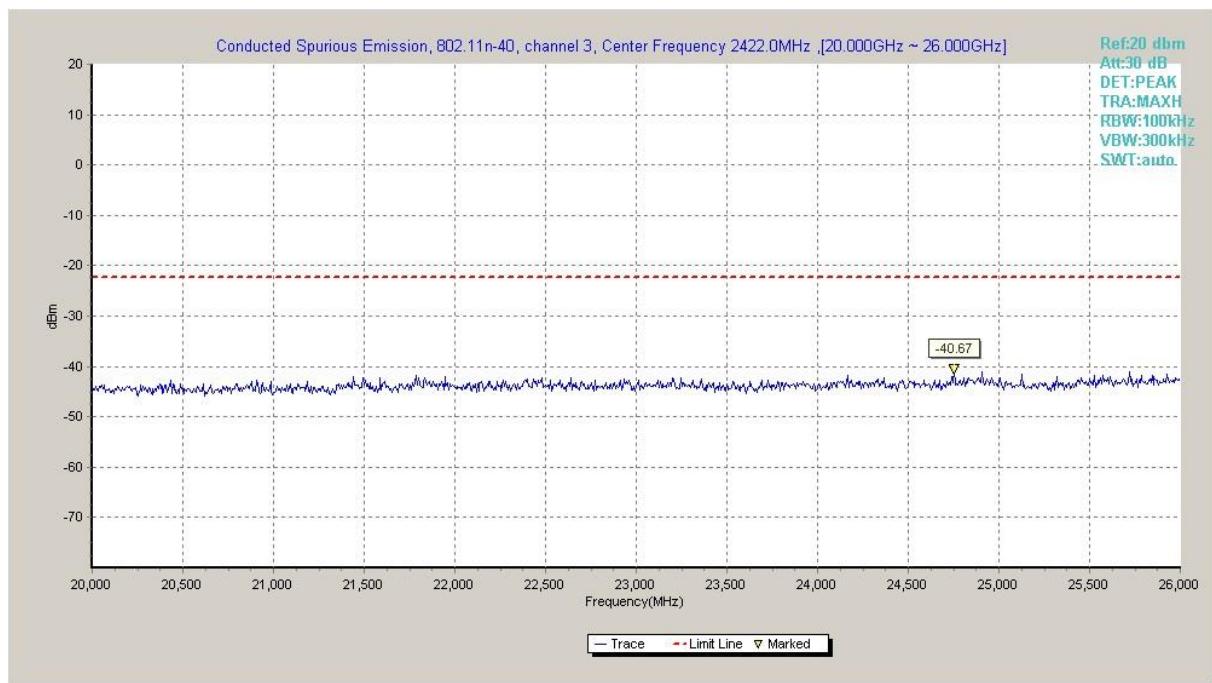
**Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)**



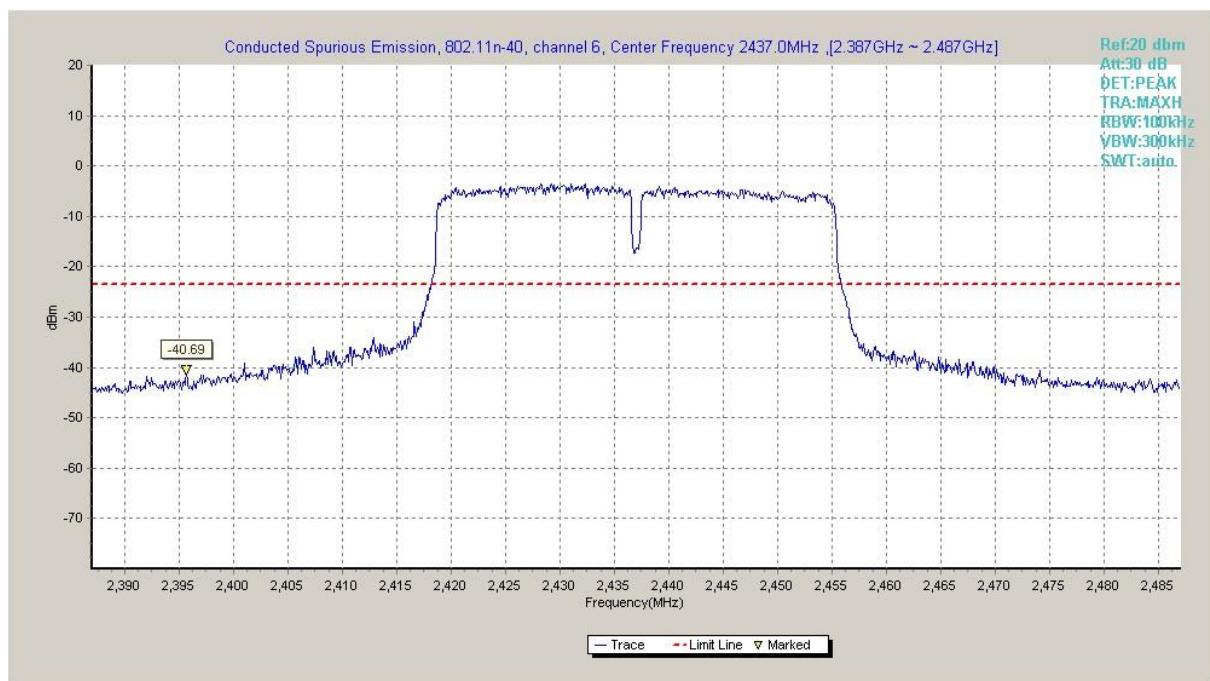
**Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)**



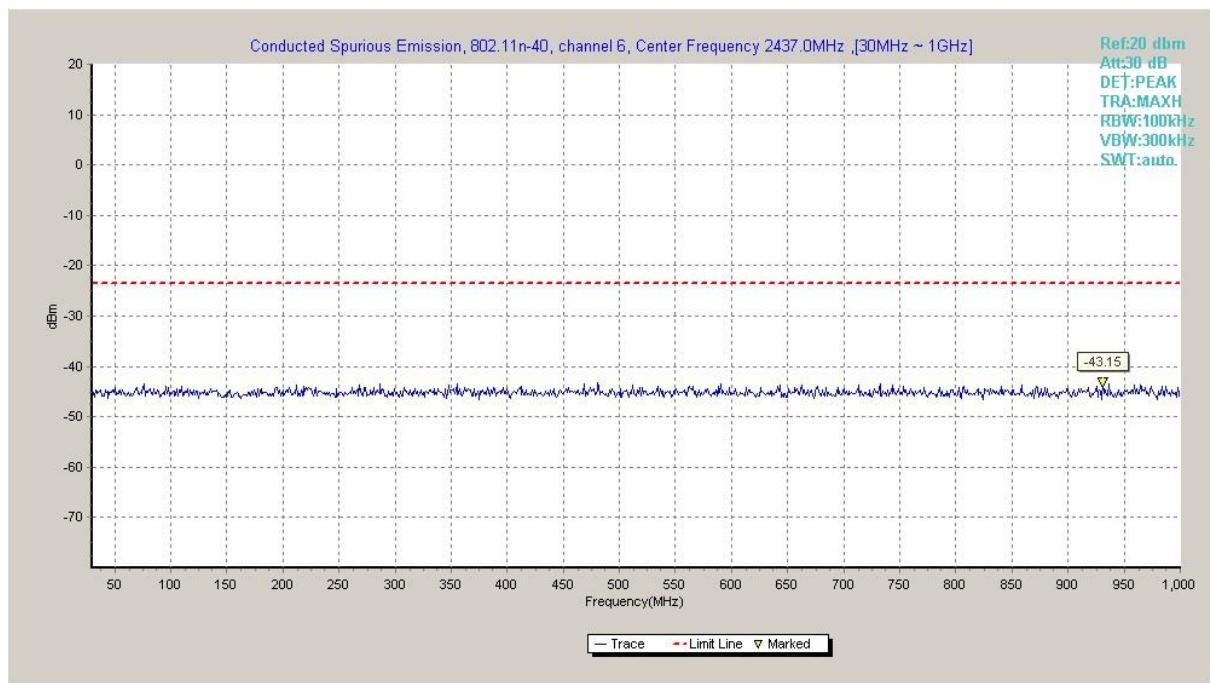
**Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)**



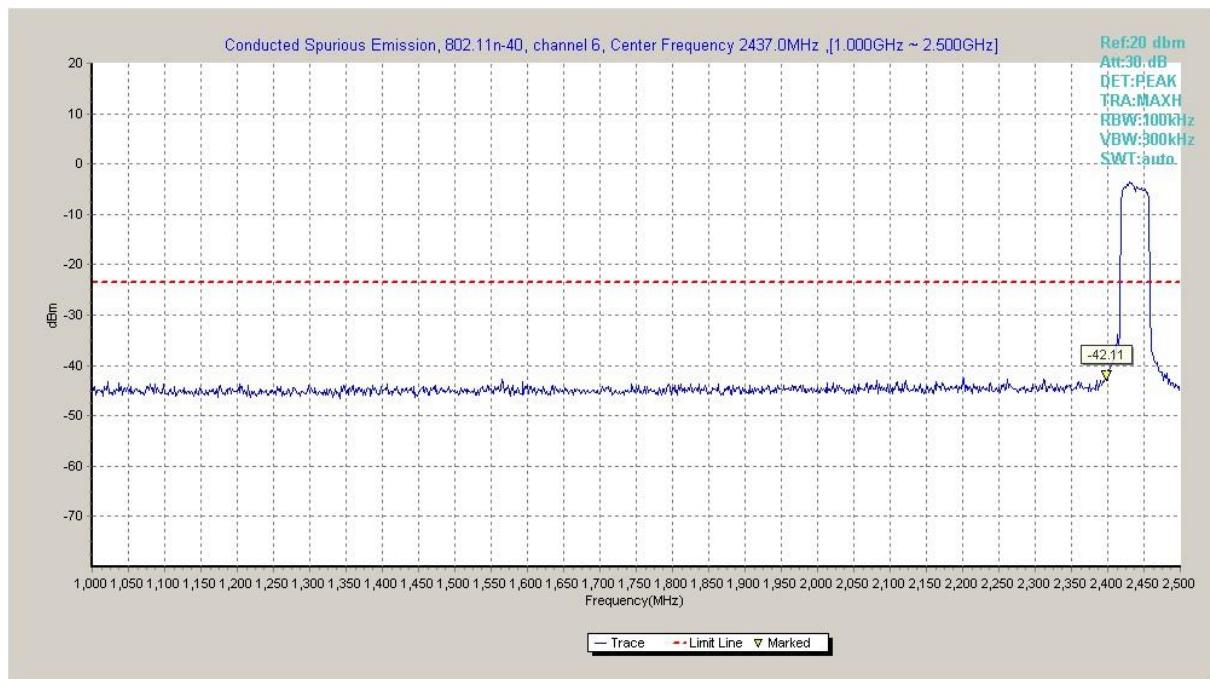
**Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)**



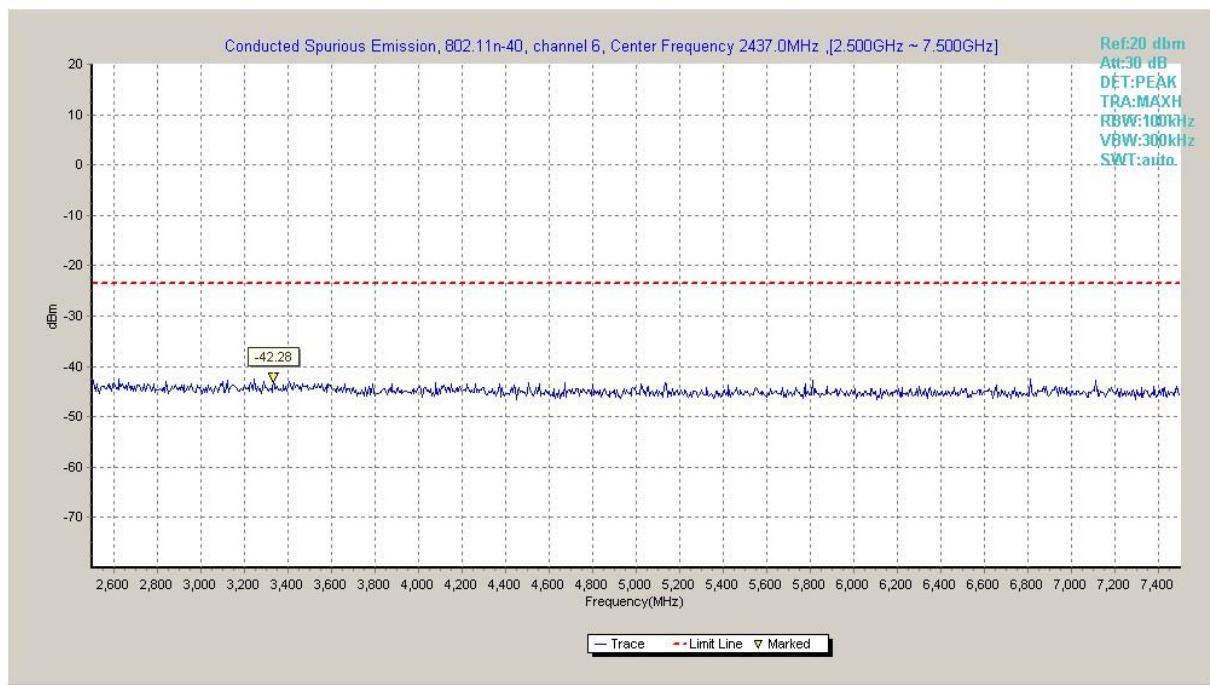
**Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)**



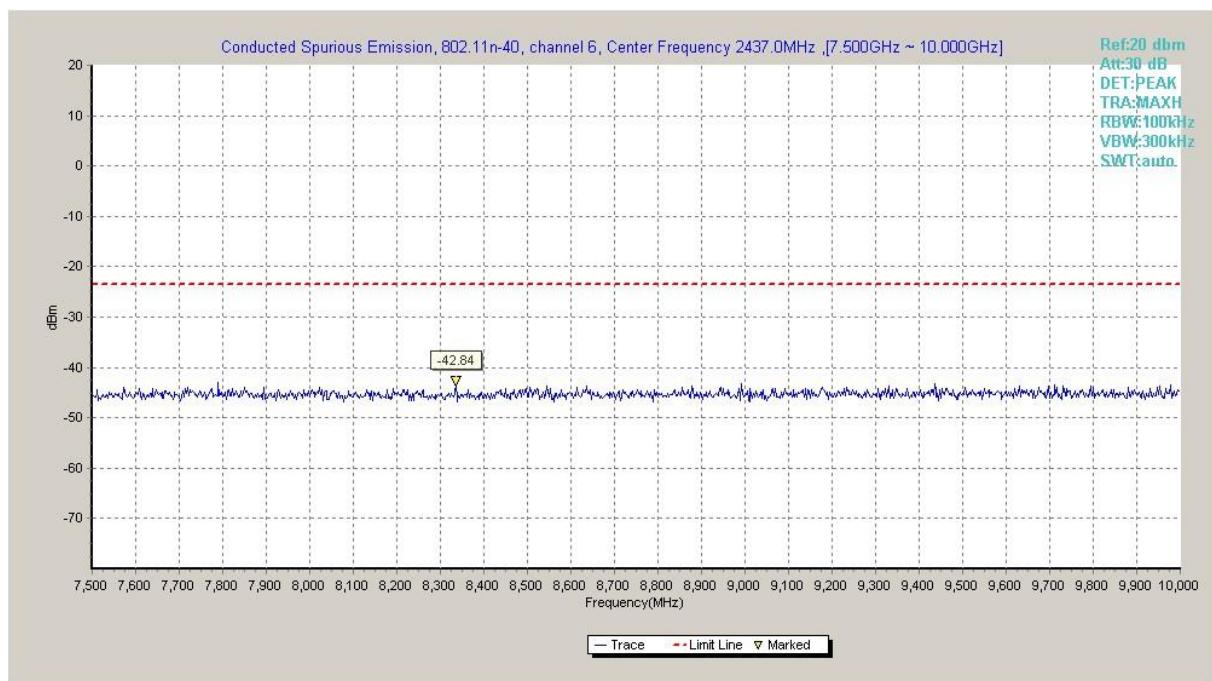
**Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



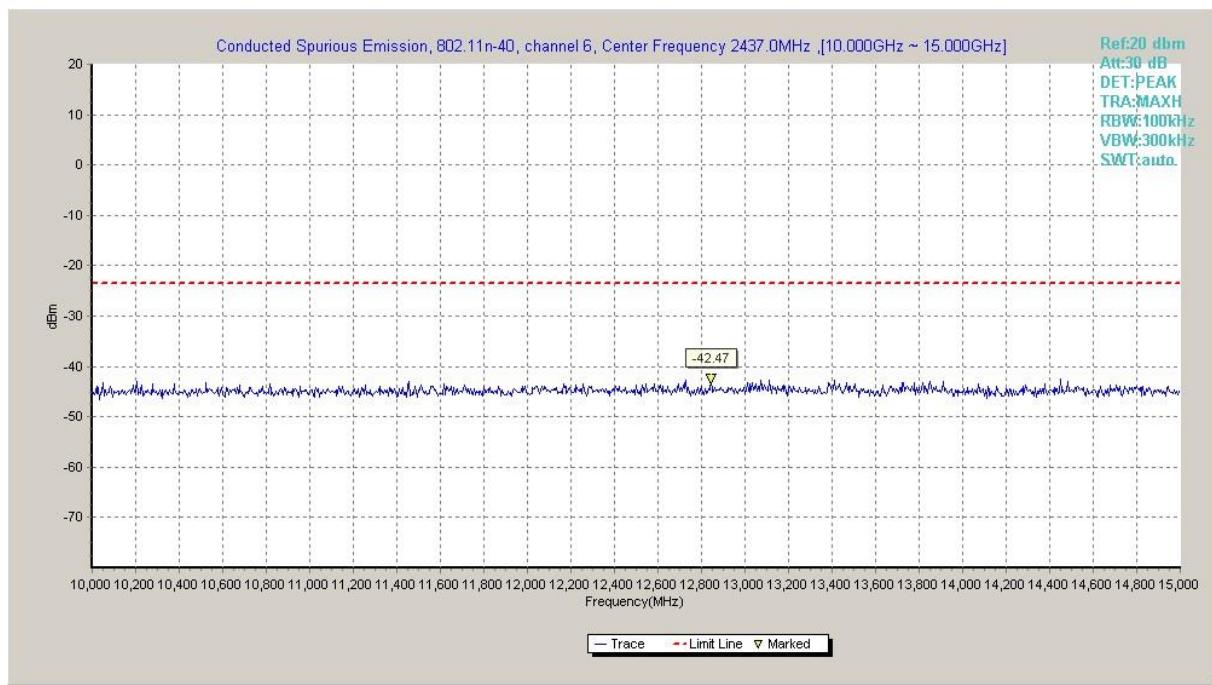
**Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



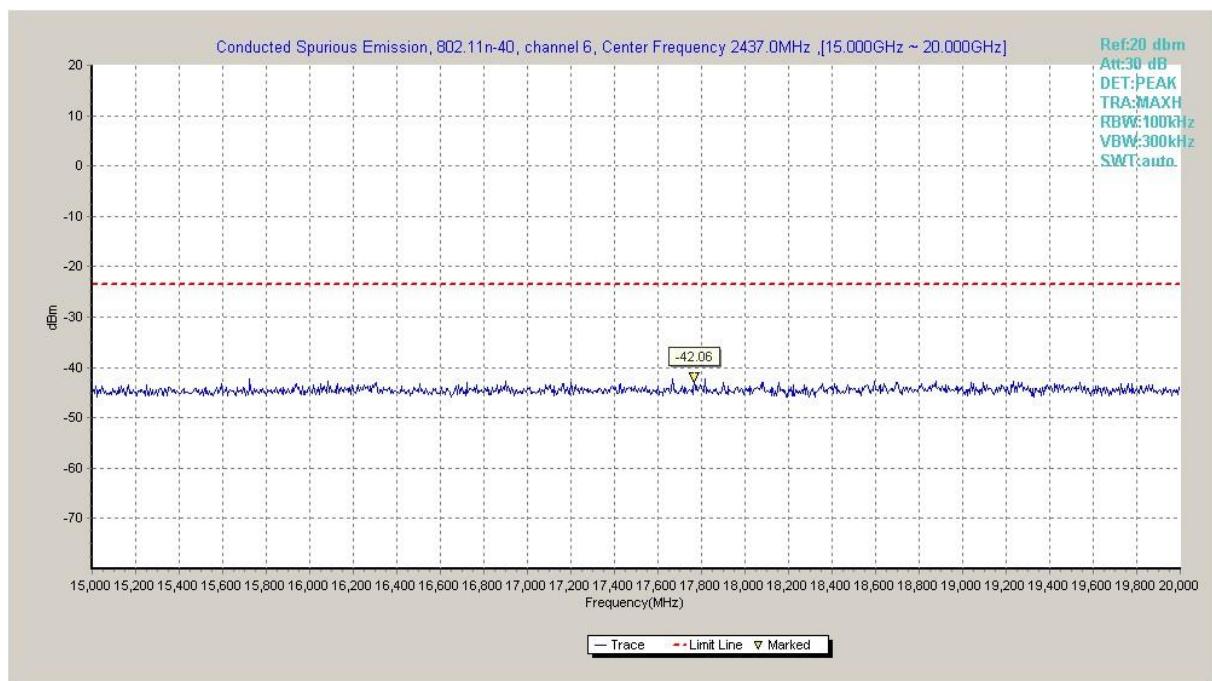
**Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)**



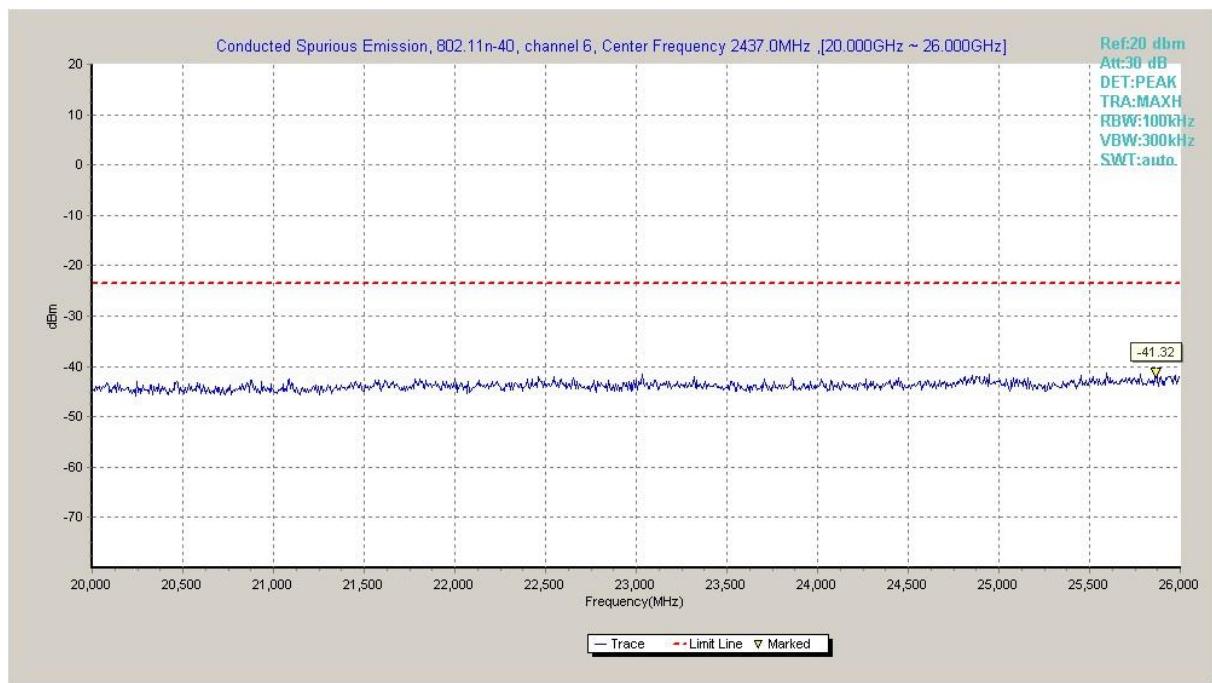
**Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**



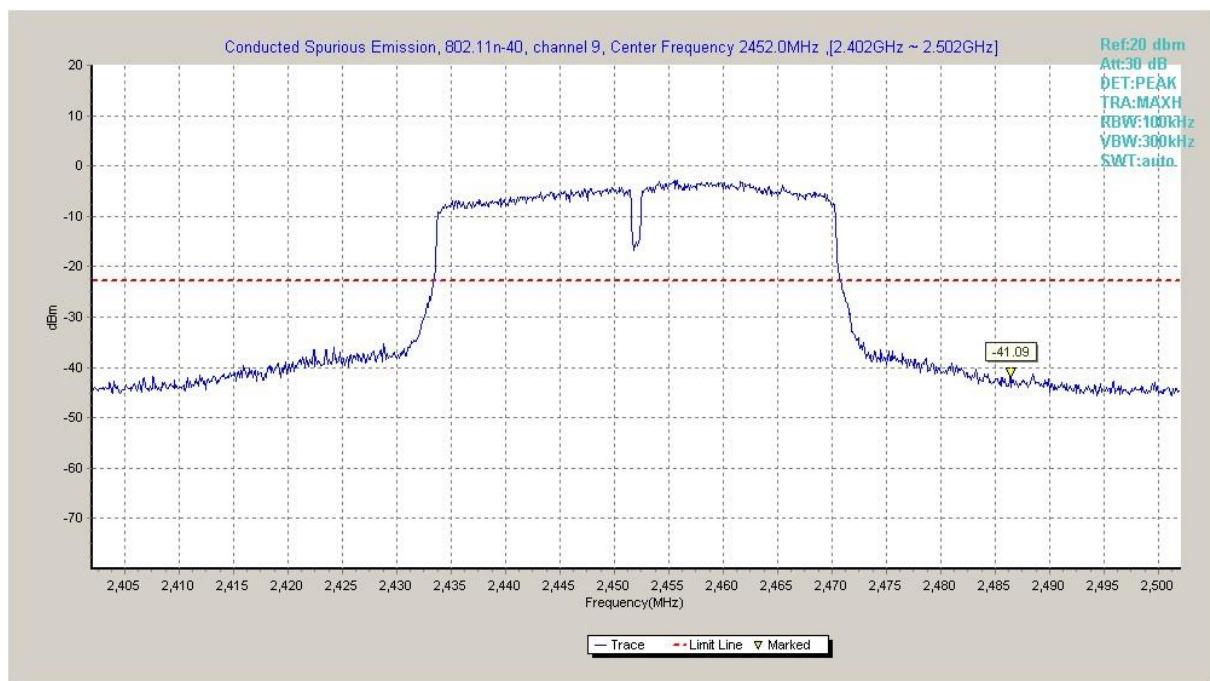
**Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)**



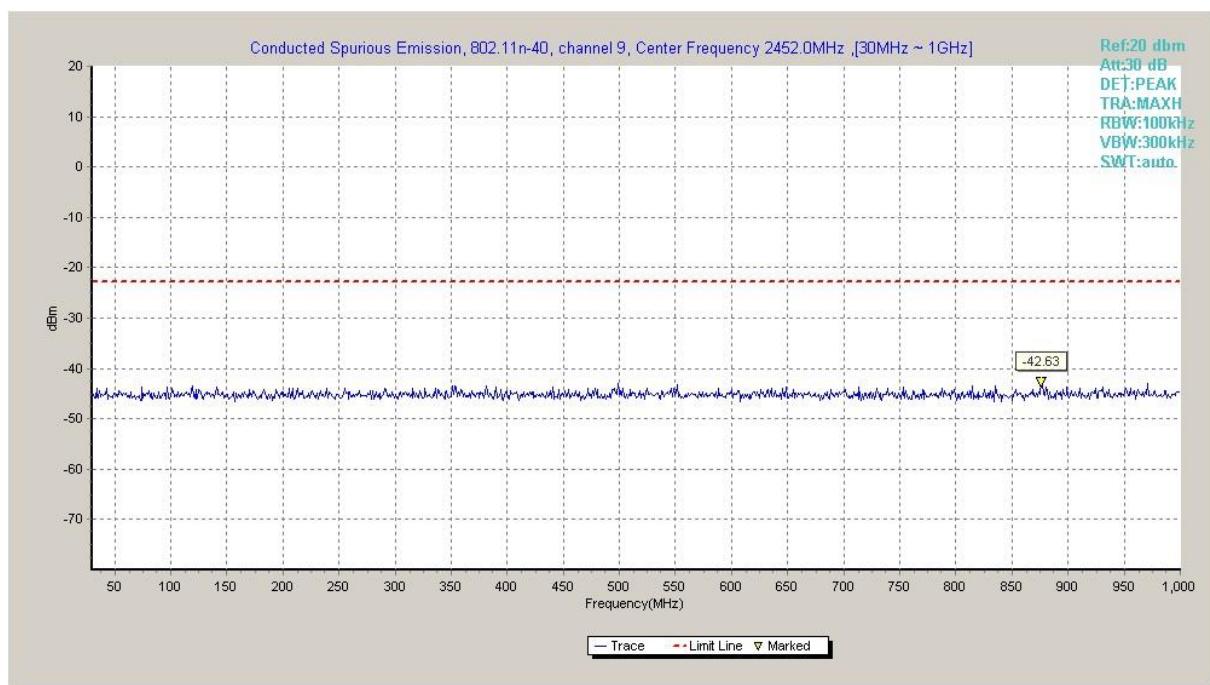
**Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)**



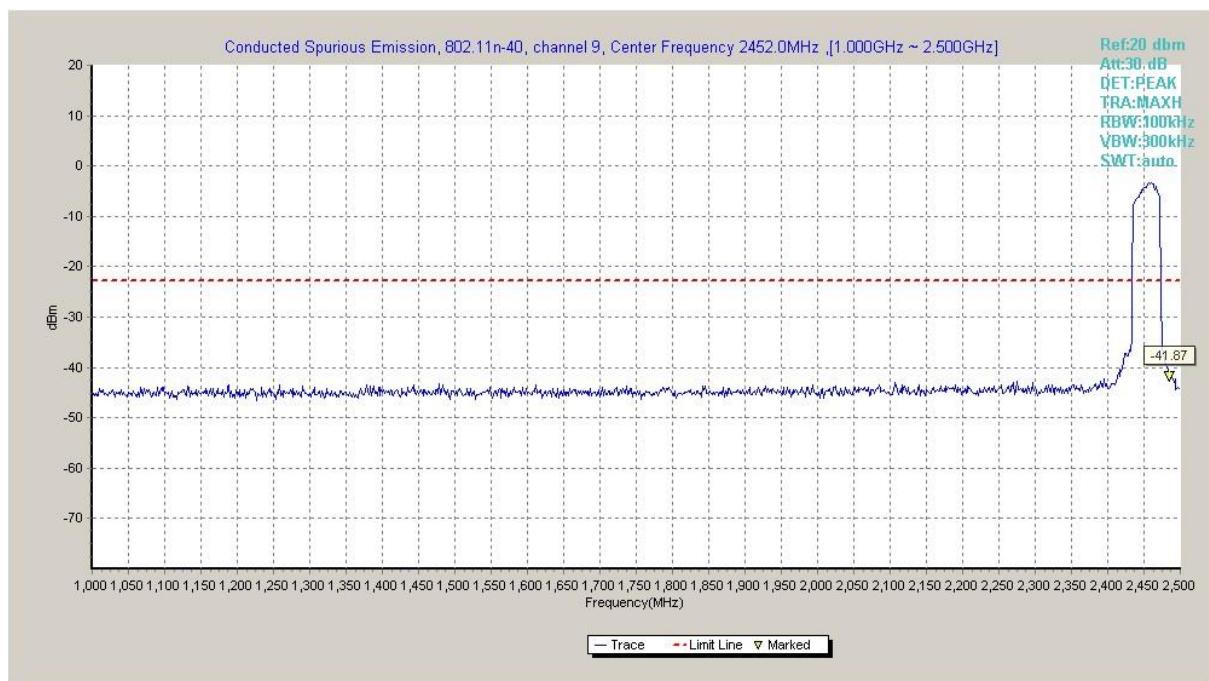
**Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)**



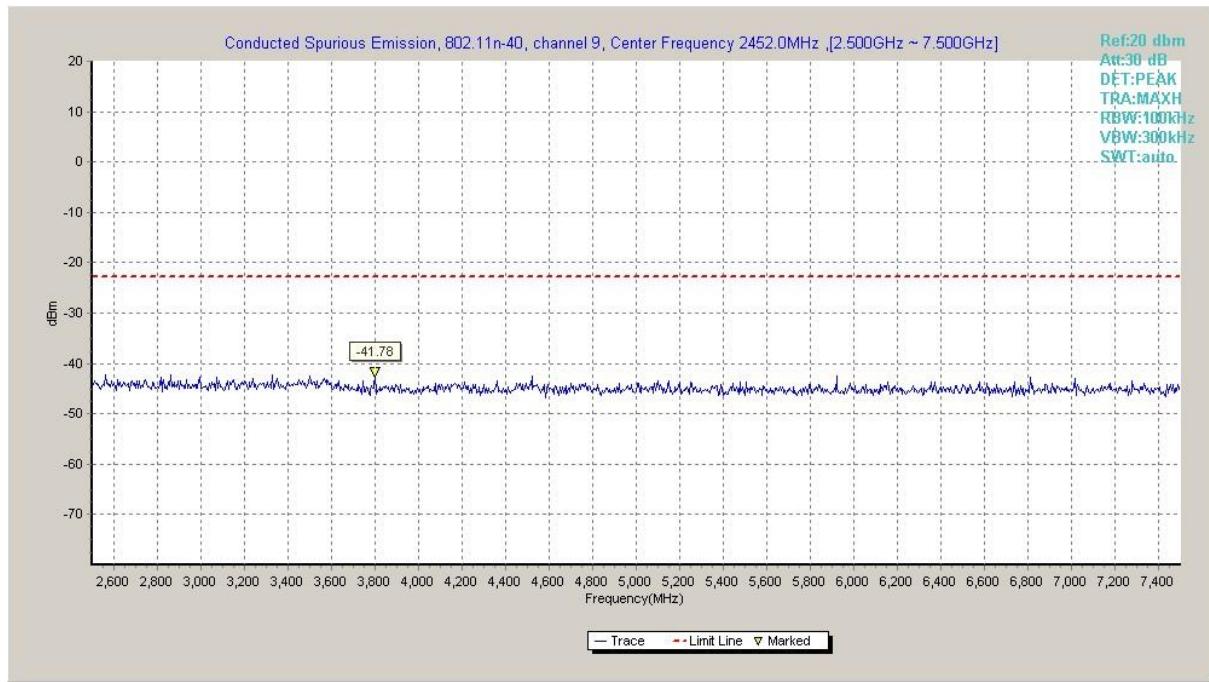
**Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)**



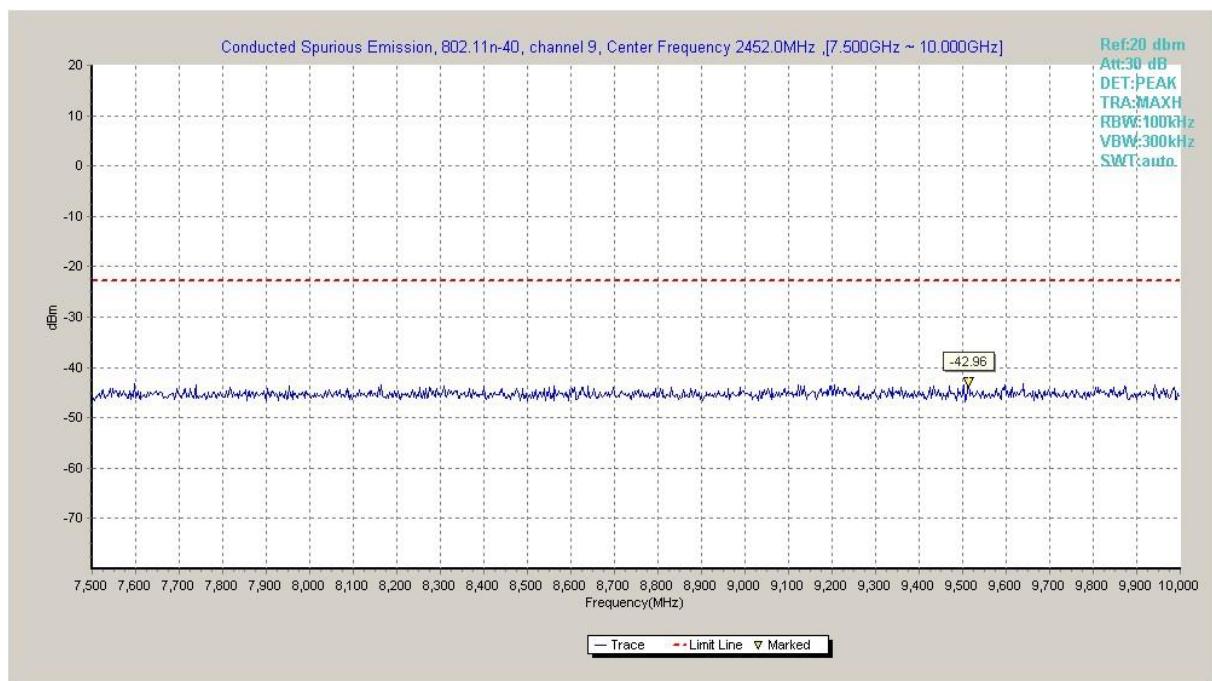
**Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



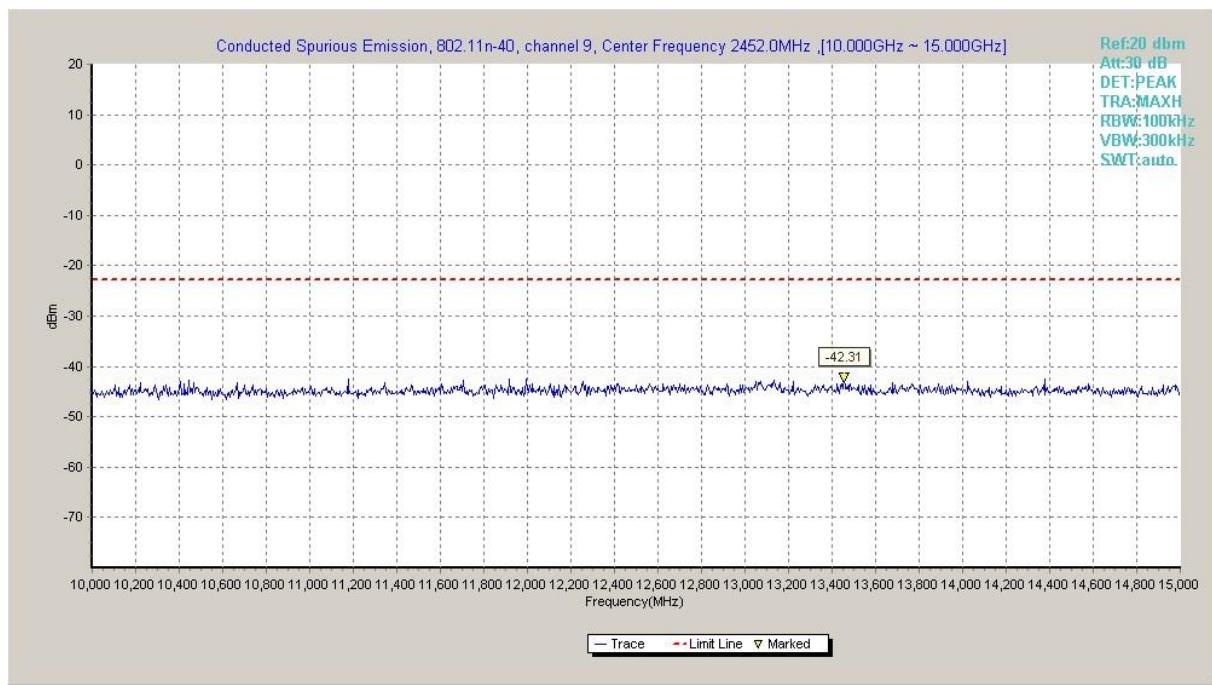
**Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)**



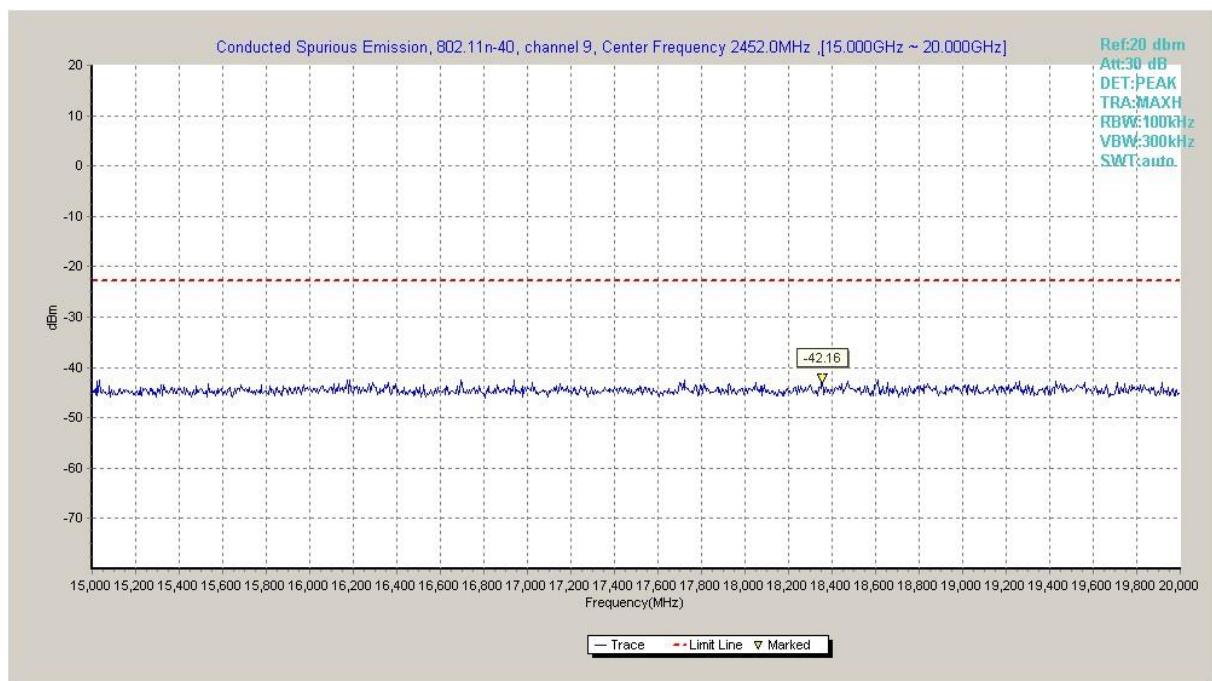
**Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)**



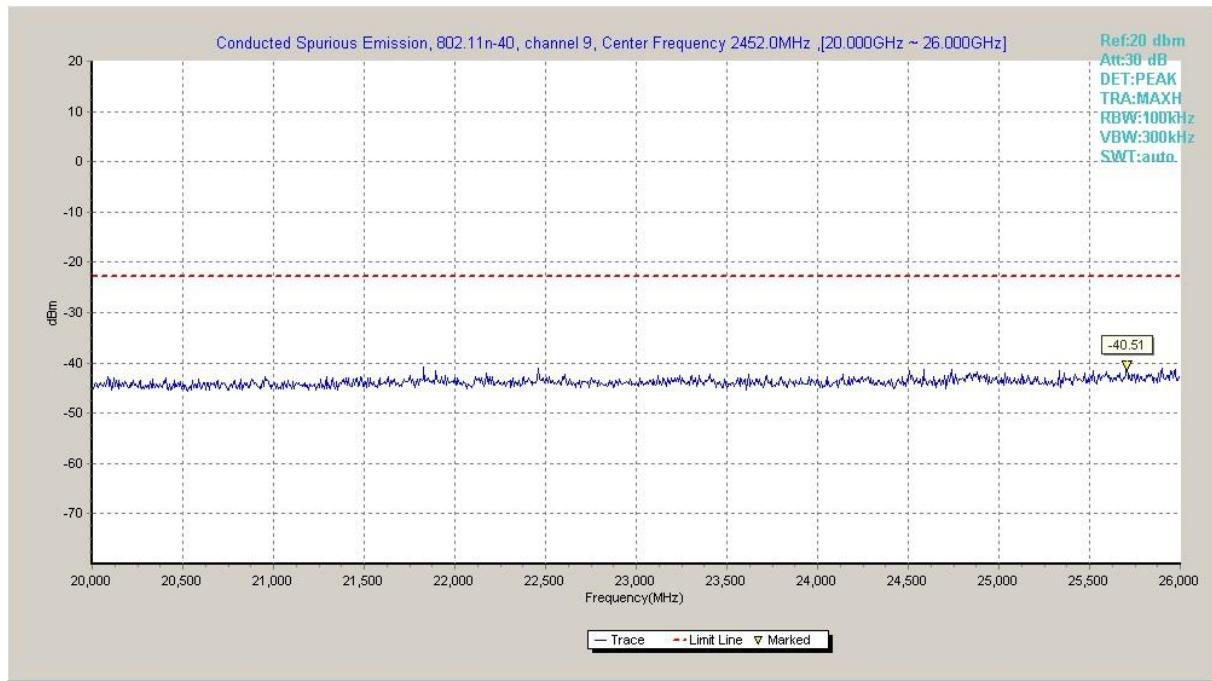
**Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)**



**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 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.13:**
**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)	Antenna Pol. (H/V)
2389.025	41.7	-38.8	27.7	52.800	H
7235.000	51.3	-29.9	36.3	44.900	H
7237.000	51.2	-29.9	36.3	44.800	V
7236.500	50.7	-29.9	36.3	44.300	H
7234.500	50.6	-29.9	36.3	44.200	H
7235.500	50.4	-29.9	36.3	44.000	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7310.000	51.3	-29.6	36.3	44.600	H
7312.000	50.7	-29.6	36.3	44.000	H
7309.500	50.6	-29.6	36.3	43.900	V
7311.500	50.5	-29.6	36.3	43.800	H
7310.500	49.9	-29.6	36.3	43.200	H
7309.000	49.9	-29.6	36.3	43.200	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2485.420	41.2	-38.9	27.7	52.400	H
7385.000	50.5	-29.2	36.3	43.400	H
7387.000	50.4	-29.2	36.3	43.300	V
7386.500	50.1	-29.2	36.3	43.000	H
7384.500	49.6	-29.2	36.3	42.500	H
7387.500	49.6	-29.2	36.3	42.500	H

**802.11b-Peak**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2389.105	53.2	-38.8	27.7	64.300	H
7235.500	55.0	-29.9	36.3	48.600	H
7236.000	54.6	-29.9	36.3	48.200	V
7237.000	54.6	-29.9	36.3	48.200	H
7235.000	54.6	-29.9	36.3	48.200	H
7236.500	54.6	-29.9	36.3	48.200	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7310.500	54.7	-29.6	36.3	48.000	H
7310.000	54.6	-29.6	36.3	47.900	H
7312.000	54.6	-29.6	36.3	47.900	V
7311.500	54.4	-29.6	36.3	47.700	H
7311.000	54.1	-29.6	36.3	47.400	H
7309.500	54.0	-29.6	36.3	47.300	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2485.445	53.7	-38.9	27.7	64.900	H
7386.000	53.9	-29.2	36.3	46.800	H
7385.000	53.9	-29.2	36.3	46.800	V
7385.500	53.8	-29.2	36.3	46.700	H
7387.000	53.7	-29.2	36.3	46.600	H
7386.500	53.7	-29.2	36.3	46.600	H

**802.11g - Average**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2389.280	42.6	-38.8	27.7	53.700	H
7235.000	41.5	-29.9	36.3	35.100	H
7238.000	41.4	-29.9	36.3	35.000	V
7236.000	41.3	-29.9	36.3	34.900	H
7240.000	41.2	-29.9	36.3	34.800	H
7233.500	41.1	-29.9	36.3	34.700	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7310.000	43.9	-29.6	36.3	37.200	H
7309.000	43.8	-29.6	36.3	37.100	H
7313.000	43.5	-29.6	36.3	36.800	V
7308.500	43.4	-29.6	36.3	36.700	H
7311.000	43.4	-29.6	36.3	36.700	H
7307.500	43.4	-29.6	36.3	36.700	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2483.560	45.6	-38.9	27.7	56.800	H
17855.500	37.6	-18.5	45.6	10.500	H
17865.000	37.6	-18.5	45.6	10.500	V
17847.000	37.6	-18.5	45.6	10.500	H
17916.000	37.5	-17.7	45.6	9.600	H
17744.000	37.4	-18.5	45.6	10.300	H

**802.11g - Peak**

Ch1

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2389.275	55.2	-38.8	27.7	66.300	H
7236.500	53.8	-29.9	36.3	47.400	H
7245.000	53.7	-29.6	36.3	47.000	V
7236.000	53.1	-29.9	36.3	46.700	H
7230.000	52.8	-29.9	36.3	46.400	H
7240.000	52.6	-29.9	36.3	46.200	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7312.5	57.2	-29.6	36.3	50.5	H
7315.0	55.6	-29.6	36.3	48.9	H
7307.5	54.8	-29.6	36.3	48.1	V
7314.5	54.7	-29.6	36.3	48.0	H
7311.5	54.6	-29.6	36.3	47.9	H
7311.0	54.3	-29.6	36.3	47.6	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2483.580	59.5	-38.9	27.7	70.700	H
17820.500	49.8	-18.5	45.6	22.700	H
17534.000	49.4	-19.2	45.6	23.000	V
17856.000	49.3	-18.5	45.6	22.200	H
17383.000	49.2	-19.5	41.5	27.200	H
17733.000	49.2	-18.9	45.6	22.500	H

**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)	Antenna Pol. (H/V)
2389.160	48.6	-38.8	27.7	59.700	H
7232.000	44.6	-29.9	36.3	38.200	H
7234.500	44.2	-29.9	36.3	37.800	V
7234.000	44.2	-29.9	36.3	37.800	H
7236.500	44.2	-29.9	36.3	37.800	H
7233.500	44.1	-29.9	36.3	37.700	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7311.500	44.4	-29.6	36.3	37.700	H
7314.000	44.3	-29.6	36.3	37.600	H
7309.500	44.2	-29.6	36.3	37.500	V
7315.000	44.1	-29.6	36.3	37.400	H
7312.000	44.0	-29.6	36.3	37.300	H
7313.000	43.9	-29.6	36.3	37.200	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2484.635	47.5	-38.9	27.7	58.700	H
7388.500	41.3	-29.2	36.3	34.200	H
7385.000	41.3	-29.2	36.3	34.200	V
7384.500	41.1	-29.2	36.3	34.000	H
7383.500	41.0	-29.2	36.3	33.900	H
7389.500	41.0	-28.9	36.3	33.600	H

**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)	Antenna Pol. (H/V)
2389.525	67.0	-38.8	27.7	78.100	H
7242.500	59.0	-29.9	36.3	52.600	H
7237.000	58.0	-29.9	36.3	51.600	V
7232.500	57.6	-29.9	36.3	51.200	H
7233.000	56.9	-29.9	36.3	50.500	H
7242.000	56.8	-29.9	36.3	50.400	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
7309.500	57.2	-29.6	36.3	50.500	H
7312.500	56.5	-29.6	36.3	49.800	H
7315.000	56.4	-29.6	36.3	49.700	V
7306.000	56.3	-29.6	36.3	49.600	H
7309.000	56.1	-29.6	36.3	49.400	H
7314.500	55.8	-29.6	36.3	49.100	H

Ch11

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2484.115	60.4	-38.9	27.7	71.600	H
7387.000	55.1	-29.2	36.3	48.000	H
7392.000	54.5	-28.9	36.3	47.100	V
7392.500	54.0	-28.9	36.3	46.600	H
7390.000	53.9	-28.9	36.3	46.500	H
7394.500	53.7	-28.9	36.3	46.300	H

**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)	Antenna Pol. (H/V)
2389.145	52.1	-38.8	27.7	63.200	H
17871.000	37.7	-18.5	45.6	10.600	H
17442.000	37.6	-19.2	41.5	15.300	V
17864.500	37.6	-18.5	45.6	10.500	H
17863.500	37.5	-18.5	45.6	10.400	H
17881.000	37.4	-18.5	45.6	10.300	H

Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
17851.500	37.6	-18.5	45.6	10.500	H
17876.500	37.6	-18.5	45.6	10.500	H
17780.000	37.5	-18.5	45.6	10.400	V
17903.000	37.4	-18.5	45.6	10.300	H
17867.000	37.4	-18.5	45.6	10.300	H
17796.500	37.4	-18.5	45.6	10.300	H

Ch9

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2483.885	44.6	-38.9	27.7	55.800	H
17872.500	37.6	-18.5	45.6	10.500	H
17451.500	37.4	-19.2	41.5	15.100	V
17867.000	37.3	-18.5	45.6	10.200	H
17385.500	37.3	-19.5	41.5	15.300	H
17768.500	37.3	-18.5	45.6	10.200	H

**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)	Antenna Pol. (H/V)
2388.995	66.9	-38.8	27.7	78.000	H
17040.500	49.8	-19.9	41.5	28.200	H
17942.000	49.4	-17.7	45.6	21.500	V
17853.500	49.4	-18.5	45.6	22.300	H
17913.500	49.4	-18.5	45.6	22.300	H
17344.000	49.1	-19.5	41.5	27.100	H

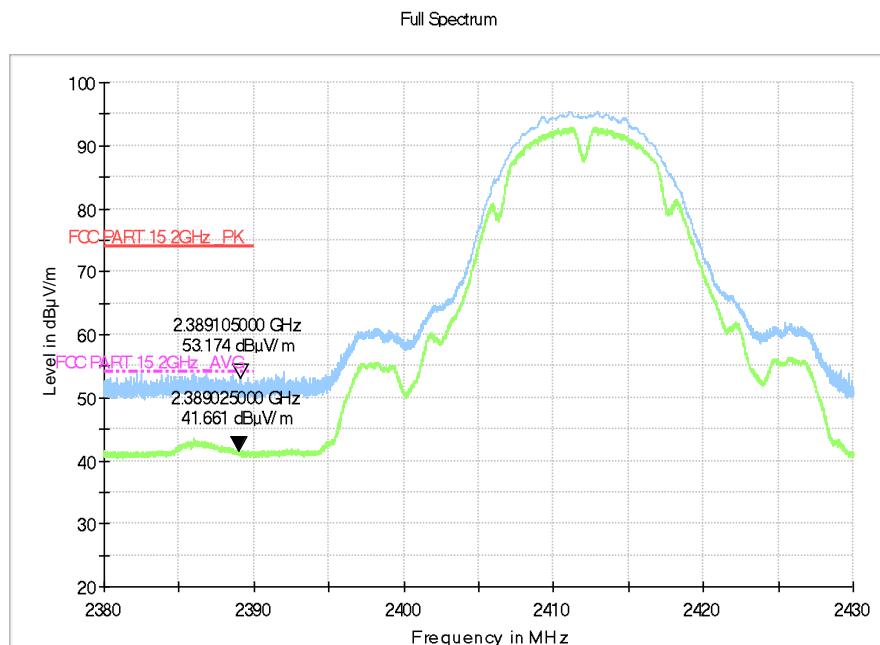
Ch6

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
17207.000	49.7	-19.8	41.5	28.000	H
17469.500	49.6	-19.2	41.5	27.300	H
17716.500	49.4	-18.9	45.6	22.700	V
17843.000	49.4	-18.5	45.6	22.300	H
17866.500	49.3	-18.5	45.6	22.200	H
17913.500	49.2	-18.5	45.6	22.100	H

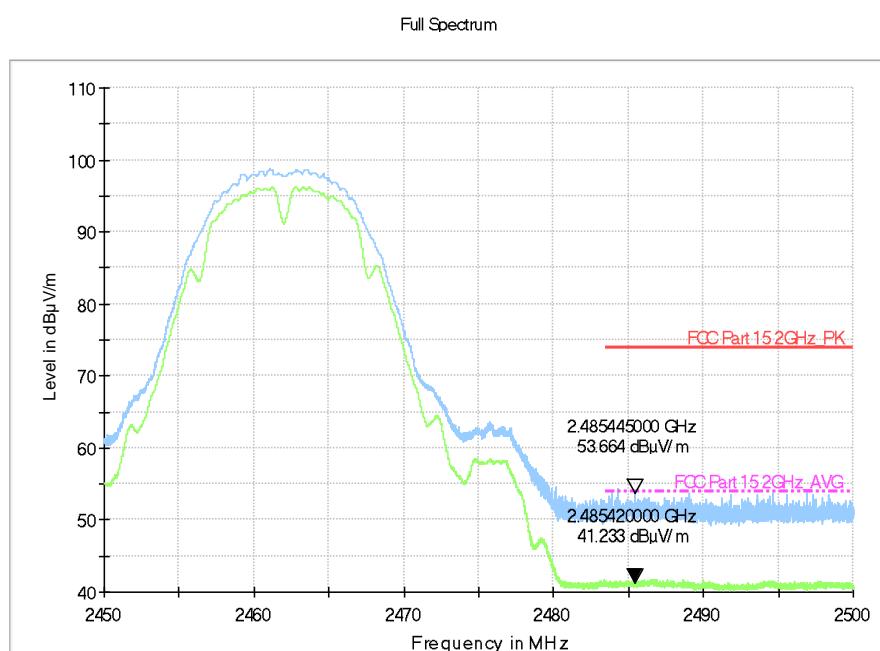
Ch9

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Antenna Pol. (H/V)
2483.995	58.6	-38.9	27.7	69.800	H
17889.000	49.7	-18.5	45.6	22.600	H
17883.500	49.6	-18.5	45.6	22.500	V
17827.000	49.3	-18.5	45.6	22.200	H
17870.500	49.3	-18.5	45.6	22.200	H
17736.500	49.1	-18.9	45.6	22.400	H

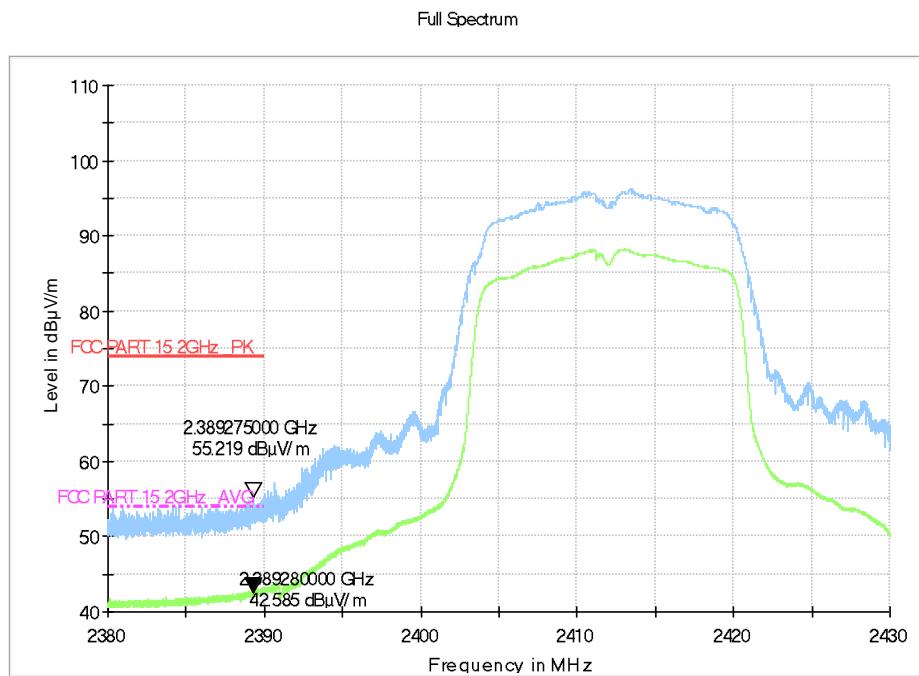
Test graphs as below:



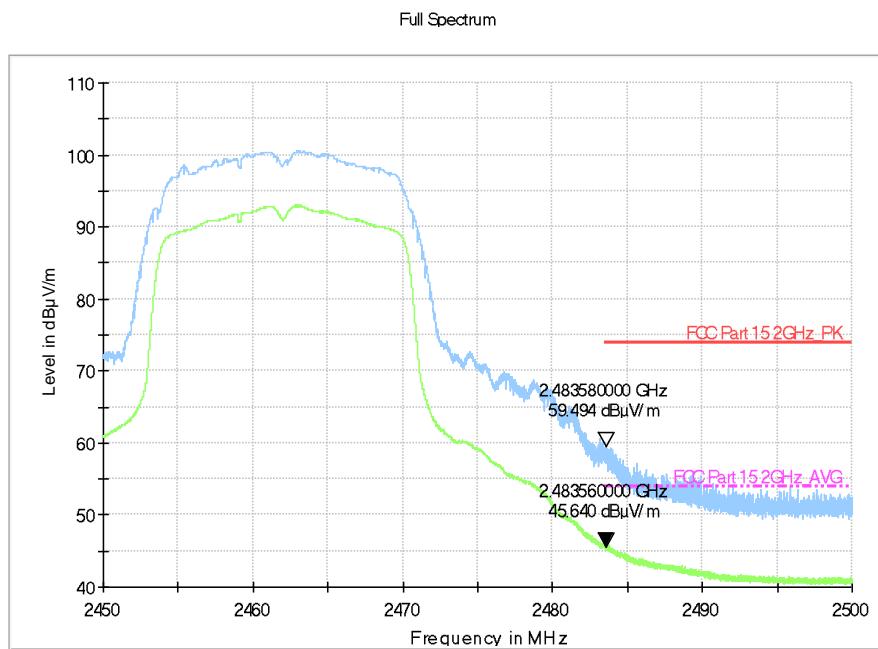
**Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz**



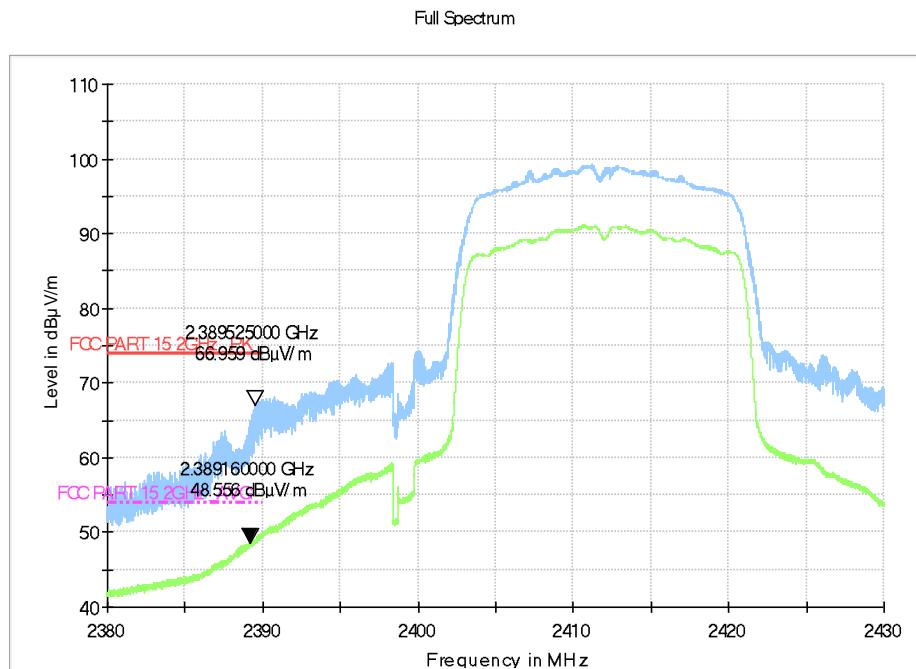
**Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**



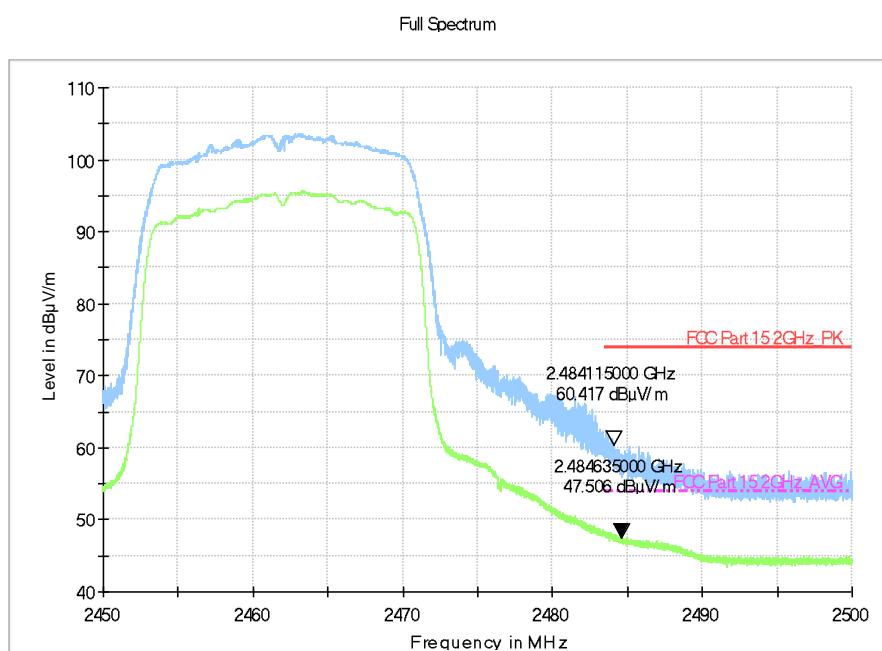
**Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz**



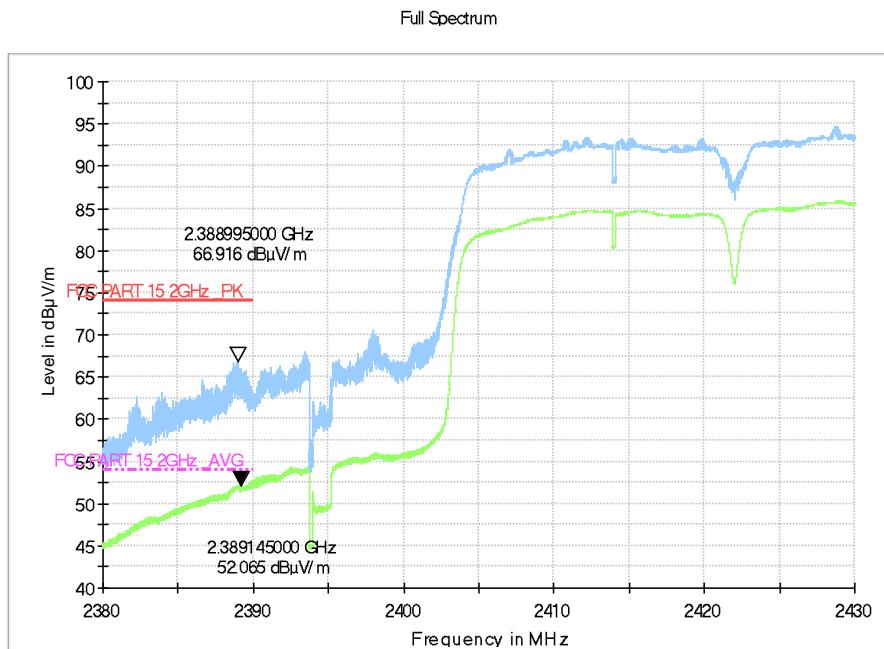
**Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**



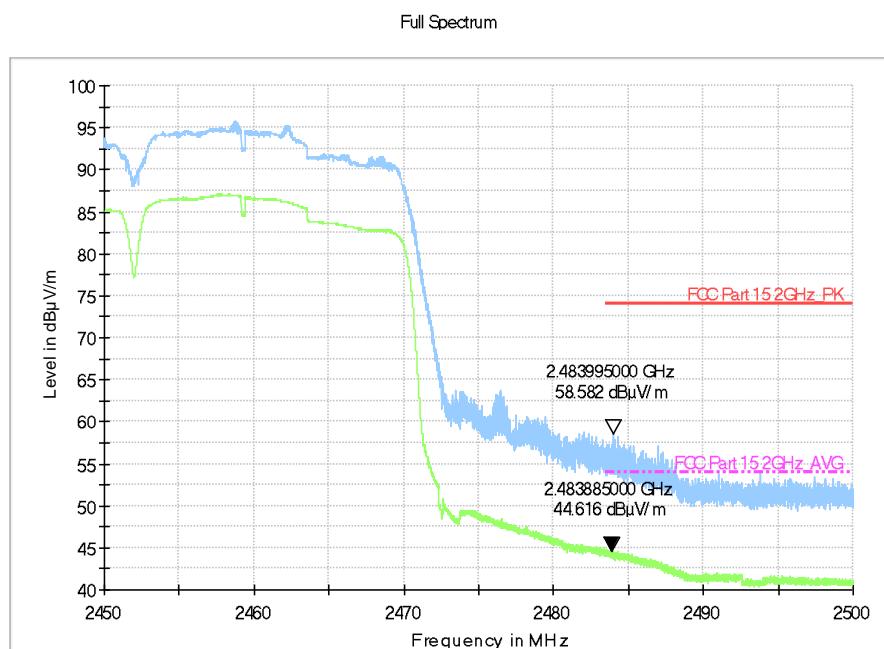
**Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz**



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



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



**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:**

<b>Voltage (V)</b>	<b>Frequency (Hz)</b>
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.7.4	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.

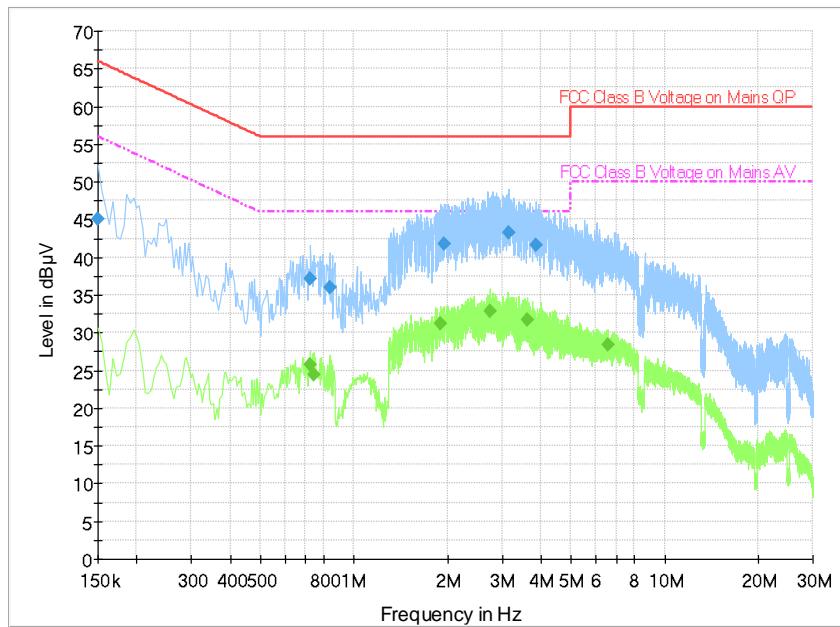
WLAN (Average Limit)

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.7.4	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.13**

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

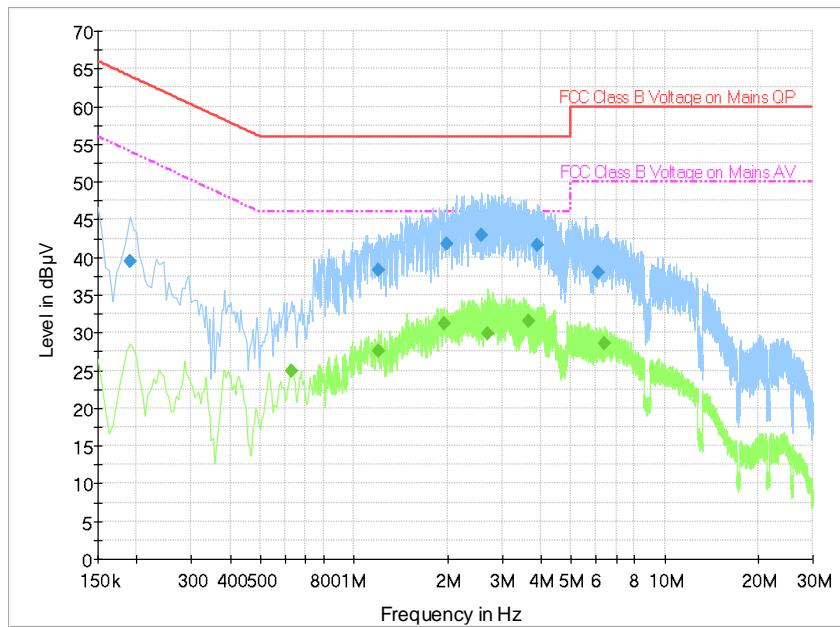
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.150000	45.0	2000.0	9.000	L1	20.2	21.0	66.0
0.726000	37.1	2000.0	9.000	L1	19.8	18.9	56.0
0.834000	36.0	2000.0	9.000	L1	19.7	20.0	56.0
1.945500	41.8	2000.0	9.000	L1	19.7	14.2	56.0
3.147000	43.3	2000.0	9.000	L1	19.7	12.7	56.0
3.858000	41.6	2000.0	9.000	L1	19.6	14.4	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)
0.726000	25.8	2000.0	9.000	L1	19.8	20.2	46.0
0.744000	24.5	2000.0	9.000	L1	19.8	21.5	46.0
1.896000	31.2	2000.0	9.000	L1	19.7	14.8	46.0
2.746500	32.9	2000.0	9.000	L1	19.7	13.1	46.0
3.606000	31.7	2000.0	9.000	L1	19.6	14.3	46.0
6.567000	28.3	2000.0	9.000	L1	19.8	21.7	50.0

**Idle: Set.13**

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

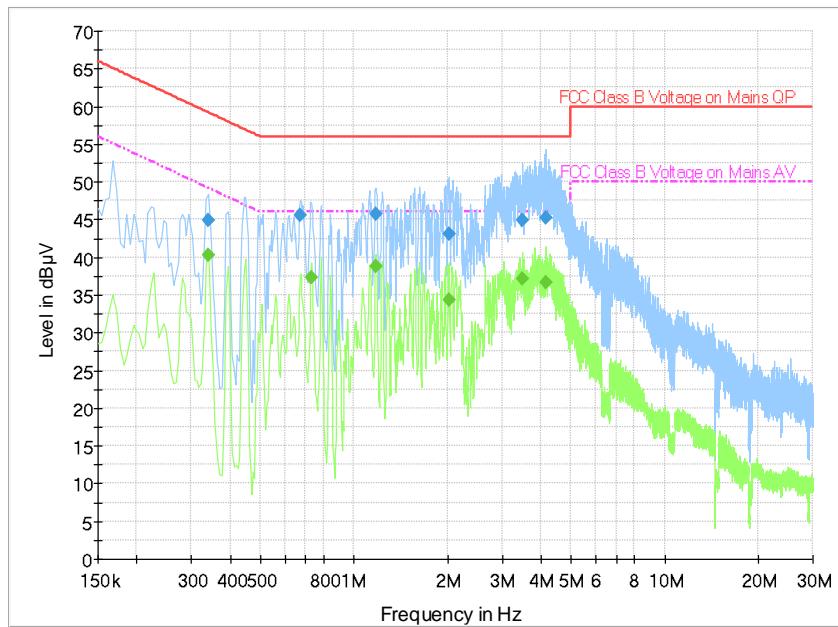
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.190500	39.5	2000.0	9.000	L1	19.8	24.5	64.0
1.203000	38.4	2000.0	9.000	L1	19.6	17.6	56.0
1.995000	41.7	2000.0	9.000	L1	19.7	14.3	56.0
2.571000	42.9	2000.0	9.000	L1	19.7	13.1	56.0
3.889500	41.7	2000.0	9.000	L1	19.6	14.3	56.0
6.130500	38.1	2000.0	9.000	L1	19.7	21.9	60.0

## Final Result 2

Frequency (MHz)	Average (dB $\mu$ V)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.631500	25.0	2000.0	9.000	N	19.9	21.0	46.0
1.203000	27.5	2000.0	9.000	L1	19.6	18.5	46.0
1.945500	31.2	2000.0	9.000	L1	19.7	14.8	46.0
2.683500	29.9	2000.0	9.000	L1	19.7	16.1	46.0
3.637500	31.5	2000.0	9.000	L1	19.6	14.5	46.0
6.414000	28.6	2000.0	9.000	L1	19.8	21.4	50.0

**Traffic: Set.14**

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

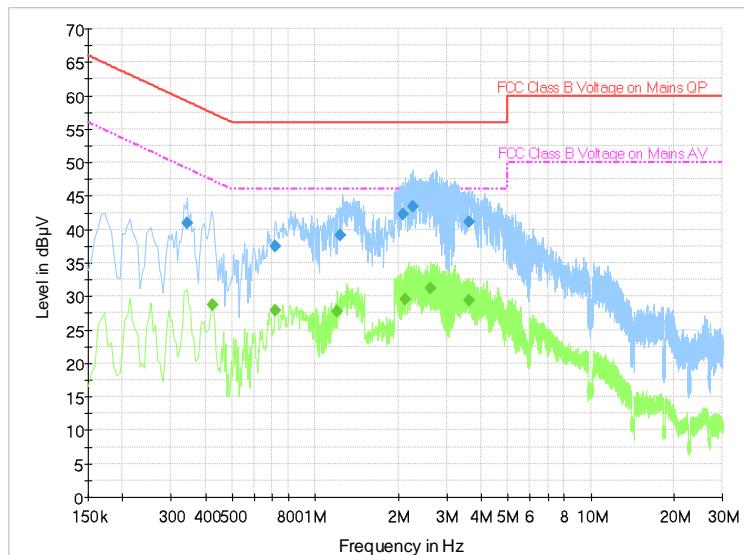
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.339000	44.9	2000.0	9.000	L1	19.8	14.3	59.2
0.672000	45.6	2000.0	9.000	L1	19.8	10.4	56.0
1.176000	45.8	2000.0	9.000	L1	19.6	10.2	56.0
2.017500	43.2	2000.0	9.000	L1	19.7	12.8	56.0
3.480000	44.9	2000.0	9.000	L1	19.7	11.1	56.0
4.164000	45.2	2000.0	9.000	L1	19.6	10.8	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.339000	40.3	2000.0	9.000	L1	19.8	9.0	49.2
0.730500	37.4	2000.0	9.000	L1	19.8	8.6	46.0
1.176000	38.8	2000.0	9.000	L1	19.6	7.2	46.0
2.017500	34.4	2000.0	9.000	L1	19.7	11.6	46.0
3.480000	37.1	2000.0	9.000	L1	19.7	8.9	46.0
4.164000	36.7	2000.0	9.000	L1	19.6	9.3	46.0

**Traffic: Set.15**

**Fig.A.7.4 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)
0.343500	40.9	2000.0	9.000	L1	19.8	18.2	59.1
0.717000	37.5	2000.0	9.000	L1	19.8	18.5	56.0
1.234500	39.1	2000.0	9.000	L1	19.6	16.9	56.0
2.085000	42.2	2000.0	9.000	L1	19.7	13.8	56.0
2.269500	43.4	2000.0	9.000	L1	19.7	12.6	56.0
3.615000	41.1	2000.0	9.000	L1	19.6	14.9	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)
0.424500	28.8	2000.0	9.000	L1	19.9	18.6	47.4
0.717000	28.0	2000.0	9.000	L1	19.8	18.0	46.0
1.203000	27.8	2000.0	9.000	L1	19.6	18.2	46.0
2.116500	29.5	2000.0	9.000	L1	19.7	16.5	46.0
2.616000	31.2	2000.0	9.000	L1	19.7	14.8	46.0
3.628500	29.3	2000.0	9.000	L1	19.6	16.7	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\*\*\***