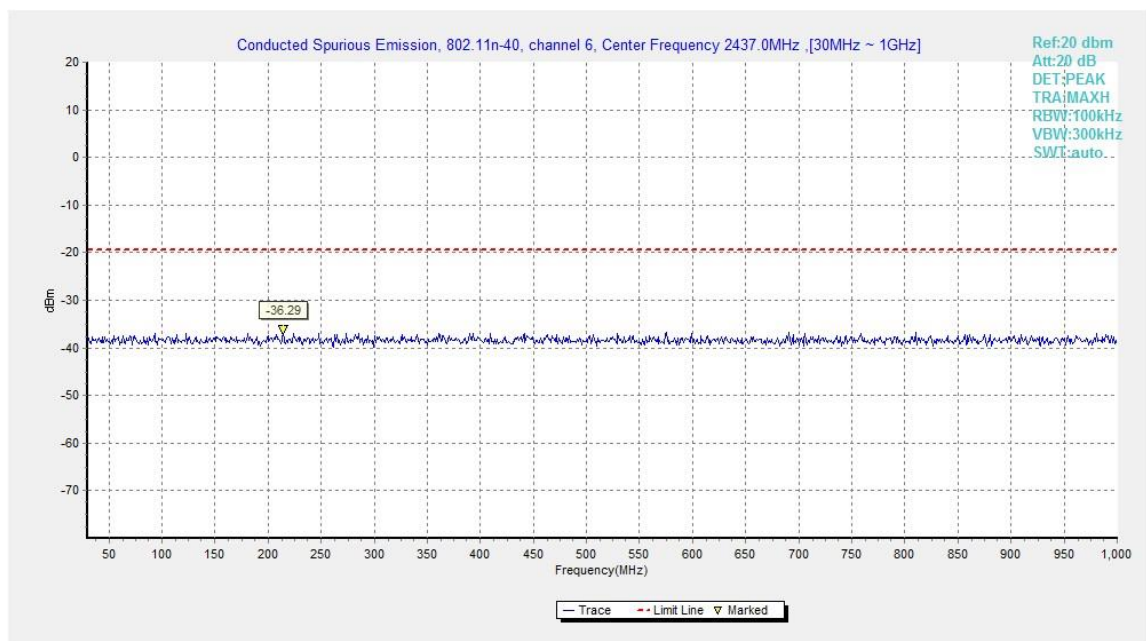
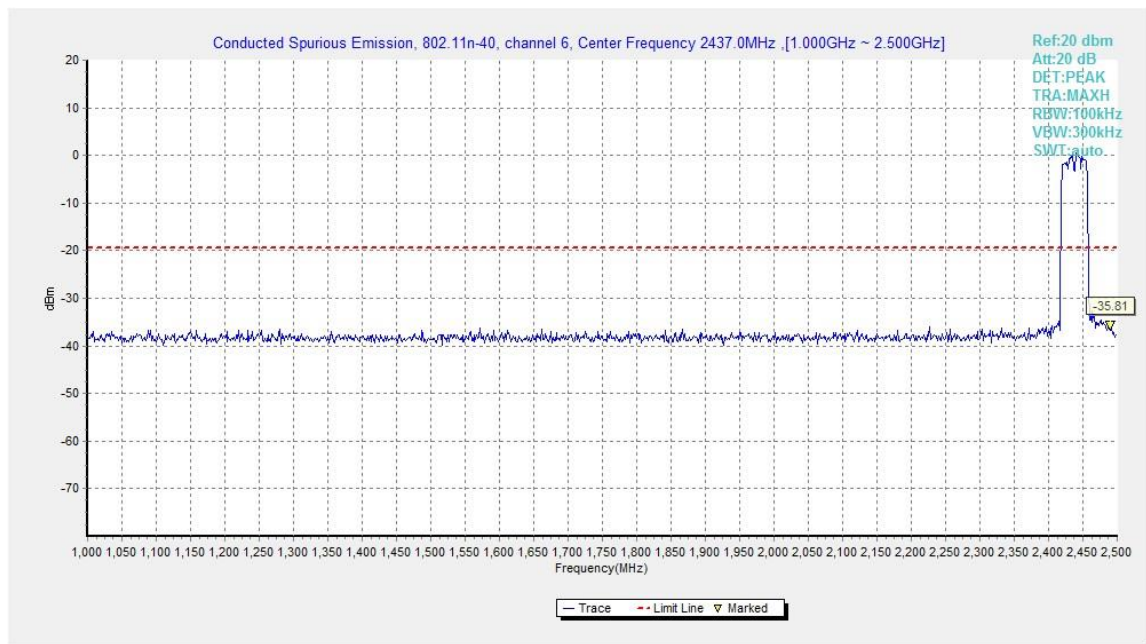


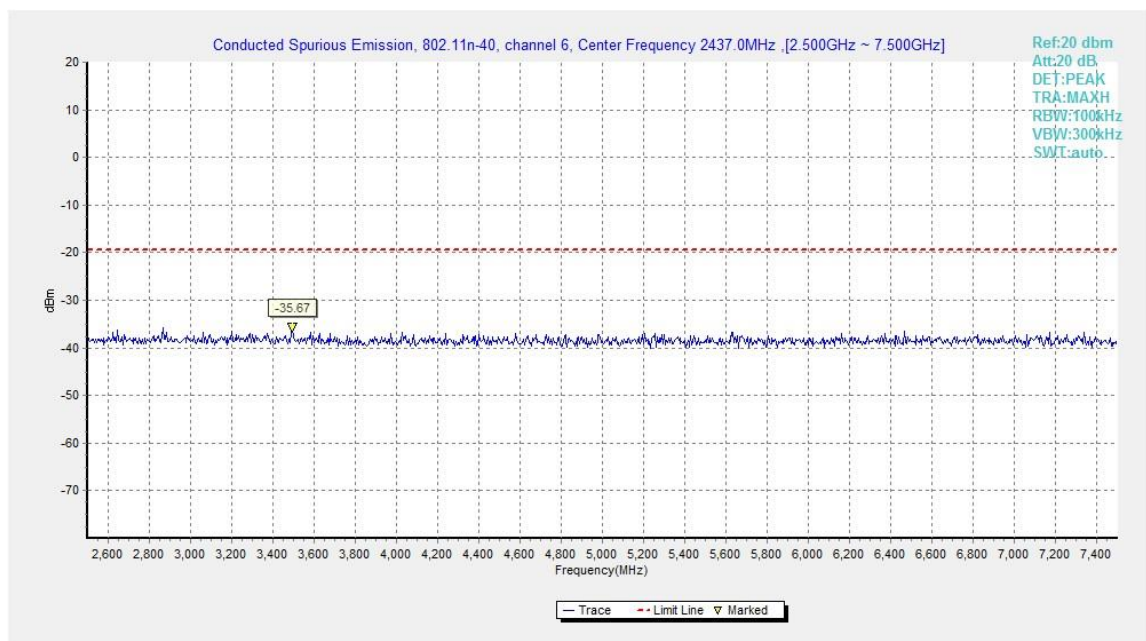
**Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)**



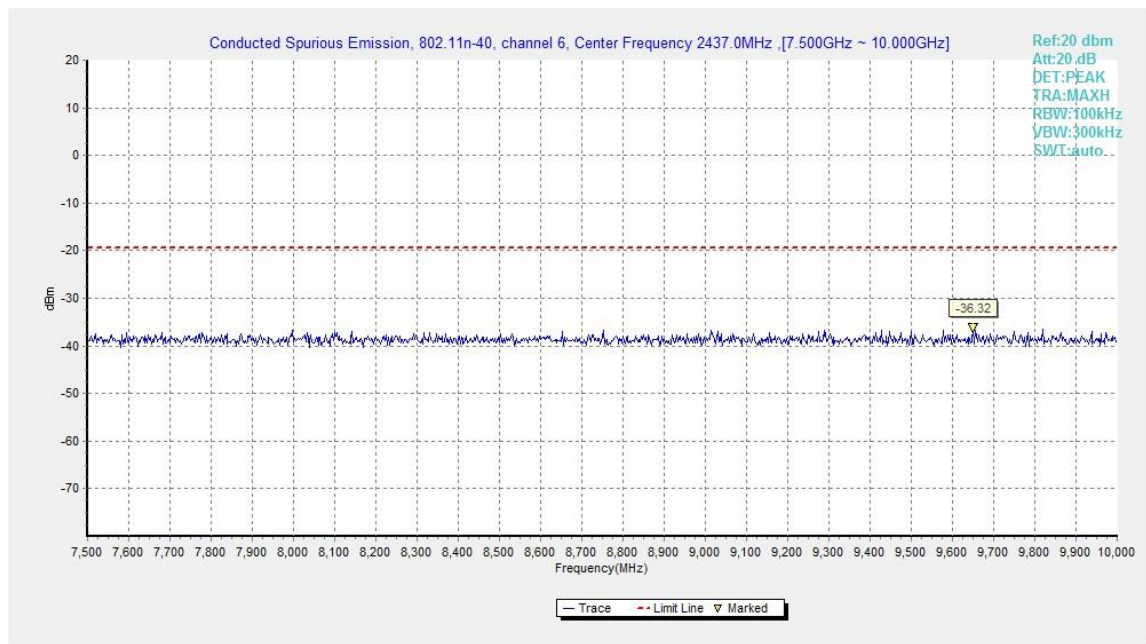
**Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



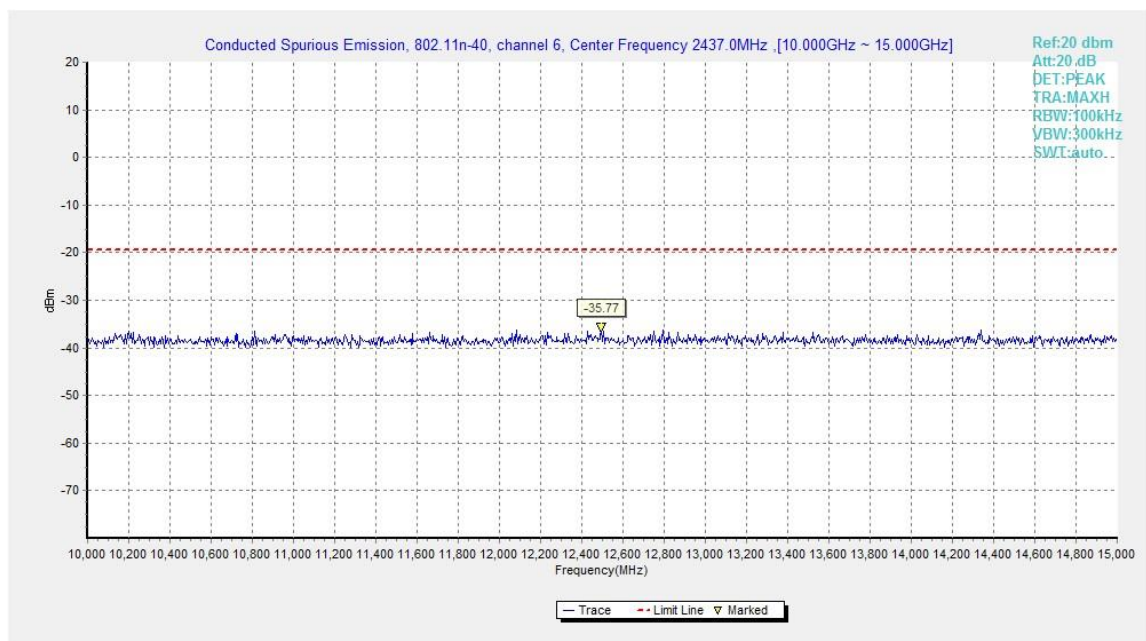
**Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



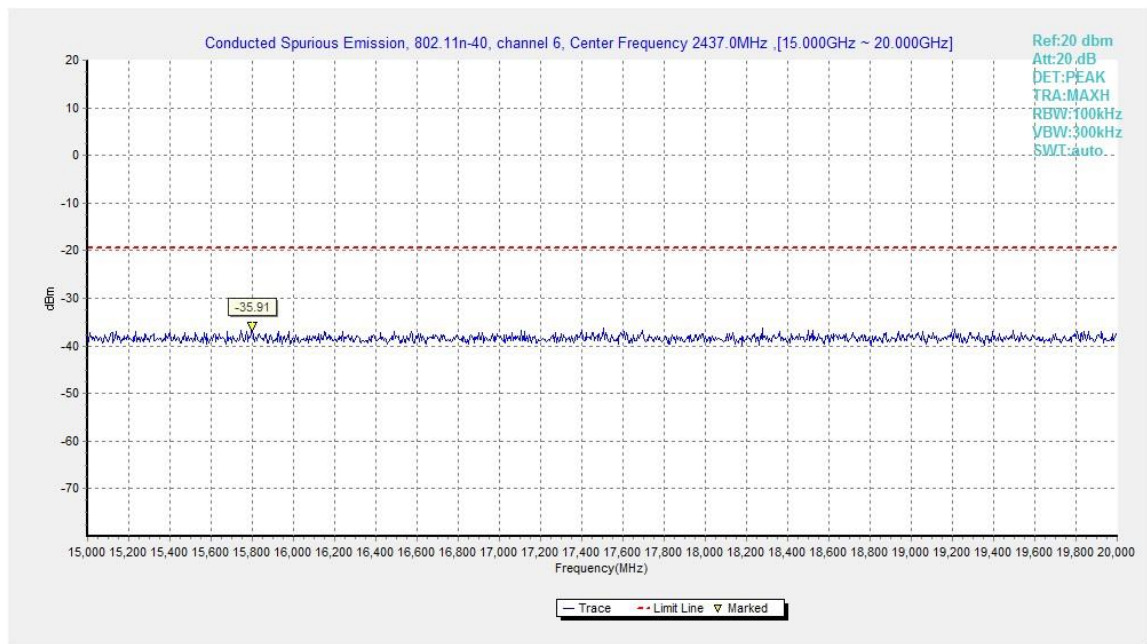
**Fig.A.6.1.84 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 2.5 GHz-7.5 GHz)**



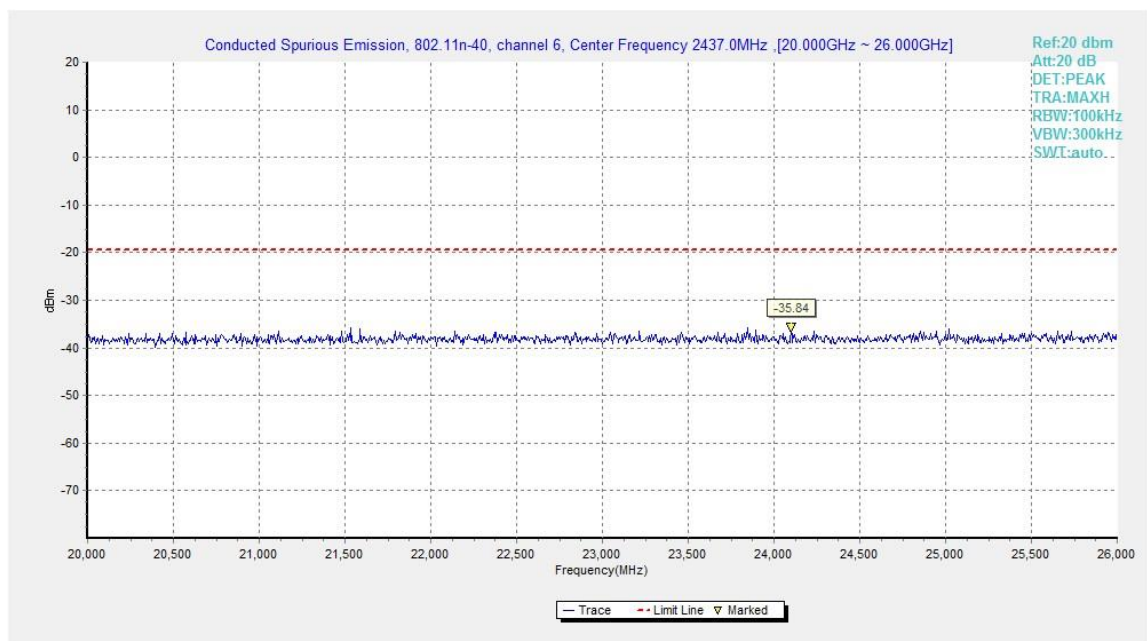
**Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**



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

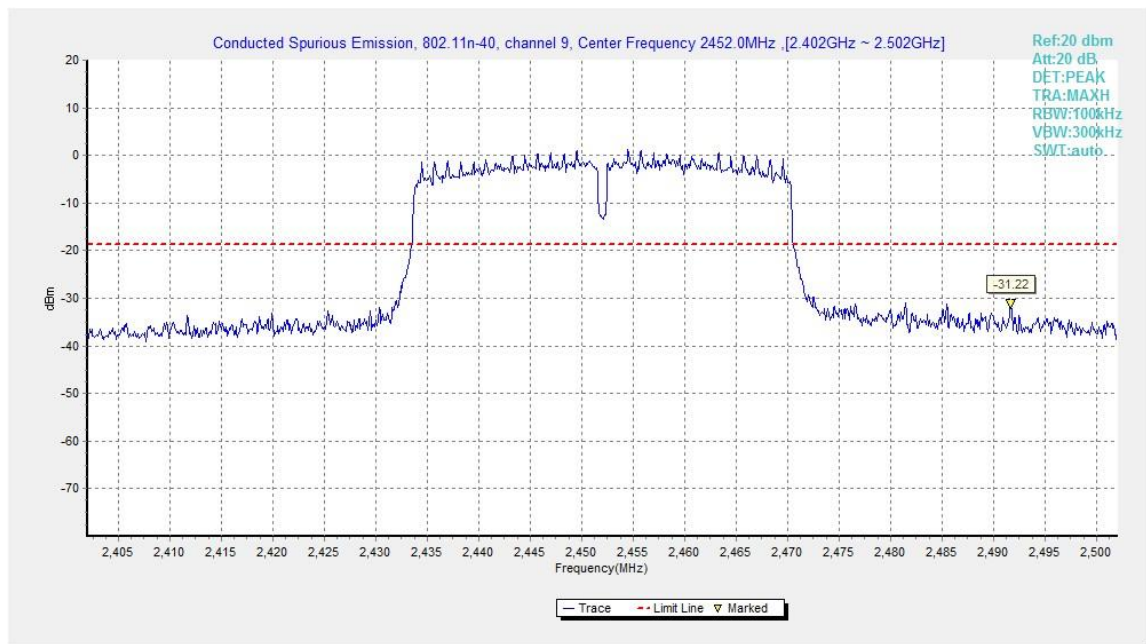


**Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)**

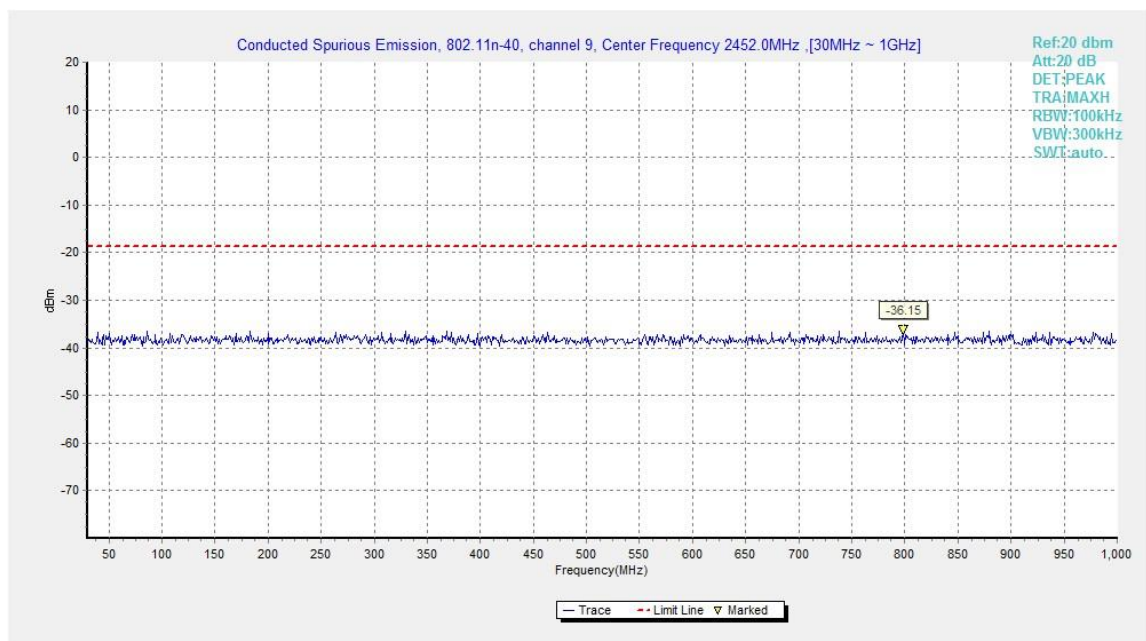


**Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)**

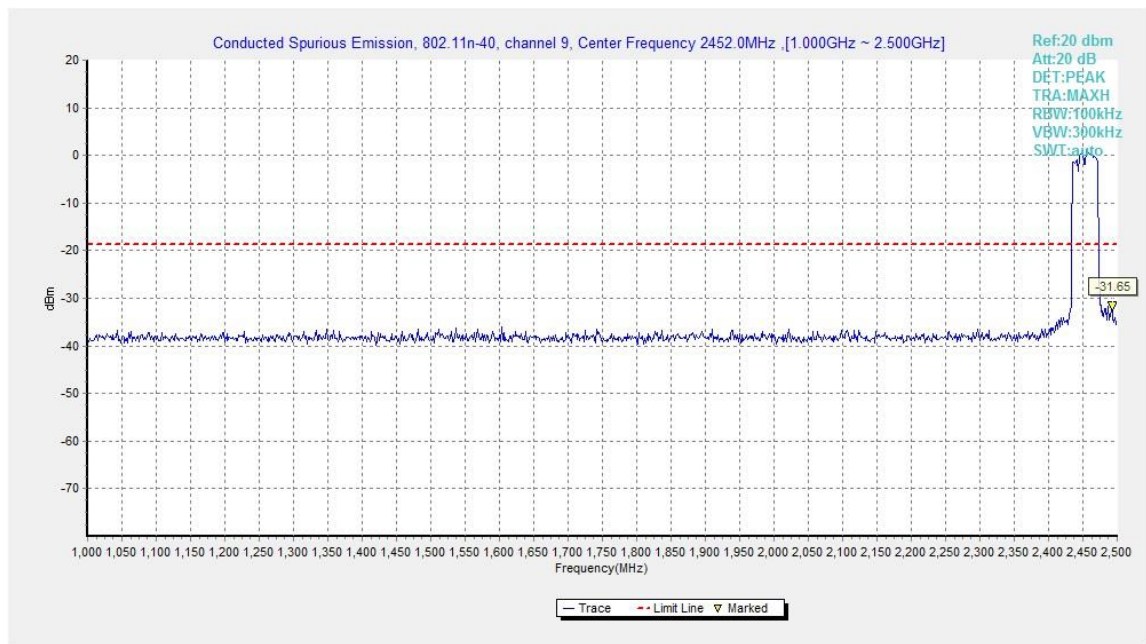




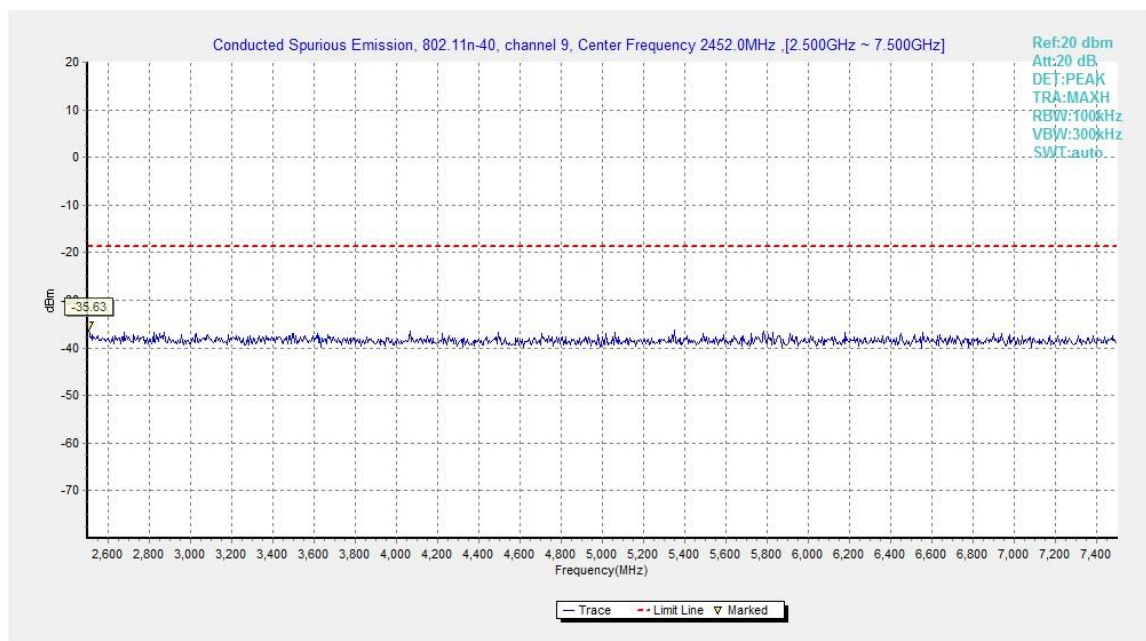
**Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)**



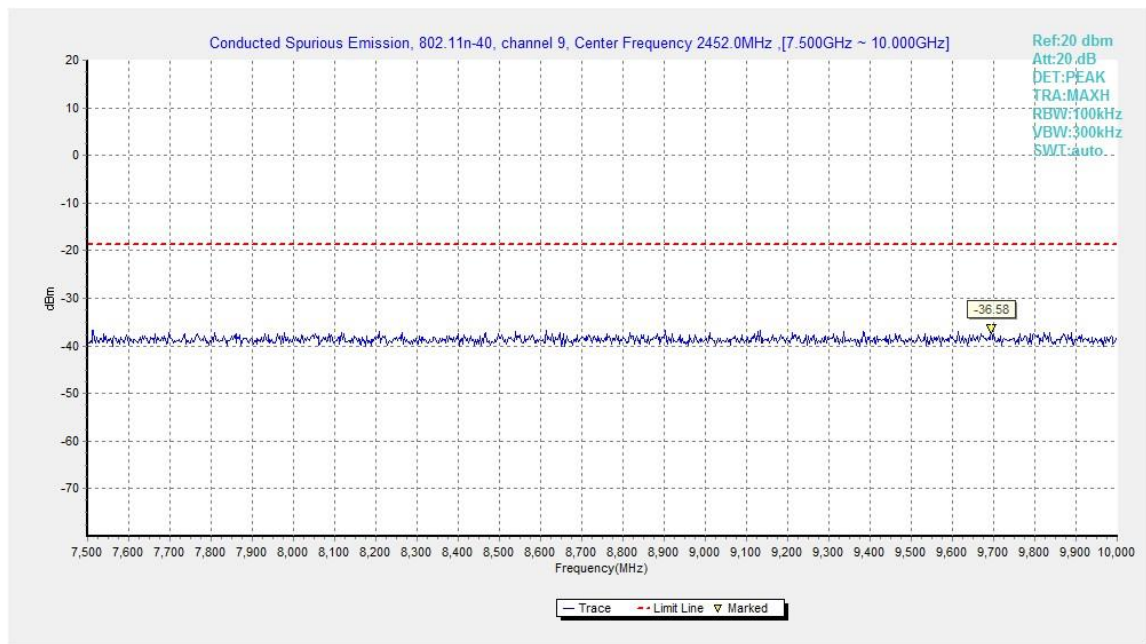
**Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



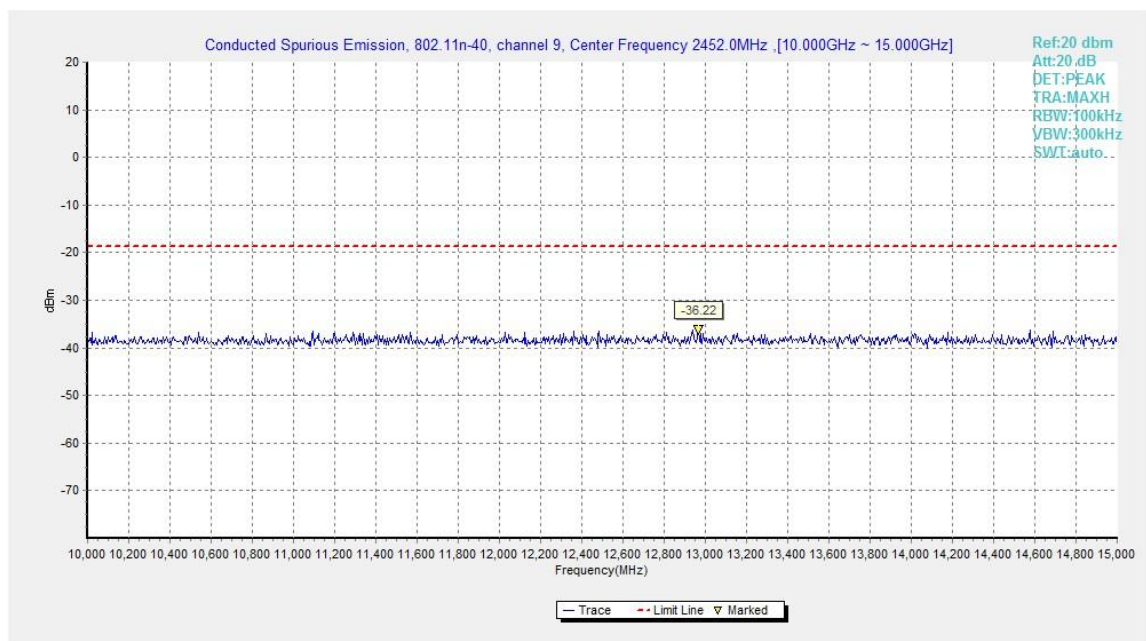
**Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)**



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

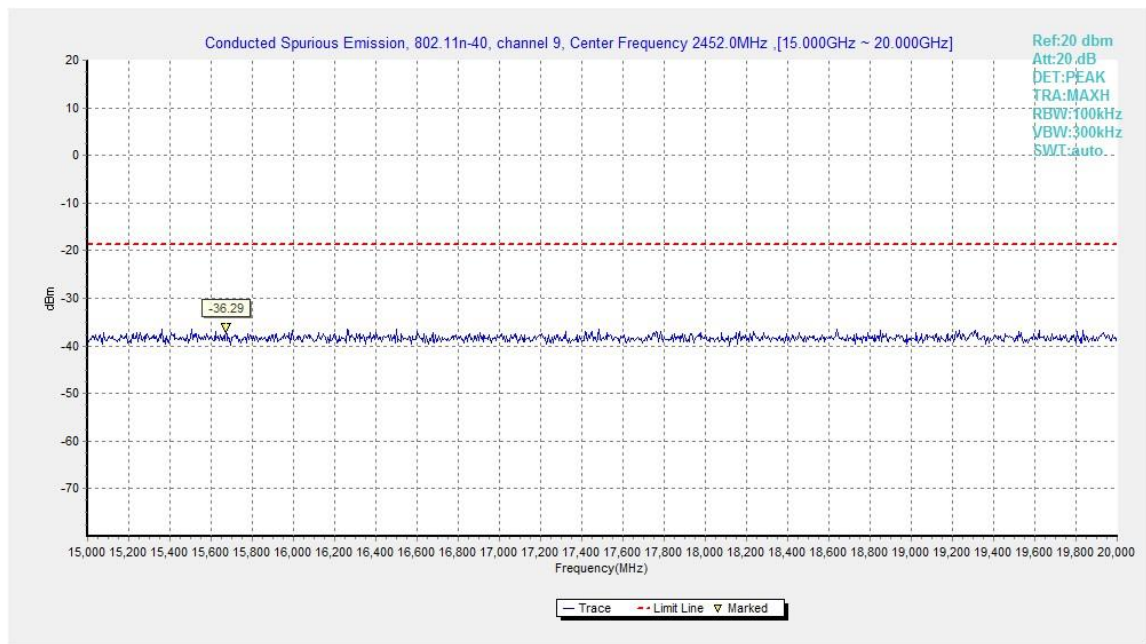


**Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)**

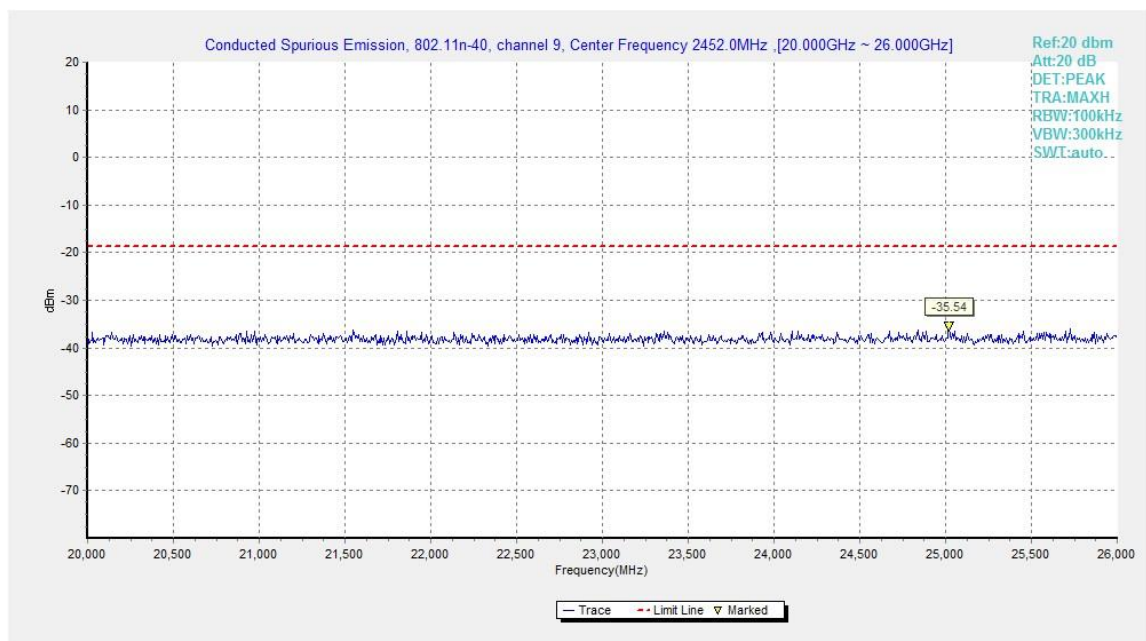


**Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)**





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



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



## A.6.2 Transmitter Spurious Emission - Radiated

**Method of Measurement:** See ANSI C63.10-2013-clause 6.4 & 6.5 & 6.6

**Measurement Limit:**

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

**Limit in restricted band:**

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Frequency (MHz)	Field strength(μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

### Test Condition

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

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

**EUT ID:** EUT1

### Measurement Results:

#### 802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz ~2.45GHz	Fig.A.6.2.1	<b>P</b>
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.2	<b>P</b>

#### 802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.3	<b>P</b>
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.4	<b>P</b>

#### 802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.5	<b>P</b>
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.6	<b>P</b>

#### 802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.45GHz	Fig.A.6.2.7	<b>P</b>
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.8	<b>P</b>

### 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:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

**AVERAGE**
**802.11b**
**Ch1**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.000	46.4	2.9	32.0	11.58	54.0	7.6	H
2385.420	46.4	2.9	32.0	11.47	54.0	7.6	H
4824.000	35.30	-32.8	34.5	33.55	54.0	18.7	H
7235.000	42.20	-31.7	36.1	37.83	54.0	11.8	H
9648.000	49.20	-30.4	37.0	42.52	54.0	4.8	H
12060.000	43.30	-29.6	39.3	33.63	54.0	10.7	H

**Ch6**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2384.560	46.8	2.9	32.0	11.92	54.0	7.2	H
2485.630	47.0	2.9	32.7	11.37	54.0	7.0	H
4874.000	35.4	-32.7	34.5	33.61	54.0	18.6	H
7312.000	39.5	-31.9	36.1	35.34	54.0	14.5	H
9748.000	45.2	-30.7	37.2	38.67	54.0	8.8	H
12185.000	43.5	-29.4	39.2	33.71	54.0	10.5	H

**Ch11**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.650	47.7	2.9	32.8	11.98	54.0	6.3	H
2484.325	47.5	2.9	32.7	11.83	54.0	6.5	H
4924.000	35.70	-33.1	34.5	34.28	54.0	18.3	H
7383.000	40.00	-31.8	36.0	35.80	54.0	14.0	H
9848.000	42.60	-30.1	37.3	35.35	54.0	11.4	H
12310.000	43.40	-29.7	39.2	33.93	54.0	10.6	H

### 802.11g

#### Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2381.200	46.3	2.9	32.0	11.41	54.0	7.7	H
2384.320	46.4	2.9	32.0	11.50	54.0	7.6	H
4824.000	35.65	-32.8	34.5	33.91	54.0	18.3	H
7235.250	38.79	-31.7	36.1	34.43	54.0	15.2	H
9648.000	38.89	-30.4	37.0	32.21	54.0	15.1	H
12055.500	40.63	-29.6	39.3	30.98	54.0	13.4	H

#### Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2383.450	46.8	2.9	32.0	11.91	54.0	7.2	H
2486.520	48.0	2.9	32.7	12.34	54.0	6.1	H
4874.000	35.66	-32.7	34.5	33.87	54.0	18.3	H
7312.000	39.85	-31.9	36.1	35.68	54.0	14.2	H
9748.000	40.94	-30.7	37.2	34.41	54.0	13.1	H
12185.000	43.53	-29.4	39.2	33.73	54.0	10.5	H

#### Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2485.420	48.6	2.9	32.7	12.98	54.0	5.4	H
2483.890	49.1	2.9	32.8	13.47	54.0	4.9	H
4924.000	35.85	-33.1	34.5	34.43	54.0	18.2	H
7386.000	39.92	-31.8	36.0	35.71	54.0	14.1	H
9848.000	42.03	-30.1	37.3	34.78	54.0	12.0	H
12310.000	43.52	-29.7	39.2	34.05	54.0	10.5	H



**802.11n-HT20**
**Ch1**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.620	46.7	2.9	32.0	11.89	54.0	7.3	H
2386.740	46.6	2.9	32.0	11.73	54.0	7.4	H
4824.000	35.26	-32.8	34.5	33.52	54.0	18.7	H
7235.250	39.41	-31.7	36.1	35.04	54.0	14.6	H
9648.000	38.56	-30.4	37.0	31.87	54.0	15.4	H
12055.500	41.15	-29.6	39.3	31.49	54.0	12.9	H

**Ch6**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2384.580	47.1	2.9	32.0	12.22	54.0	6.9	H
2487.630	47.2	2.9	32.6	11.62	54.0	6.8	H
4874.000	35.09	-32.7	34.5	33.30	54.0	18.9	H
7312.000	39.95	-31.9	36.1	35.79	54.0	14.0	H
9748.000	38.55	-30.7	37.2	32.02	54.0	15.4	H
12185.000	40.84	-29.4	39.2	31.05	54.0	13.2	H

**Ch11**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2485.120	48.5	2.9	32.7	12.85	54.0	5.5	H
2483.740	48.6	2.9	32.8	12.92	54.0	5.4	H
4924.000	35.19	-33.1	34.5	33.78	54.0	18.8	H
7386.000	40.25	-31.8	36.0	36.05	54.0	13.7	H
9848.000	41.83	-30.1	37.3	34.58	54.0	12.2	H
12310.000	43.39	-29.7	39.2	33.91	54.0	10.6	H

**802.11n-HT40**
**Ch3**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2384.590	46.9	2.9	32.0	12.04	54.0	7.1	H
2386.740	47.0	2.9	32.0	12.10	54.0	7.0	H
4844.000	35.22	-32.7	34.5	33.42	54.0	18.8	H
7266.000	39.47	-31.9	36.1	35.23	54.0	14.5	H
9688.000	40.36	-30.7	37.1	33.97	54.0	13.6	H
12110.000	42.23	-29.5	39.3	32.46	54.0	11.8	H

**Ch6**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.240	47.0	2.9	32.0	12.14	54.0	7.0	H
2489.630	47.1	2.9	32.6	11.57	54.0	6.9	H
4874.000	35.63	-32.7	34.5	33.83	54.0	18.4	H
7312.000	39.66	-31.9	36.1	35.50	54.0	14.3	H
9748.000	40.36	-30.7	37.2	33.83	54.0	13.6	H
12185.000	42.34	-29.4	39.2	32.55	54.0	11.7	H

**Ch9**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.560	47.5	2.9	32.7	11.88	54.0	6.5	H
2488.450	47.3	2.9	32.6	11.76	54.0	6.7	H
4904.000	35.37	-32.9	34.5	33.76	54.0	18.6	H
7356.000	39.62	-31.9	36.1	35.46	54.0	14.4	H
9808.000	40.36	-30.4	37.3	33.44	54.0	13.6	H
12260.000	42.23	-29.6	39.2	32.60	54.0	11.8	H

**PEAK**
**802.11b**
**Ch1**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.166	58.8	2.9	32.0	23.96	74.0	15.2	H
2387.308	59.1	2.9	32.0	24.26	74.0	14.9	H
4824.000	42.2	-32.8	34.5	40.45	74.0	31.8	H
7235.250	54.6	-31.7	36.1	50.24	74.0	19.4	H
9648.000	56.4	-30.4	37.0	49.72	74.0	17.6	V
12055.500	48.9	-29.6	39.3	39.24	74.0	25.1	H

**Ch6**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2349.000	48.5	-27.7	31.6	44.63	74.0	25.5	H
2506.000	50.7	-26.4	32.4	44.75	74.0	23.3	H
4874.250	40.7	-32.7	34.5	38.91	74.0	33.3	V
7308.750	53.1	-31.9	36.1	48.93	74.0	20.9	V
9747.750	50.6	-30.7	37.2	44.07	74.0	23.4	H
12185.250	46.1	-29.4	39.2	36.31	74.0	27.9	V

**Ch11**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2485.650	60.3	2.9	32.7	24.66	74.0	13.7	H
2496.060	60.1	2.9	32.4	24.77	74.0	13.9	H
4923.750	41.0	-33.1	34.5	39.58	74.0	33.0	H
7385.250	52.6	-31.8	36.0	48.40	74.0	21.4	V
9848.250	51.4	-30.1	37.3	44.14	74.0	22.6	H
12309.750	45.7	-29.7	39.2	36.22	74.0	28.3	H

### 802.11g

#### Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2387.406	59.9	2.9	32.0	25.03	74.0	14.1	H
2389.086	61.1	2.9	32.0	26.24	74.0	12.9	H
4824.000	44.2	-32.8	34.5	42.46	74.0	29.8	V
7235.250	49.8	-31.7	36.1	45.48	74.0	24.2	H
9648.000	47.5	-30.4	37.0	40.85	74.0	26.5	H
12055.500	50.0	-29.6	39.3	40.33	74.0	24.0	V

#### Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2370.200	49.7	-27.0	32.0	44.68	74.0	24.3	H
2525.600	50.6	-26.8	32.7	44.69	74.0	23.4	H
4874.000	44.8	-32.7	34.5	43.03	74.0	29.2	H
7311.000	51.3	-31.9	36.1	47.10	74.0	22.7	H
9748.000	55.3	-30.7	37.2	48.77	74.0	18.7	H
12185.000	48.8	-29.4	39.2	38.99	74.0	25.2	H

#### Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.640	68.1	2.9	32.8	32.45	74.0	5.9	H
2484.052	66.7	2.9	32.7	31.07	74.0	7.3	H
4924.000	43.8	-33.1	34.5	42.35	74.0	30.2	H
7386.000	49.2	-31.8	36.0	44.97	74.0	24.8	V
9848.000	54.7	-30.1	37.3	47.44	74.0	19.3	H
12310.000	49.0	-29.7	39.2	39.55	74.0	25.0	V



### 802.11n-HT20

#### Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2388.918	61.2	2.9	32.0	26.39	74.0	12.8	H
2389.408	61.6	2.9	32.0	26.80	74.0	12.4	H
4823.500	44.6	-32.8	34.5	42.85	74.0	29.4	V
7235.500	50.3	-31.7	36.1	45.89	74.0	23.7	V
9648.000	53.4	-30.4	37.0	46.75	74.0	20.6	H
12055.500	48.9	-29.6	39.3	39.24	74.0	25.1	V

#### Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2370.800	50.0	-26.9	32.0	44.90	74.0	24.0	H
2537.600	50.9	-26.8	32.9	44.85	74.0	23.1	H
4874.000	45.7	-32.7	34.5	43.91	74.0	28.3	V
7311.000	50.5	-31.9	36.1	46.38	74.0	23.5	H
9748.000	52.2	-30.7	37.2	45.71	74.0	21.8	V
12185.000	49.7	-29.4	39.2	39.93	74.0	24.3	V

#### Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2484.213	66.7	2.9	32.7	31.03	74.0	7.3	H
2483.960	67.0	2.9	32.7	31.29	74.0	7.0	H
4924.000	45.3	-33.1	34.5	43.86	74.0	28.7	H
7386.000	44.9	-31.8	36.0	40.67	74.0	29.1	V
9848.000	53.7	-30.1	37.3	46.40	74.0	20.3	V
12310.000	48.3	-29.7	39.2	38.82	74.0	25.7	H

**802.11n-HT40**
**Ch3**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2385.488	67.5	2.9	32.0	32.60	74.0	6.5	H
2388.484	67.7	2.9	32.0	32.86	74.0	6.3	H
4844.000	42.6	-32.7	34.5	40.75	74.0	31.4	V
7266.000	46.6	-31.9	36.1	42.39	74.0	27.4	V
9688.000	49.7	-30.7	37.1	43.30	74.0	24.3	V
12110.000	48.9	-29.5	39.3	39.13	74.0	25.1	H

**Ch6**

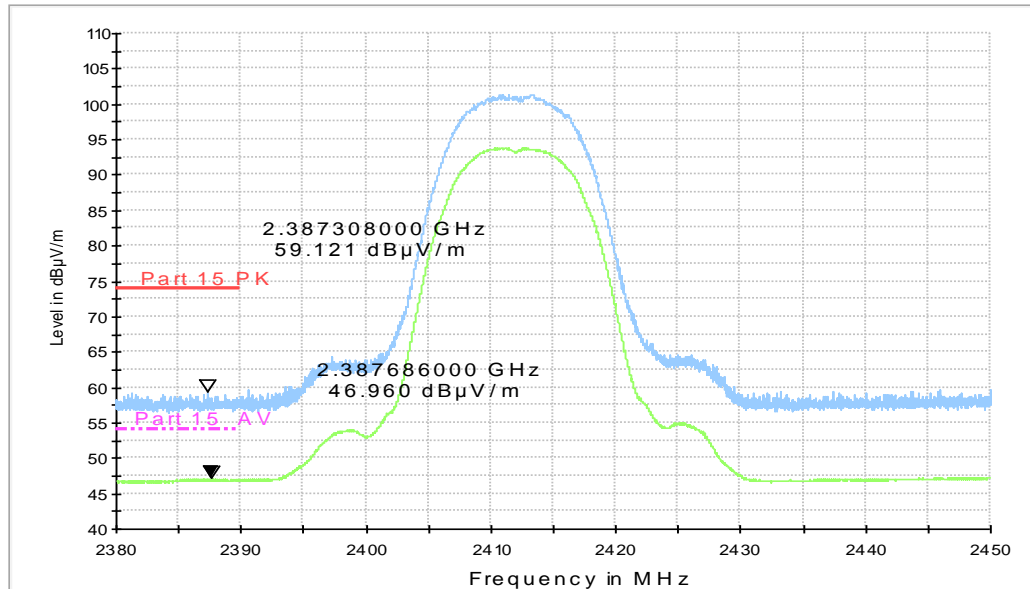
Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2358.600	48.9	-27.6	31.8	44.76	74.0	25.1	H
2531.600	51.2	-26.8	32.8	45.24	74.0	22.8	H
4874.000	43.4	-32.7	34.5	41.61	74.0	30.6	V
7311.000	45.2	-31.9	36.1	41.02	74.0	28.8	H
9748.000	49.4	-30.7	37.2	42.86	74.0	24.6	V
12185.000	48.7	-29.4	39.2	38.93	74.0	25.3	V

**Ch9**

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver eading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
2483.760	70.0	2.9	32.8	34.34	74.0	4.0	H
2484.740	70.0	2.9	32.7	34.30	74.0	4.0	H
4904.000	43.6	-32.9	34.5	41.98	74.0	30.4	V
7356.000	44.9	-31.9	36.1	40.77	74.0	29.1	H
9808.000	48.2	-30.4	37.3	41.26	74.0	25.8	V
12260.000	48.6	-29.6	39.2	38.94	74.0	25.4	V

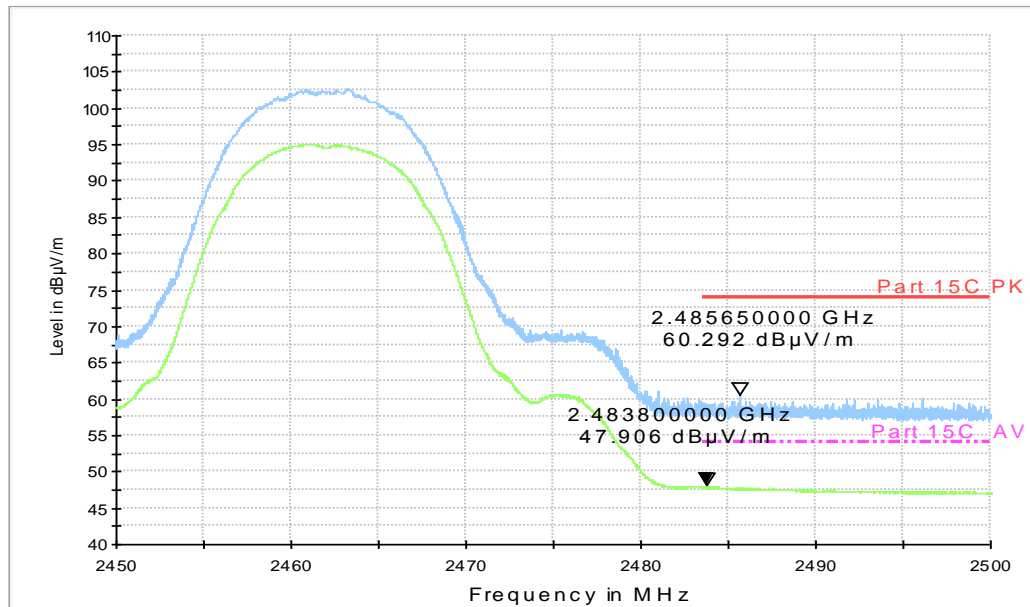
Test graphs as below:

RE - Power-2.38GHz-2.45GHz



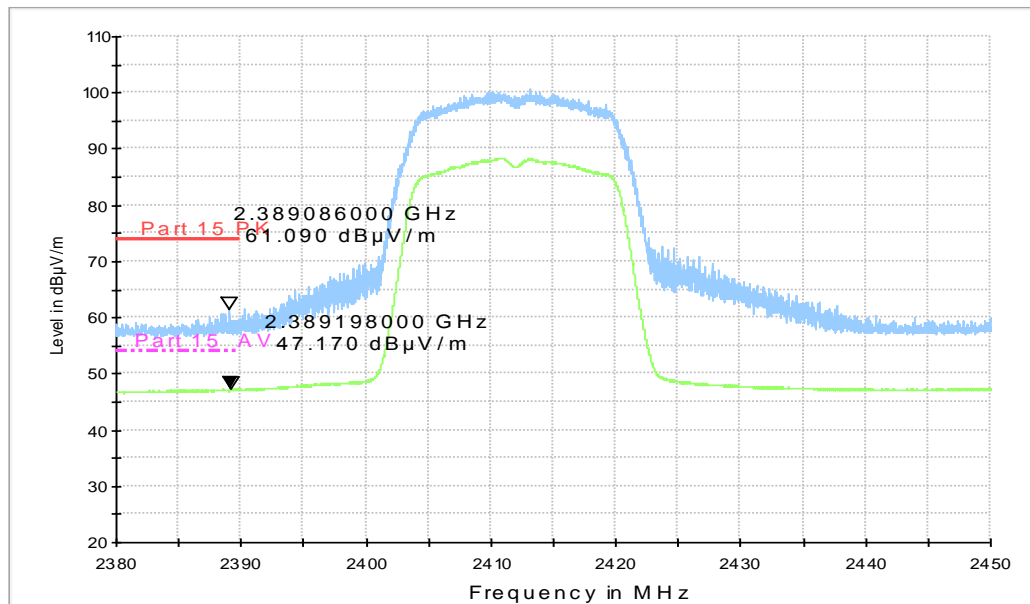
**Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.45GHz**

RE - Power-2.45GHz-2.5GHz



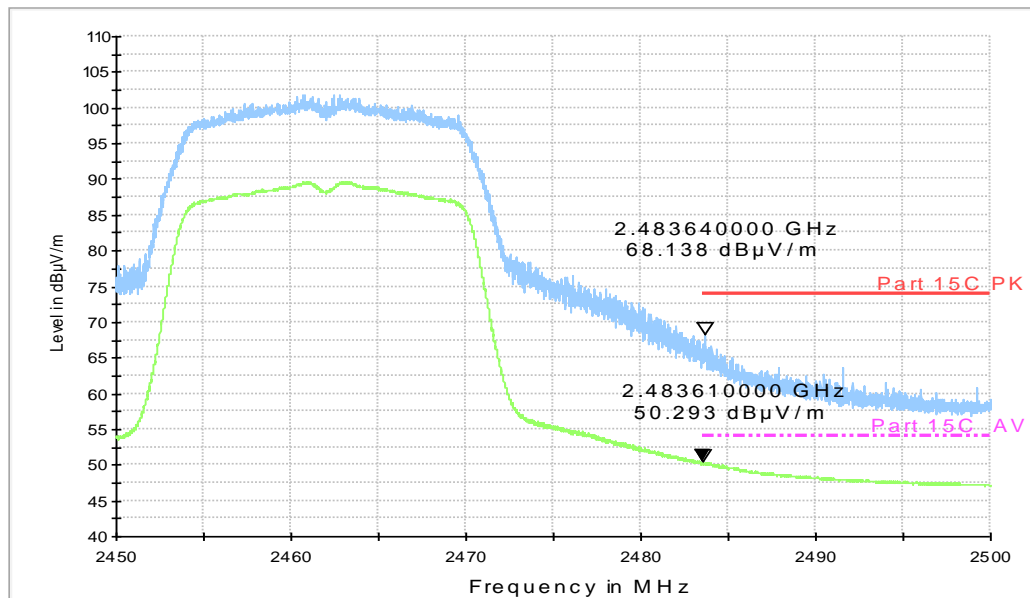
**Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



**Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.45GHz**

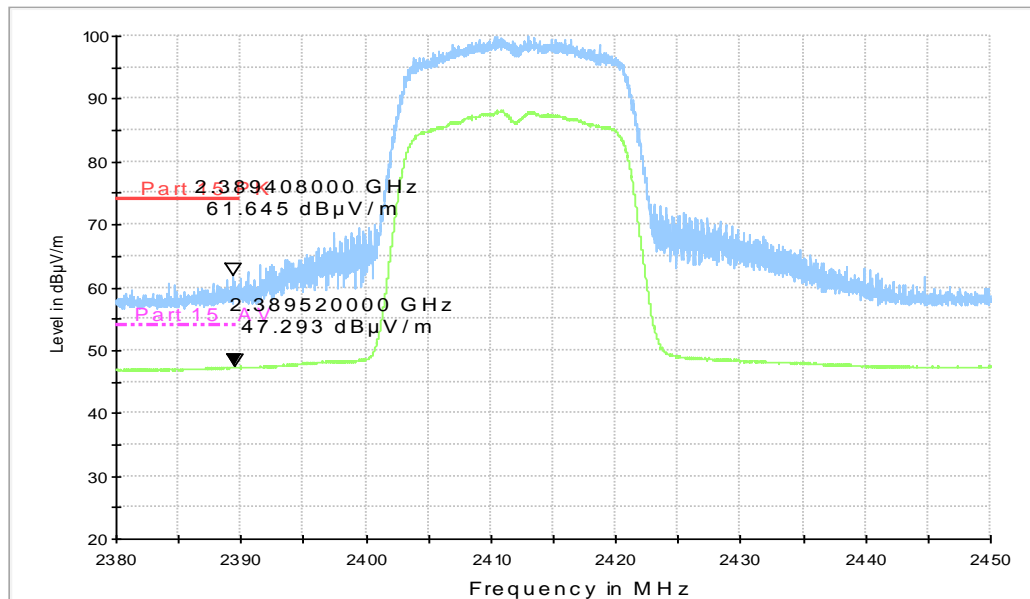
RE - Power-2.45GHz-2.5GHz



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

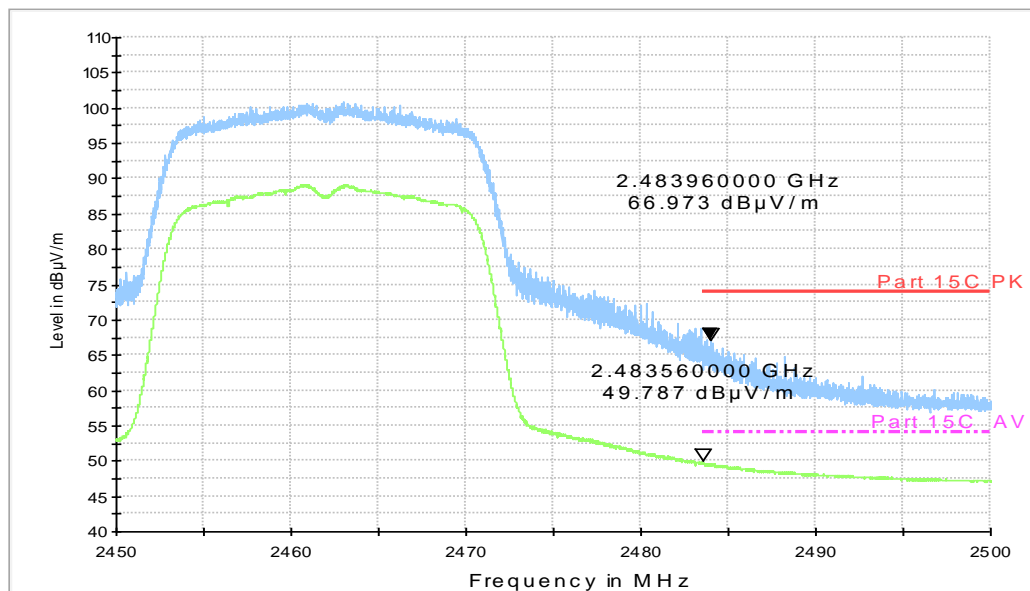


RE - Power-2.38GHz-2.45GHz



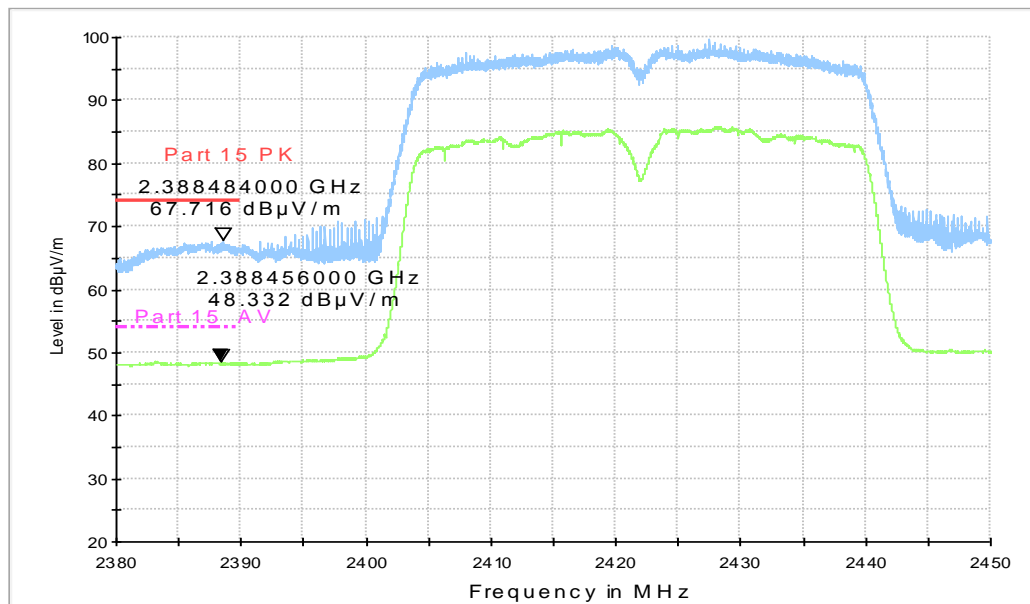
**Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1,  
2.38 GHz - 2.45GHz**

RE - Power-2.45GHz-2.5GHz



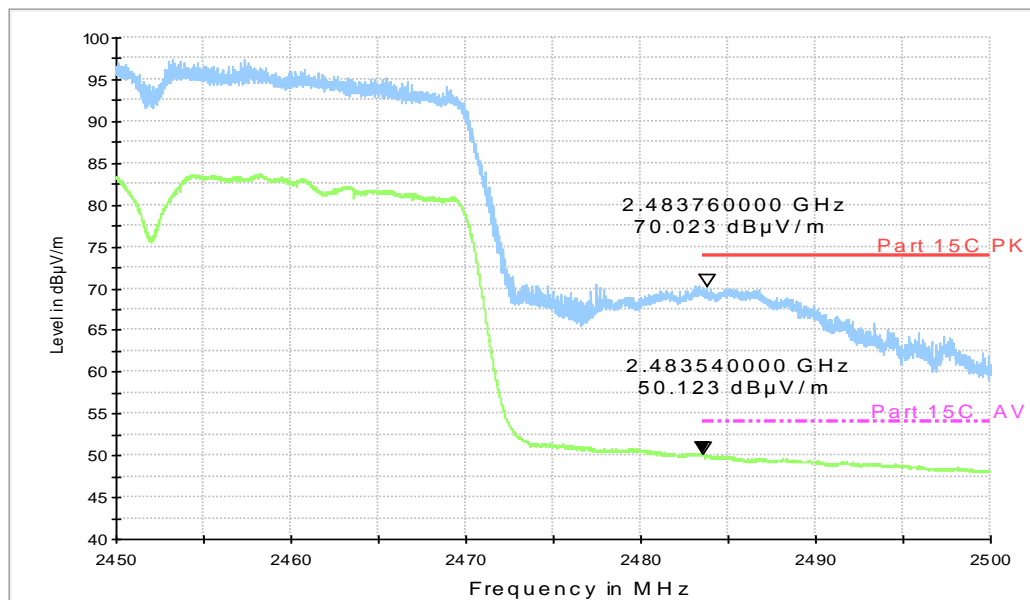
**Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11,  
2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



**Fig.A.6.2.7 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT40, ch3, 2.38 GHz - 2.45GHz**

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.<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 with CBA0058AGAC4 (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		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 with CBA0058AGAC4 (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		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.				

WLAN with CBA0058AGAC2 (Quasi-peak Limit)

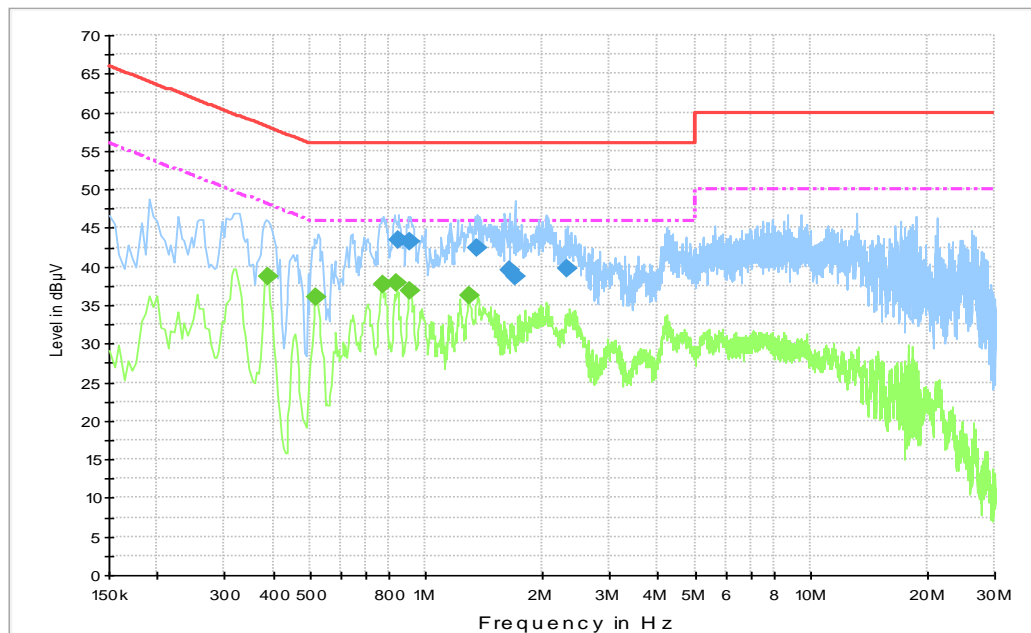
Frequency range (MHz)	Quasi-peak Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		802.11b	Idle	
0.15 to 0.5	67 to 56	Fig.A.7.3	Fig.A.7.4	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN with CBA0058AGAC2 (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.7.3	Fig.A.7.4	<b>P</b>
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:**



**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.

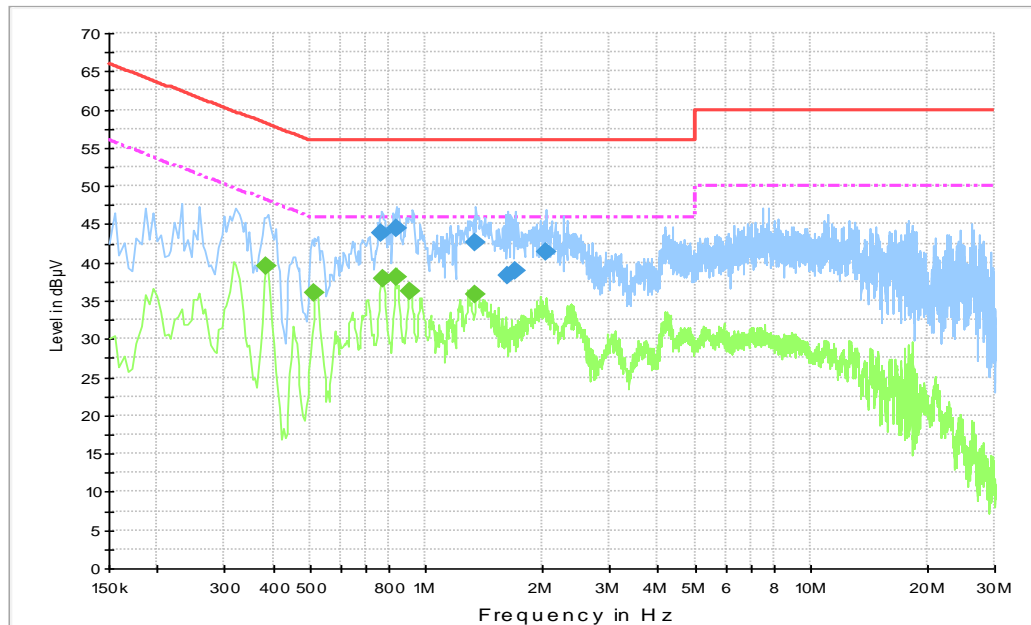
## Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.847500	43.4	GND	L1	10.2	12.6	56.0
0.910500	43.2	GND	L1	10.2	12.8	56.0
1.356000	42.5	GND	L1	10.2	13.5	56.0
1.639500	39.4	GND	L1	10.2	16.6	56.0
1.698000	38.8	GND	N	10.3	17.2	56.0
2.337000	39.7	GND	L1	10.3	16.3	56.0

## Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.388500	38.6	GND	L1	10.2	9.5	48.1
0.519000	36.1	GND	L1	10.2	9.9	46.0
0.771000	37.7	GND	L1	10.2	8.3	46.0
0.838500	37.8	GND	L1	10.2	8.2	46.0
0.906000	36.8	GND	L1	10.2	9.2	46.0
1.288500	36.2	GND	L1	10.2	9.8	46.0





**Fig.A.7.2 AC Powerline Conducted Emission-Iidle**

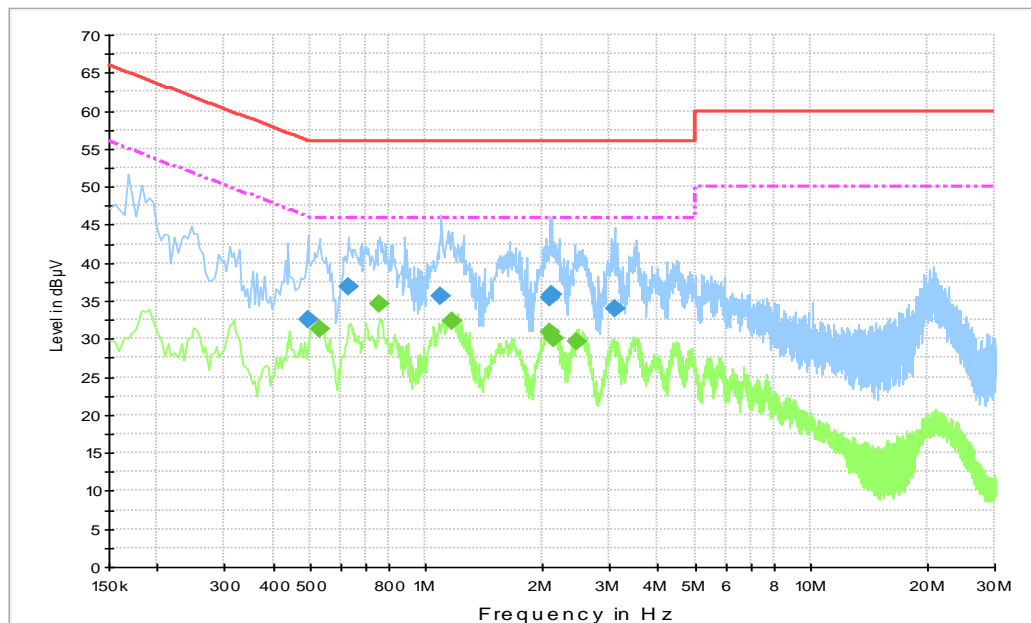
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.766500	43.9	GND	L1	10.2	12.1	56.0
0.834000	44.4	GND	L1	10.2	11.6	56.0
1.347000	42.6	GND	L1	10.2	13.4	56.0
1.630500	38.3	GND	N	10.3	17.7	56.0
1.698000	38.9	GND	N	10.3	17.1	56.0
2.049000	41.4	GND	L1	10.3	14.6	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.384000	39.6	GND	L1	10.2	8.6	48.2
0.514500	36.0	GND	L1	10.2	10.0	46.0
0.771000	37.8	GND	L1	10.2	8.2	46.0
0.834000	38.0	GND	L1	10.2	8.0	46.0
0.910500	36.3	GND	L1	10.2	9.7	46.0
1.347000	35.8	GND	L1	10.2	10.2	46.0



**Fig.A.7.3 AC Powerline Conducted Emission-802.11b**

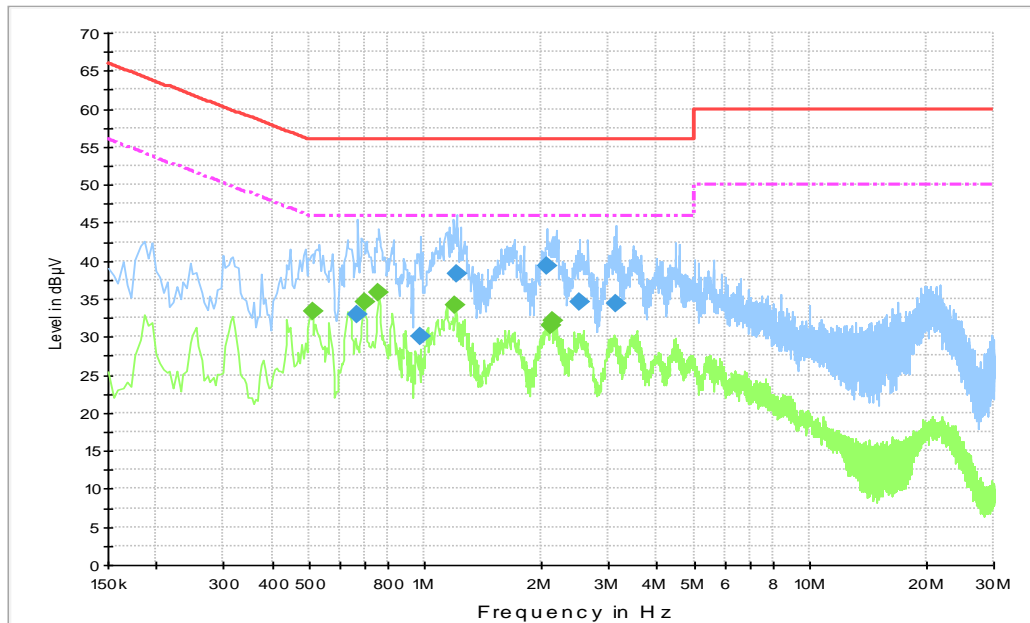
Note: The graphic result above is the maximum of the measurements for both phase line and neutral line.

## Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.492000	32.5	GND	N	10.3	23.7	56.1
0.627000	36.9	GND	N	10.3	19.1	56.0
1.095000	35.6	GND	N	10.3	20.4	56.0
2.103000	35.3	GND	N	10.4	20.7	56.0
2.125500	35.8	GND	N	10.4	20.2	56.0
3.079500	34.0	GND	N	10.4	22.0	56.0

## Final Result 2

Frequency (MHz)	Average (dBµV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.528000	31.3	GND	L1	10.2	14.7	46.0
0.757500	34.6	GND	L1	10.2	11.4	46.0
1.167000	32.4	GND	L1	10.2	13.6	46.0
2.098500	30.8	GND	L1	10.3	15.2	46.0
2.157000	30.1	GND	L1	10.3	15.9	46.0
2.458500	29.7	GND	L1	10.3	16.3	46.0



**Fig.A.7.4 AC Powerline Conducted Emission-Iidle**

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)
0.667500	33.0	GND	N	10.3	23.0	56.0
0.973500	30.1	GND	N	10.3	25.9	56.0
1.203000	38.4	GND	N	10.3	17.6	56.0
2.080500	39.2	GND	L1	10.3	16.8	56.0
2.526000	34.6	GND	N	10.4	21.4	56.0
3.129000	34.4	GND	N	10.4	21.6	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.510000	33.4	GND	L1	10.2	12.6	46.0
0.694500	34.6	GND	L1	10.2	11.4	46.0
0.757500	35.9	GND	L1	10.2	10.1	46.0
1.198500	34.2	GND	L1	10.2	11.8	46.0
2.116500	31.6	GND	L1	10.3	14.4	46.0
2.148000	32.1	GND	L1	10.3	13.9	46.0

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