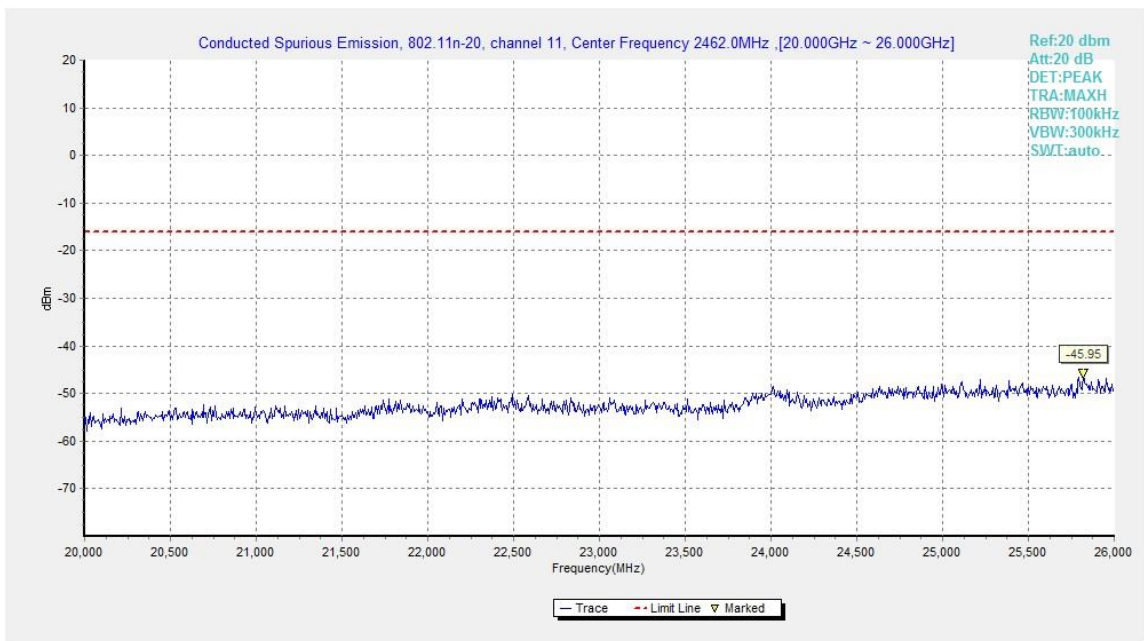
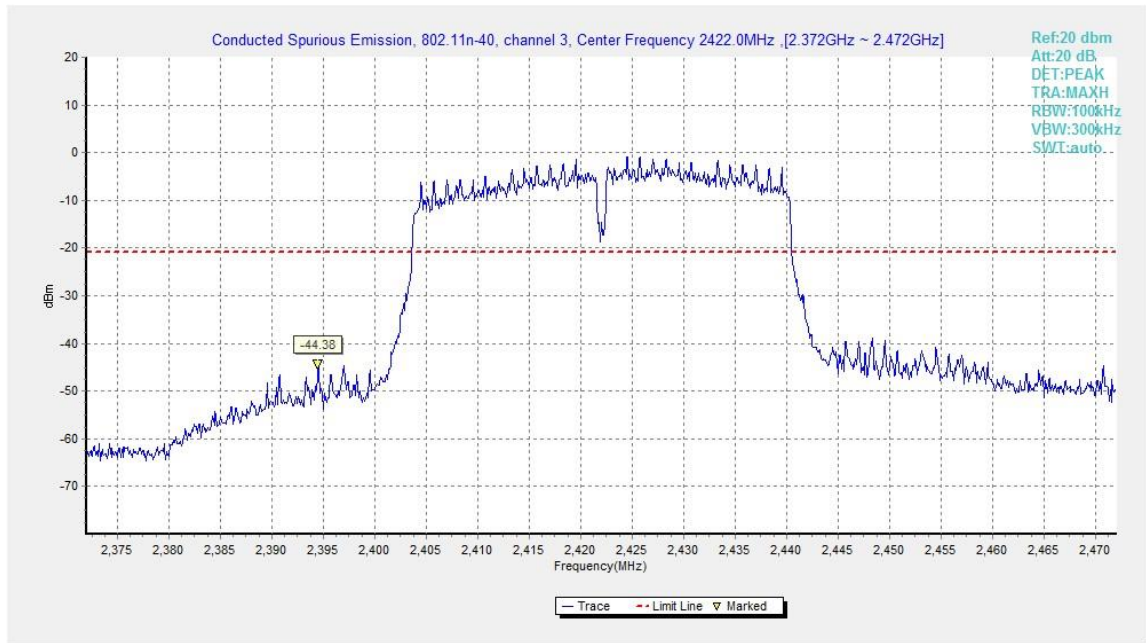


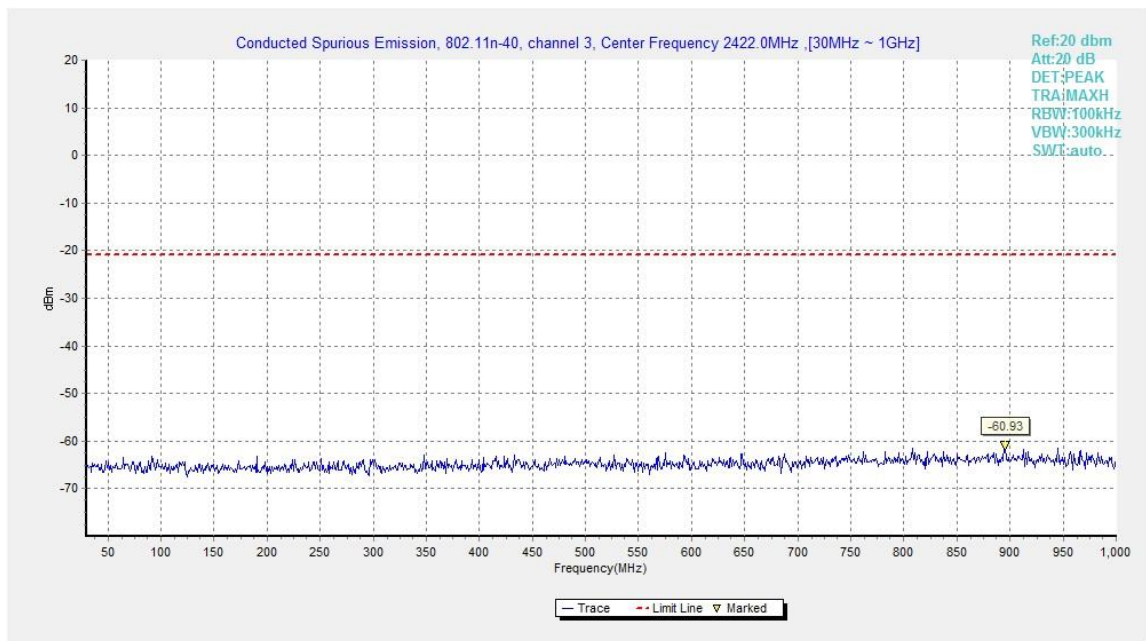
**Fig.A.6.1.71 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 15 GHz-20 GHz)**



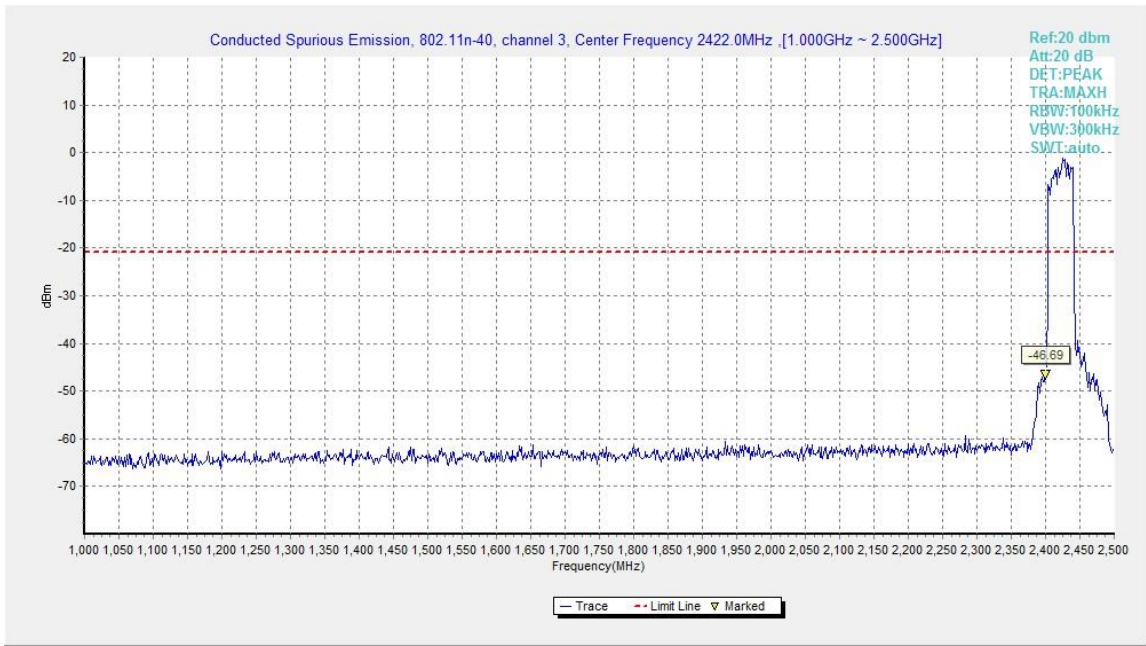
**Fig.A.6.1.72 Transmitter Spurious Emission - Conducted (802.11n-HT20, Ch11, 20 GHz-26 GHz)**



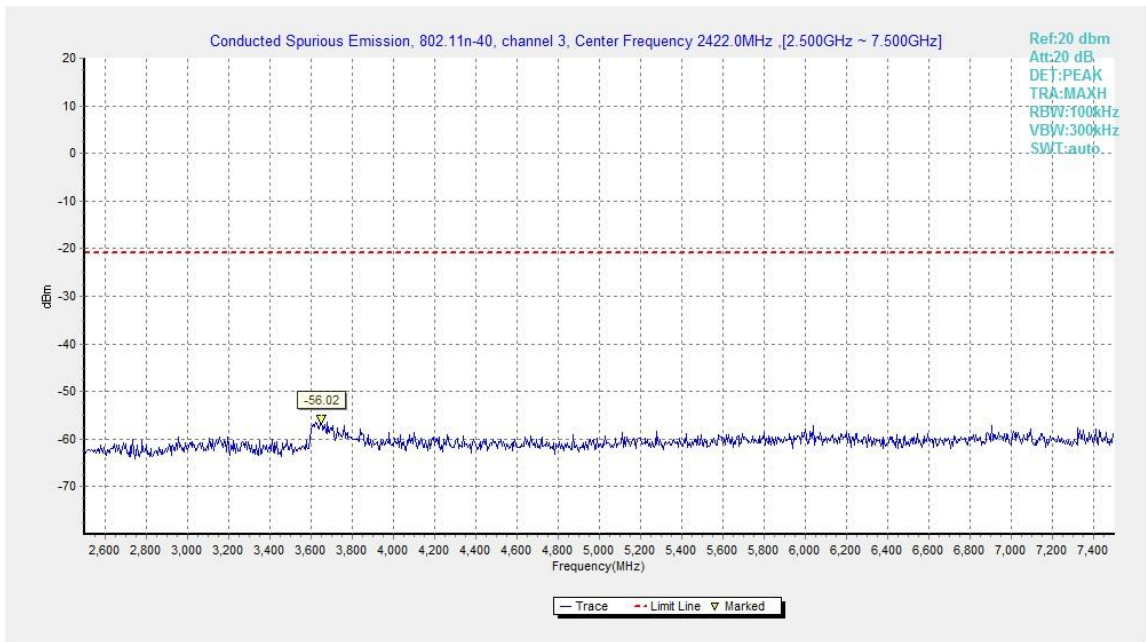
**Fig.A.6.1.73 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, Center Frequency)**



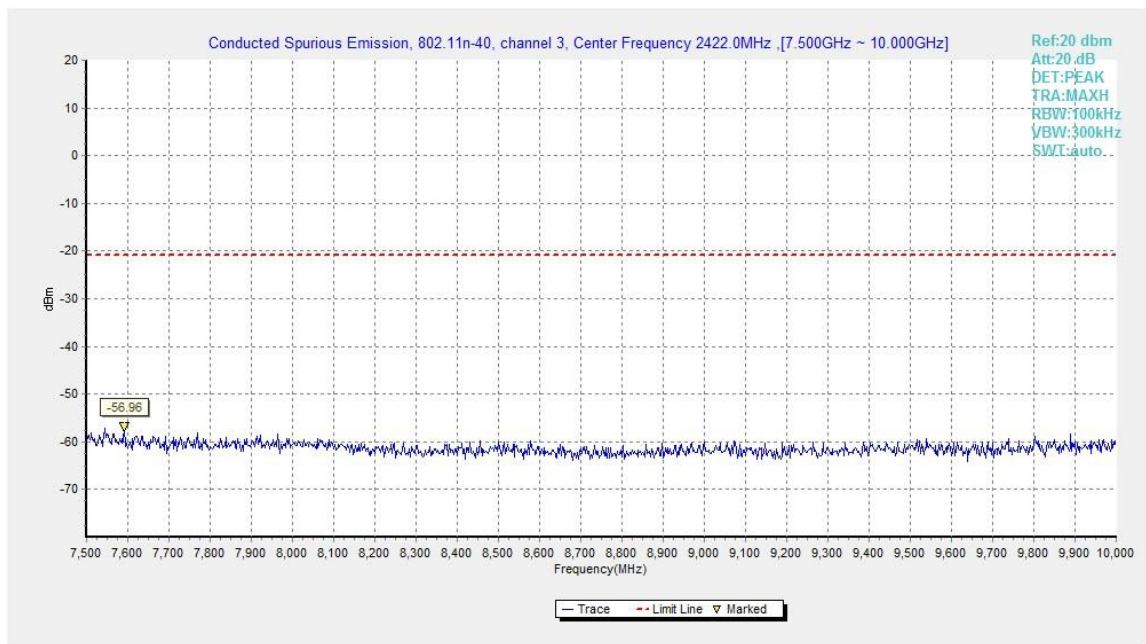
**Fig.A.6.1.74 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 30 MHz-1 GHz)**



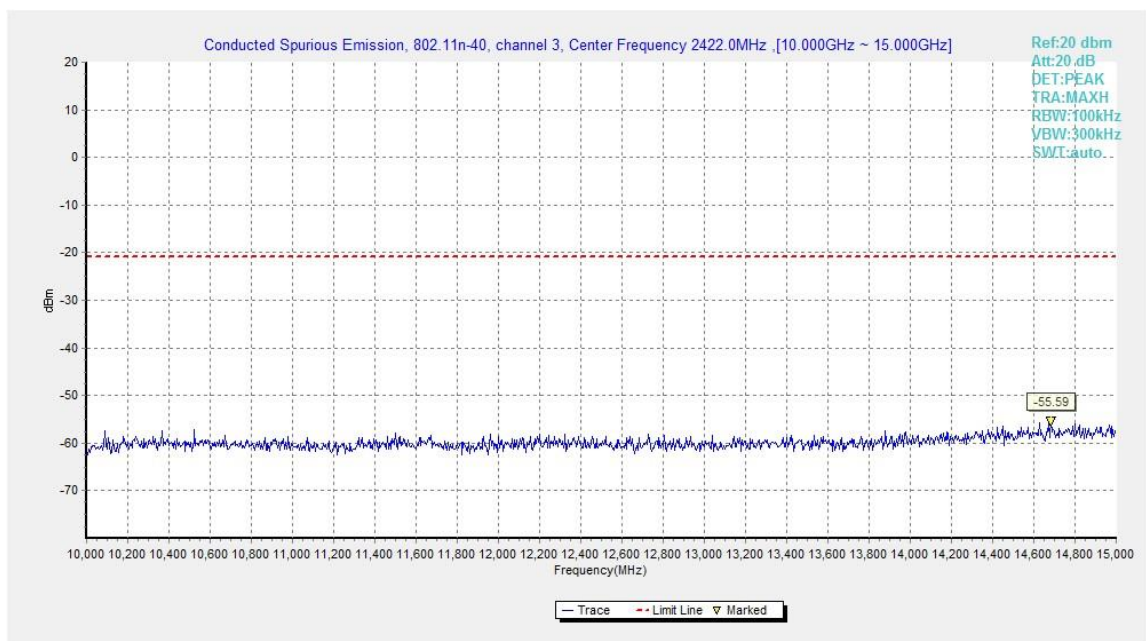
**Fig.A.6.1.75 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 1 GHz-2.5 GHz)**



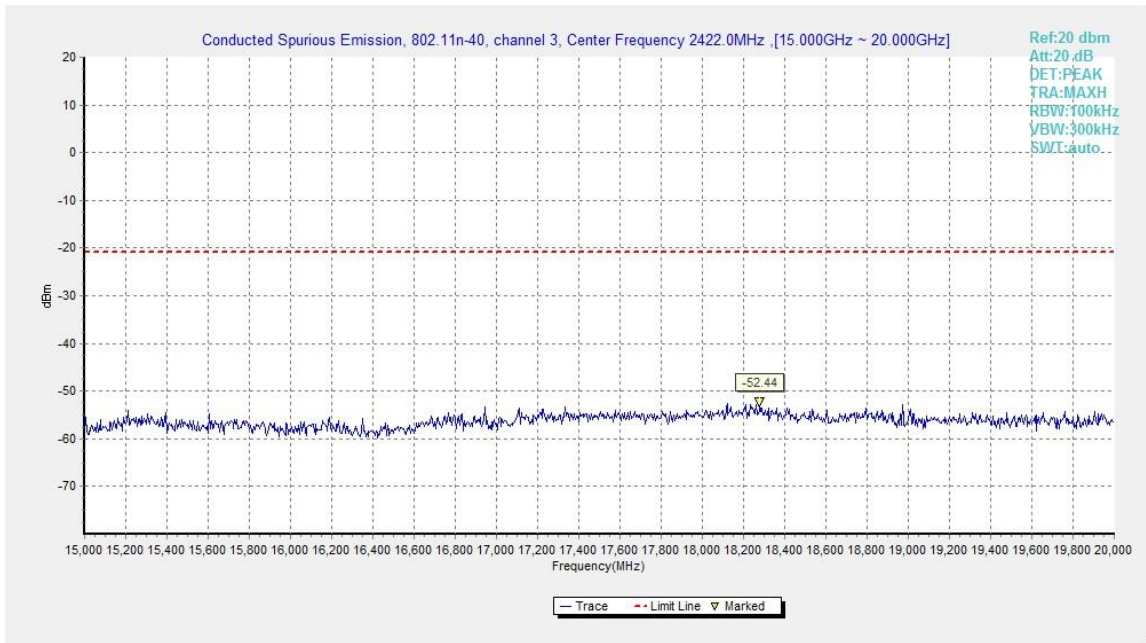
**Fig.A.6.1.76 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 2.5 GHz-7.5 GHz)**



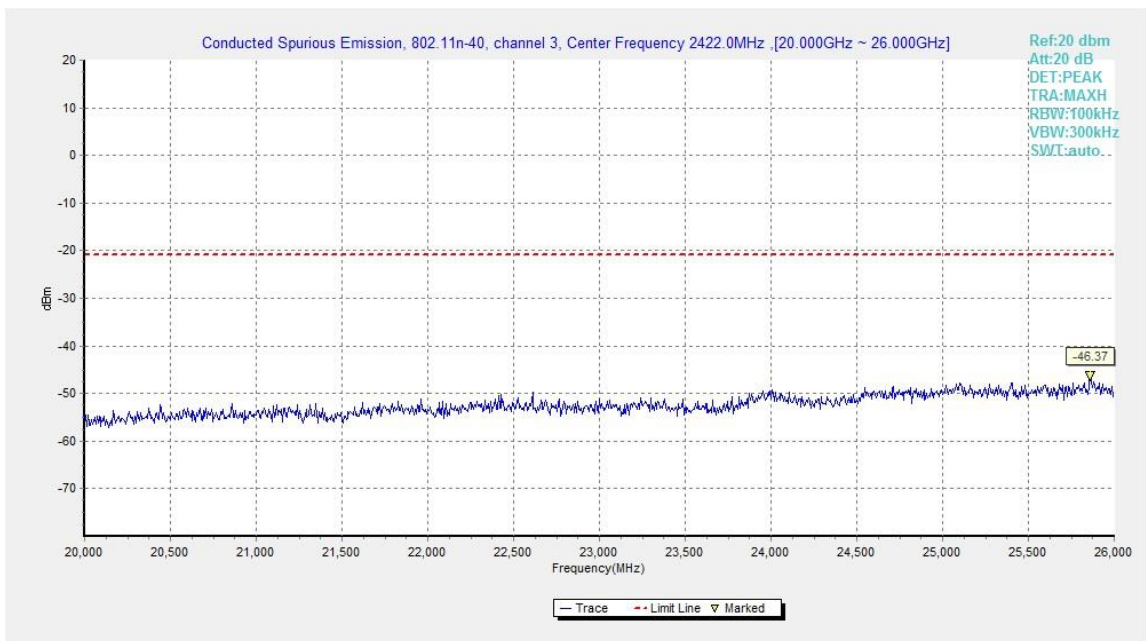
**Fig.A.6.1.77 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 7.5 GHz-10 GHz)**



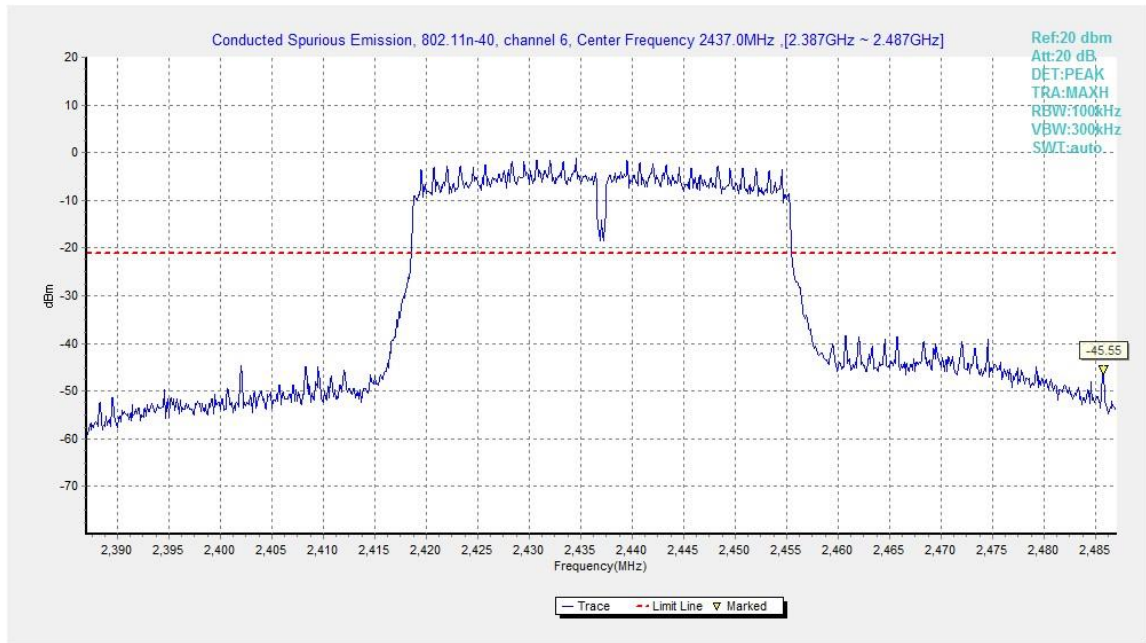
**Fig.A.6.1.78 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 10 GHz-15 GHz)**



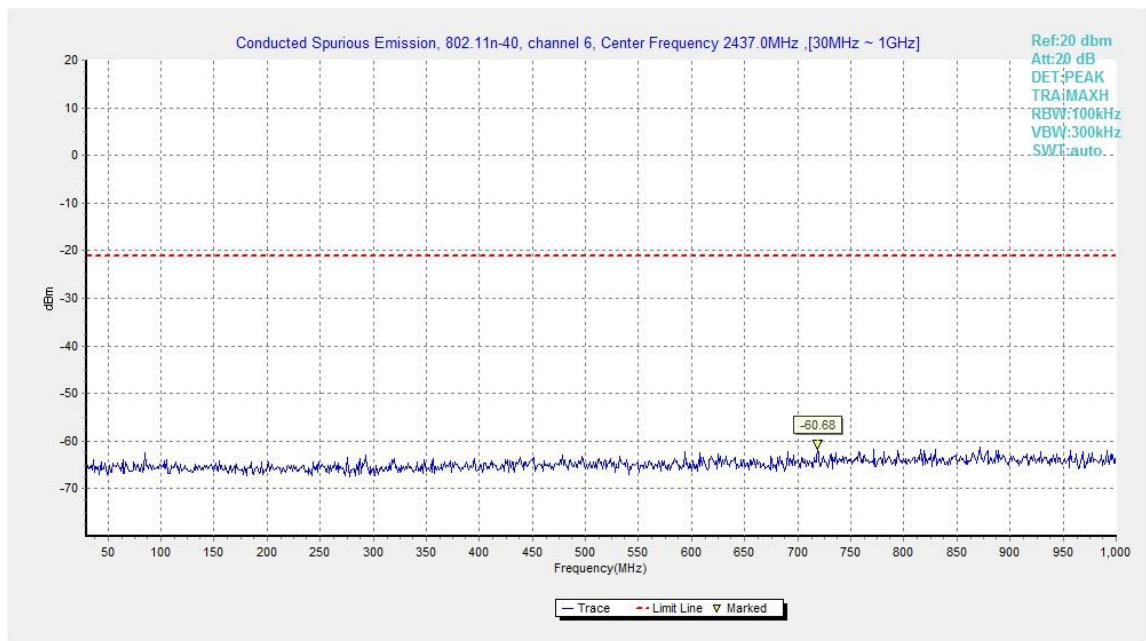
**Fig.A.6.1.79 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 15 GHz-20 GHz)**



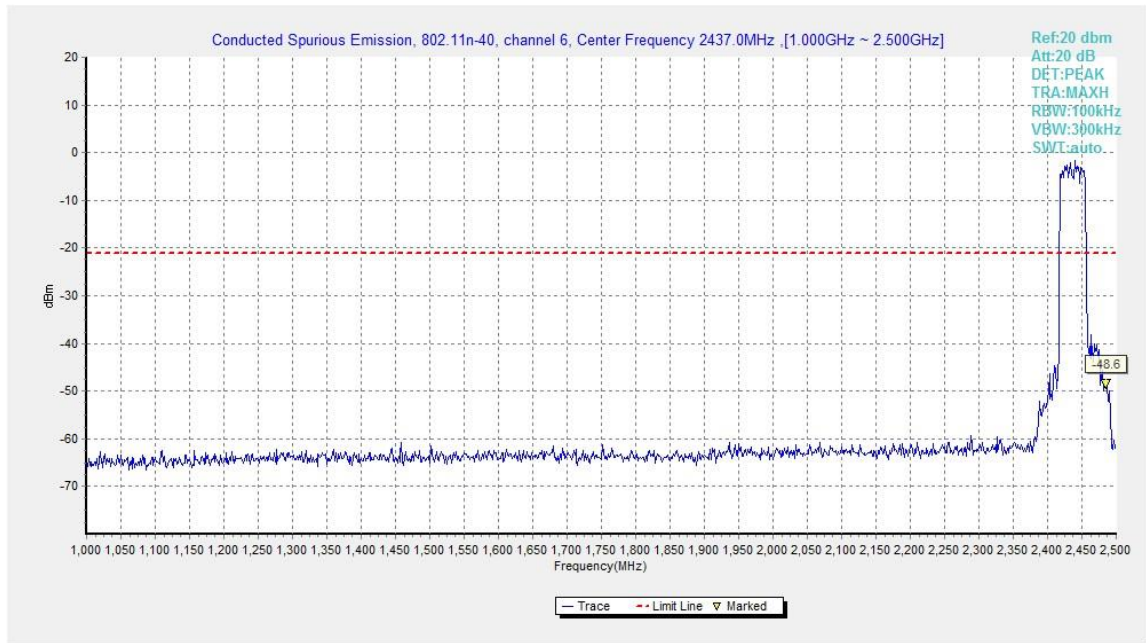
**Fig.A.6.1.80 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch3, 20 GHz-26 GHz)**



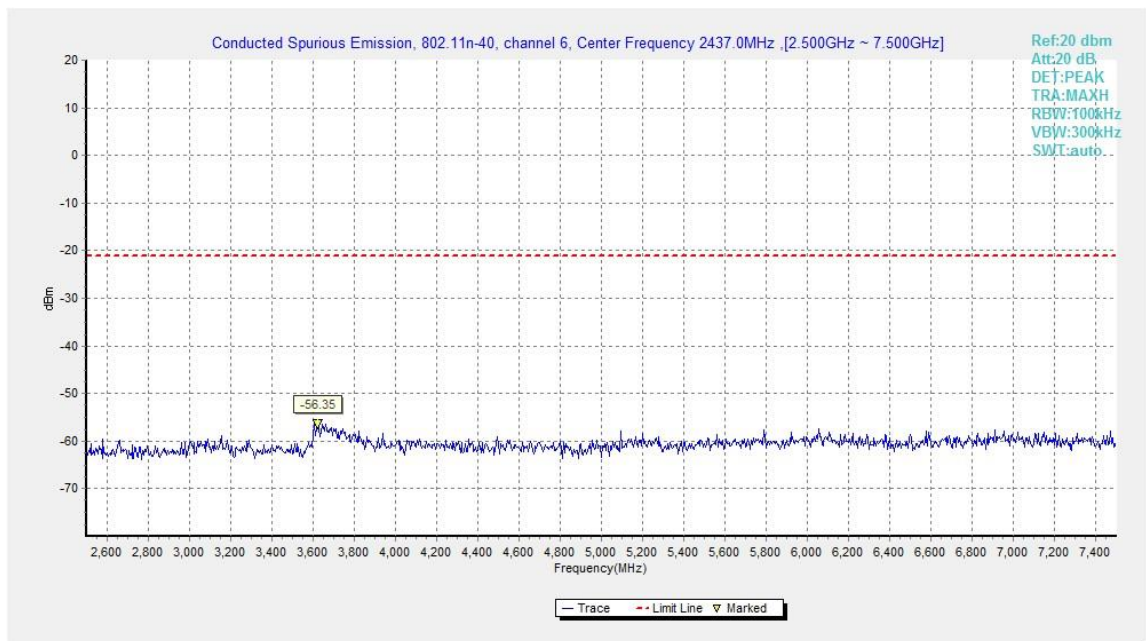
**Fig.A.6.1.81 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, Center Frequency)**



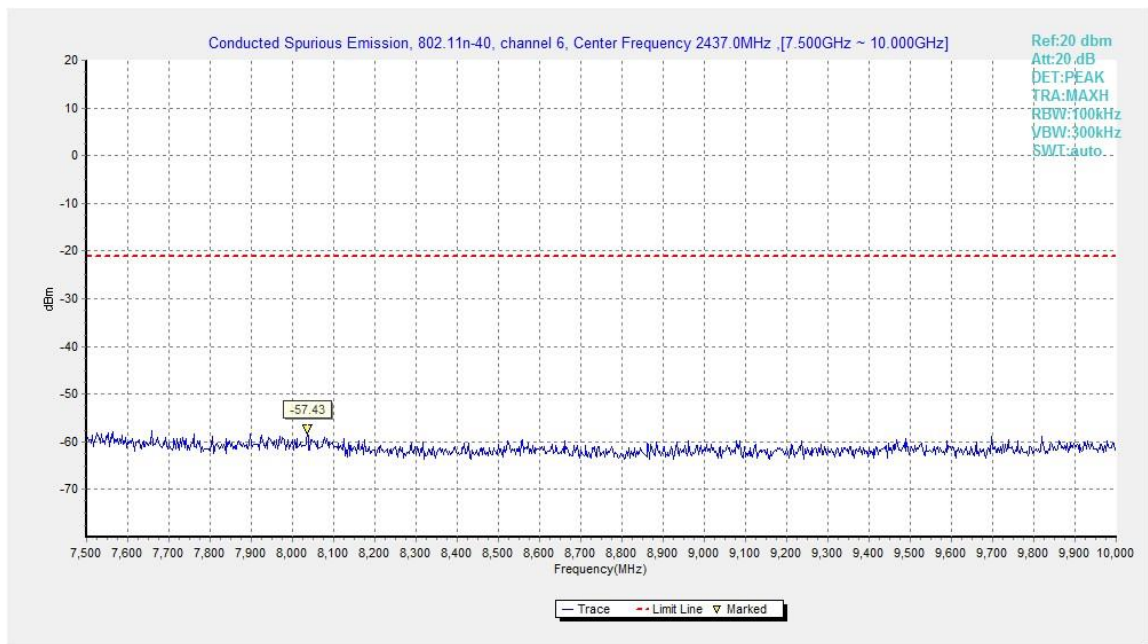
**Fig.A.6.1.82 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 30 MHz-1 GHz)**



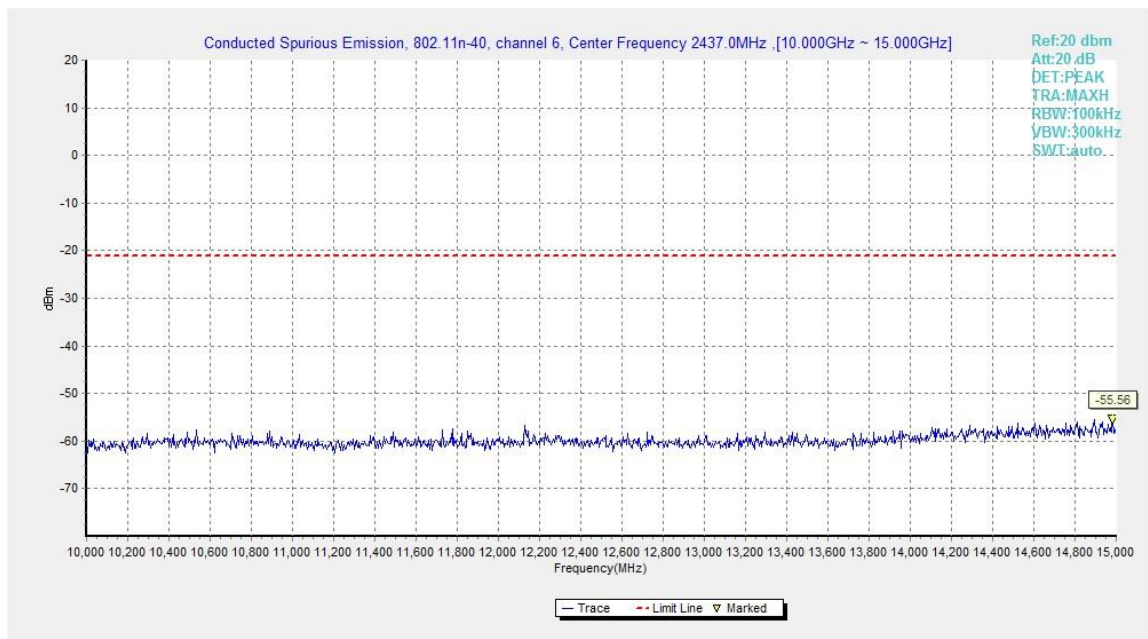
**Fig.A.6.1.83 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 1 GHz-2.5 GHz)**



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

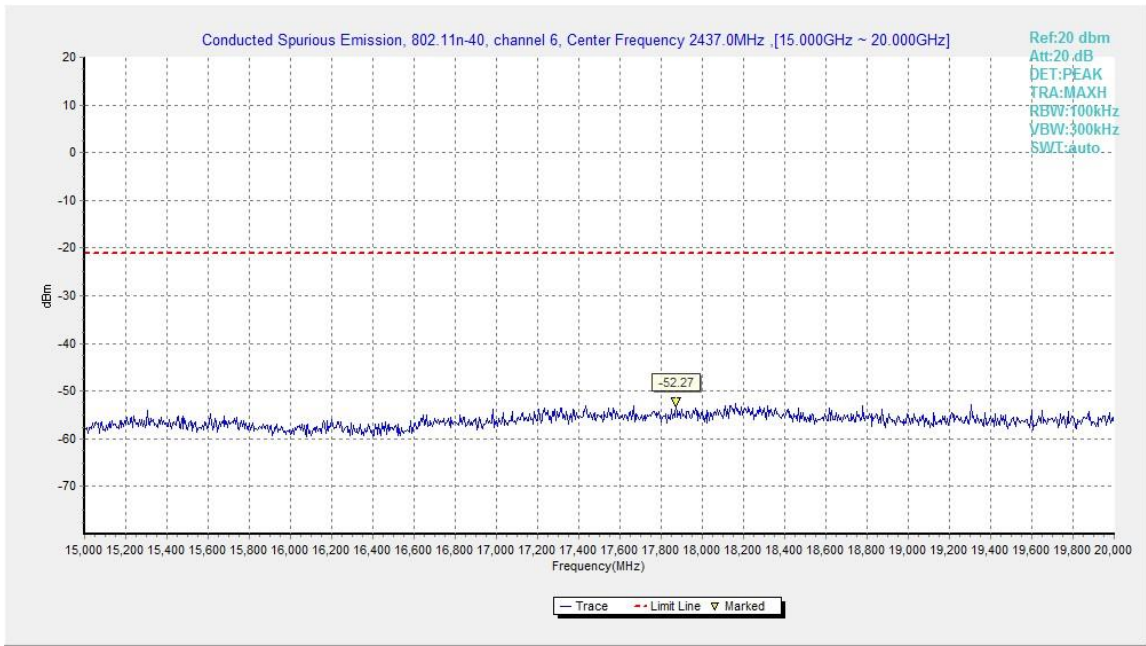


**Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)**

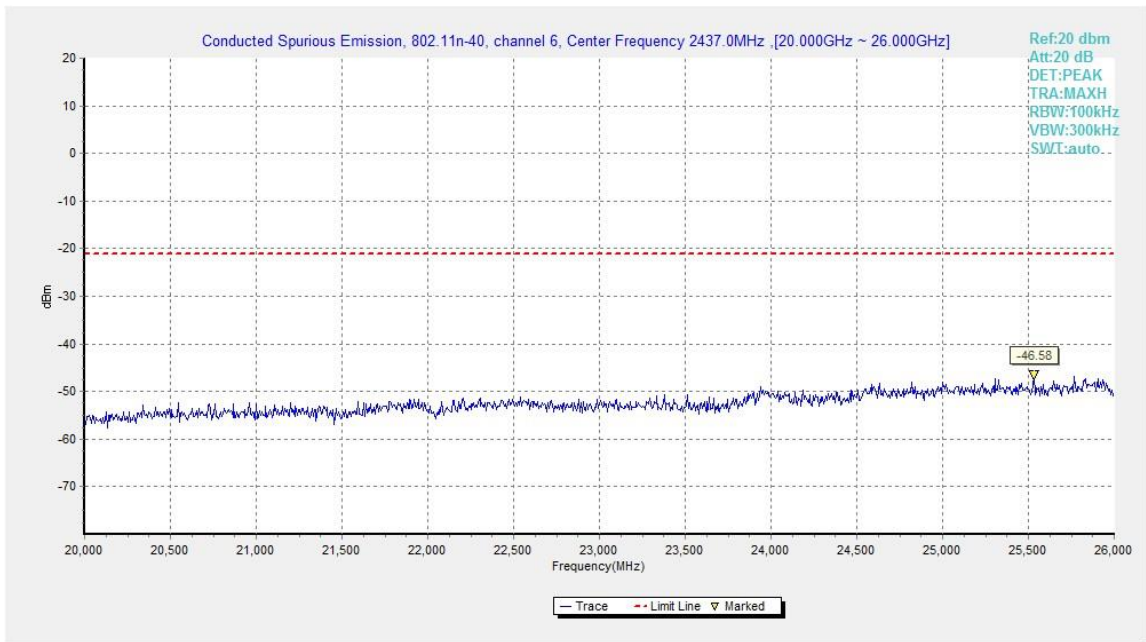


**Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)**

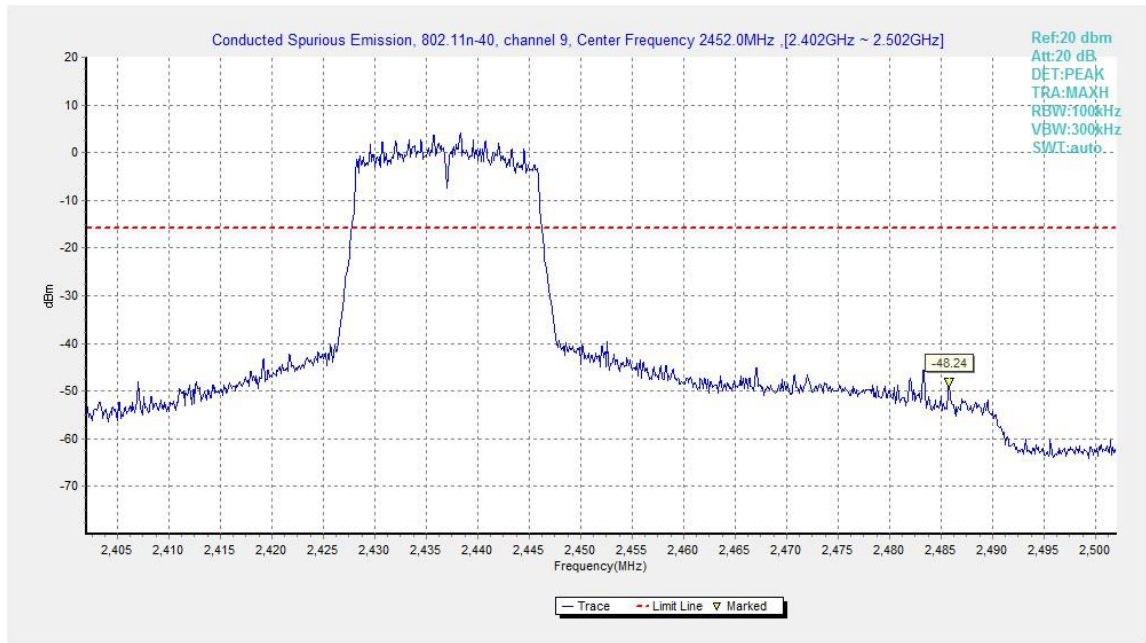




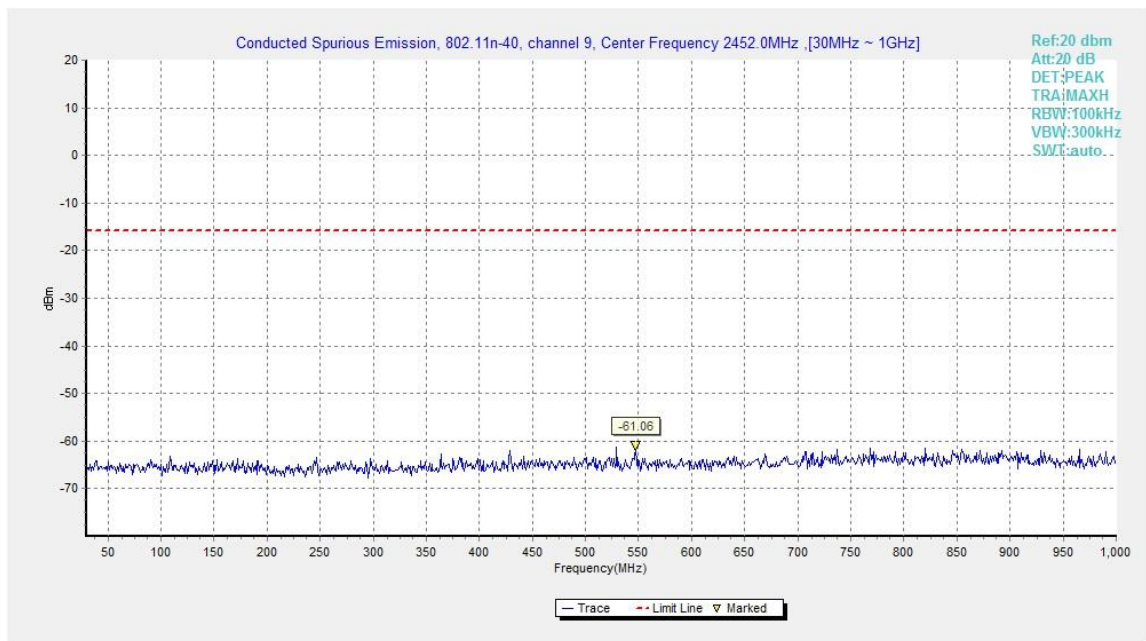
**Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)**



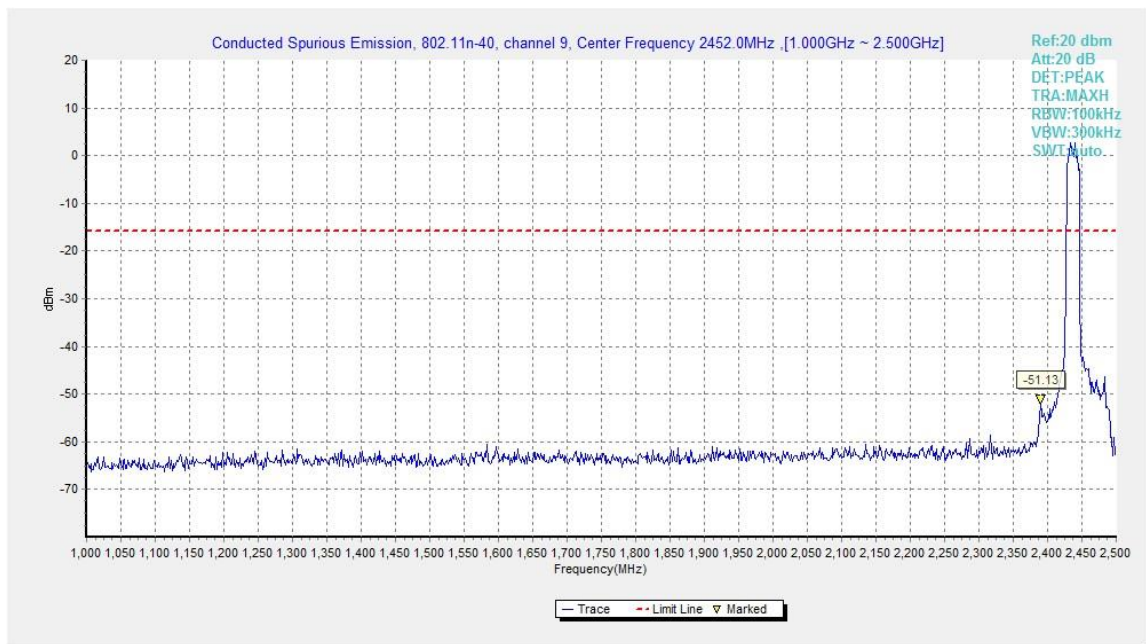
**Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)**



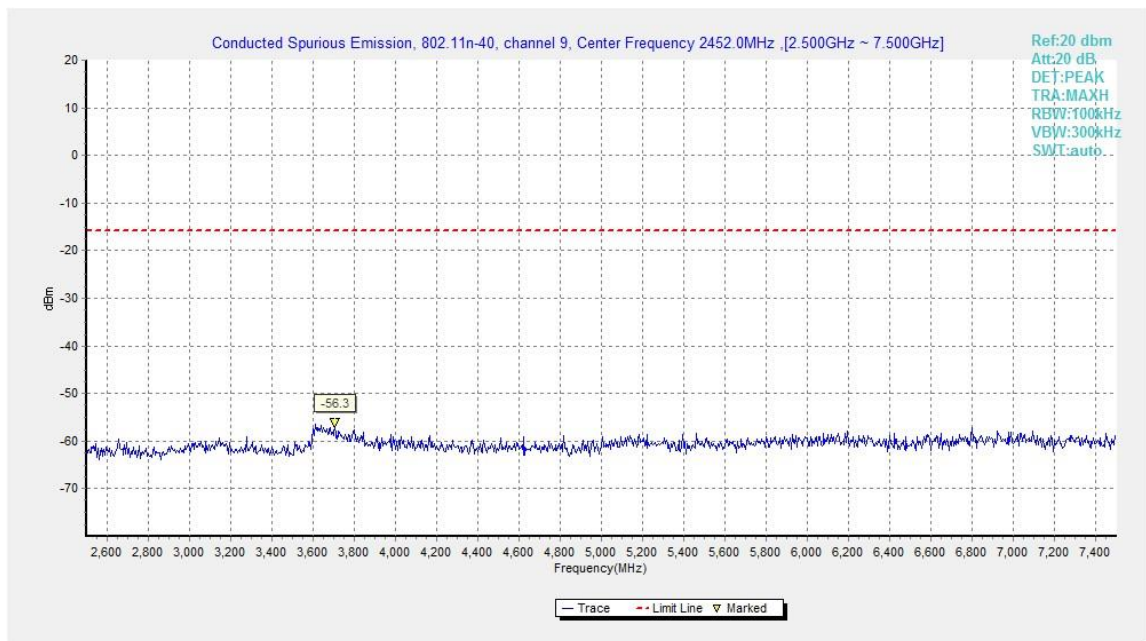
**Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)**



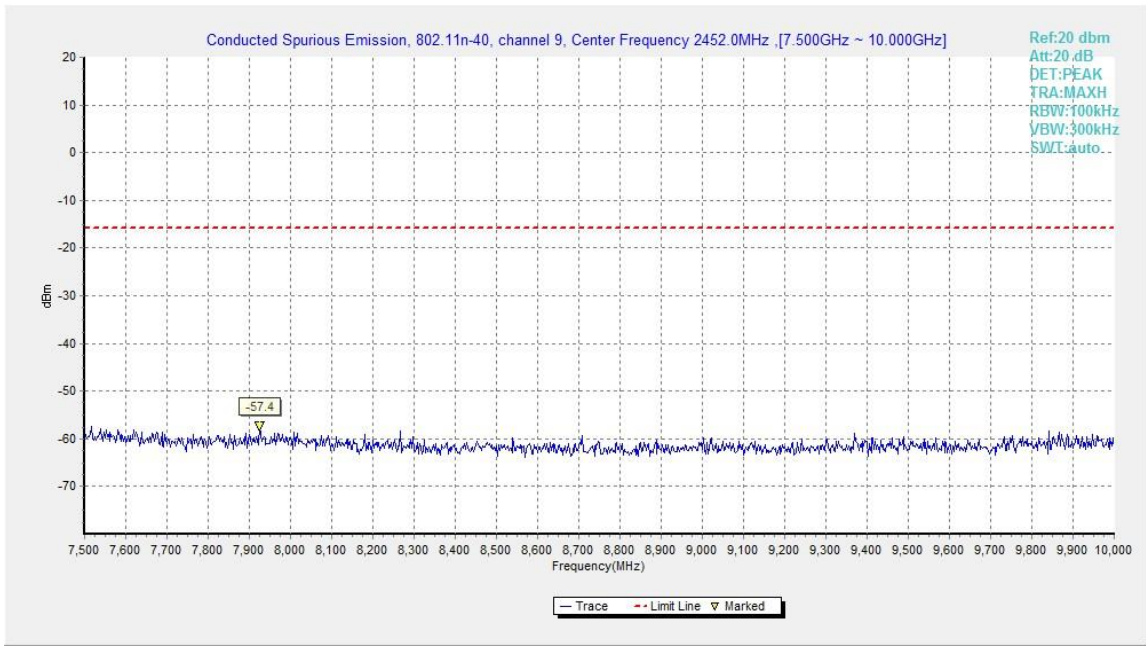
**Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)**



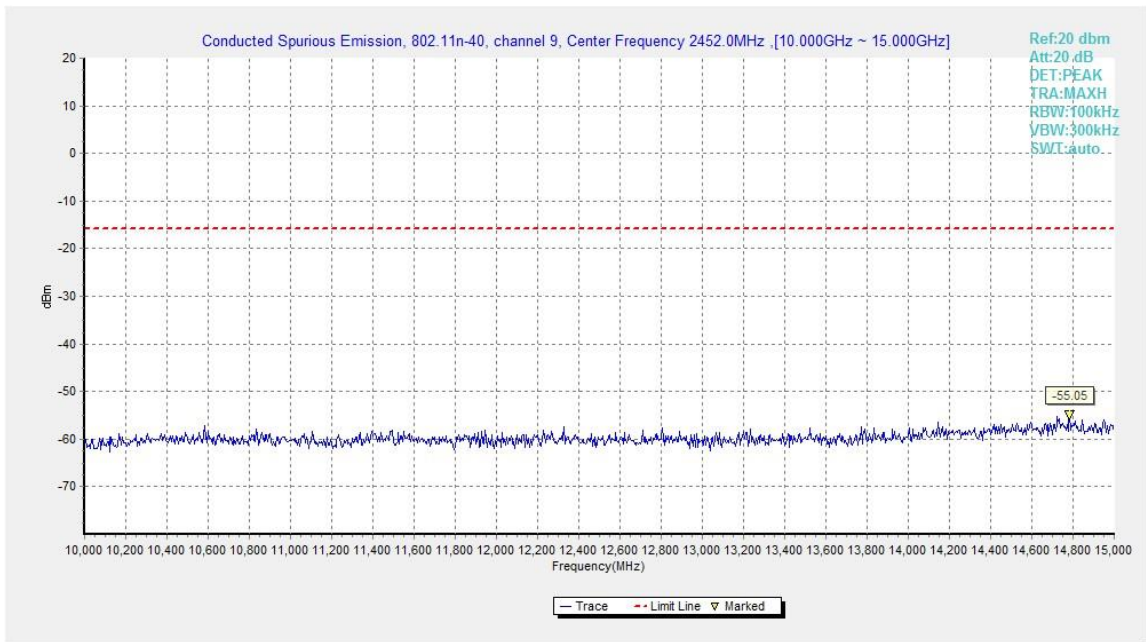
**Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)**



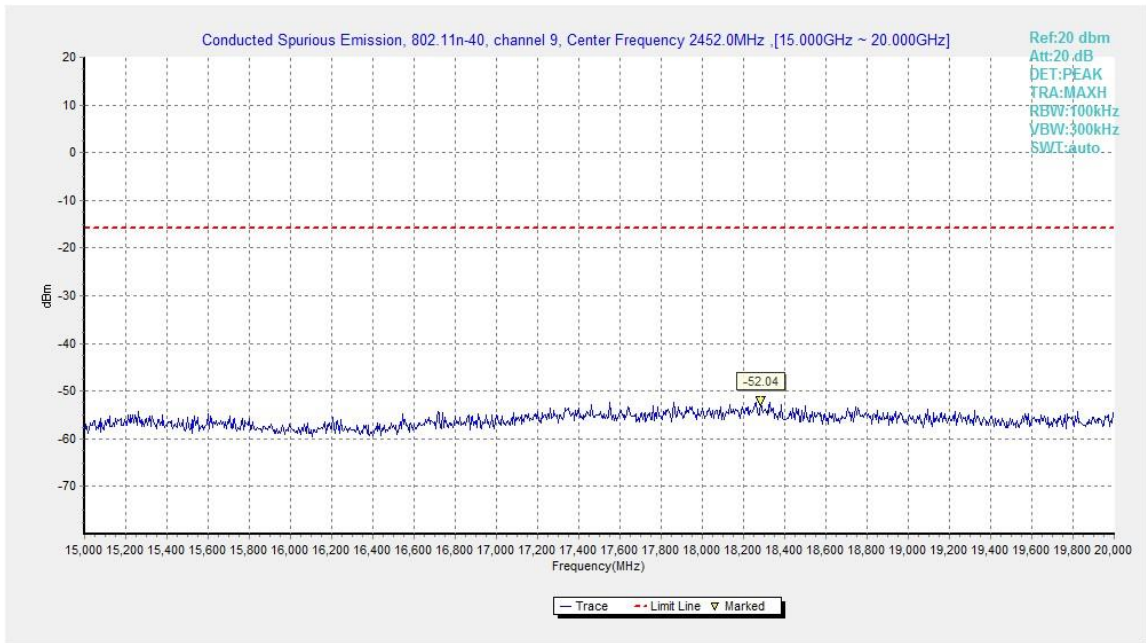
**Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)**



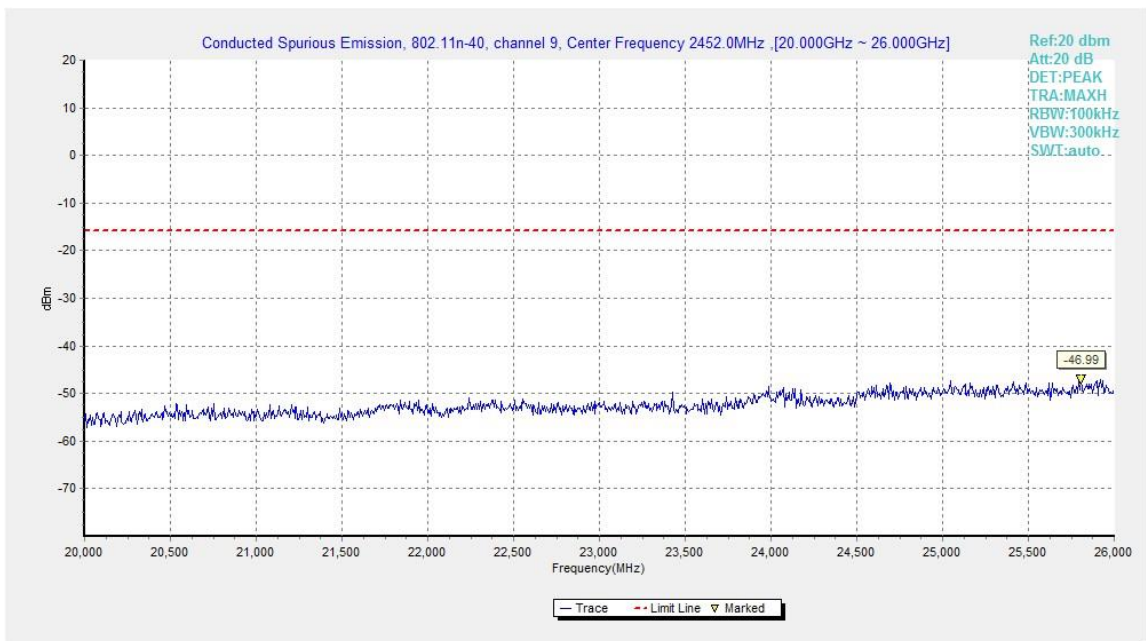
**Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)**



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



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



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

### A.6.2 Transmitter Spurious Emission - Radiated

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

**Measurement Limit:**

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

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

**Limit in restricted band:**

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

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

### Test Condition

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

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

**EUT ID: EUT10**

**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
	Power	18 GHz~ 26.5 GHz	--	P
		2.45GHz ~2.5GHz	Fig.A.6.2.2	P
		11	1 GHz ~ 3 GHz	--
3 GHz ~ 18 GHz	--		P	

**802.11g mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power	2.38GHz ~2.43GHz	Fig.A.6.2.3	P
	1	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.4	P
	11	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P

**802.11n-HT20 mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.5	P
	1	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
	6	30 MHz ~1 GHz	--	P
		1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P
		18 GHz~ 26.5 GHz	--	P
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.6	P
	11	1 GHz ~ 3 GHz	--	P
		3 GHz ~ 18 GHz	--	P

**802.11n-HT40 mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	Power	2.38GHz ~2.43GHz	Fig.A.6.2.7	<b>P</b>
	3	1 GHz ~ 3 GHz	--	<b>P</b>
		3 GHz ~ 18 GHz	--	<b>P</b>
	6	30 MHz ~1 GHz	--	<b>P</b>
		1 GHz ~ 3 GHz	--	<b>P</b>
		3 GHz ~ 18 GHz	--	<b>P</b>
		18 GHz~ 26.5 GHz	--	<b>P</b>
	Power	2.45GHz ~2.5GHz	Fig.A.6.2.8	<b>P</b>
	9	1 GHz ~ 3 GHz	--	<b>P</b>
		3 GHz ~ 18 GHz	--	<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:

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





**802.11b-Average**  
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.200	46.98	2.9	32.0	12.12	54.0	7.0	H	155	46
2390.000	47.02	2.9	32.0	12.17	54.0	7.0	H	155	60
4824.000	47.20	-32.8	34.5	45.45	54.0	6.8	H	155	116
7236.000	38.13	-31.7	36.1	33.77	54.0	15.9	H	155	8
9648.000	39.20	-30.4	37.0	32.52	54.0	14.8	H	155	128
12060.000	43.07	-29.6	39.3	33.40	54.0	10.9	H	155	94

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2415.300	47.39	2.9	31.8	12.73	54.0	6.6	H	155	92
2455.400	47.47	2.9	32.5	12.06	54.0	6.5	H	155	136
4874.000	53.42	-32.7	34.5	51.62	54.0	0.6	H	155	8
7311.000	38.68	-31.9	36.1	34.52	54.0	15.3	H	155	70
9748.000	40.52	-30.7	37.2	33.99	54.0	13.5	H	155	48
12185.000	44.26	-29.4	39.2	34.47	54.0	9.7	H	155	246

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.45	2.9	32.8	11.76	54.0	6.6	H	155	226
2488.100	47.53	2.9	32.6	11.97	54.0	6.5	H	155	92
4924.000	52.07	-33.1	34.5	50.65	54.0	1.9	H	155	70
7386.000	38.64	-31.8	36.0	34.43	54.0	15.4	H	155	8
9848.000	40.90	-30.1	37.3	33.65	54.0	13.1	H	155	48
12310.000	43.10	-29.7	39.2	33.63	54.0	10.9	H	155	246



**802.11b-Peak**  
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2381.050	60.95	2.9	32.1	26.04	74.0	13.1	H	155	44
2385.670	60.87	2.9	32.0	25.99	74.0	13.1	H	155	66
4824.000	50.53	-32.8	34.5	48.78	74.0	23.5	V	155	110
7236.000	43.03	-31.7	36.1	38.67	74.0	31.0	V	155	0
9648.000	44.48	-30.4	37.0	37.80	74.0	29.5	H	155	132
12060.000	48.39	-29.6	39.3	38.71	74.0	25.6	H	155	88

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2373.486	49.85	-26.8	32.1	44.53	74.0	24.2	H	155	88
2610.667	52.00	-26.8	33.1	45.77	74.0	22.0	V	155	132
4874.000	54.62	-32.7	34.5	52.83	74.0	19.4	H	155	0
7311.000	42.54	-31.9	36.1	38.37	74.0	31.5	H	155	66
9748.000	44.57	-30.7	37.2	38.04	74.0	29.4	V	155	44
12185.000	47.75	-29.4	39.2	37.95	74.0	26.3	V	155	242

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2491.560	60.75	2.9	32.5	25.27	74.0	13.3	H	155	220
2494.200	60.98	2.9	32.5	25.57	74.0	13.0	V	155	88
4924.000	54.46	-33.1	34.5	53.04	74.0	19.5	H	155	66
7386.000	44.20	-31.8	36.0	40.00	74.0	29.8	H	155	0
9848.000	45.28	-30.1	37.3	38.03	74.0	28.7	H	155	44
12310.000	48.19	-29.7	39.2	38.72	74.0	25.8	V	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)
2385.900	47.00	2.9	32.0	12.13	54.0	7.0	H	155	6
2390.000	47.04	2.9	32.0	12.19	54.0	7.0	H	155	26
4824.000	36.44	-32.8	34.5	34.70	54.0	17.6	H	155	92
7236.000	38.39	-31.7	36.1	34.03	54.0	15.6	H	155	24
9648.000	37.83	-30.4	37.0	31.14	54.0	16.2	H	155	136
12060.000	43.21	-29.6	39.3	33.54	54.0	10.8	H	155	356

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)
2412.100	47.27	2.9	31.8	12.59	54.0	6.7	H	155	8
2456.000	47.72	2.9	32.5	12.29	54.0	6.3	H	155	6
4874.000	38.90	-32.7	34.5	37.11	54.0	15.1	H	155	25
7311.000	38.05	-31.9	36.1	33.88	54.0	16.0	H	155	70
9748.000	38.29	-30.7	37.2	31.76	54.0	15.7	H	155	135
12185.000	43.75	-29.4	39.2	33.96	54.0	10.3	H	155	270

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	47.49	2.9	32.8	11.80	54.0	6.5	H	155	170
2486.100	47.50	2.9	32.7	11.88	54.0	6.5	H	155	150
4924.000	38.03	-33.1	34.5	36.61	54.0	16.0	H	155	20
7386.000	38.05	-31.8	36.0	33.84	54.0	16.0	H	155	180
9848.000	40.00	-30.1	37.3	32.74	54.0	14.0	H	155	202
12310.000	44.04	-29.7	39.2	34.56	54.0	10.0	H	155	8



**802.11g - Peak**  
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.946	60.78	2.9	32.0	25.93	74.0	13.2	V	155	0
2389.212	60.49	2.9	32.0	25.64	74.0	13.5	V	155	22
4824.000	43.86	-32.8	34.5	42.11	74.0	30.1	V	155	88
7236.000	40.43	-31.7	36.1	36.07	74.0	33.6	V	155	22
9648.000	40.96	-30.4	37.0	34.28	74.0	33.0	H	155	132
12060.000	45.11	-29.6	39.3	35.43	74.0	28.9	H	155	352

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2379.645	51.99	-26.3	32.1	46.26	74.0	22.0	H	155	0
2780.461	52.93	-26.3	33.3	45.91	74.0	21.1	V	155	0
4874.000	47.82	-32.7	34.5	46.03	74.0	26.2	V	155	22
7311.000	40.04	-31.9	36.1	35.88	74.0	34.0	V	155	66
9748.000	42.50	-30.7	37.2	35.97	74.0	31.5	V	155	132
12185.000	45.78	-29.4	39.2	35.99	74.0	28.2	V	155	274

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2491.320	60.56	2.9	32.5	25.08	74.0	13.4	H	155	176
2491.740	60.74	2.9	32.5	25.27	74.0	13.3	H	155	154
4924.000	47.44	-33.1	34.5	46.03	74.0	26.6	V	155	22
7386.000	39.97	-31.8	36.0	35.76	74.0	34.0	V	155	176
9848.000	42.78	-30.1	37.3	35.53	74.0	31.2	H	155	198
12310.000	45.31	-29.7	39.2	35.83	74.0	28.7	H	155	0



**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)
2387.700	46.99	2.9	32.0	12.13	54.0	7.0	H	155	25
2390.000	47.02	2.9	32.0	12.18	54.0	7.0	H	155	49
4824.000	36.58	-32.8	34.5	34.83	54.0	17.4	H	155	4
7236.000	38.33	-31.7	36.1	33.97	54.0	15.7	H	155	6
9648.000	37.84	-30.4	37.0	31.16	54.0	16.2	H	155	25
12060.000	43.24	-29.6	39.3	33.56	54.0	10.8	H	155	186

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)
2415.800	47.57	2.9	31.8	12.91	54.0	6.4	H	155	4
2456.500	47.70	2.9	32.5	12.26	54.0	6.3	H	155	2
4874.000	38.28	-32.7	34.5	36.49	54.0	15.7	H	155	25
7311.000	38.03	-31.9	36.1	33.87	54.0	16.0	H	155	350
9748.000	38.22	-30.7	37.2	31.69	54.0	15.8	H	155	92
12185.000	43.73	-29.4	39.2	33.93	54.0	10.3	H	155	85

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	47.47	2.9	32.8	11.78	54.0	6.5	H	155	135
2488.300	47.51	2.9	32.6	11.95	54.0	6.5	H	155	160
4924.000	38.09	-33.1	34.5	36.67	54.0	15.9	H	155	92
7386.000	38.10	-31.8	36.0	33.90	54.0	15.9	H	155	115
9848.000	39.93	-30.1	37.3	32.67	54.0	14.1	H	155	112
12310.000	44.00	-29.7	39.2	34.53	54.0	10.0	H	155	85



**802.11n-HT20-Peak**  
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2382.254	60.54	2.9	32.0	25.64	74.0	13.5	H	155	22
2383.108	60.77	2.9	32.0	25.88	74.0	13.2	V	155	44
4824.000	43.21	-32.8	34.5	41.46	74.0	30.8	H	155	0
7236.000	40.36	-31.7	36.1	36.00	74.0	33.6	H	155	0
9648.000	40.90	-30.4	37.0	34.22	74.0	33.1	H	155	22
12060.000	45.76	-29.6	39.3	36.08	74.0	28.2	H	155	176

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2375.896	50.29	-26.6	32.1	44.78	74.0	23.7	H	155	0
2646.638	52.44	-26.7	33.6	45.53	74.0	21.6	H	155	0
4874.000	47.34	-32.7	34.5	45.55	74.0	26.7	V	155	22
7311.000	39.57	-31.9	36.1	35.40	74.0	34.4	V	155	352
9748.000	41.34	-30.7	37.2	34.81	74.0	32.7	V	155	88
12185.000	45.42	-29.4	39.2	35.63	74.0	28.6	V	155	88

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2487.080	61.35	2.9	32.7	25.75	74.0	12.7	H	155	132
2499.280	61.86	2.9	32.3	26.59	74.0	12.1	H	155	154
4924.000	47.67	-33.1	34.5	46.26	74.0	26.3	V	155	88
7386.000	39.95	-31.8	36.0	35.74	74.0	34.1	H	155	110
9848.000	42.54	-30.1	37.3	35.29	74.0	31.5	V	155	110
12310.000	45.07	-29.7	39.2	35.59	74.0	28.9	V	155	88



**802.11n-HT40-Average**  
Ch3

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2386.100	47.00	2.9	32.0	12.13	54.0	7.0	H	155	5
2390.000	47.03	2.9	32.0	12.18	54.0	7.0	H	155	25
4844.000	35.87	-32.7	34.5	34.06	54.0	18.1	H	155	356
7266.000	38.41	-31.9	36.1	34.18	54.0	15.6	H	155	350
9688.000	37.62	-30.7	37.1	31.24	54.0	16.4	H	155	185
12110.000	43.41	-29.5	39.3	33.64	54.0	10.6	H	155	187

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2408.700	47.53	2.9	31.8	12.8	54.0	6.5	H	155	90
2463.200	47.61	2.9	32.7	12.0	54.0	6.4	H	155	68
4874.000	36.22	-32.7	34.5	34.4	54.0	17.8	H	155	115
7311.000	38.05	-31.9	36.1	33.9	54.0	16.0	H	155	6
9748.000	38.23	-30.7	37.2	31.7	54.0	15.8	H	155	25
12185.000	43.75	-29.4	39.2	34.0	54.0	10.3	H	155	48

Ch9

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.500	47.48	2.9	32.8	11.8	54.0	6.5	H	155	20
2484.800	47.54	2.9	32.7	11.9	54.0	6.5	H	155	45
4904.000	36.33	-32.9	34.5	34.7	54.0	17.7	H	155	240
7356.000	38.00	-31.9	36.1	33.8	54.0	16.0	H	155	180
9808.000	39.27	-30.4	37.3	32.4	54.0	14.7	H	155	85
12260.000	43.90	-29.6	39.2	34.3	54.0	10.1	H	155	25



**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)
2384.186	60.08	2.9	32.0	25.19	74.0	13.9	H	155	0
2387.112	60.12	2.9	32.0	25.25	74.0	13.9	H	155	22
4844.000	41.34	-32.7	34.5	39.53	74.0	32.7	H	155	352
7266.000	40.57	-31.9	36.1	36.34	74.0	33.4	V	155	352
9688.000	40.58	-30.7	37.1	34.20	74.0	33.4	V	155	176
12110.000	45.31	-29.5	39.3	35.54	74.0	28.7	V	155	176

Ch6

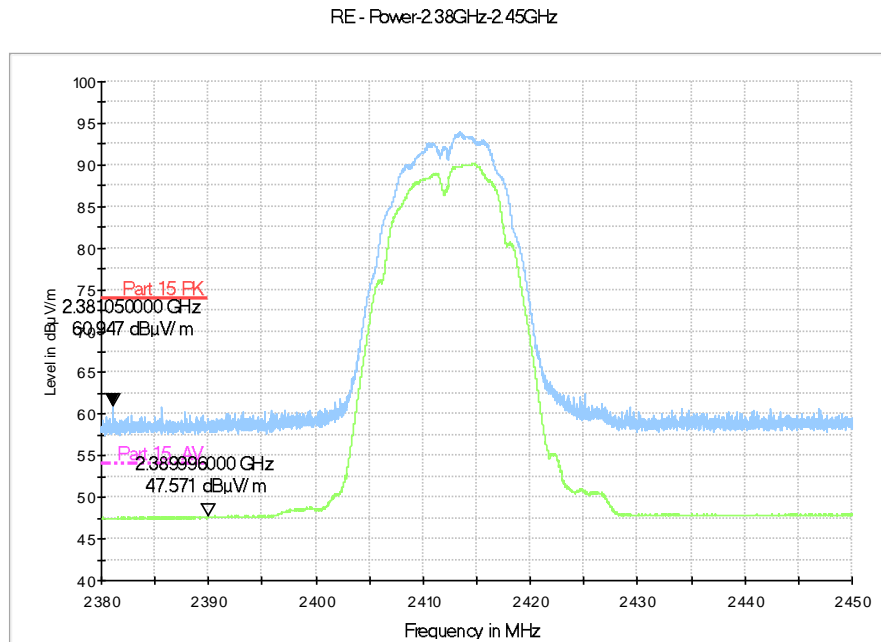
Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2374.568	50.33	-26.7	32.1	44.92	74.0	23.7	H	155	88
2585.624	51.61	-26.9	33.0	45.50	74.0	22.4	H	155	66
4874.000	41.24	-32.7	34.5	39.45	74.0	32.8	V	155	110
7311.000	40.61	-31.9	36.1	36.45	74.0	33.4	H	155	0
9748.000	41.16	-30.7	37.2	34.64	74.0	32.8	H	155	22
12185.000	45.28	-29.4	39.2	35.49	74.0	28.7	V	155	44

Ch9

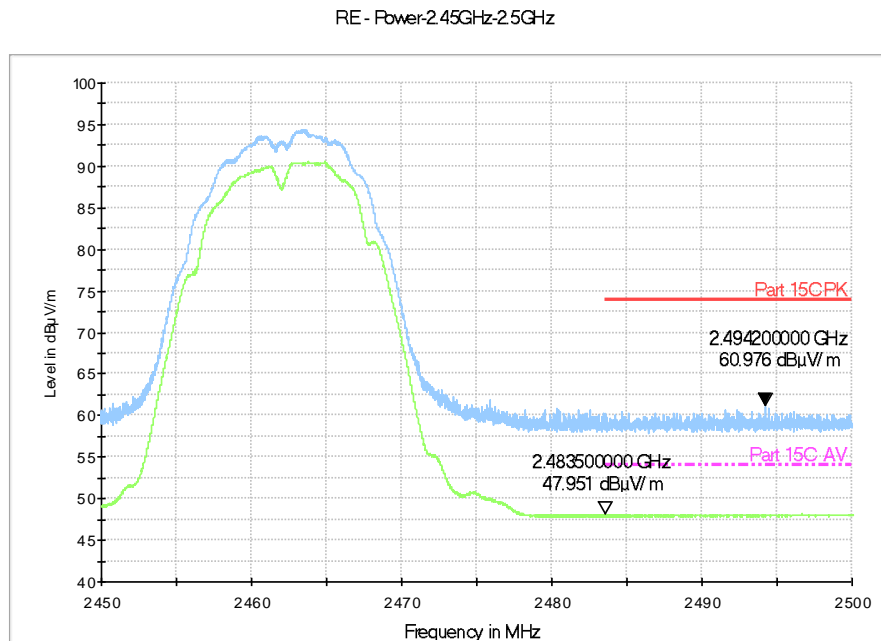
Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2484.010	60.80	2.9	32.7	25.12	74.0	13.2	H	155	22
2489.710	61.41	2.9	32.6	25.89	74.0	12.6	H	155	44
4904.000	42.25	-32.9	34.5	40.64	74.0	31.8	H	155	242
7356.000	39.92	-31.9	36.1	35.77	74.0	34.1	H	155	176
9808.000	41.47	-30.4	37.3	34.55	74.0	32.5	H	155	88
12260.000	45.68	-29.6	39.2	36.06	74.0	28.3	V	155	22



Test graphs as below:

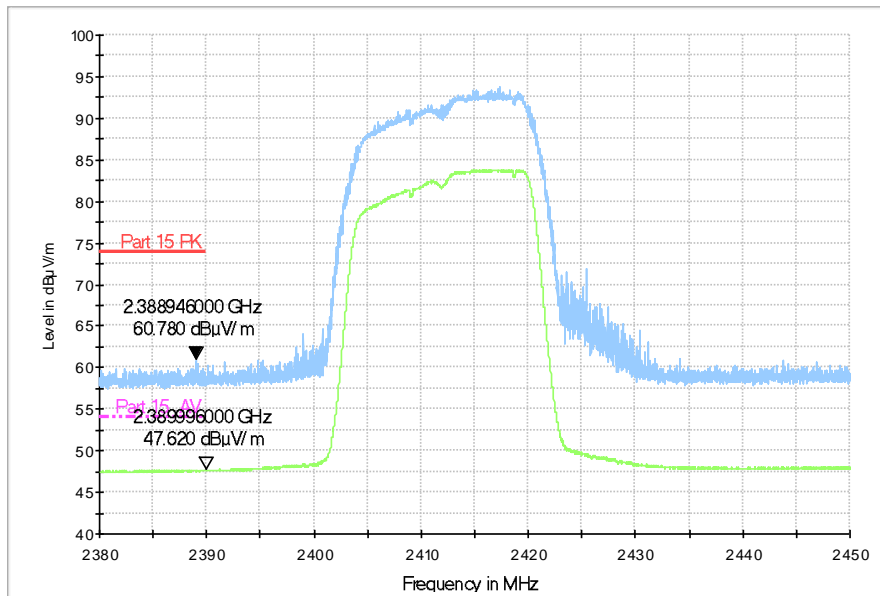


**Fig.A.6.2.1 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch1, 2.38 GHz – 2.43GHz**



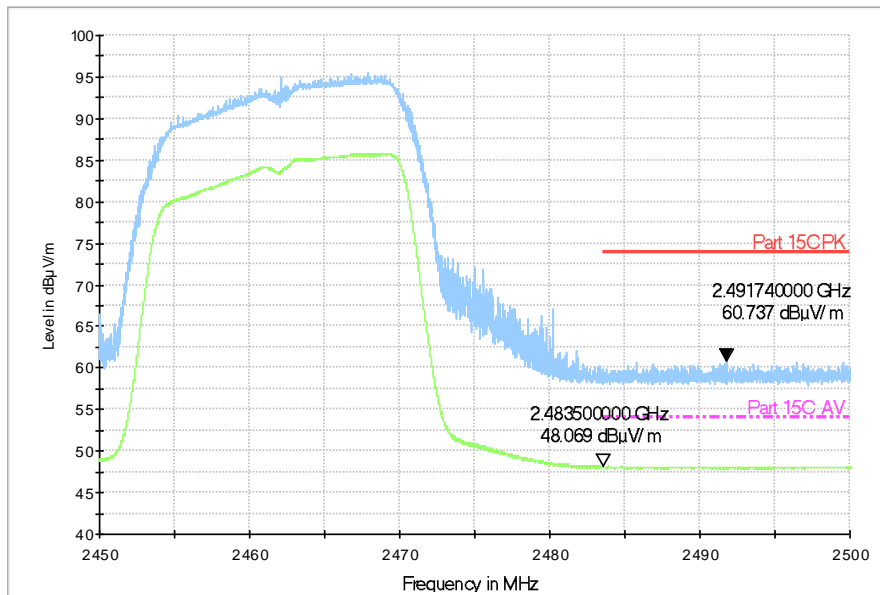
**Fig.A.6.2.2 Transmitter Spurious Emission - Radiated (Power): 802.11b, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



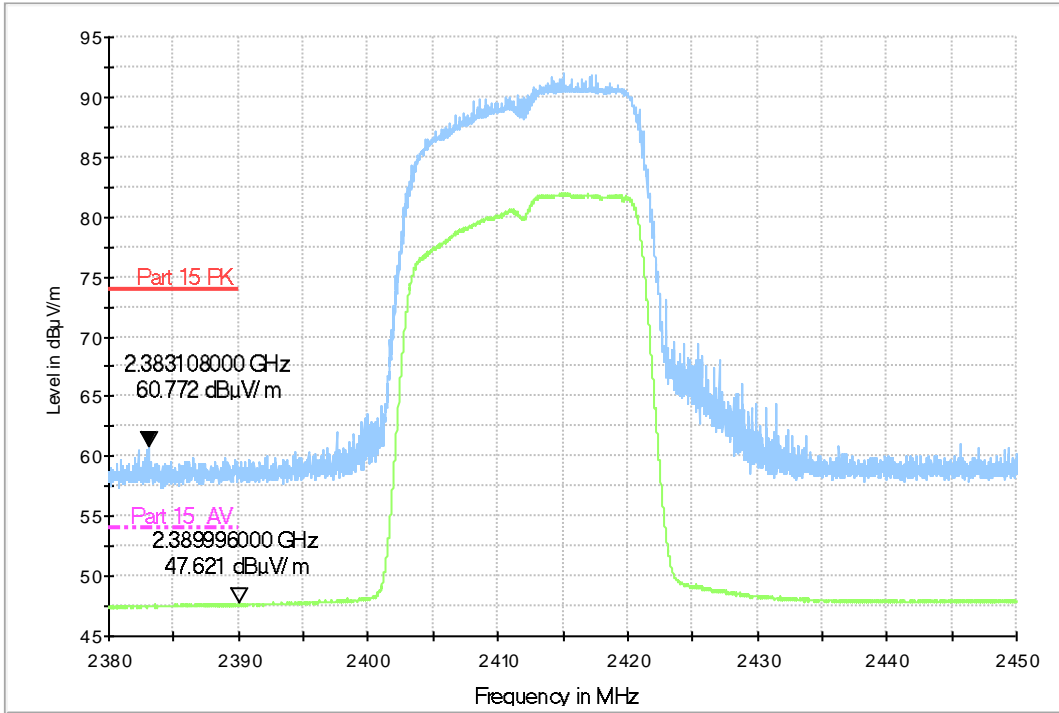
**Fig.A.6.2.3 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch1, 2.38 GHz - 2.43GHz**

RE - Power-2.45GHz-2.5GHz



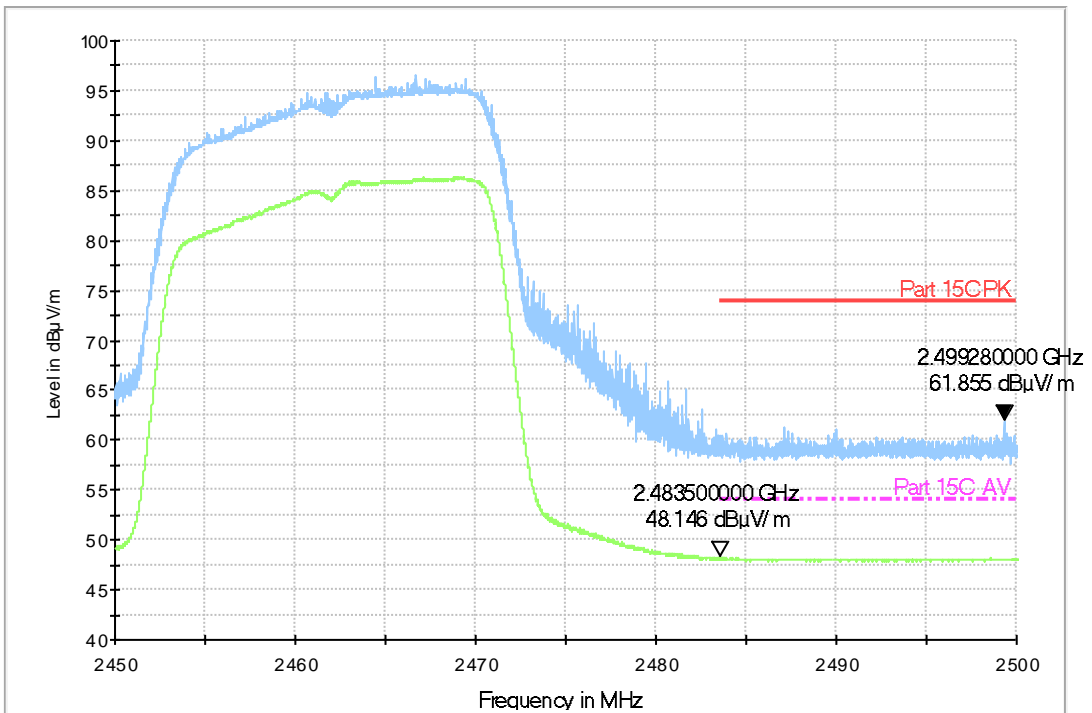
**Fig.A.6.2.4 Transmitter Spurious Emission - Radiated (Power): 802.11g, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



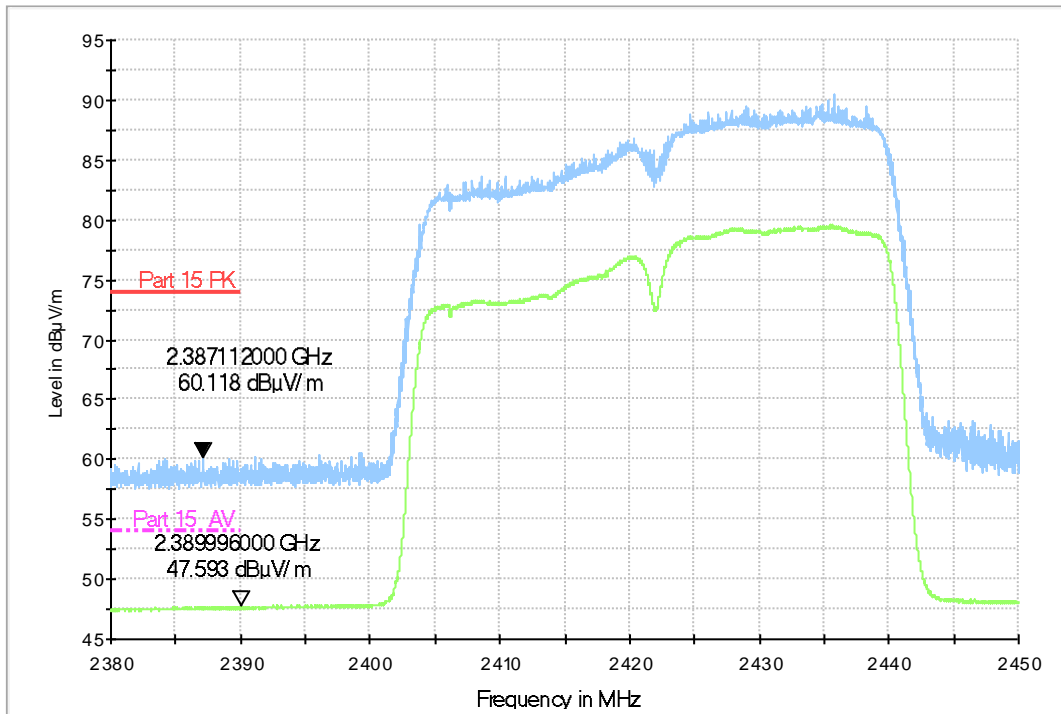
**Fig.A.6.2.5 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch1, 2.38 GHz - 2.45GHz**

RE - Power-2.45GHz-2.5GHz



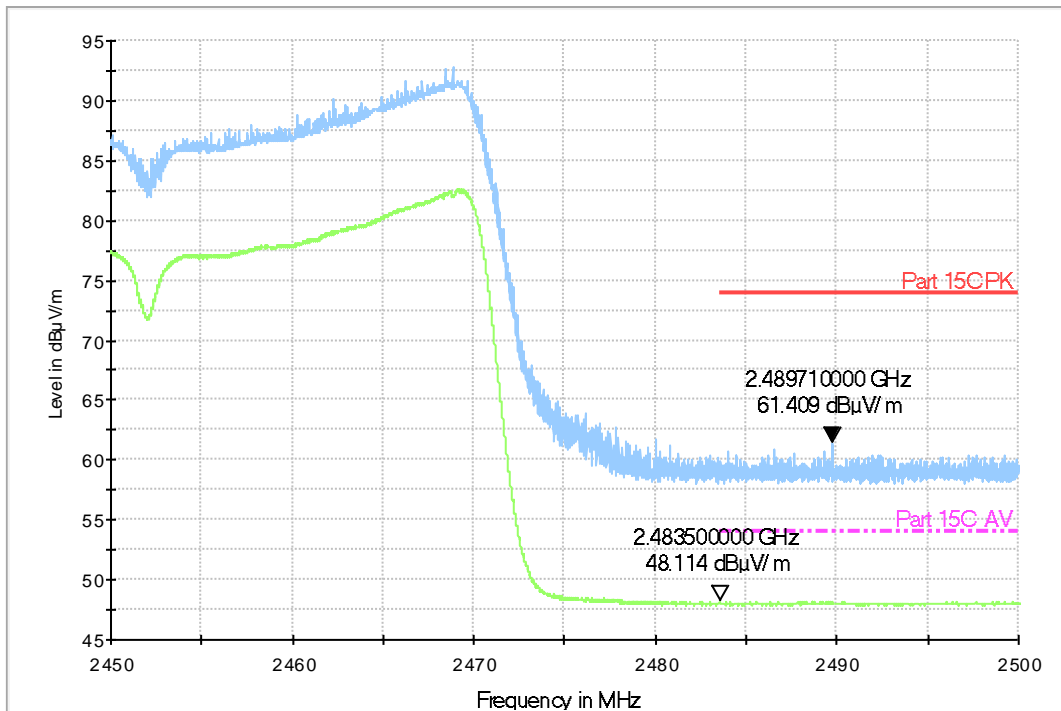
**Fig.A.6.2.6 Transmitter Spurious Emission - Radiated (Power): 802.11n-HT20, ch11, 2.45 GHz - 2.50GHz**

RE - Power-2.38GHz-2.45GHz



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

RE - Power-2.45GHz-2.5GHz



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

## **A.7. AC Power-line Conducted Emission**

### **Method of Measurement: See ANSI C63.10-2013-clause 6.2**

- 1 The one EUT cable configuration and arrangement and mode of operation that produced the emission with the highest amplitude relative to the limit is selected for the final measurement, while applying the appropriate modulating signal to the EUT.
- 2 If the EUT is relocated from an exploratory test site to a final test site, the highest emissions shall be remaximized at the final test location before final ac power-line conducted emission measurements are performed.
- 3 The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment in the system) is then performed for the full frequency range for which the EUT is being tested for compliance without further variation of the EUT arrangement, cable positions, or EUT mode of operation.
- 4 If the EUT is comprised of equipment units that have their own separate ac power connections, e.g., floor-standing equipment with independent power cords for each shelf that are able to connect directly to the ac power network, each current-carrying conductor of one unit is measured while the other units are connected to a second (or more) LISN(s). All units shall be separately measured. If a power strip is provided by the manufacturer, to supply all of the units making up the EUT, only the conductors in the power cord of the power strip shall be measured.
- 5 If the EUT uses a detachable antenna, these measurements shall be made with a suitable dummy load connected to the antenna output terminals; otherwise, the tests shall be made with the antenna connected and, if adjustable, fully extended. When measuring the ac conducted emissions from a device that operates between 150 kHz and 30 MHz a non-detachable antenna may be replaced with a dummy load for the measurements within the fundamental emission band of the transmitter, but only for those measurements.<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	<b>P</b>
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	<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:**

Traffic: Set.10

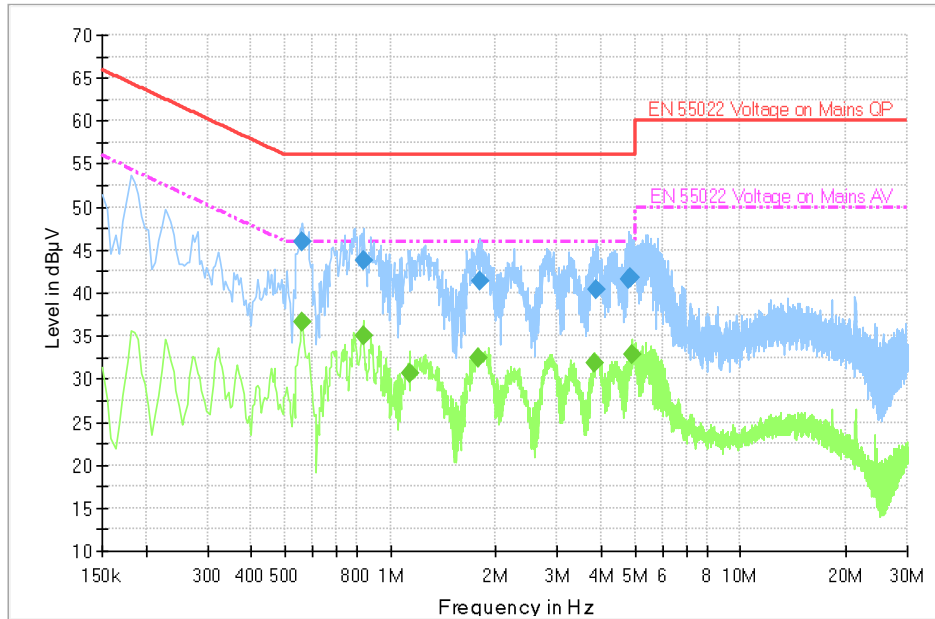


Fig.A.7.1 AC Power line Conducted Emission-802.11b

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

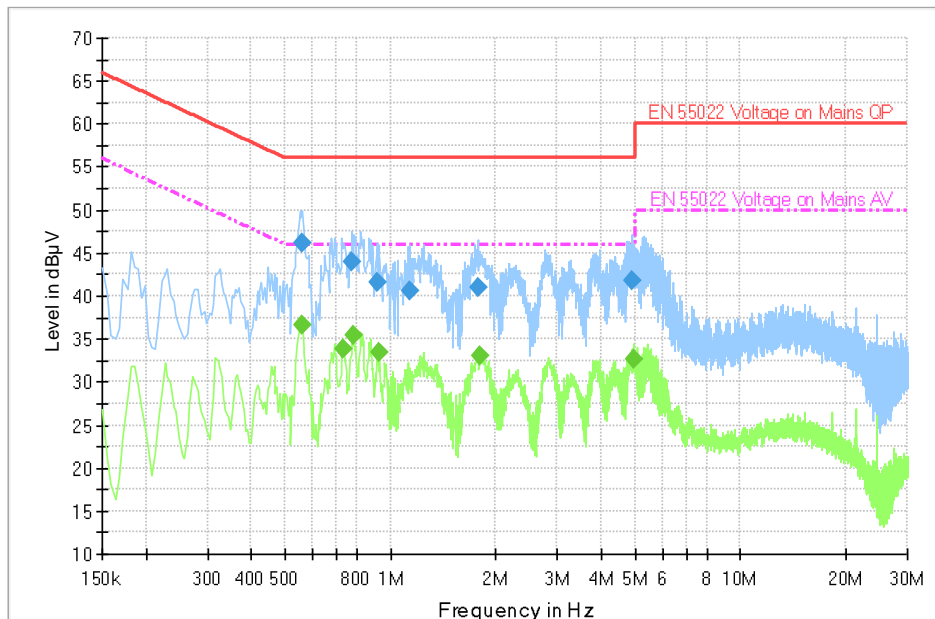
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.559500	45.9	2000.0	9.000	L1	10.2	10.1	56.0
0.834000	43.8	2000.0	9.000	L1	10.2	12.2	56.0
1.806000	41.4	2000.0	9.000	L1	10.2	14.6	56.0
3.867000	40.4	2000.0	9.000	L1	10.3	15.6	56.0
4.803000	41.7	2000.0	9.000	L1	10.3	14.3	56.0
4.861500	41.9	2000.0	9.000	L1	10.3	14.1	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.559500	36.5	2000.0	9.000	L1	10.2	9.5	46.0
0.834000	35.0	2000.0	9.000	L1	10.2	11.0	46.0
1.135500	30.7	2000.0	9.000	L1	10.2	15.3	46.0
1.788000	32.4	2000.0	9.000	L1	10.2	13.6	46.0
3.826500	31.8	2000.0	9.000	L1	10.3	14.2	46.0
4.911000	32.8	2000.0	9.000	L1	10.3	13.2	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 (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.559500	46.1	2000.0	9.000	L1	10.2	9.9	56.0
0.775500	43.9	2000.0	9.000	L1	10.2	12.1	56.0
0.915000	41.5	2000.0	9.000	L1	10.2	14.5	56.0
1.131000	40.6	2000.0	9.000	L1	10.2	15.4	56.0
1.774500	41.1	2000.0	9.000	L1	10.2	14.9	56.0
4.897500	41.8	2000.0	9.000	L1	10.3	14.2	56.0

**Final Result 2**

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.559500	36.7	2000.0	9.000	L1	10.2	9.3	46.0
0.735000	33.9	2000.0	9.000	L1	10.2	12.1	46.0
0.784500	35.5	2000.0	9.000	L1	10.2	10.5	46.0
0.924000	33.4	2000.0	9.000	L1	10.2	12.6	46.0
1.806000	33.0	2000.0	9.000	L1	10.2	13.0	46.0
4.947000	32.6	2000.0	9.000	L1	10.3	13.4	46.0



Traffic: Set.14

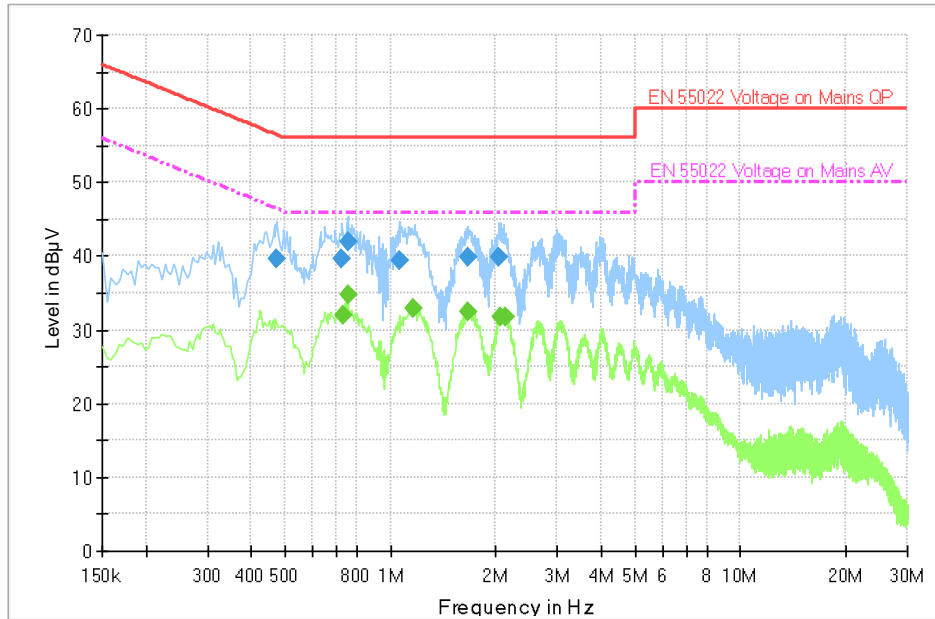


Fig.A.7.3 AC Power line Conducted Emission-802.11b

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

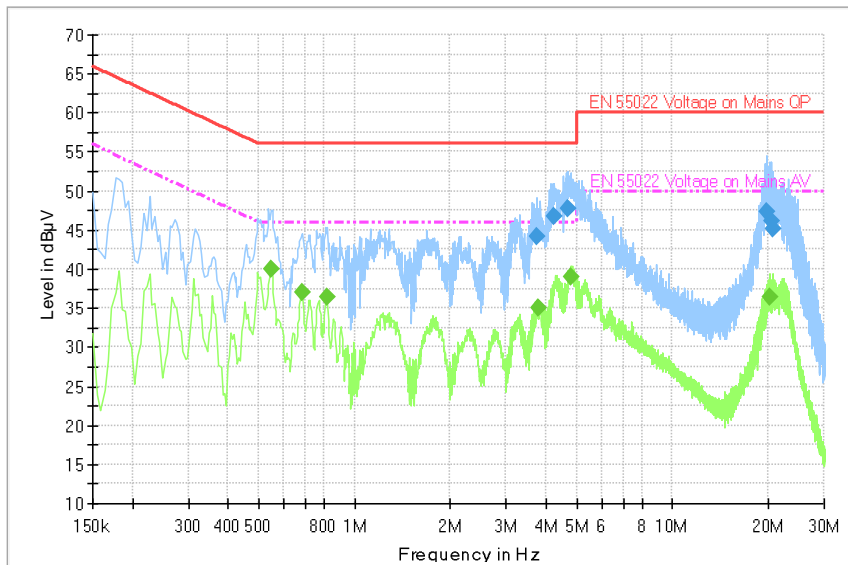
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.474000	39.7	2000.0	9.000	L1	10.2	16.8	56.4
0.726000	39.7	2000.0	9.000	L1	10.2	16.3	56.0
0.757500	41.9	2000.0	9.000	L1	10.2	14.1	56.0
1.059000	39.3	2000.0	9.000	L1	10.2	16.7	56.0
1.666500	39.8	2000.0	9.000	L1	10.2	16.2	56.0
2.035500	40.0	2000.0	9.000	L1	10.3	16.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.735000	32.1	2000.0	9.000	N	10.2	13.9	46.0
0.757500	34.7	2000.0	9.000	N	10.2	11.3	46.0
1.158000	33.0	2000.0	9.000	N	10.2	13.0	46.0
1.666500	32.5	2000.0	9.000	N	10.2	13.5	46.0
2.071500	31.9	2000.0	9.000	N	10.3	14.1	46.0
2.130000	31.7	2000.0	9.000	N	9.8	14.3	46.0

Traffic:Set.16



**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 (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
3.741000	44.1	2000.0	9.000	L1	10.2	11.9	56.0
4.258500	46.8	2000.0	9.000	L1	10.2	9.2	56.0
4.668000	47.7	2000.0	9.000	L1	10.2	8.3	56.0
19.788000	47.3	2000.0	9.000	L1	10.8	12.7	60.0
20.355000	46.3	2000.0	9.000	L1	10.9	13.7	60.0
20.746500	45.2	2000.0	9.000	L1	10.9	14.8	60.0

**Final Result 2**

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.546000	40.1	2000.0	9.000	N	10.2	5.9	46.0
0.685500	37.0	2000.0	9.000	N	10.2	9.0	46.0
0.816000	36.3	2000.0	9.000	N	10.2	9.7	46.0
3.772500	35.1	2000.0	9.000	L1	10.2	10.9	46.0
4.816500	38.9	2000.0	9.000	L1	10.2	7.1	46.0
20.305500	36.4	2000.0	9.000	L1	10.9	13.6	50.0

**ANNEX B: Accreditation Certificate**

United States Department of Commerce  
National Institute of Standards and Technology



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**Certificate of Accreditation to ISO/IEC 17025:2005**

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NVLAP LAB CODE: 600118-0

**Telecommunication Technology Labs, CAICT**

Beijing  
China

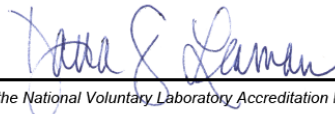
*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**Electromagnetic Compatibility & Telecommunications**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

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



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For the National Voluntary Laboratory Accreditation Program

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