

A.5. Band Edges Compliance

Method of Measurement: See ANSI C63.10-2009-clause 6.9.2

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below (be sure to enter all losses between the unlicensed wireless device output and the spectrum analyzer).

- Span: Set Span for minimum 50 MHz
- Reference Level: 110 dB μ V (corrected for gains and losses of test antenna factor, preamp gain and cable loss)
- Attenuation: 10 dB
- Sweep Time: Coupled
- Resolution Bandwidth: Up to and including 1 GHz = ≥ 100 kHz
- Resolution Bandwidth: Above 1 GHz = 1 MHz
- Video Bandwidth: Below 1 GHz = 300 kHz
- Video Bandwidth: Up to and including 1 GHz = ≥ 3 MHz for peak and 10 Hz for average
- Detector: Peak

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel.

Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.247 (d)	> 20

EUT ID: EUT2

Measurement Result:

802.11b/g mode

Mode	Channel	Test Results	Conclusion
802.11b	1	Fig.A.5.1	P
	11	Fig.A.5.2	P
802.11g	1	Fig.A.5.3	P
	11	Fig.A.5.4	P

802.11n-HT20 mode

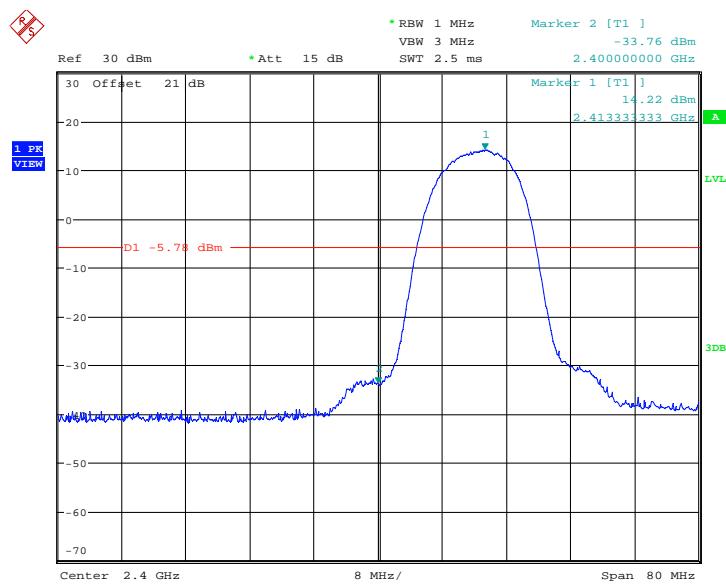
Mode	Channel	Test Results	Conclusion
802.11n (HT20)	1	Fig.A.5.5	P
	11	Fig.A.5.6	P

802.11n-HT40 mode

Mode	Channel	Test Results	Conclusion
802.11n (HT40)	3	Fig.A.5.7	P
	9	Fig.A.5.8	P

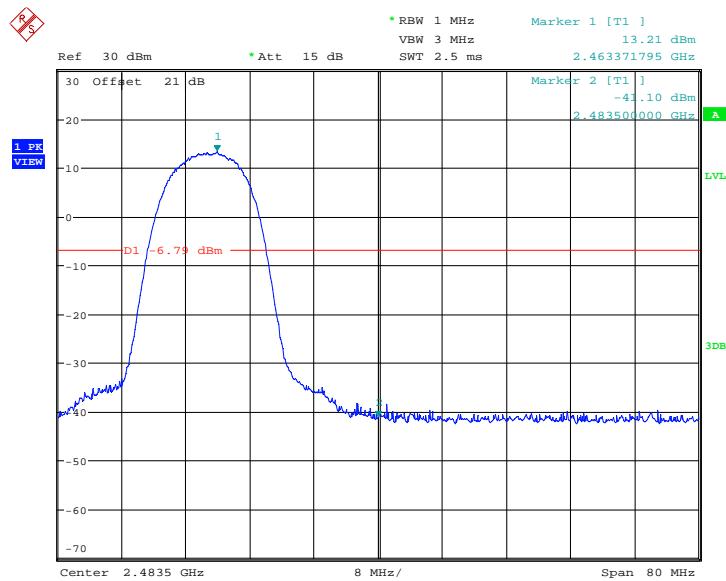
Conclusion: Pass

Test graphs as below:



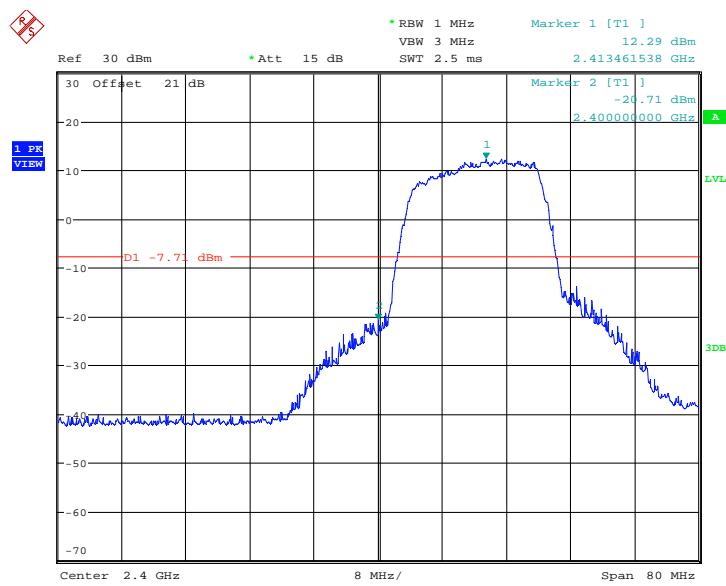
Date: 19.MAY.2015 15:57:35

Fig.A.5.1 Band Edges (802.11b, Ch 1)



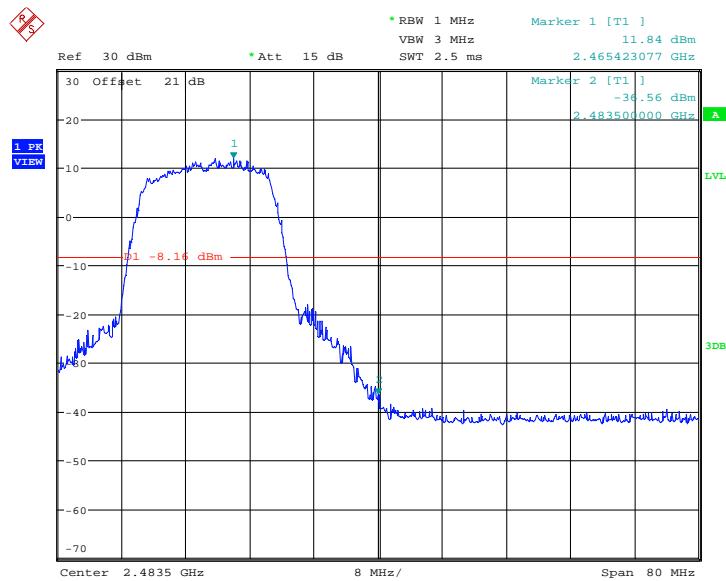
Date: 19.MAY.2015 16:11:49

Fig.A.5.2 Band Edges (802.11b, Ch 11)



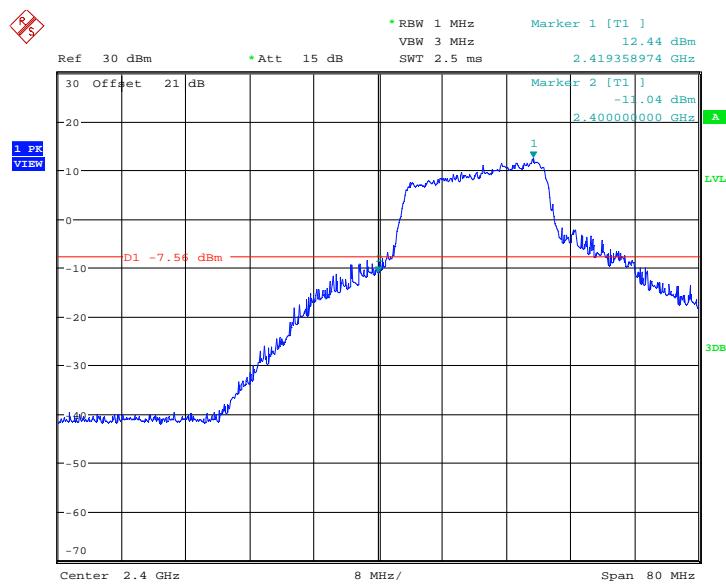
Date: 19.MAY.2015 16:00:58

Fig.A.5.3 Band Edges (802.11g, Ch 1)



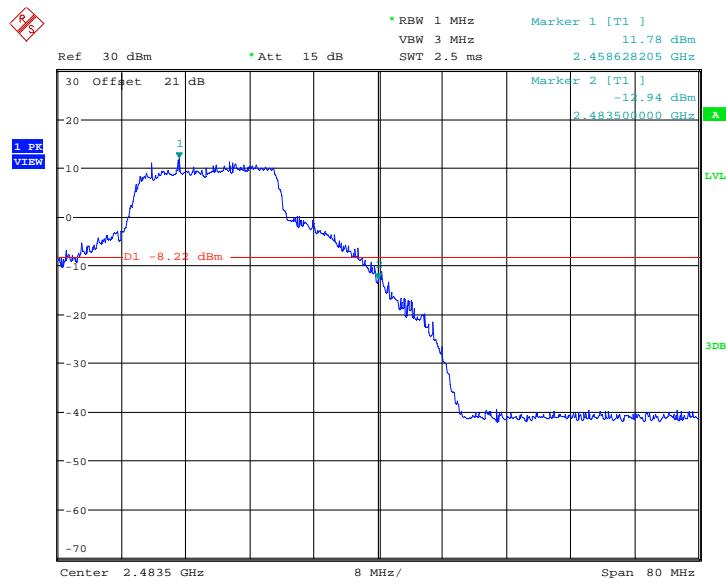
Date: 19.MAY.2015 16:10:42

Fig.A.5.4 Band Edges (802.11g, Ch 11)



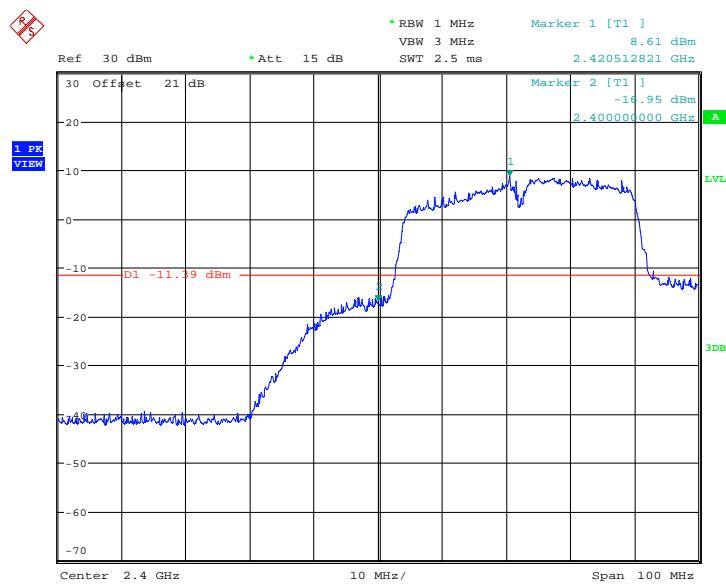
Date: 19.MAY.2015 16:03:34

Fig.A.5.5 Band Edges (802.11n-HT20, Ch 1)



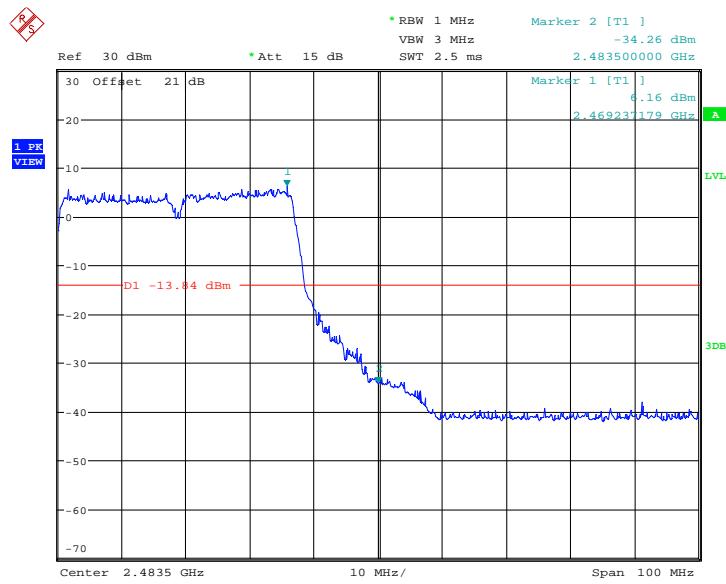
Date: 19.MAY.2015 16:09:41

Fig.A.5.6 Band Edges (802.11n-HT20, Ch 11)



Date: 19.MAY.2015 16:04:59

Fig.A.5.7 Band Edges (802.11n-HT40, Ch 3)



Date: 19.MAY.2015 16:06:24

Fig.A.5.8 Band Edges (802.11n-HT40, Ch 9)

A.6. Transmitter Spurious Emission

A.6.1 Transmitter Spurious Emission – Conducted

Method of Measurement: See ANSI C63.10-2009-clause 6.5&6.6

Establish a reference level by using the following procedure:

- a) Set instrument center frequency to DTS channel center frequency
- b) Set the span to ≥ 1.5 times the DTS bandwidth
- c) Set the RBW= 100 kHz
- d) Set the VBW= 300 kHz
- e) Detector = Peak
- f) Sweep time = auto couple
- g) Trace mode = max hold
- h) Allow trace to fully stabilize
- i) Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

Establish an emission level by using the following procedure:

- a) Set the center frequency and span to encompass frequency range to be measured.
- b) Set the RBW = 100 kHz.
- c) Set the VBW = 300 kHz.
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use the peak marker function to determine the maximum amplitude level.

Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) is attenuated by at least the minimum requirements specified in 11.11. Report the three highest emissions relative to the limit.

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247 (d)	20dB below peak output power in 100 kHz bandwidth

EUT ID: EUT2

Measurement Results:

802.11b mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412 GHz	Fig.A.6.1.1	P
		30 MHz ~ 1 GHz	Fig.A.6.1.2	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.3	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.4	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.5	P
		10 GHz ~ 15 GHz	Fig.A.6.1.6	P
		15 GHz ~ 20 GHz	Fig.A.6.1.7	P
		20 GHz ~ 26 GHz	Fig.A.6.1.8	P
	6	2.437 GHz	Fig.A.6.1.9	P
		30 MHz ~ 1 GHz	Fig.A.6.1.10	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.11	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.12	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.13	P
		10 GHz ~ 15 GHz	Fig.A.6.1.14	P
		15 GHz ~ 20 GHz	Fig.A.6.1.15	P
		20 GHz ~ 26 GHz	Fig.A.6.1.16	P
	11	2.462 GHz	Fig.A.6.1.17	P
		30 MHz ~ 1 GHz	Fig.A.6.1.18	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.19	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.20	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.21	P
		10 GHz ~ 15 GHz	Fig.A.6.1.22	P
		15 GHz ~ 20 GHz	Fig.A.6.1.23	P
		20 GHz ~ 26 GHz	Fig.A.6.1.24	P

802.11g mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11g	1	2.412 GHz	Fig.A.6.1.25	P
		30 MHz ~ 1 GHz	Fig.A.6.1.26	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.27	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.28	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.29	P
		10 GHz ~ 15 GHz	Fig.A.6.1.30	P
		15 GHz ~ 20 GHz	Fig.A.6.1.31	P
		20 GHz ~ 26 GHz	Fig.A.6.1.32	P
	6	2.437 GHz	Fig.A.6.1.33	P
		30 MHz ~ 1 GHz	Fig.A.6.1.34	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.35	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.36	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.37	P
		10 GHz ~ 15 GHz	Fig.A.6.1.38	P
		15 GHz ~ 20 GHz	Fig.A.6.1.39	P
		20 GHz ~ 26 GHz	Fig.A.6.1.40	P
	11	2.462 GHz	Fig.A.6.1.41	P
		30 MHz ~ 1 GHz	Fig.A.6.1.42	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.43	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.44	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.45	P
		10 GHz ~ 15 GHz	Fig.A.6.1.46	P
		15 GHz ~ 20 GHz	Fig.A.6.1.47	P
		20 GHz ~ 26 GHz	Fig.A.6.1.48	P

802.11n-HT20 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT20)	1	2.412 GHz	Fig.A.6.1.49	P
		30 MHz ~ 1 GHz	Fig.A.6.1.50	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.51	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.52	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.53	P
		10 GHz ~ 15 GHz	Fig.A.6.1.54	P
		15 GHz ~ 20 GHz	Fig.A.6.1.55	P
		20 GHz ~ 26 GHz	Fig.A.6.1.56	P
	6	2.437 GHz	Fig.A.6.1.57	P
		30 MHz ~ 1 GHz	Fig.A.6.1.58	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.59	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.60	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.61	P
		10 GHz ~ 15 GHz	Fig.A.6.1.62	P
		15 GHz ~ 20 GHz	Fig.A.6.1.63	P
		20 GHz ~ 26 GHz	Fig.A.6.1.64	P
	11	2.462 GHz	Fig.A.6.1.65	P
		30 MHz ~ 1 GHz	Fig.A.6.1.66	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.67	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.68	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.69	P
		10 GHz ~ 15 GHz	Fig.A.6.1.70	P
		15 GHz ~ 20 GHz	Fig.A.6.1.71	P
		20 GHz ~ 26 GHz	Fig.A.6.1.72	P

802.11n-HT40 mode

MODE	Channel	Frequency Range	Test Results	Conclusion
802.11n (HT40)	3	2.422 GHz	Fig.A.6.1.73	P
		30 MHz ~ 1 GHz	Fig.A.6.1.74	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.75	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.76	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.77	P
		10 GHz ~ 15 GHz	Fig.A.6.1.78	P
		15 GHz ~ 20 GHz	Fig.A.6.1.79	P
		20 GHz ~ 26 GHz	Fig.A.6.1.80	P
	6	2.437 GHz	Fig.A.6.1.81	P
		30 MHz ~ 1 GHz	Fig.A.6.1.82	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.83	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.84	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.85	P
		10 GHz ~ 15 GHz	Fig.A.6.1.86	P
		15 GHz ~ 20 GHz	Fig.A.6.1.87	P
		20 GHz ~ 26 GHz	Fig.A.6.1.88	P
	9	2.452 GHz	Fig.A.6.1.89	P
		30 MHz ~ 1 GHz	Fig.A.6.1.90	P
		1 GHz ~ 2.5 GHz	Fig.A.6.1.91	P
		2.5 GHz ~ 7.5 GHz	Fig.A.6.1.92	P
		7.5 GHz ~ 10 GHz	Fig.A.6.1.93	P
		10 GHz ~ 15 GHz	Fig.A.6.1.94	P
		15 GHz ~ 20 GHz	Fig.A.6.1.95	P
		20 GHz ~ 26 GHz	Fig.A.6.1.96	P

Conclusion: Pass
Test graphs as below:

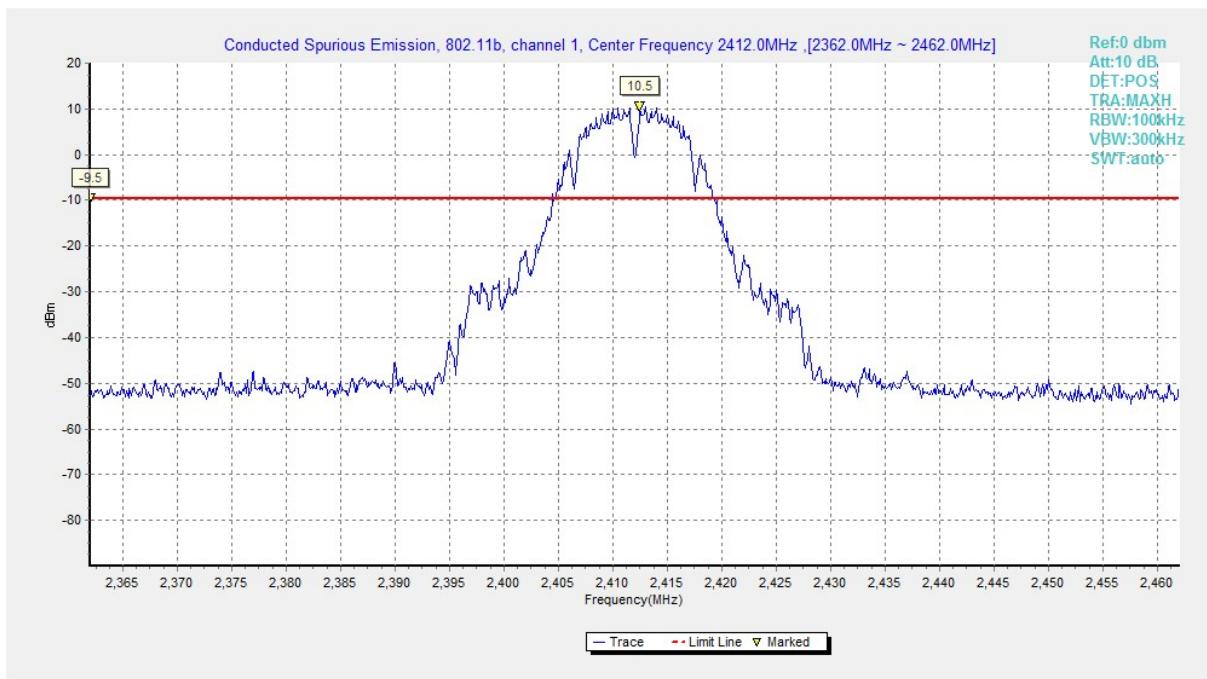


Fig.A.6.1.1 Transmitter Spurious Emission - Conducted (802.11b, Ch1, Center Frequency)

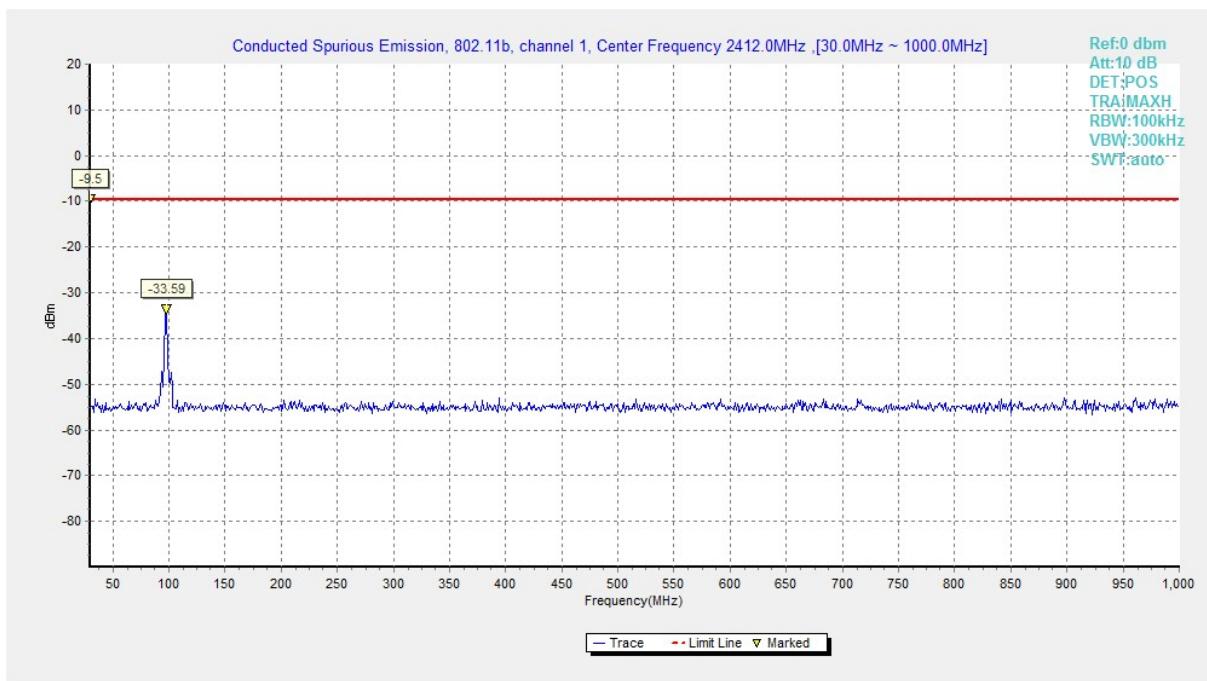


Fig.A.6.1.2 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 30 MHz-1 GHz)

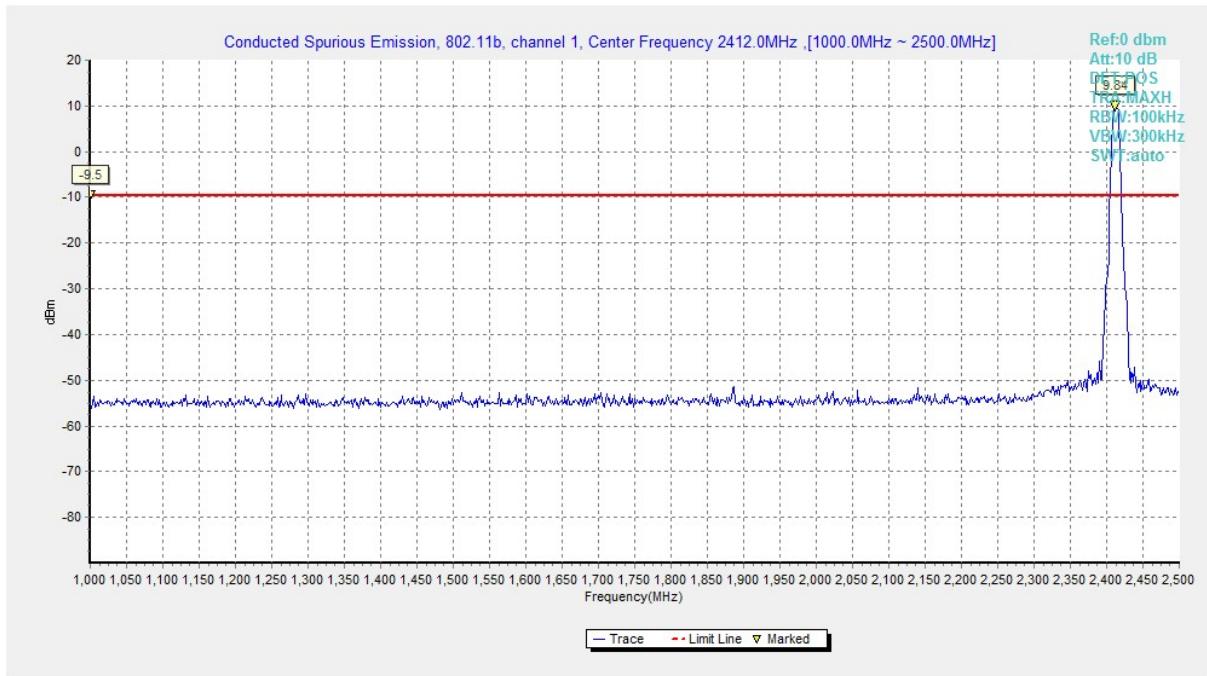


Fig.A.6.1.3 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 1 GHz-2.5 GHz)

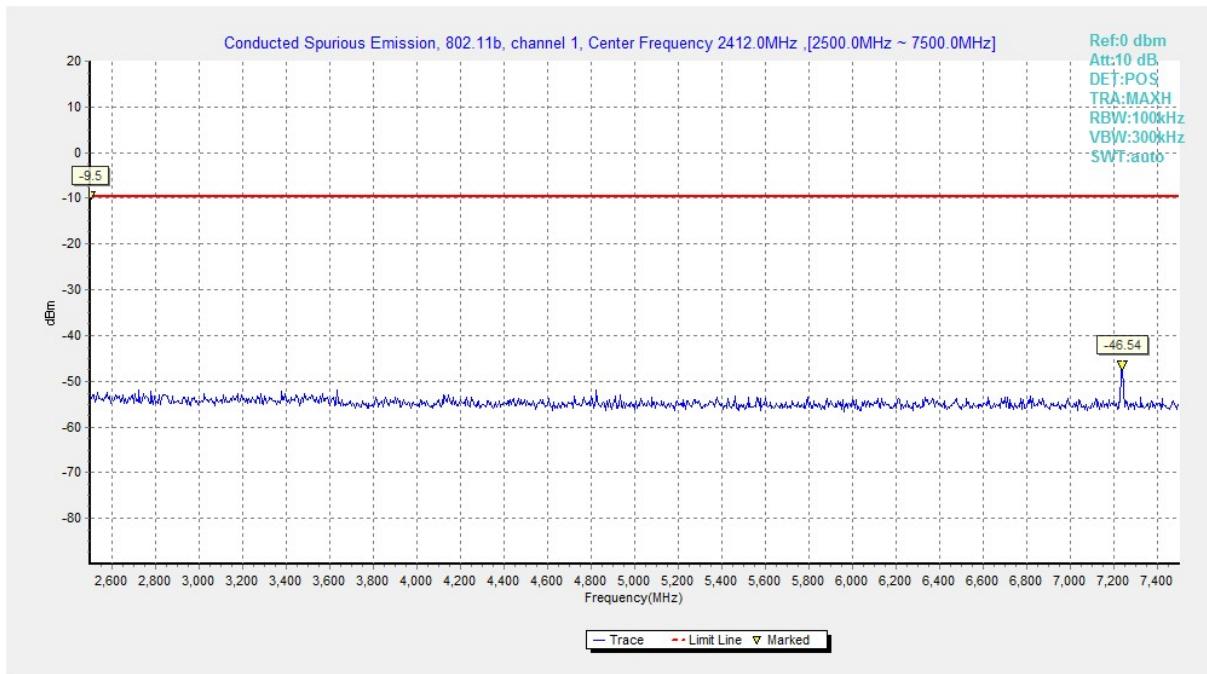


Fig.A.6.1.4 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 2.5 GHz-7.5 GHz)

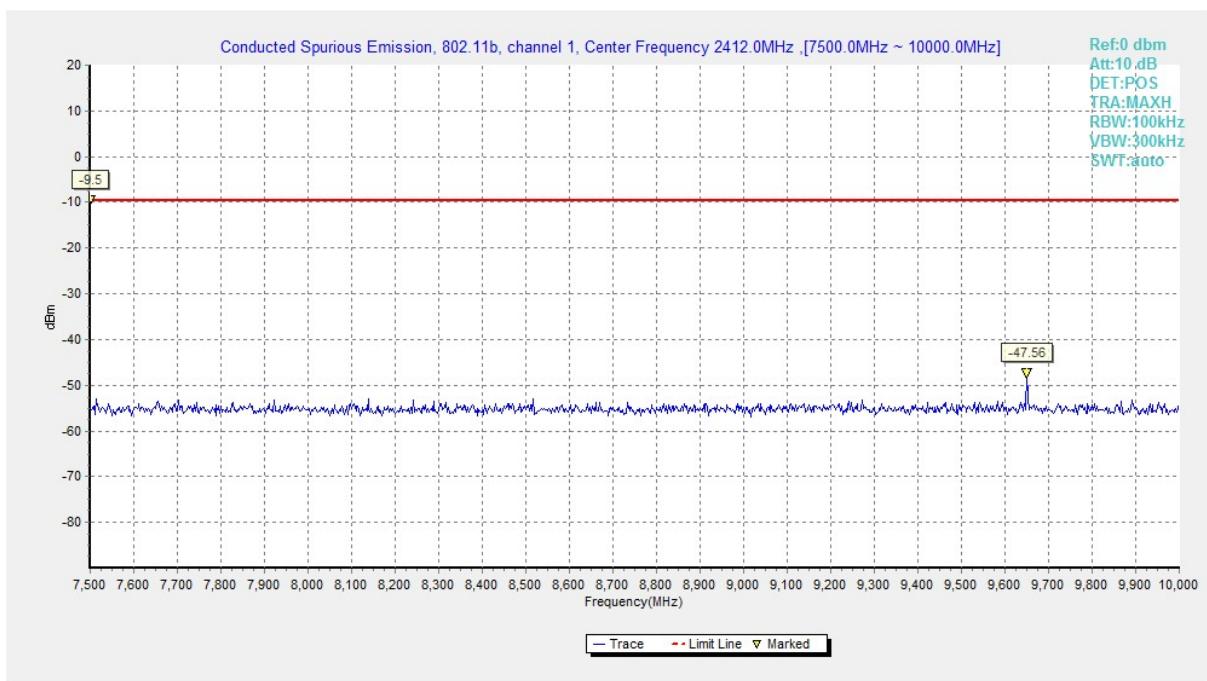


Fig.A.6.1.5 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 7.5 GHz-10 GHz)

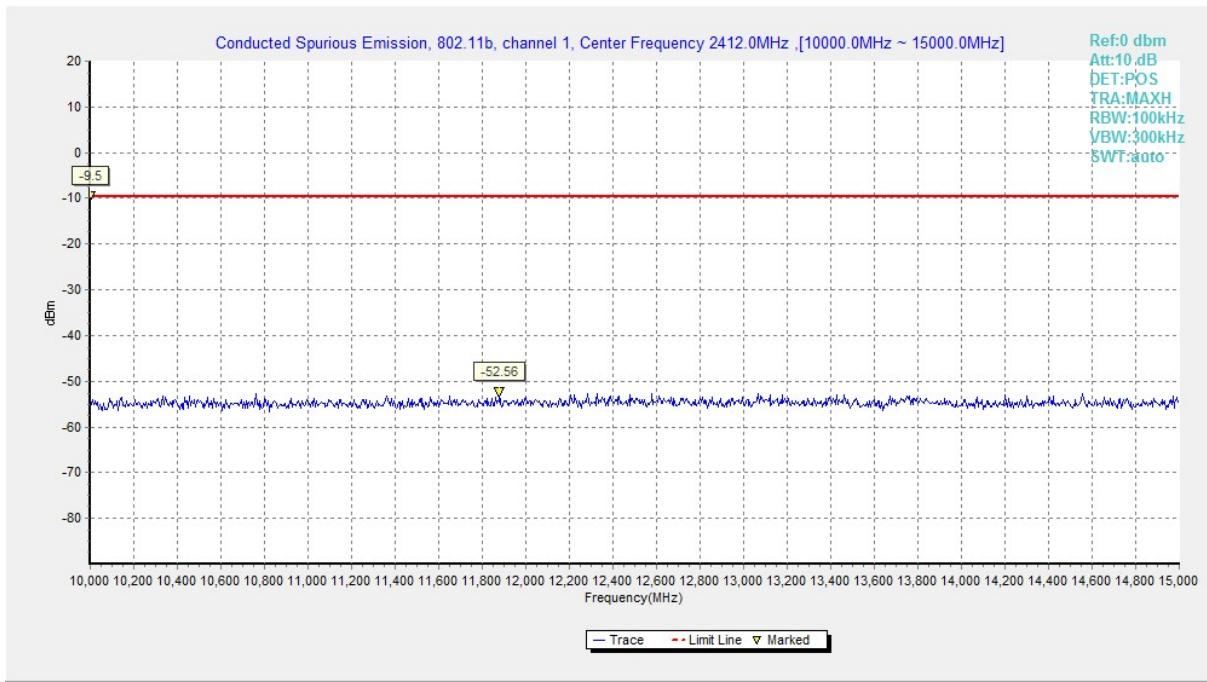


Fig.A.6.1.6 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 10 GHz-15 GHz)

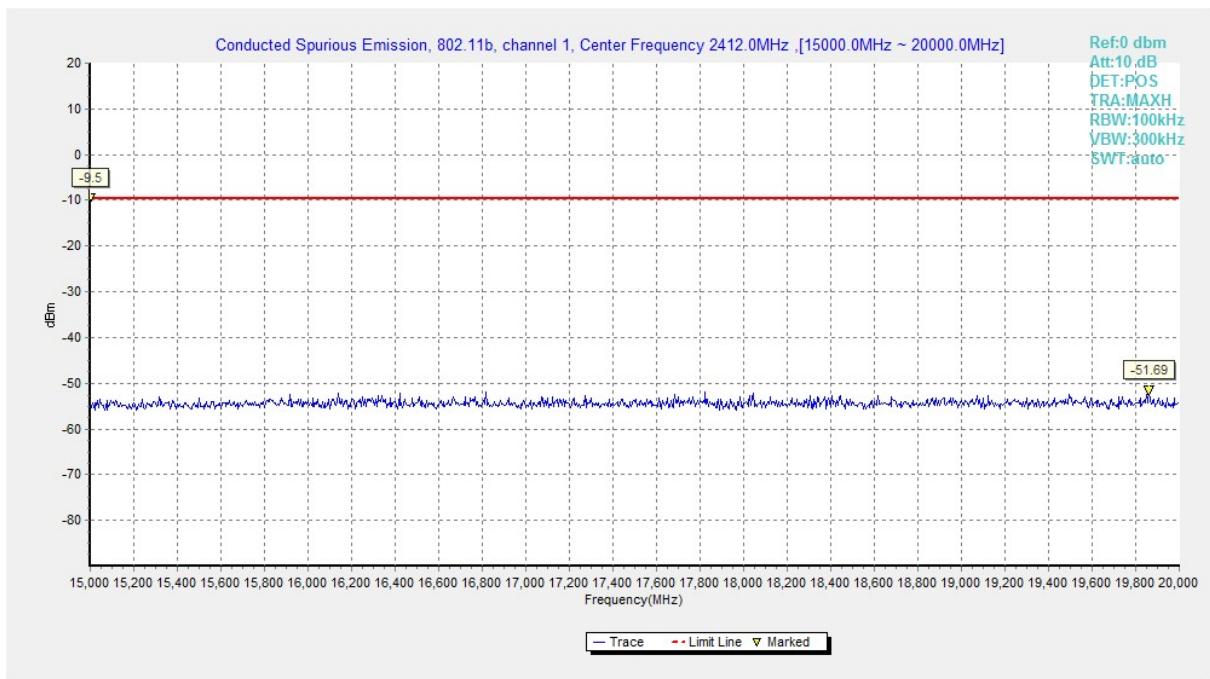


Fig.A.6.1.7 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 15 GHz-20 GHz)

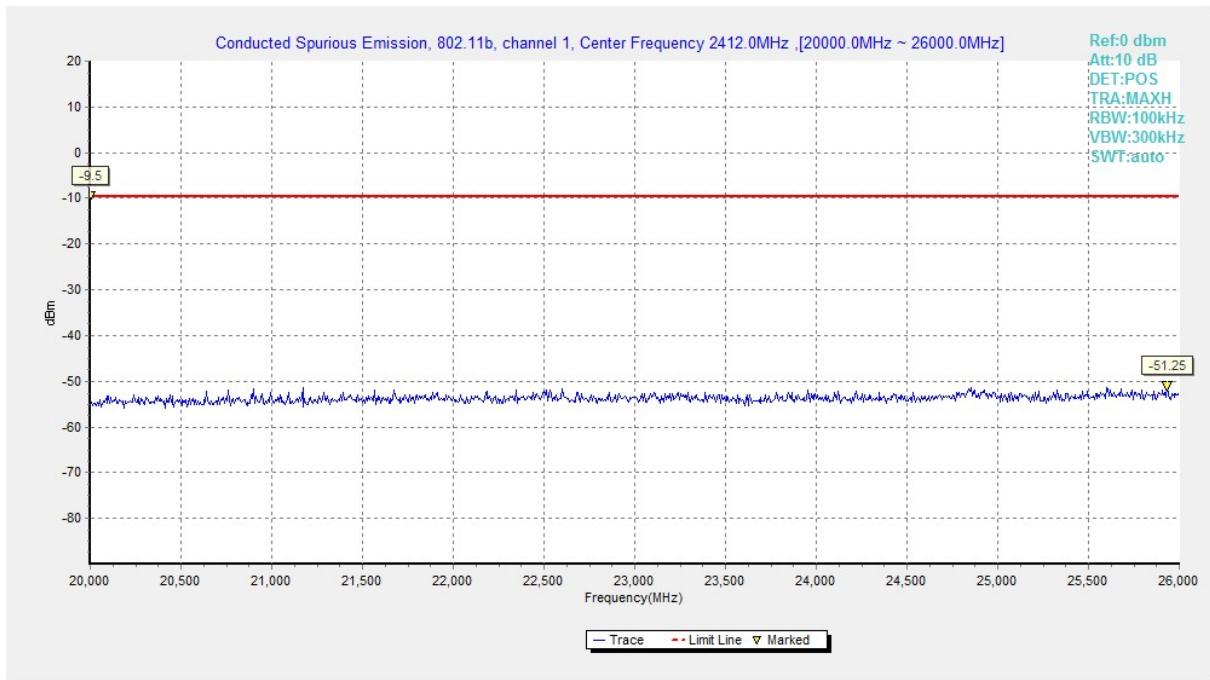


Fig.A.6.1.8 Transmitter Spurious Emission - Conducted (802.11b, Ch1, 20 GHz-26 GHz)

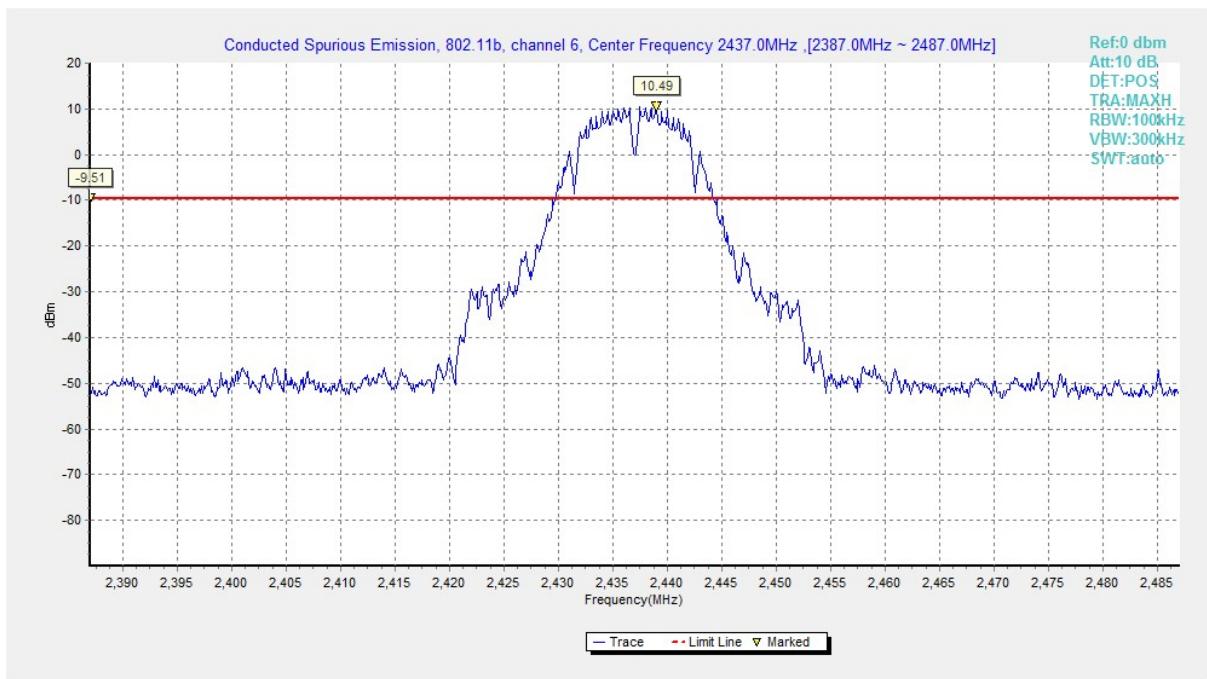


Fig.A.6.1.9 Transmitter Spurious Emission - Conducted (802.11b, Ch6, Center Frequency)

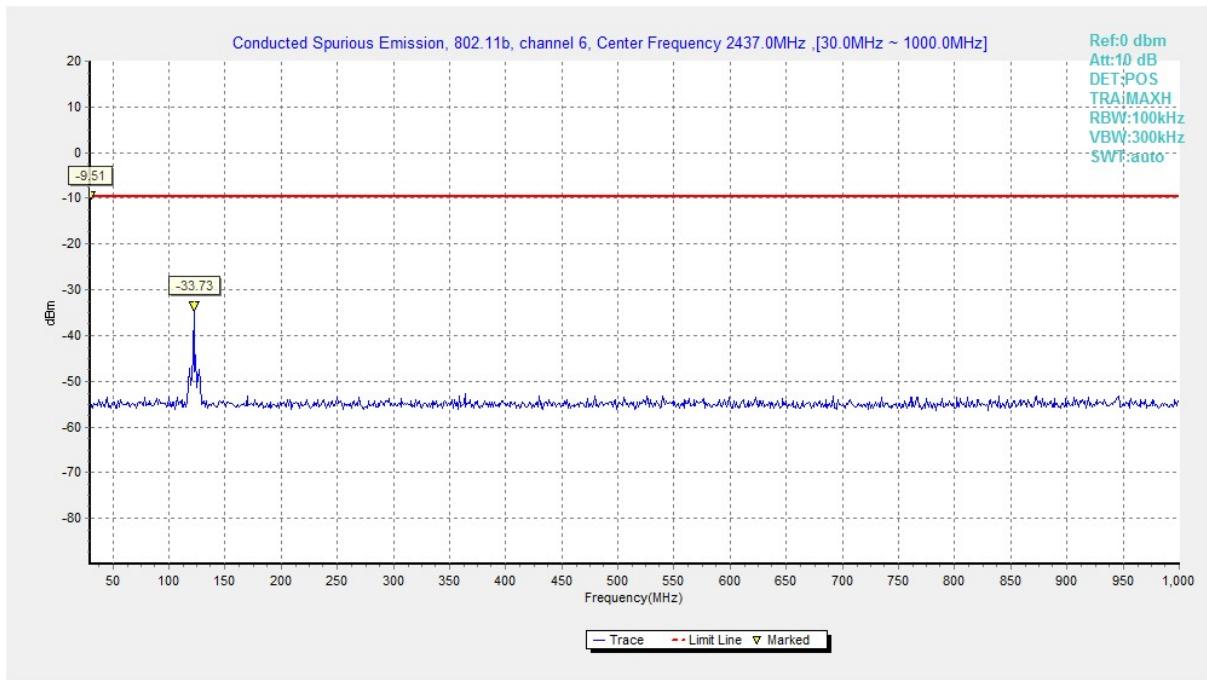


Fig.A.6.1.10 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 30 MHz-1 GHz)

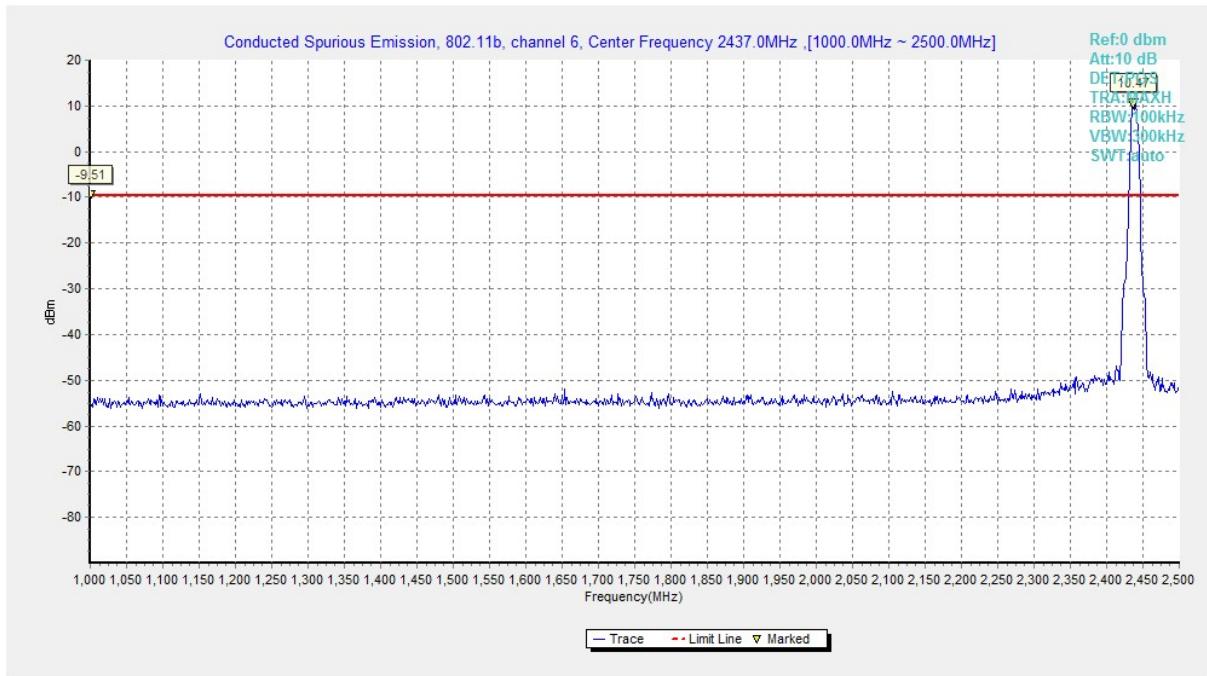


Fig.A.6.1.11 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 1 GHz-2.5 GHz)

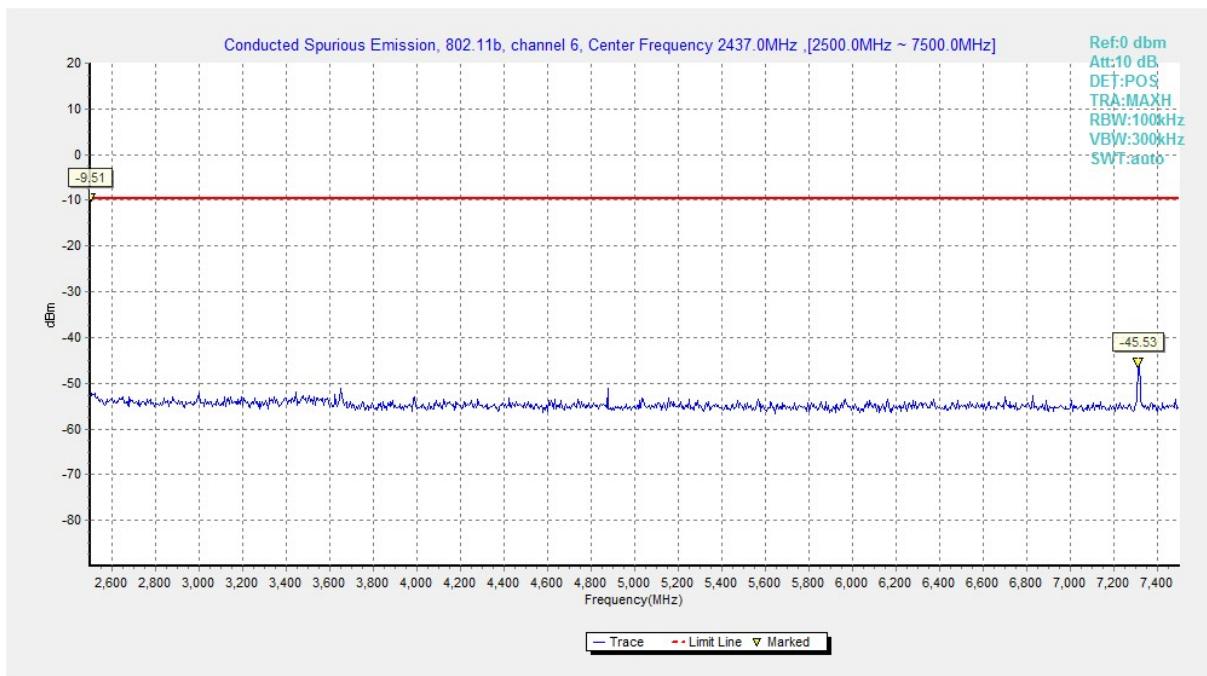


Fig.A.6.1.12 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 2.5 GHz-7.5 GHz)

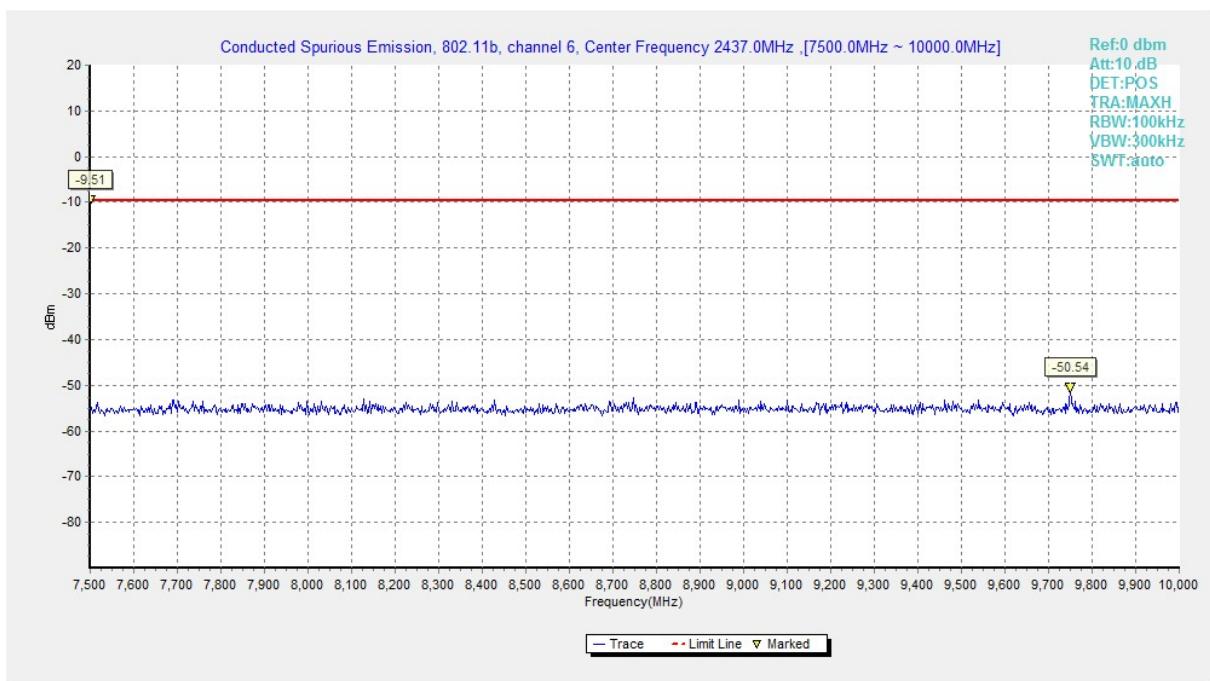


Fig.A.6.1.13 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 7.5 GHz-10 GHz)

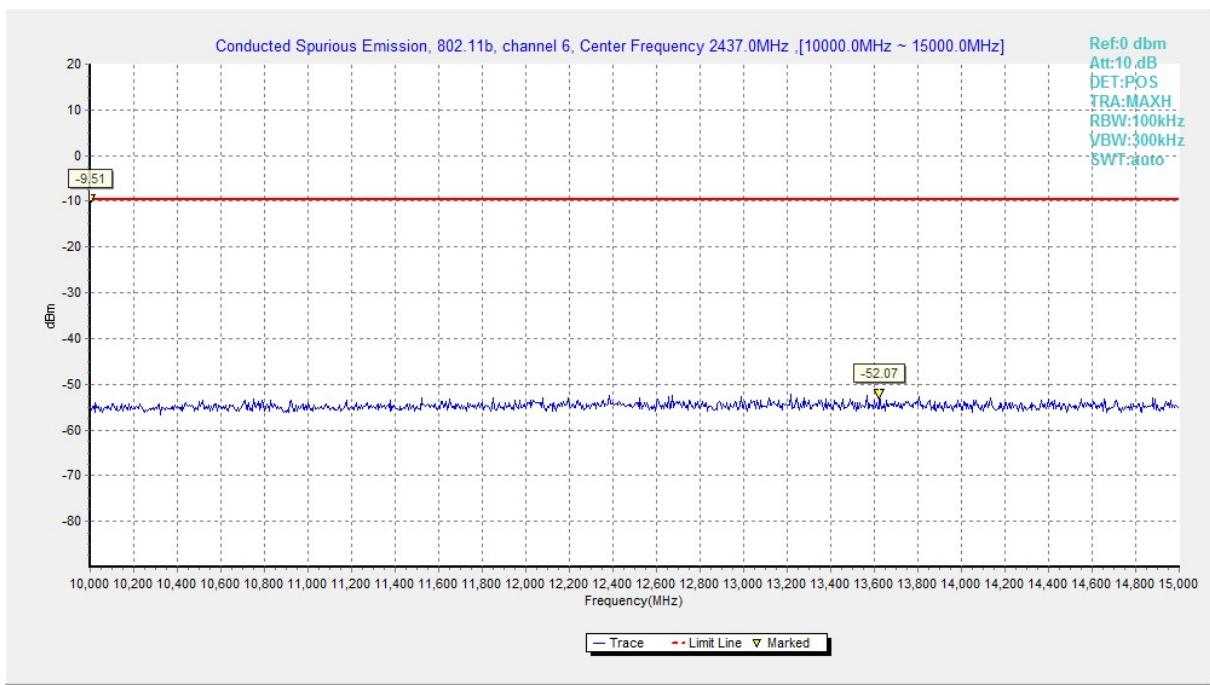


Fig.A.6.1.14 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 10 GHz-15 GHz)

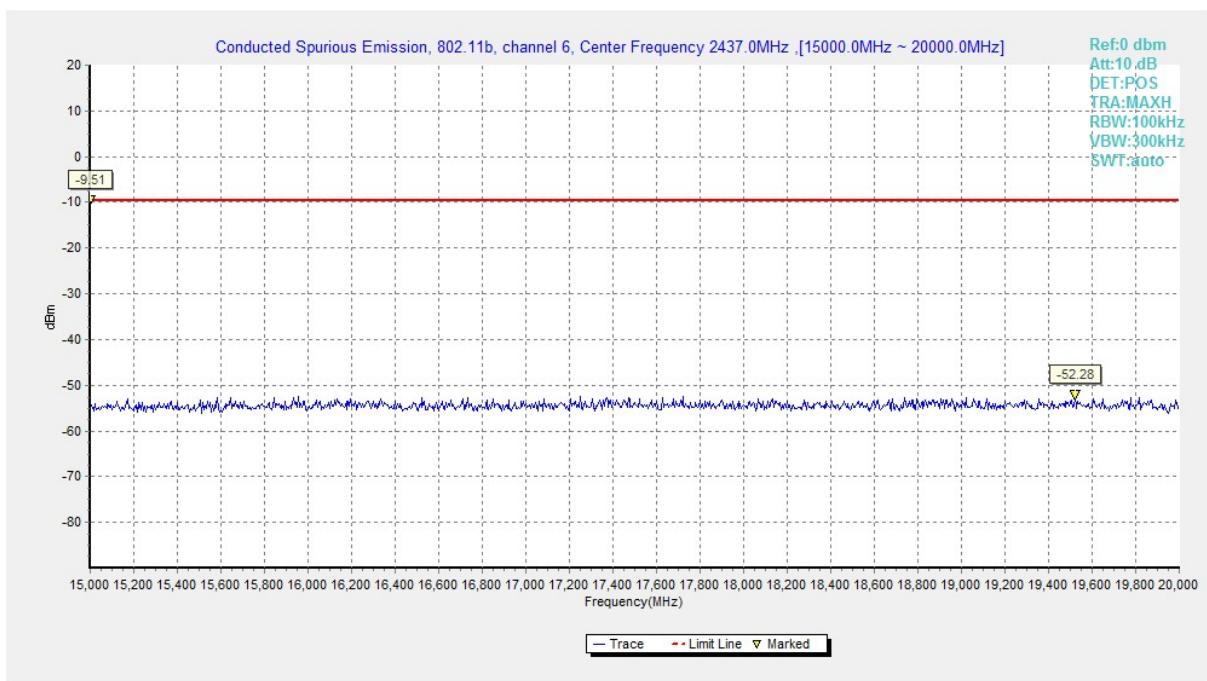


Fig.A.6.1.15 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 15 GHz-20 GHz)

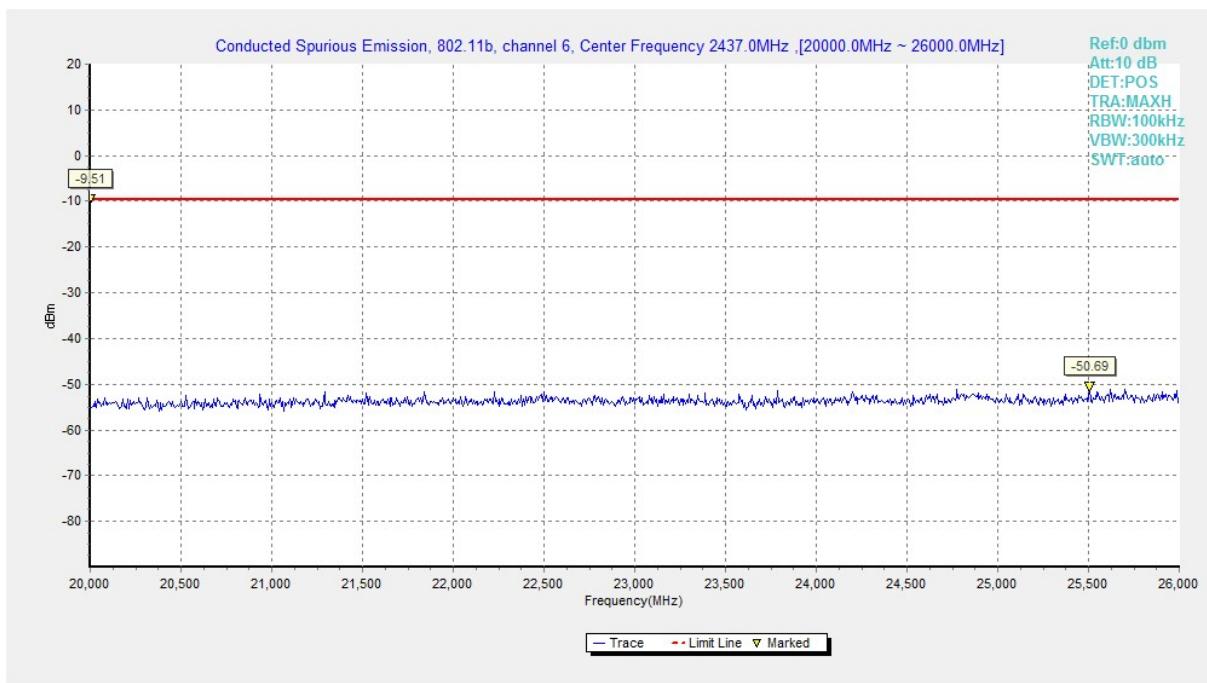


Fig.A.6.1.16 Transmitter Spurious Emission - Conducted (802.11b, Ch6, 20 GHz-26 GHz)

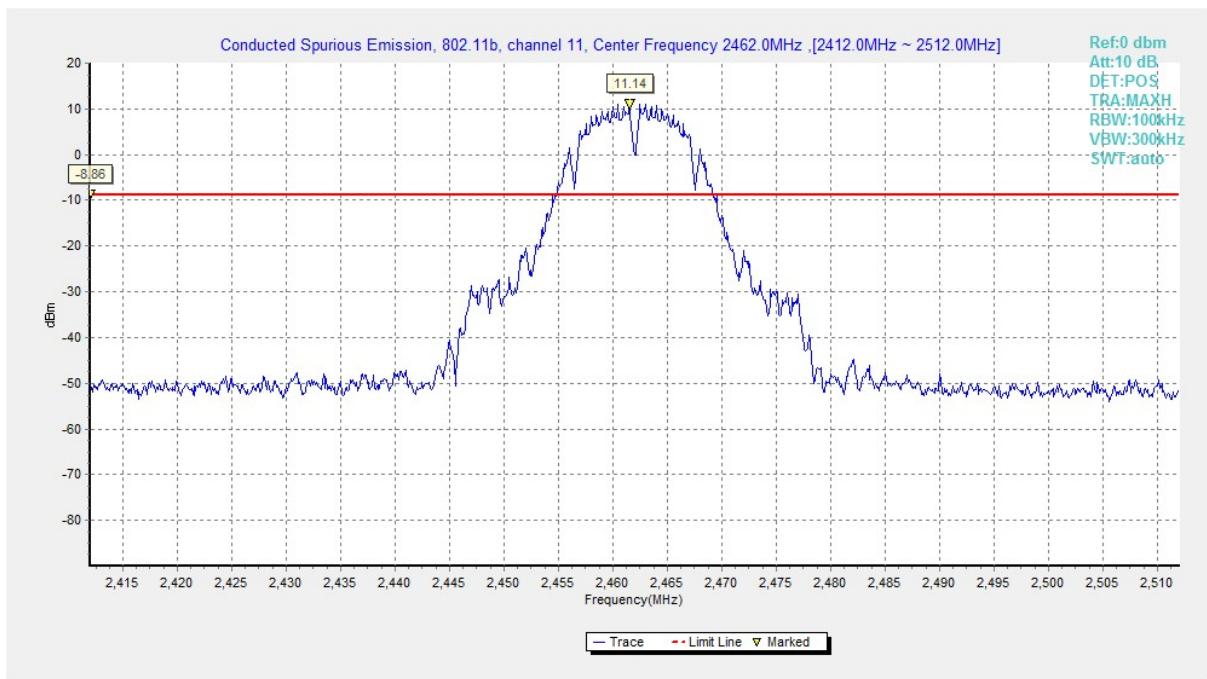


Fig.A.6.1.17 Transmitter Spurious Emission - Conducted (802.11b, Ch11, Center Frequency)

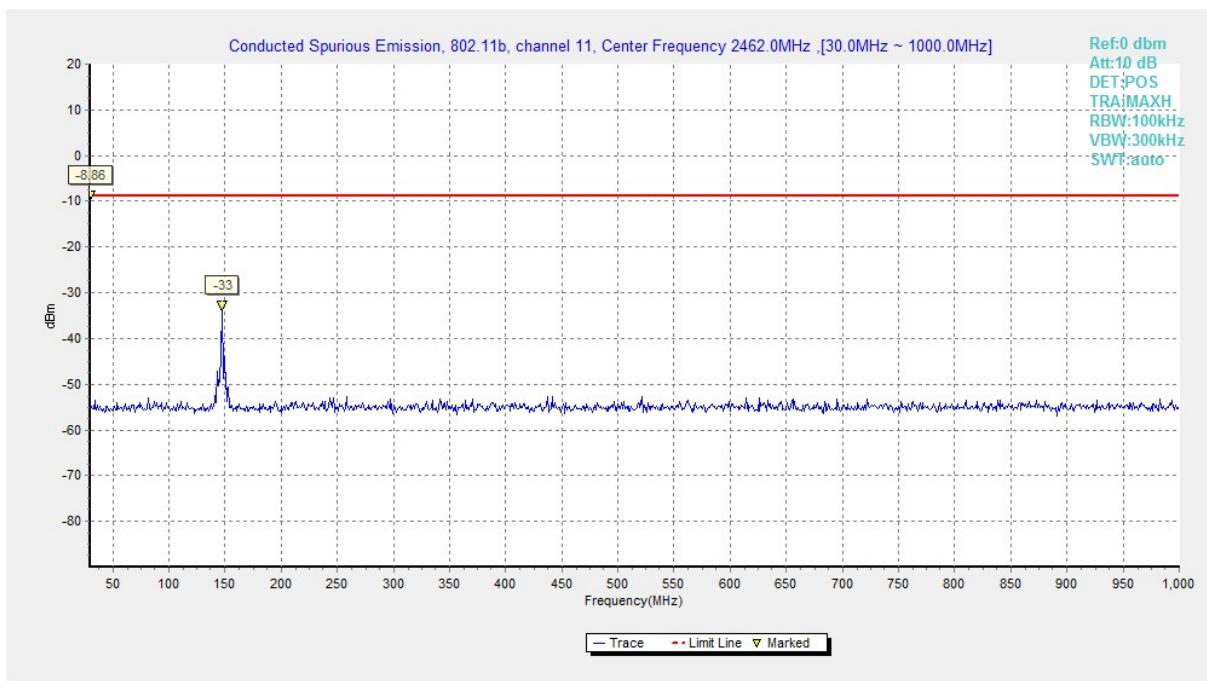


Fig.A.6.1.18 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 30 MHz-1 GHz)

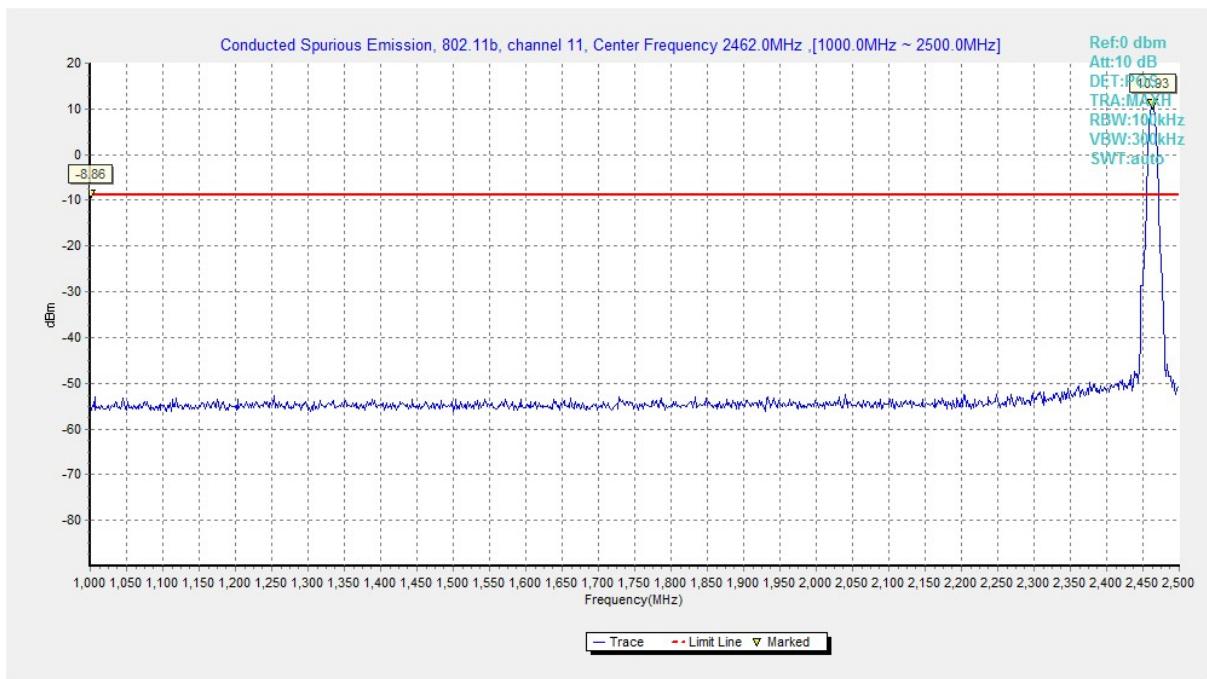


Fig.A.6.1.19 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 1 GHz-2.5 GHz)

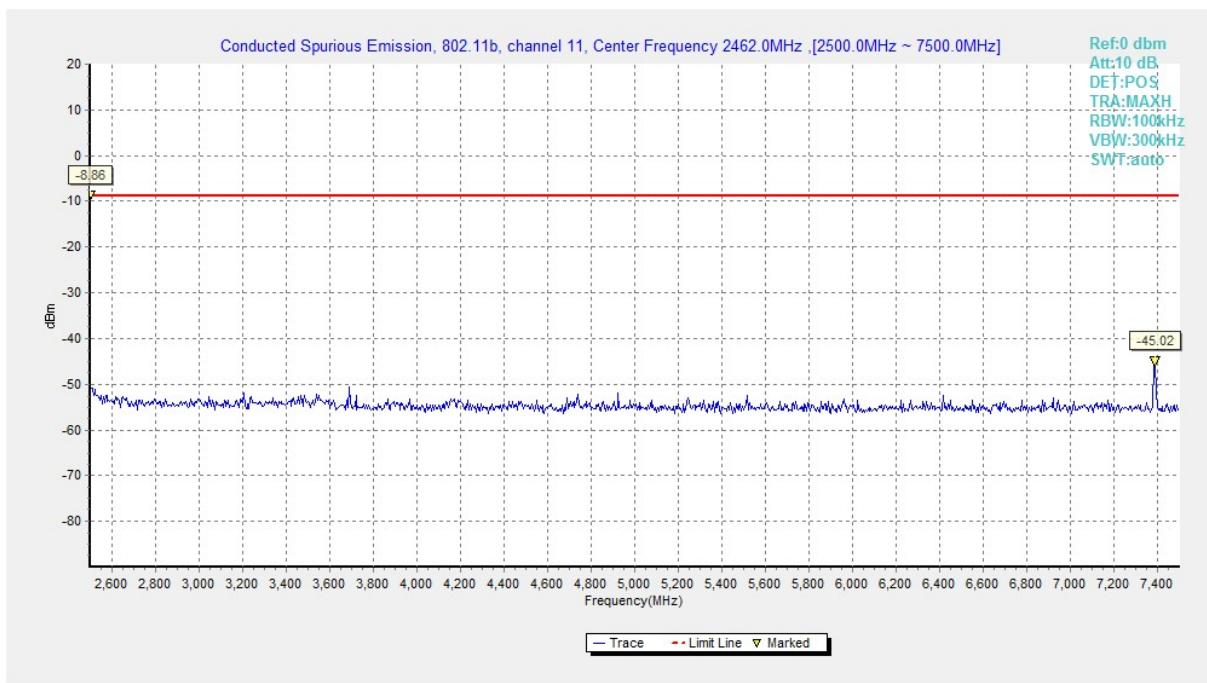


Fig.A.6.1.20 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 2.5 GHz-7.5 GHz)

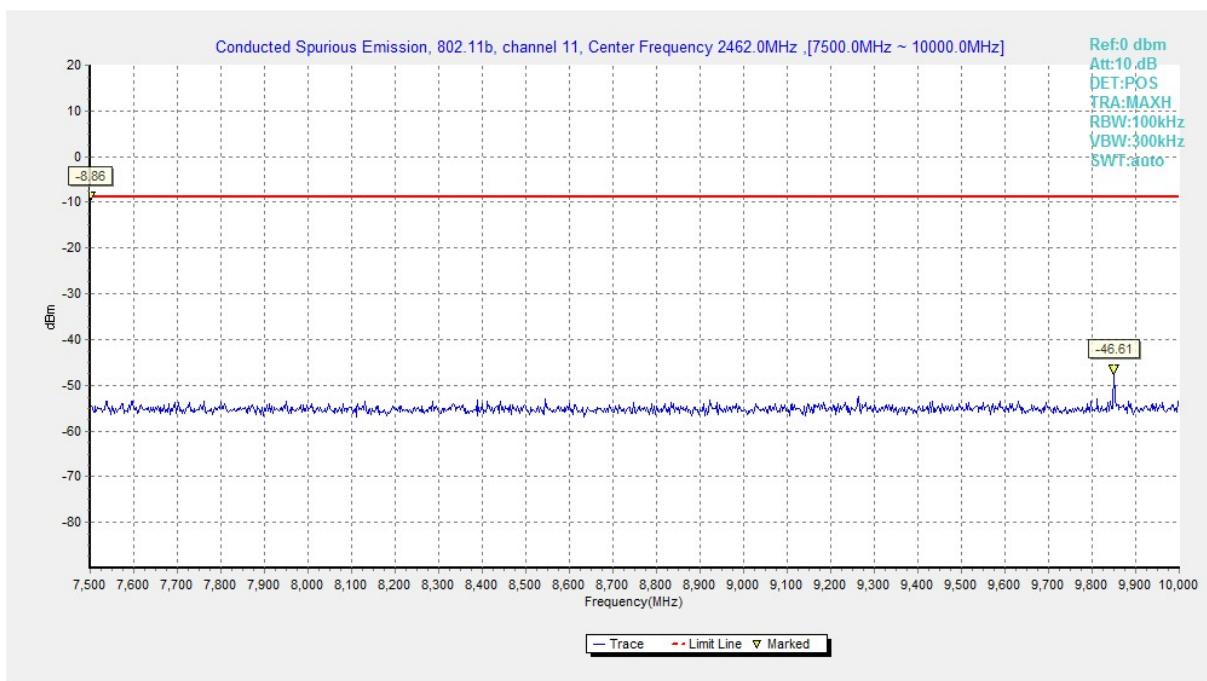


Fig.A.6.1.21 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 7.5 GHz-10 GHz)

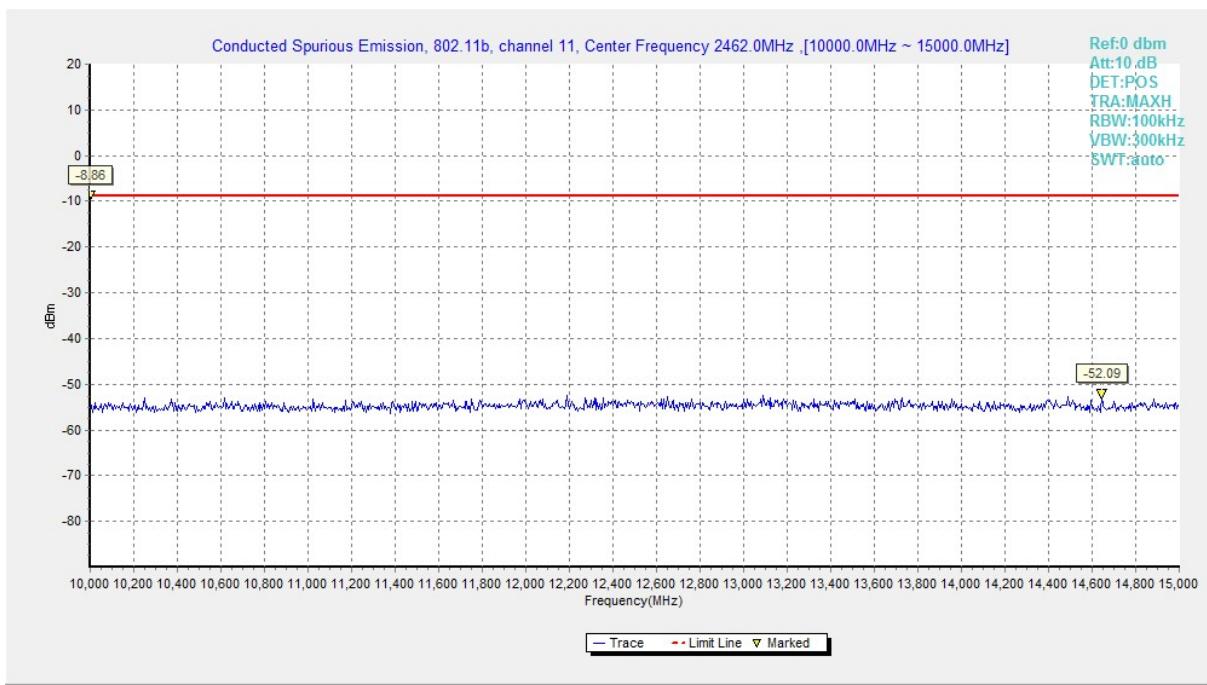


Fig.A.6.1.22 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 10 GHz-15 GHz)

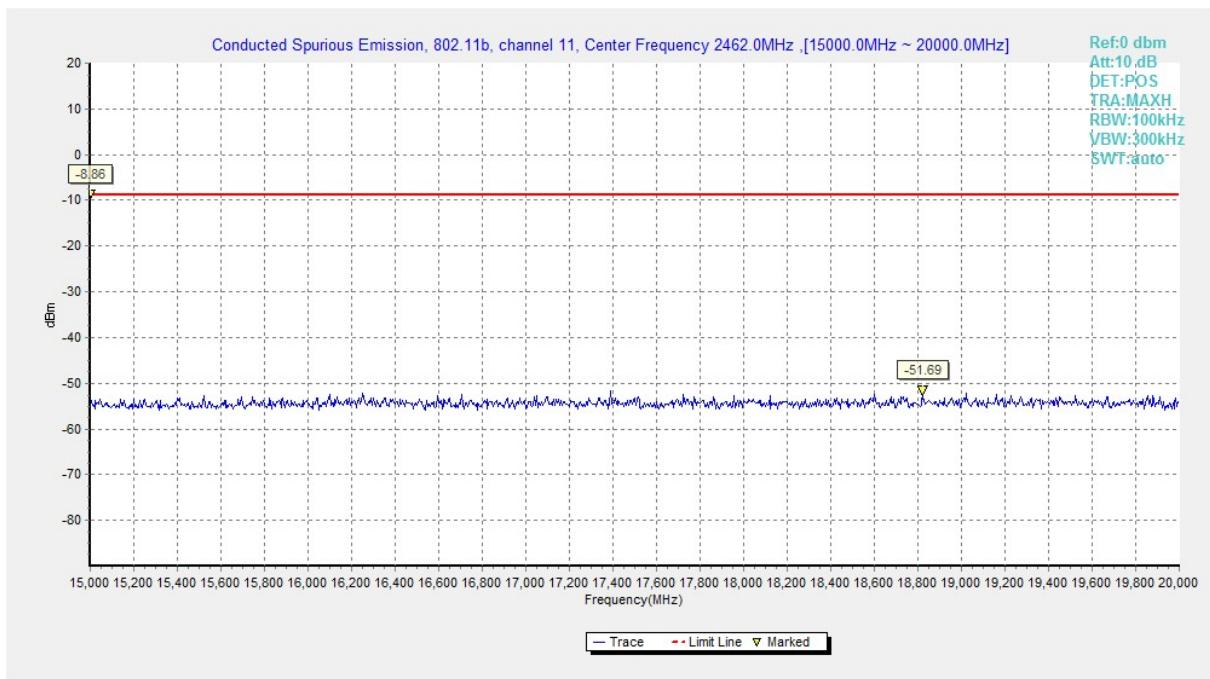


Fig.A.6.1.23 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 15 GHz-20 GHz)

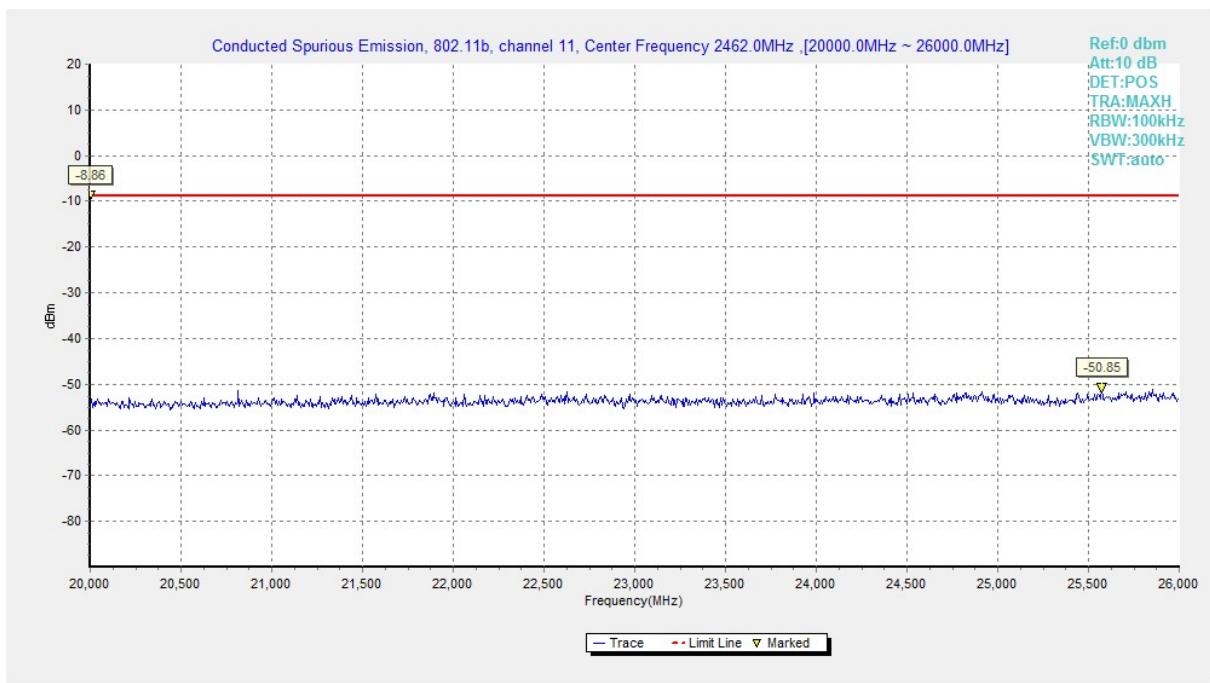


Fig.A.6.1.24 Transmitter Spurious Emission - Conducted (802.11b, Ch11, 20 GHz-26 GHz)

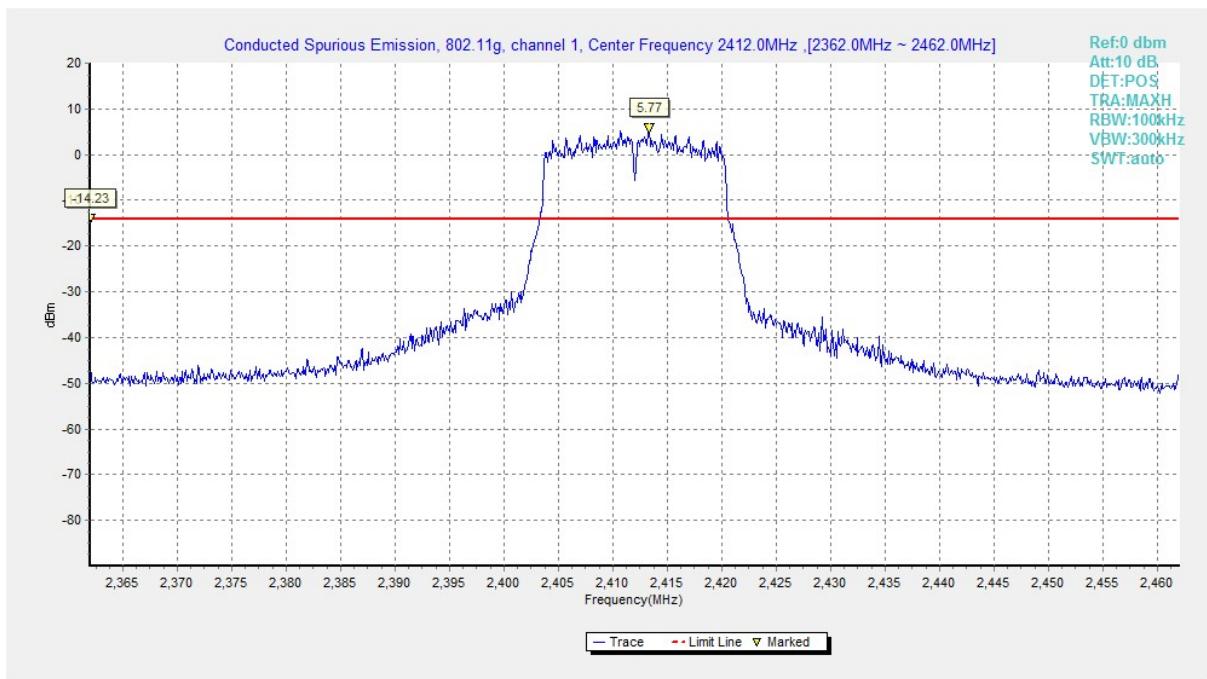


Fig.A.6.1.25 Transmitter Spurious Emission - Conducted (802.11g, Ch1, Center Frequency)

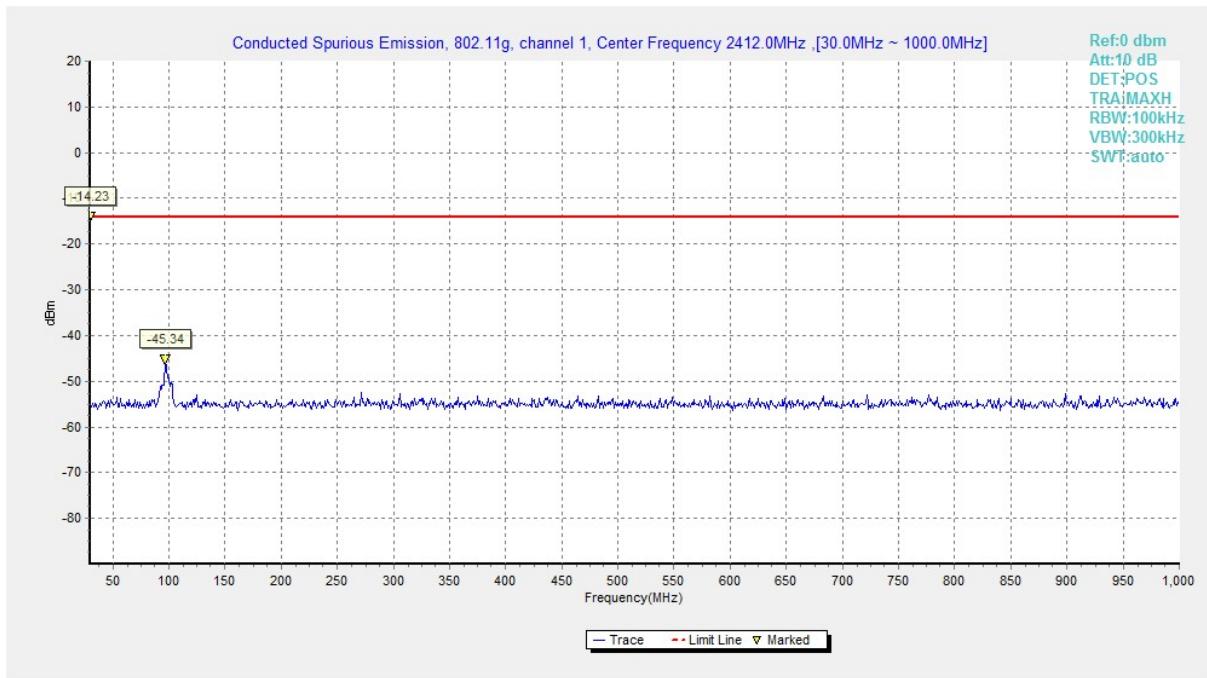


Fig.A.6.1.26 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 30 MHz-1 GHz)

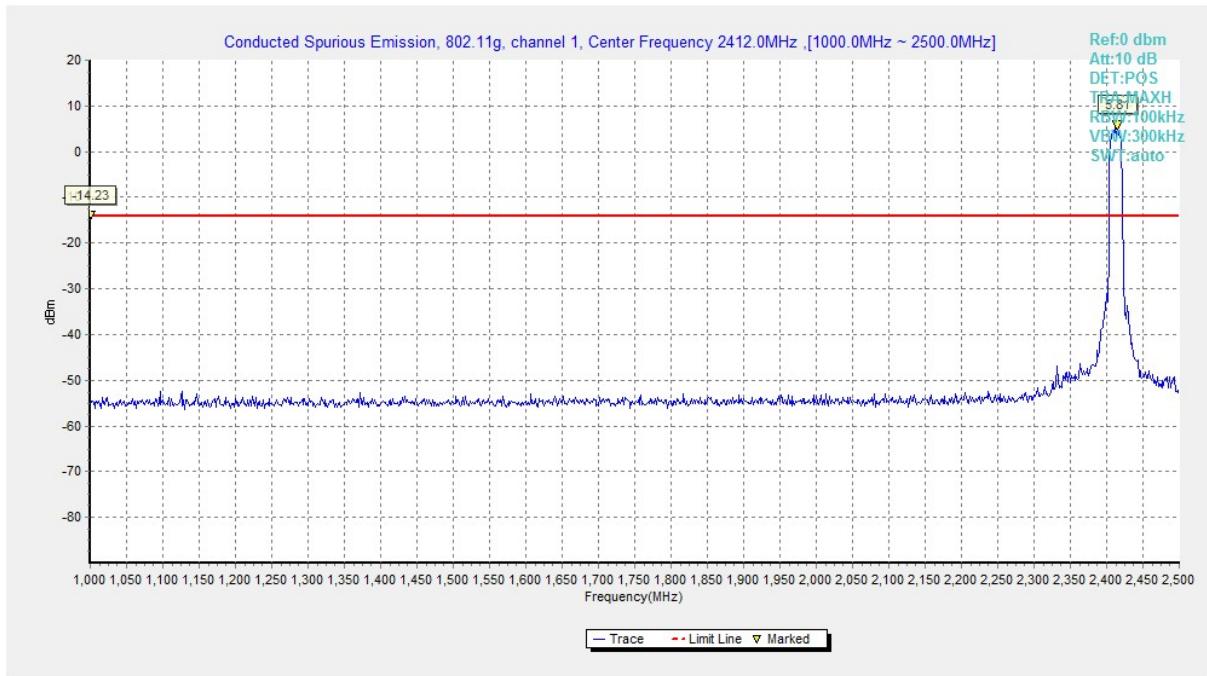


Fig.A.6.1.27 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 1 GHz-2.5 GHz)

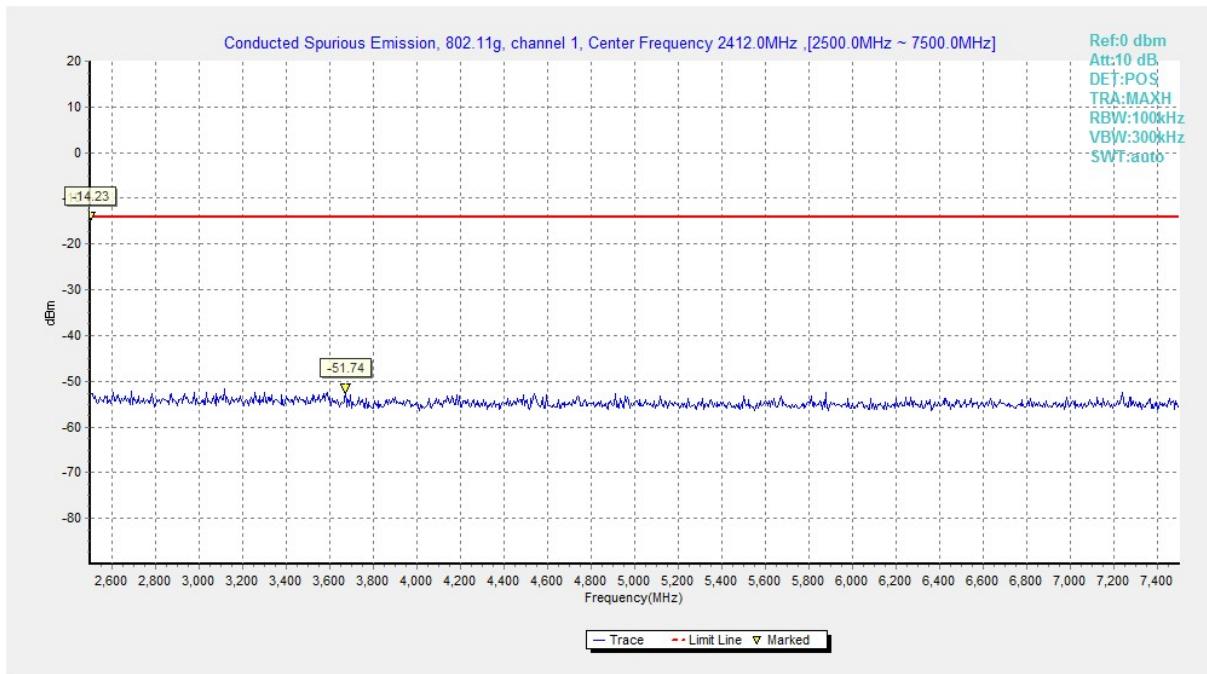


Fig.A.6.1.28 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 2.5 GHz-7.5 GHz)

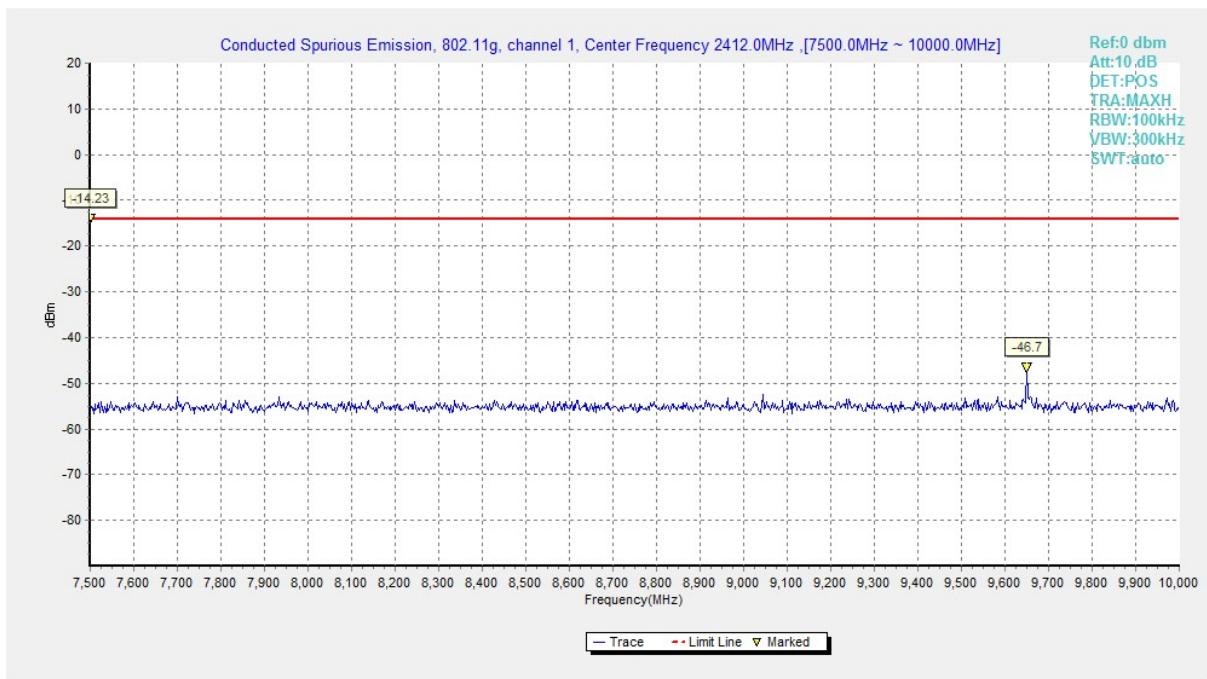


Fig.A.6.1.29 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 7.5 GHz-10 GHz)

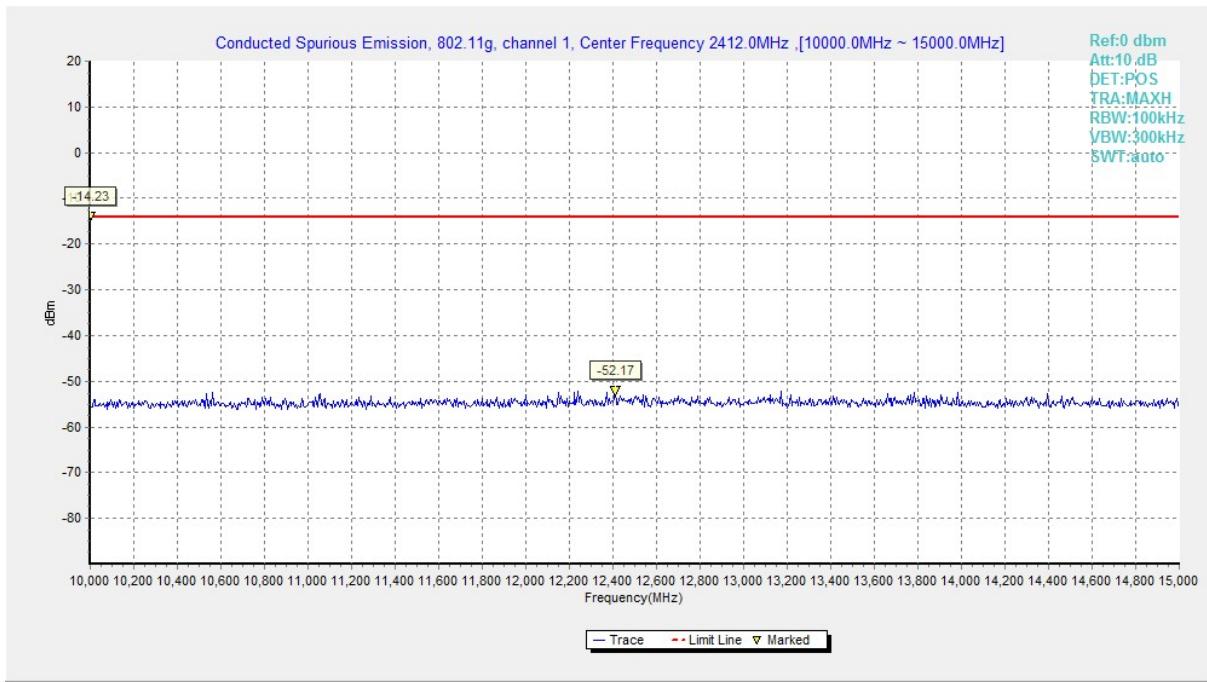


Fig.A.6.1.30 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 10 GHz-15 GHz)

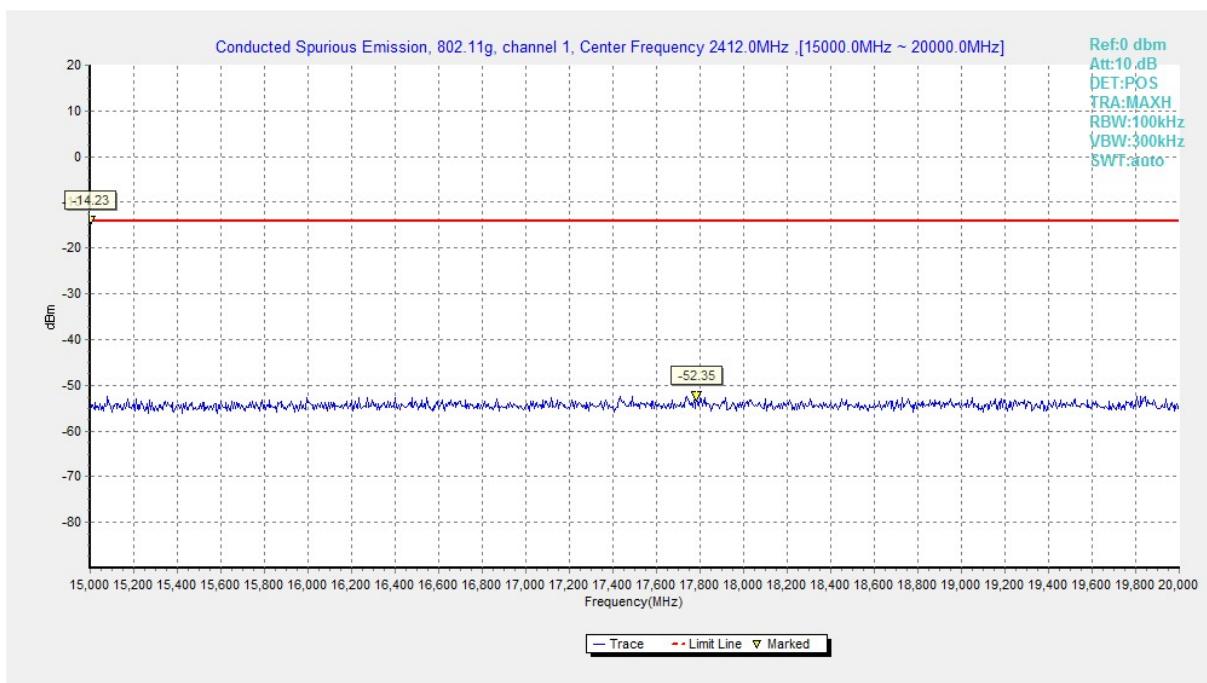


Fig.A.6.1.31 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 15 GHz-20 GHz)

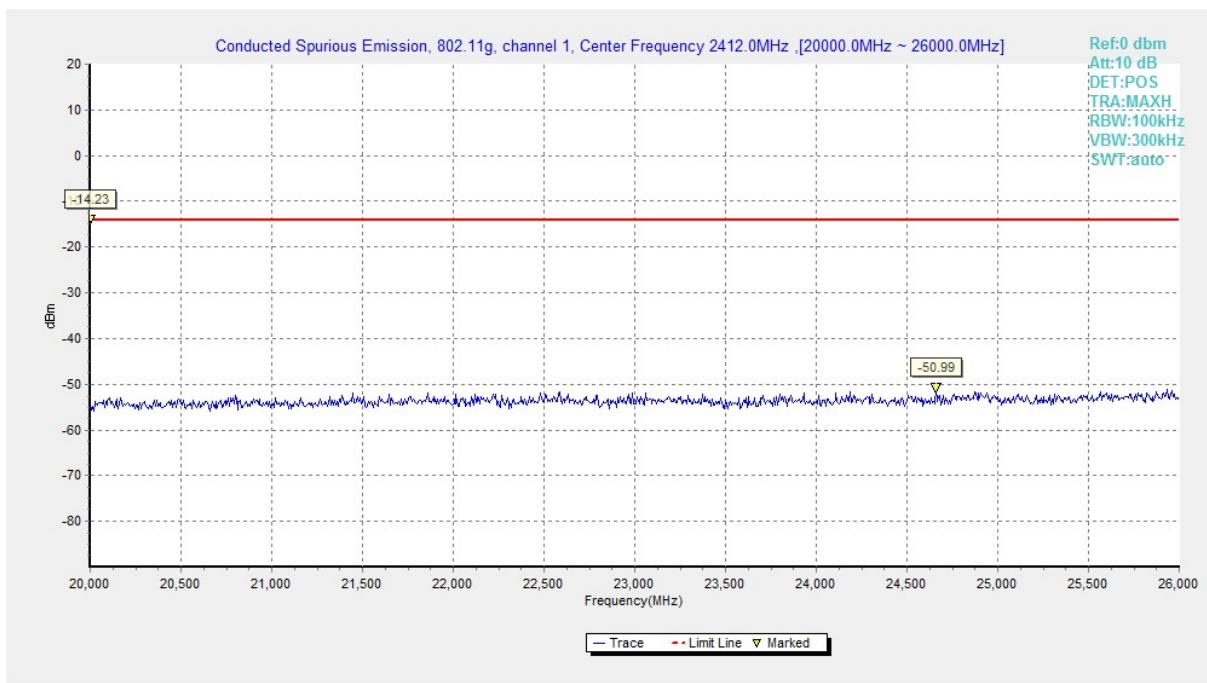


Fig.A.6.1.32 Transmitter Spurious Emission - Conducted (802.11g, Ch1, 20 GHz-26 GHz)

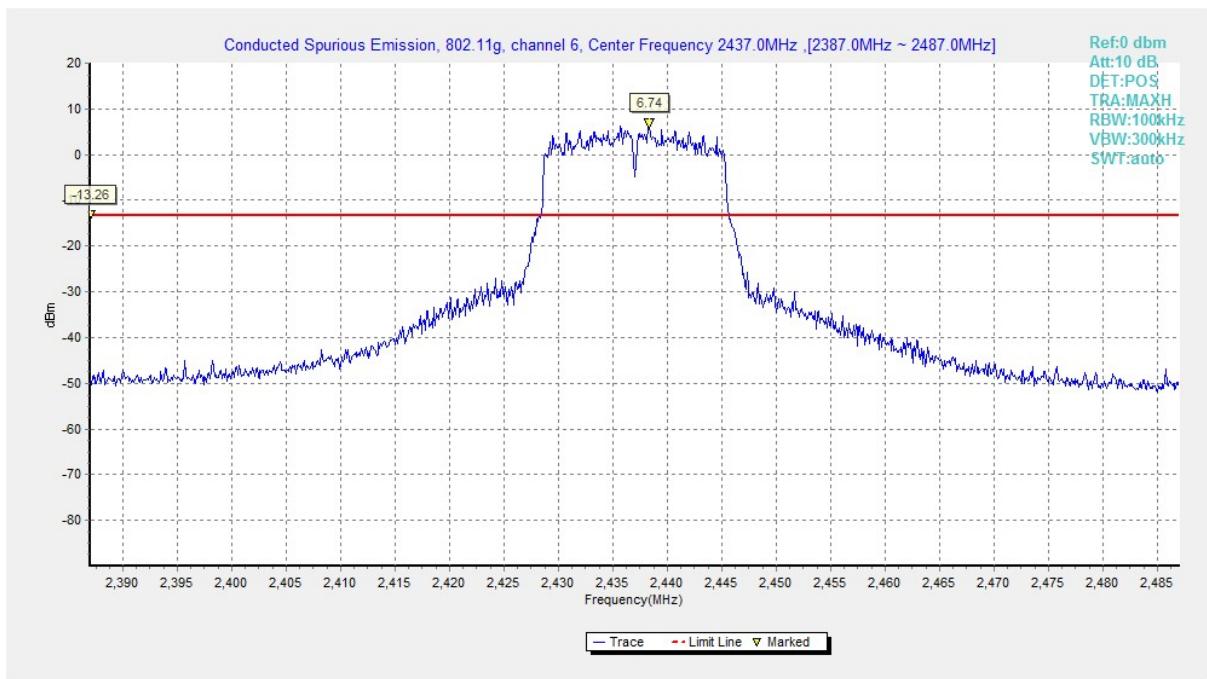


Fig.A.6.1.33 Transmitter Spurious Emission - Conducted (802.11g, Ch6, Center Frequency)

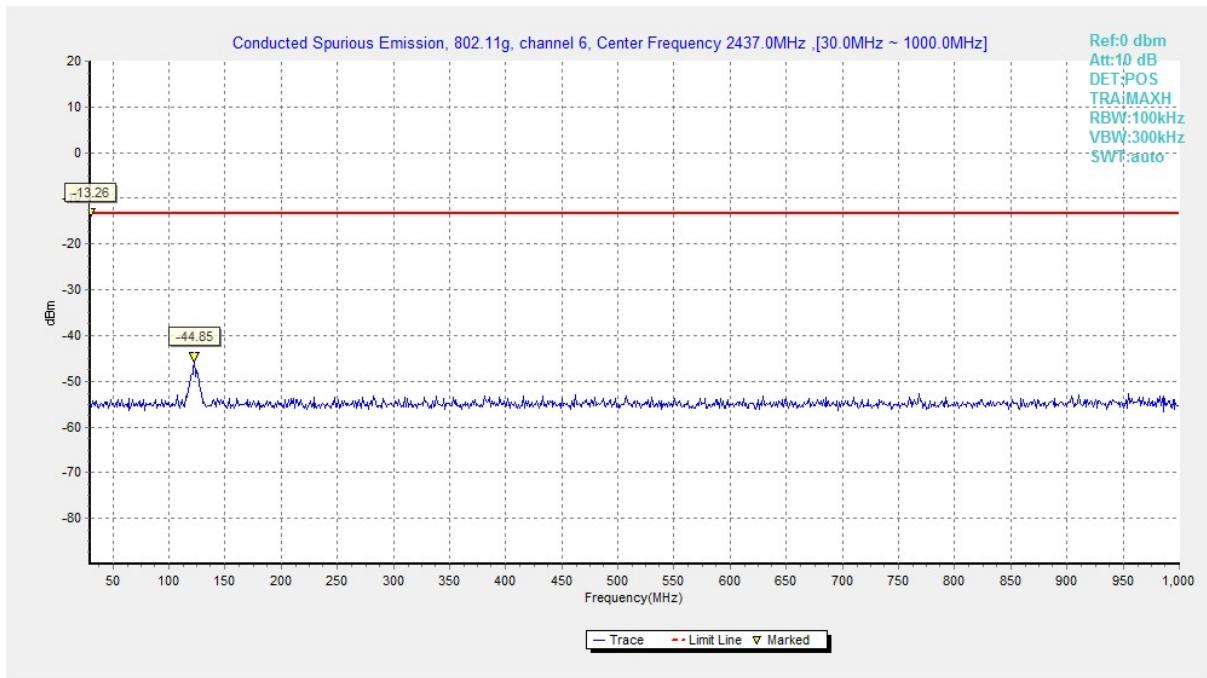


Fig.A.6.1.34 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 30 MHz-1 GHz)

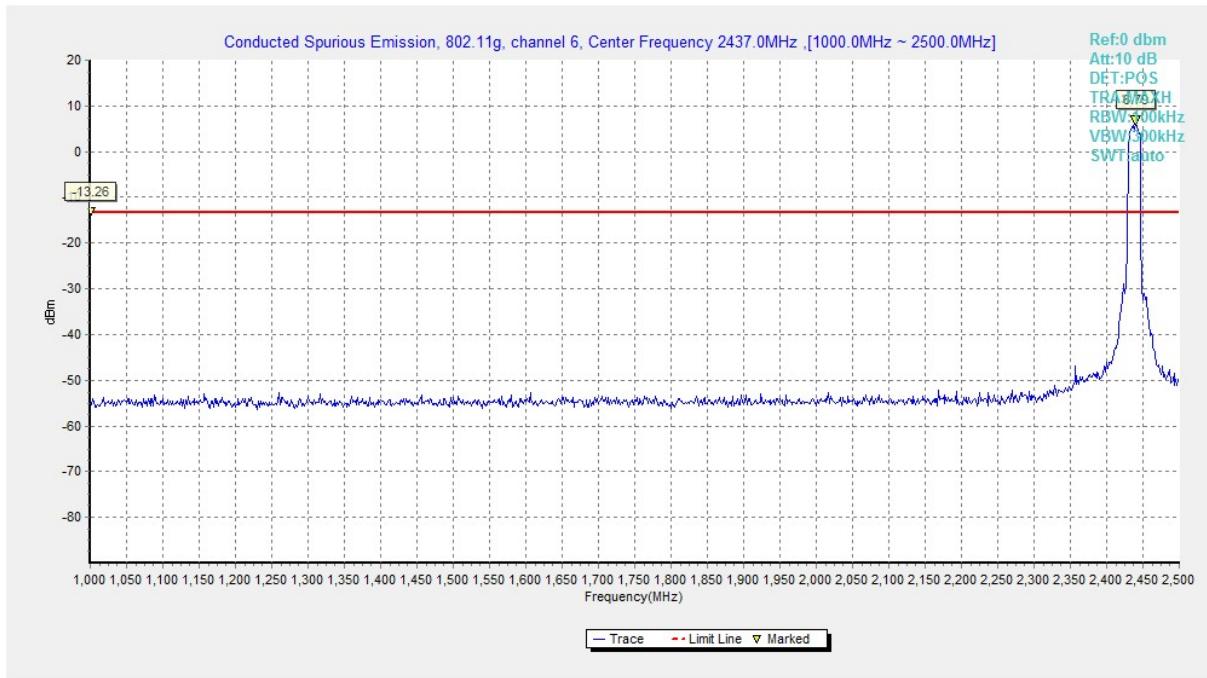


Fig.A.6.1.35 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 1 GHz-2.5 GHz)

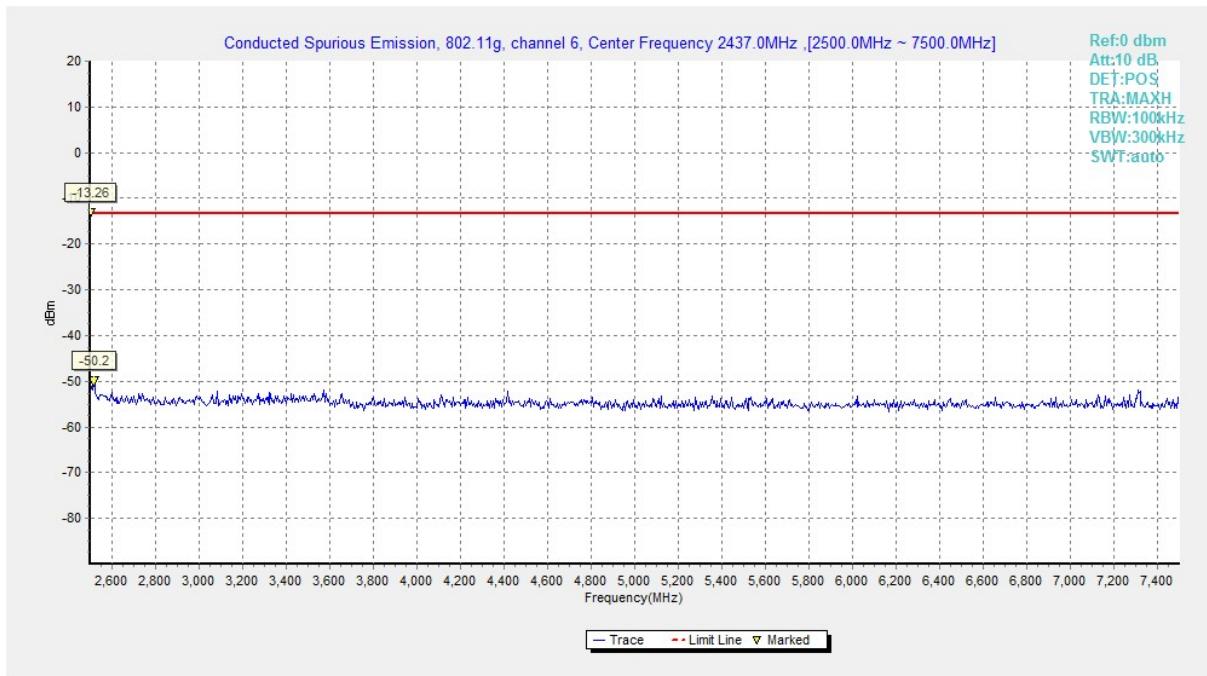


Fig.A.6.1.36 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 2.5 GHz-7.5 GHz)

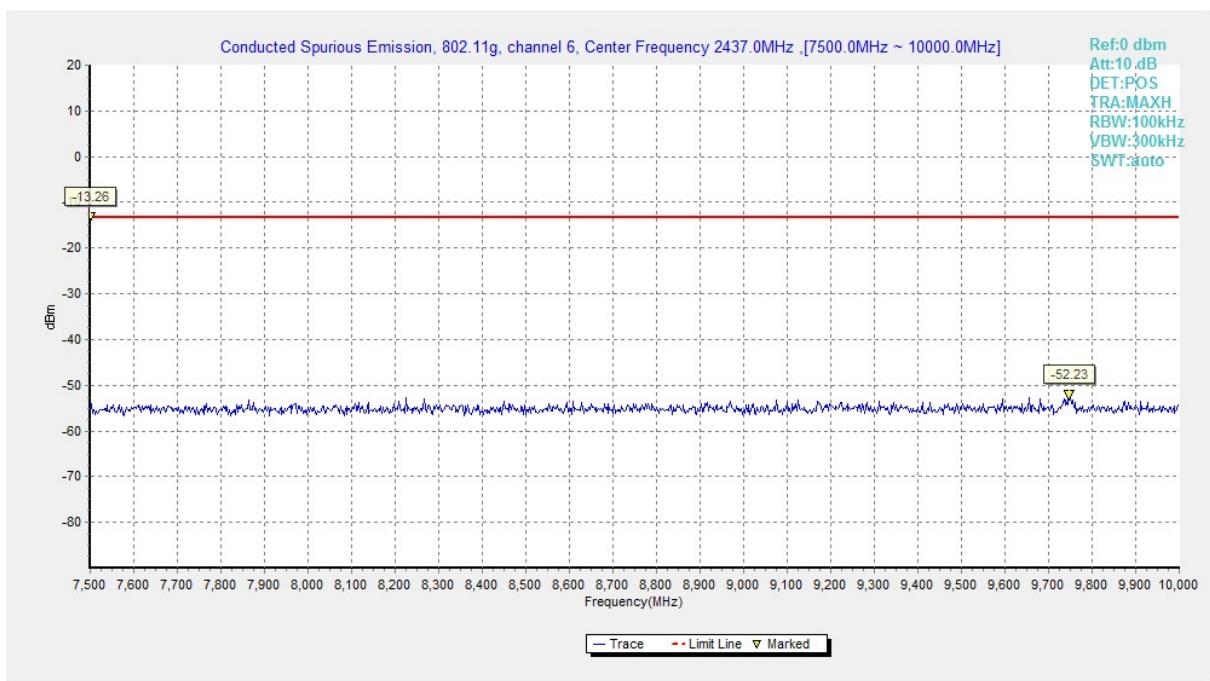


Fig.A.6.1.37 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 7.5 GHz-10 GHz)

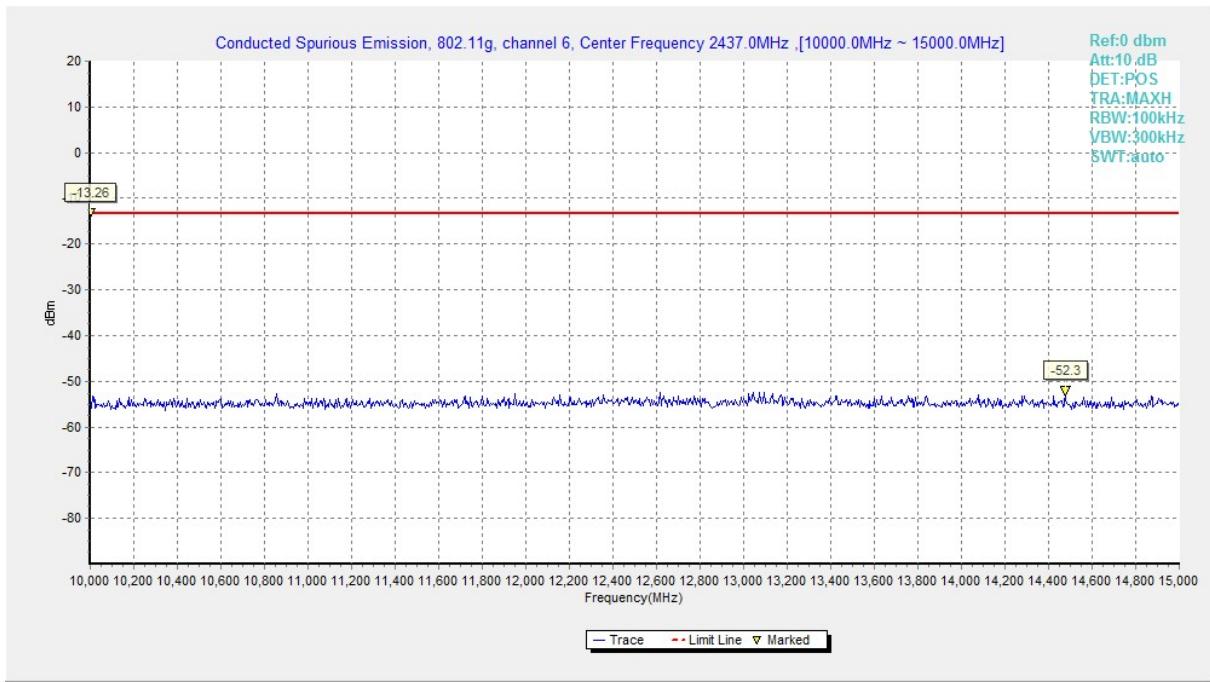


Fig.A.6.1.38 Transmitter Spurious Emission - Conducted (802.11g, Ch6, 10 GHz-15 GHz)