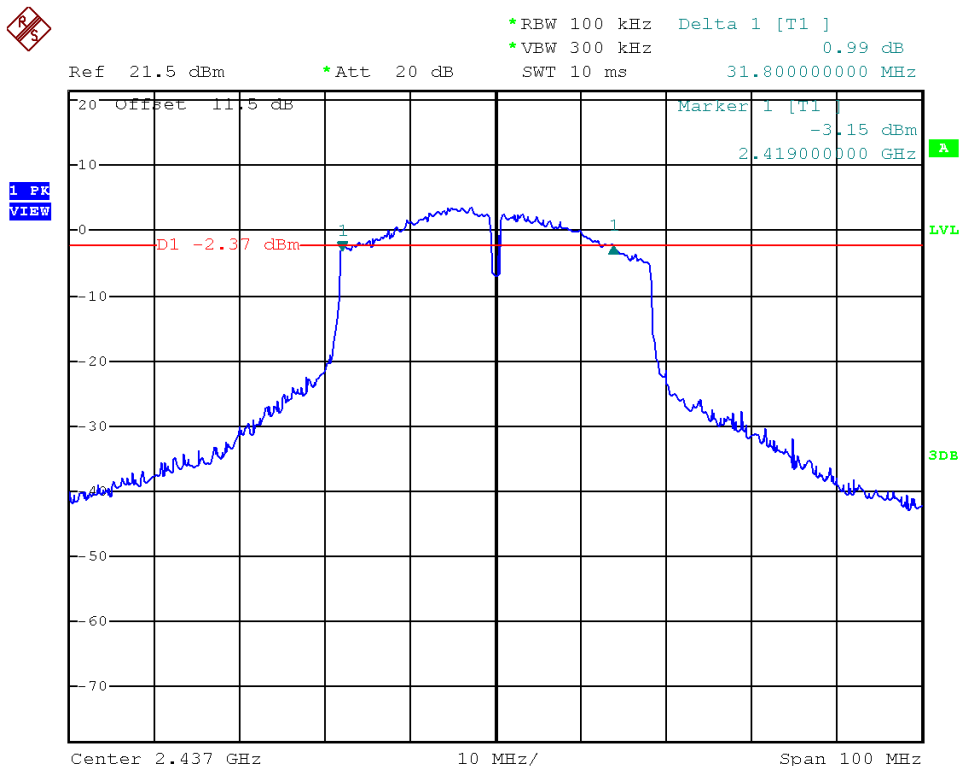




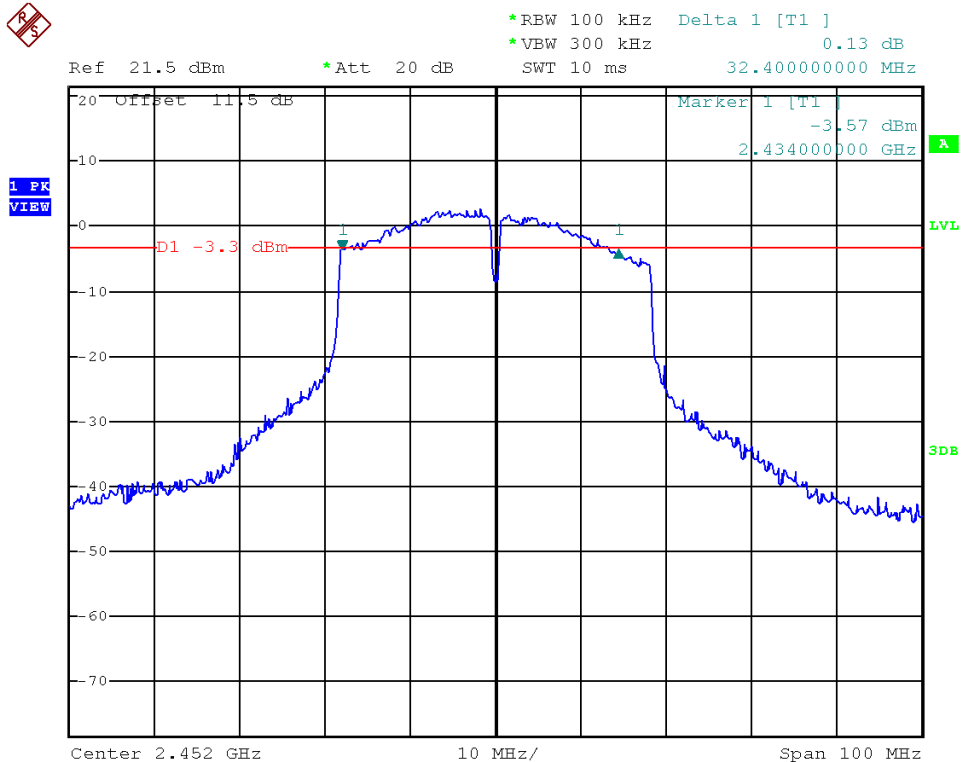
Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 06



Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 09





8. 峰值輸出功率之規定

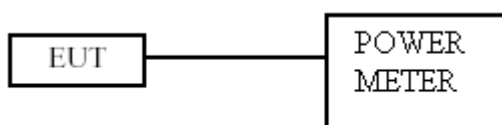
8.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2 節(1)(C)之規定，對使用數位調變技術之低功率發射機，其輸出峰值功率不得大於 1 Watt，且其所使用天線之增益不可大於 6dBi，若使用大於 6dBi 增益之天線，則其輸出峰值功率相對需衰減天線增益所增加之量(單位為 dB)。放寬之條件請參考天線增益之要求。

8.2. 測試方法

- a. 將待測物和儀器相連接。
- b. 量測輸出功率並記錄於報告中。

8.3. 測試配置





8.4. 峰值輸出功率之測試結果及數據

Temperature: 24°C

Humidity: 68%

Test Date: Aug. 16, 2017

Modulation Type	Channel	Frequency (MHz)	Peak Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11b	01	2412	20.72	20.87	23.81	240.21	30.00
	06	2437	22.78	22.68	25.74	375.02	30.00
	11	2462	22.47	22.32	25.41	347.21	30.00
802.11g	01	2412	23.46	23.41	26.45	441.10	30.00
	06	2437	24.68	24.37	27.54	567.29	30.00
	11	2462	24.73	24.49	27.62	578.36	30.00
802.11n HT20	01	2412	24.88	24.87	27.89	614.51	30.00
	06	2437	25.01	24.87	27.95	623.86	30.00
	11	2462	24.35	24.17	27.27	533.49	30.00
802.11n HT40	03	2422	21.32	21.69	24.52	283.09	30.00
	06	2437	24.73	24.75	27.75	595.70	30.00
	09	2452	23.2	22.92	26.07	404.81	30.00

Modulation Type	Channel	Frequency (MHz)	Average Power Output (dBm)		Total Power (dBm)	Total Power (mW)	Power Limit (dBm)
			ANT A	ANT B			
802.11b	01	2412	17.51	17.73	20.63	115.66	30.00
	06	2437	19.52	19.45	22.50	177.64	30.00
	11	2462	19.23	19.2	22.23	166.93	30.00
802.11g	01	2412	16.68	17.09	19.90	97.73	30.00
	06	2437	17.57	17.29	20.44	110.73	30.00
	11	2462	17.85	17.96	20.92	123.47	30.00
802.11n HT20	01	2412	18.22	18.75	21.50	141.36	30.00
	06	2437	19.35	19.19	22.28	169.08	30.00
	11	2462	17.63	17.47	20.56	113.79	30.00
802.11n HT40	03	2422	13.76	14.2	17.00	50.07	30.00
	06	2437	18.57	19	21.80	151.38	30.00
	09	2452	16.8	16.43	19.63	91.82	30.00

8.5. 結果判定

高、中、低頻段的峰值輸出功率皆低於 30 dBm，合乎標準規定。



9. 混附波發射限制之規定

9.1. 適用方法

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之規定，使用頻帶範圍外之任意 100 千赫(kHz)內，發射器所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 千赫(kHz)內的射頻功率，其衰減值限制如下：

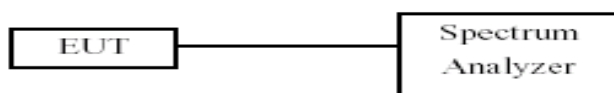
- (1) 輸出功率以峰值輸出功率方式量測者，至少需衰減 20dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少需衰減 30dB，可使用射頻傳導或輻射方式測量。

此外，落於第 2.7 節禁用頻段之輻射發射，應符合第 2.8 節之規定。

9.2. 測試方法

1. 將待測物和儀器相連接。
2. 設定儀器解析頻寬為 300 kHz 和視訊頻寬為 100 kHz。
3. 將頻寬展開至 100 MHz。
4. 量測並記錄於報告中。

9.3. 測試配置



9.4. 結果判定

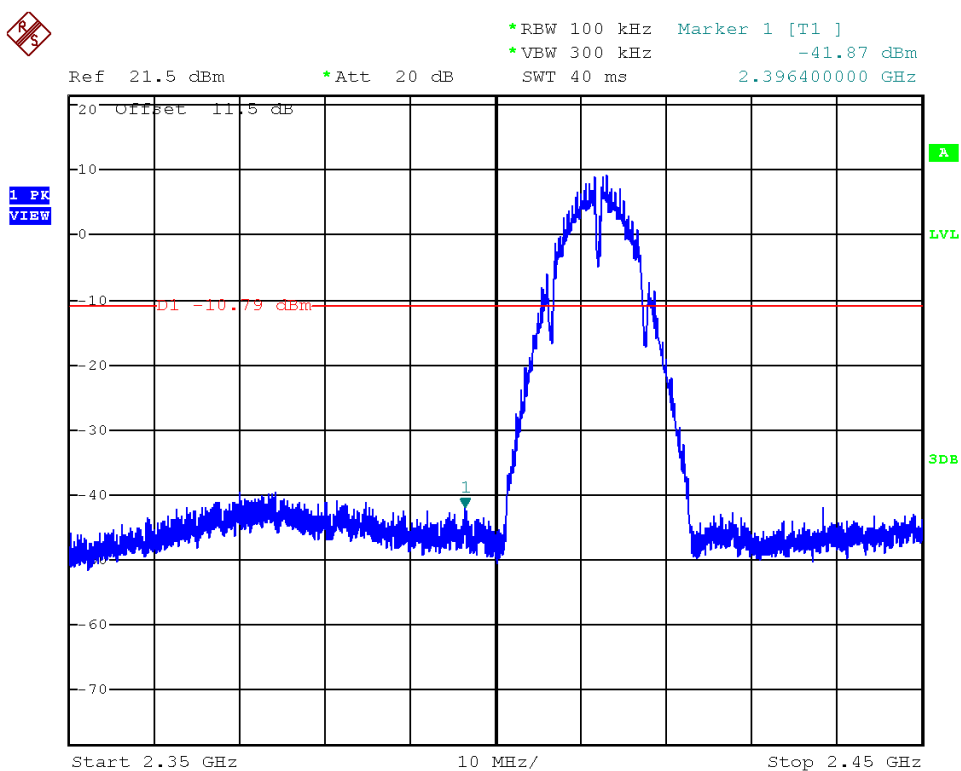
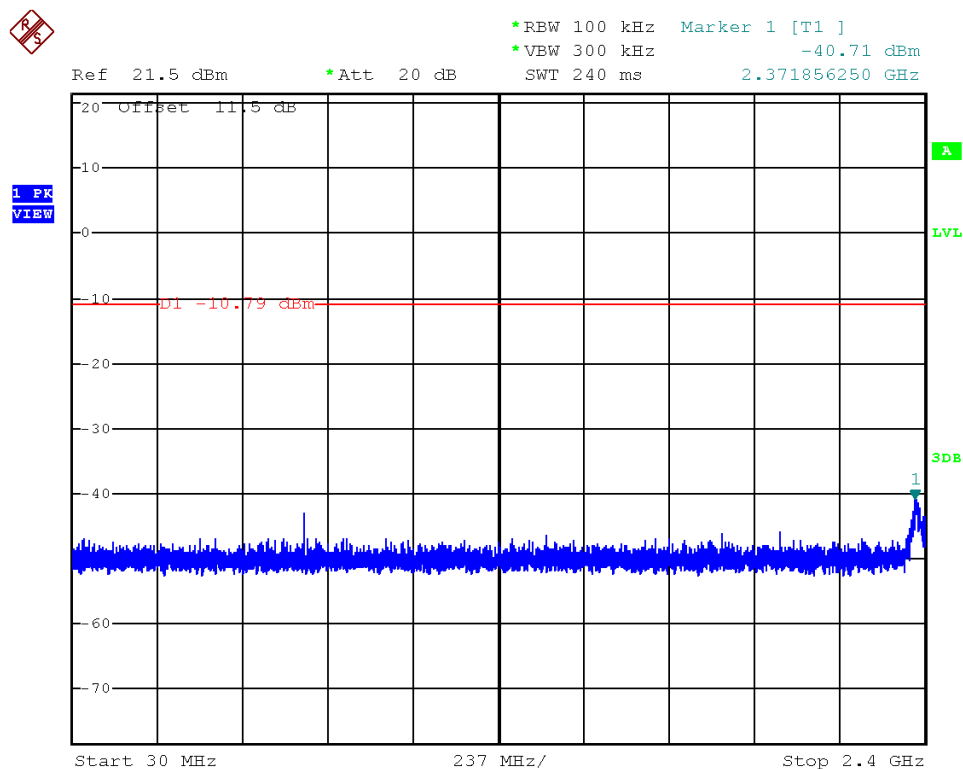
7.6.1 下邊緣頻帶：距下頻帶邊緣 40MHz 內最大混附波比主波低 20dB 以上，合乎標準規定。

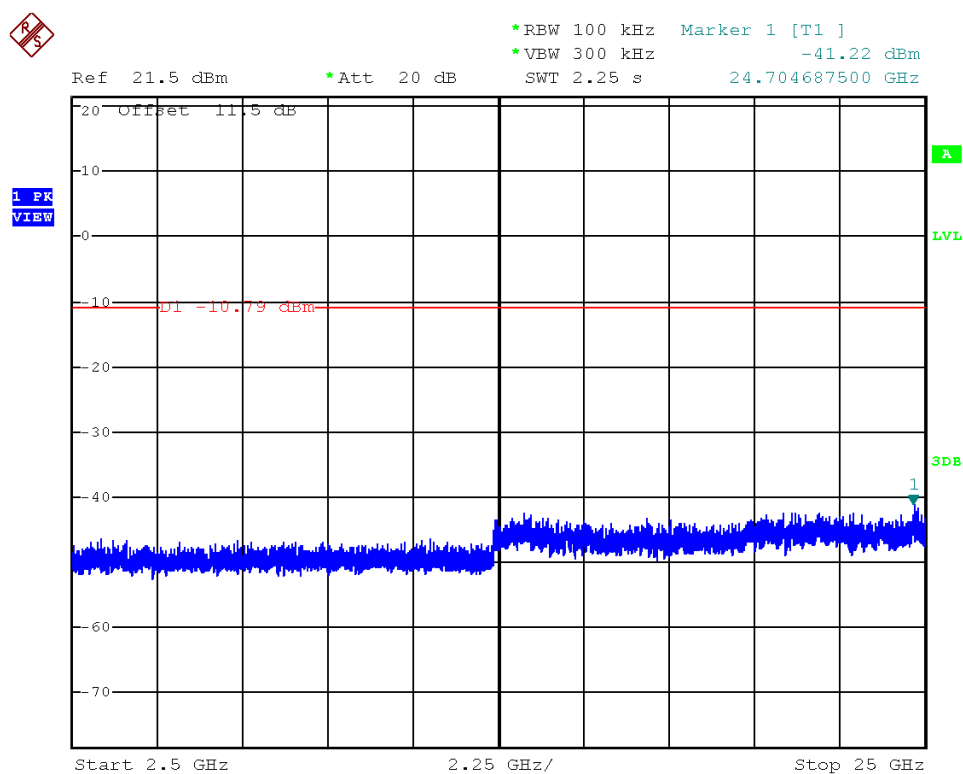
7.6.2 上邊緣頻帶：距上頻帶邊緣 40MHz 內最大混附波比主波低 20dB 以上，合乎標準規定。

備註：繪圖資料請參考下頁。

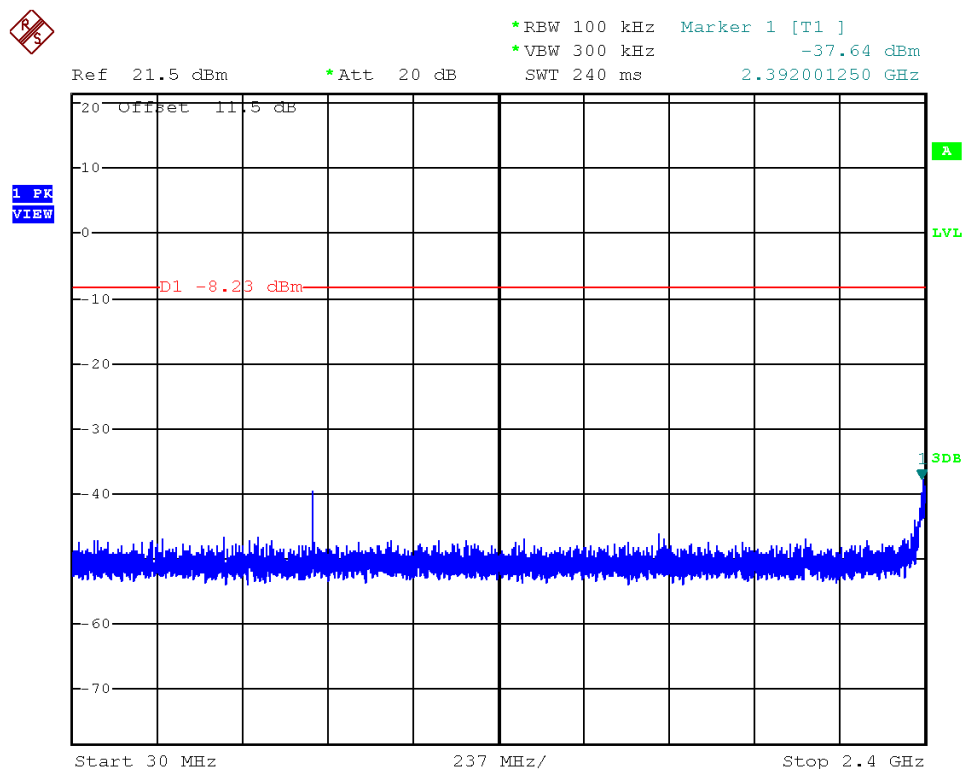


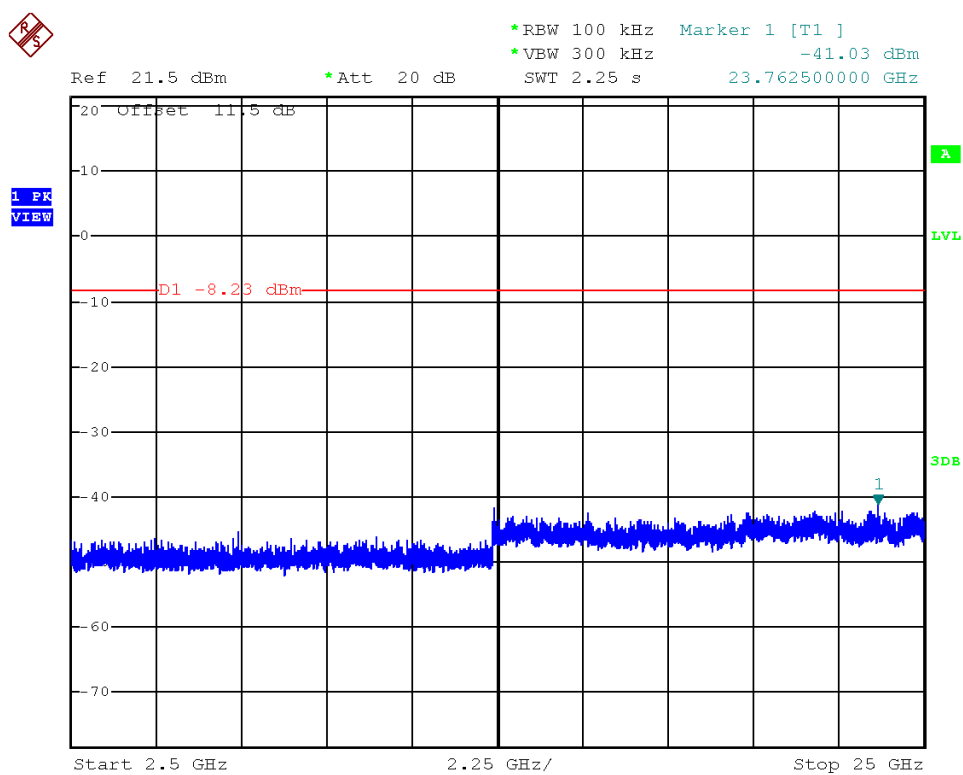
ANT A:
Modulation Standard: 802.11b (1Mbps)
Channel: 01





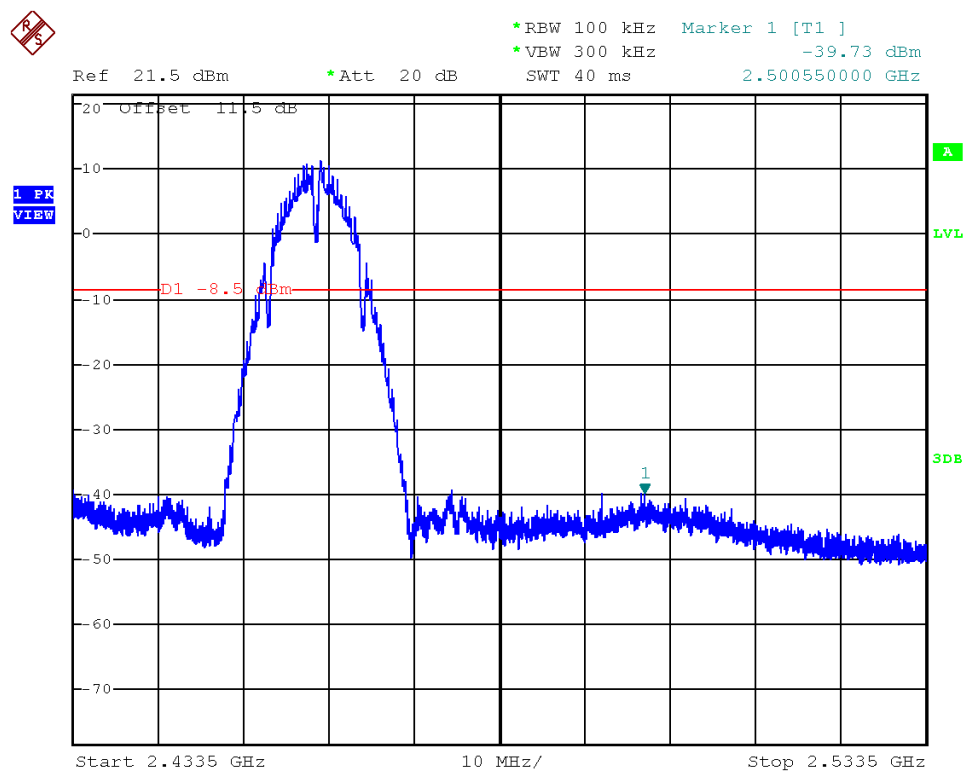
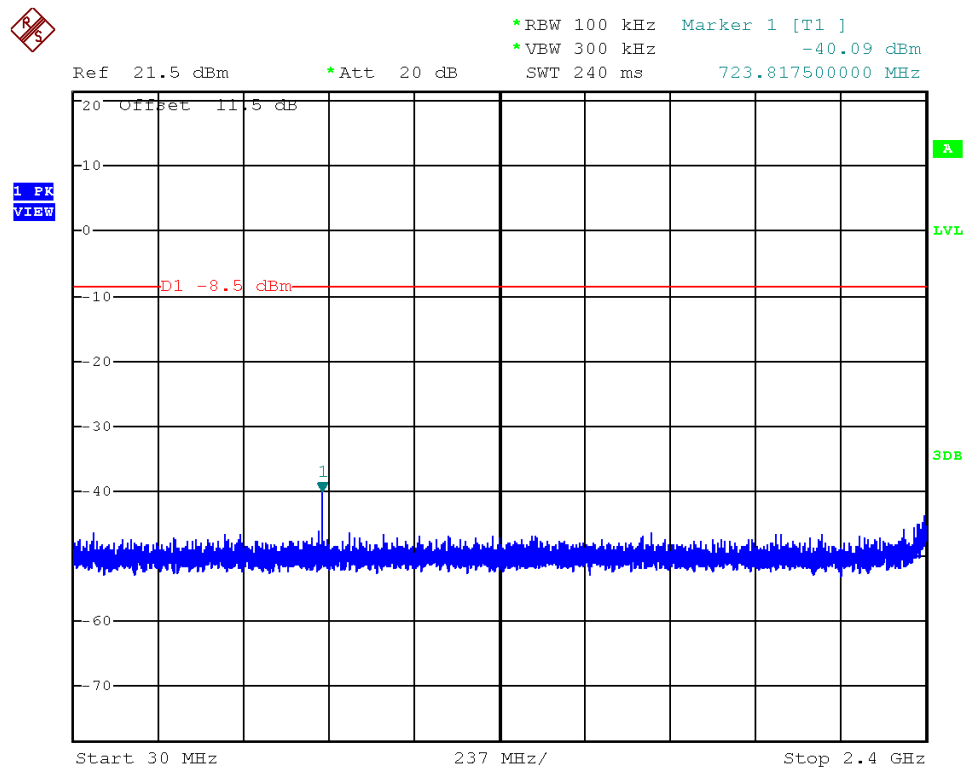
Modulation Standard: 802.11b (1Mbps)
Channel: 06

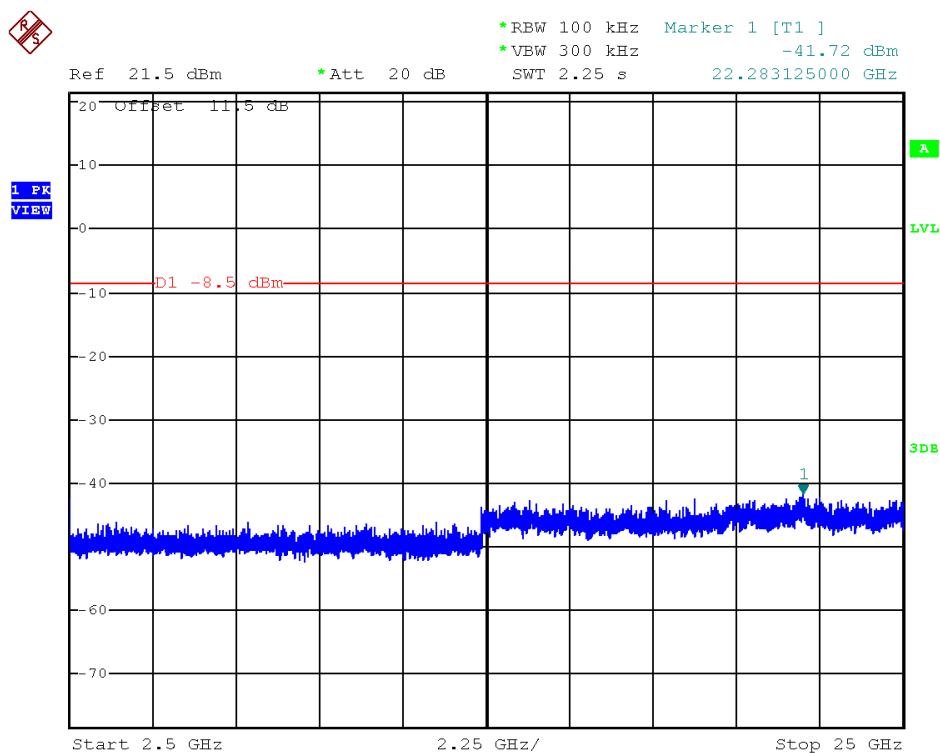




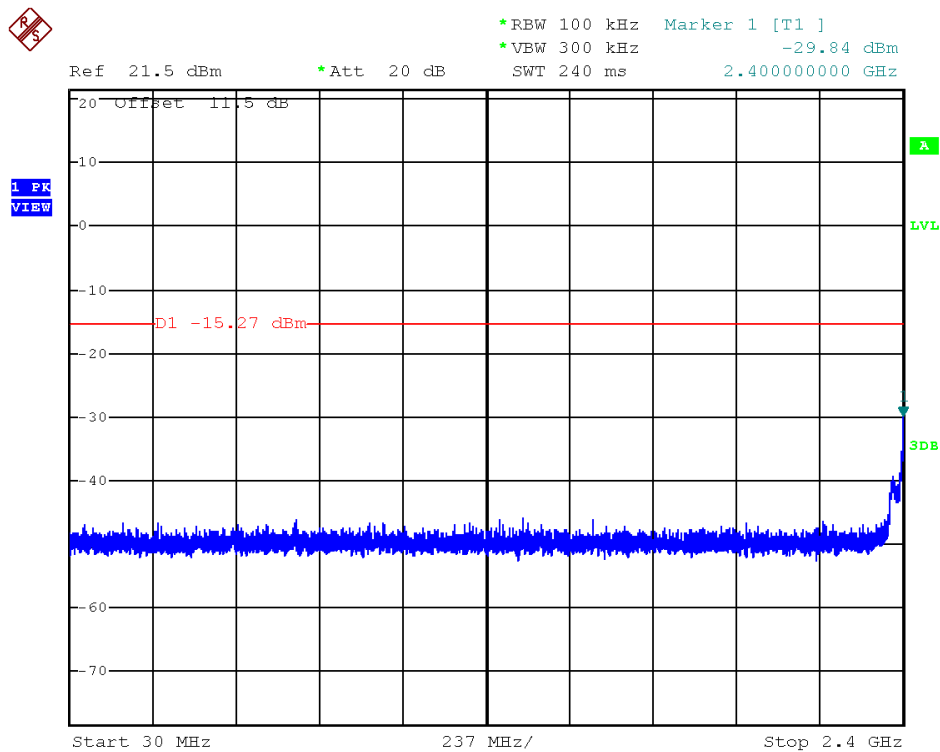


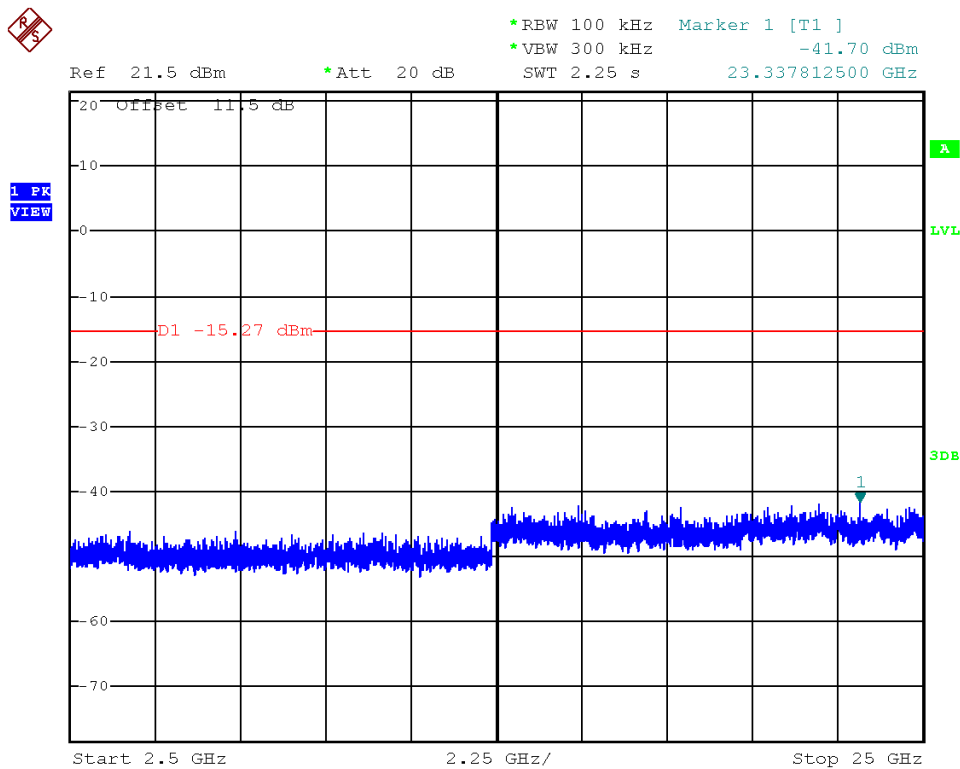
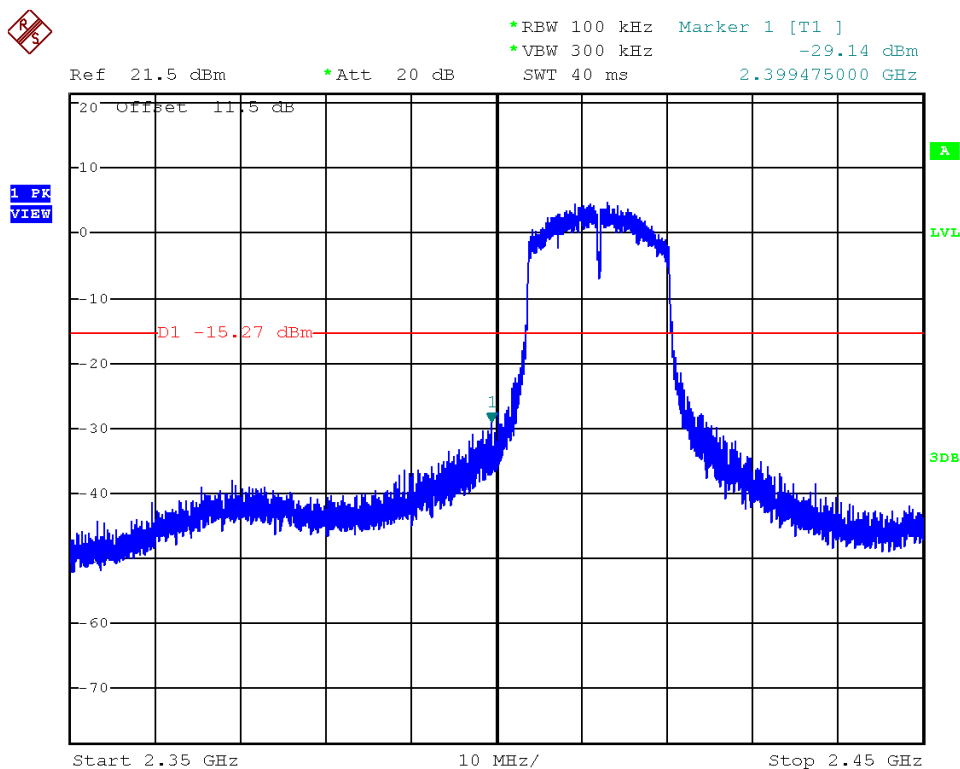
Modulation Standard: 802.11b (1Mbps)
Channel: 11





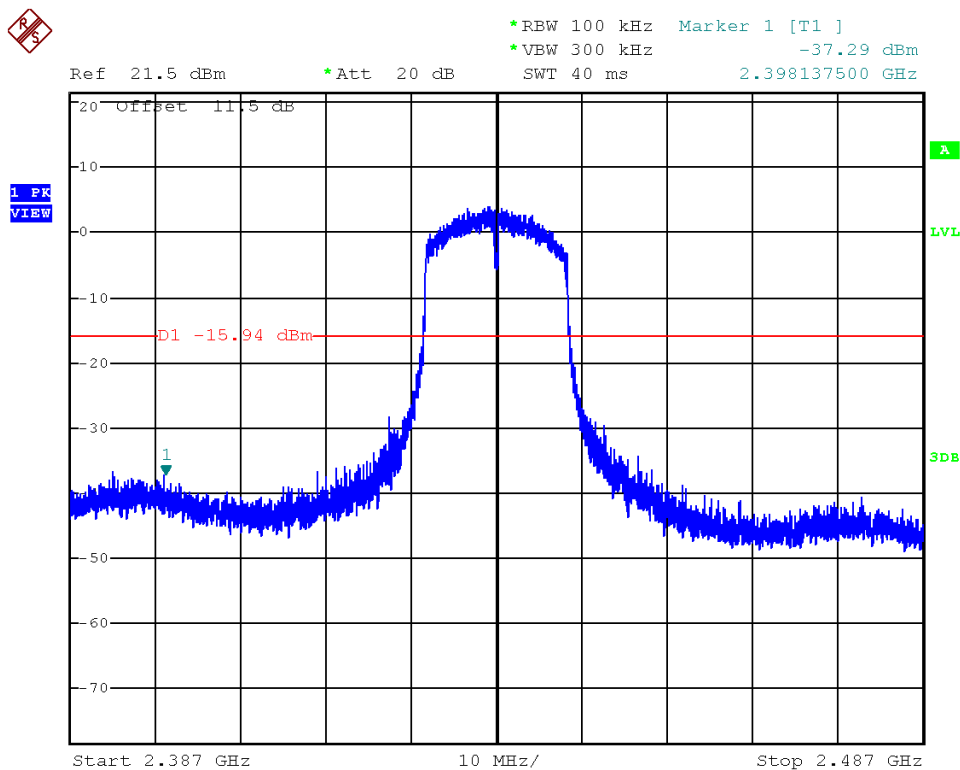
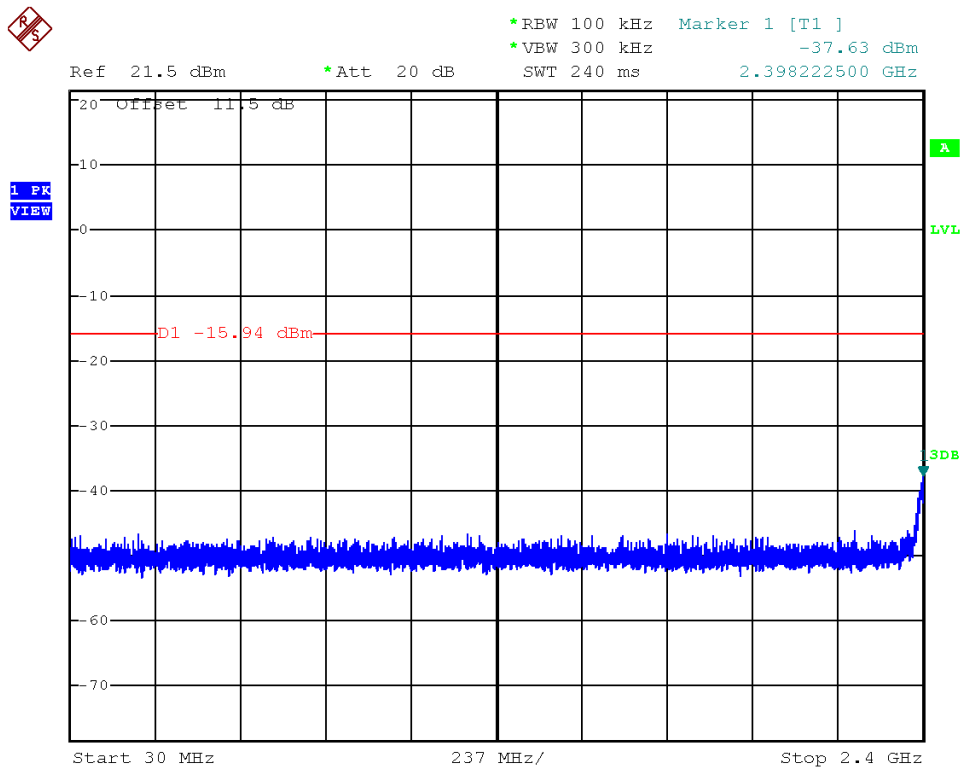
Modulation Standard: 802.11g (6Mbps)
Channel: 01

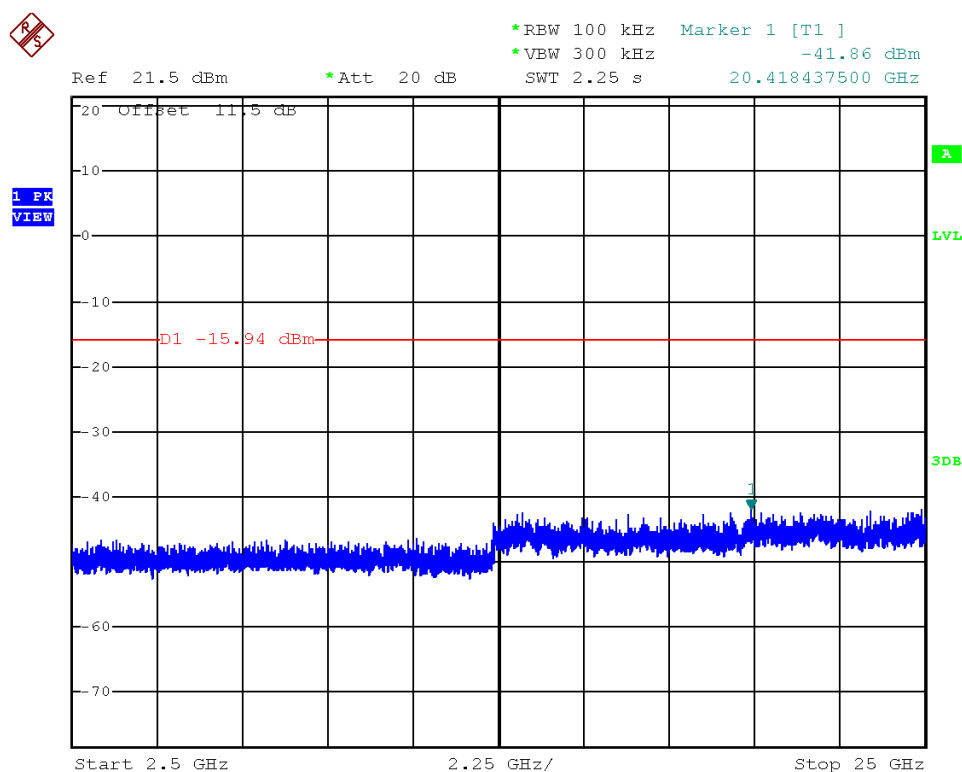




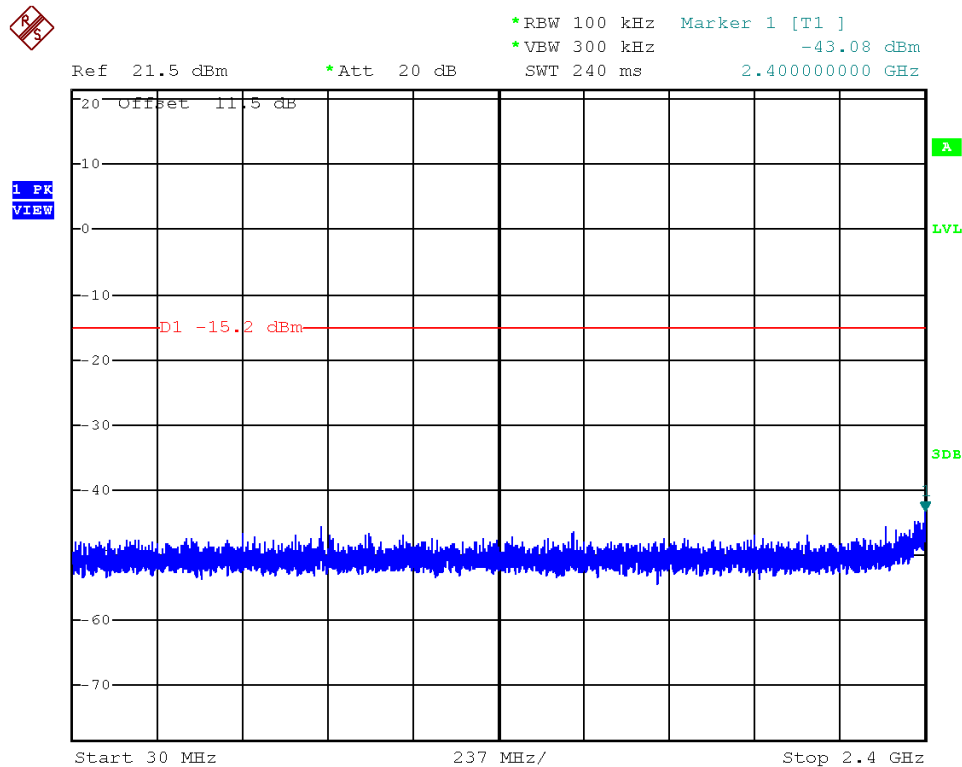


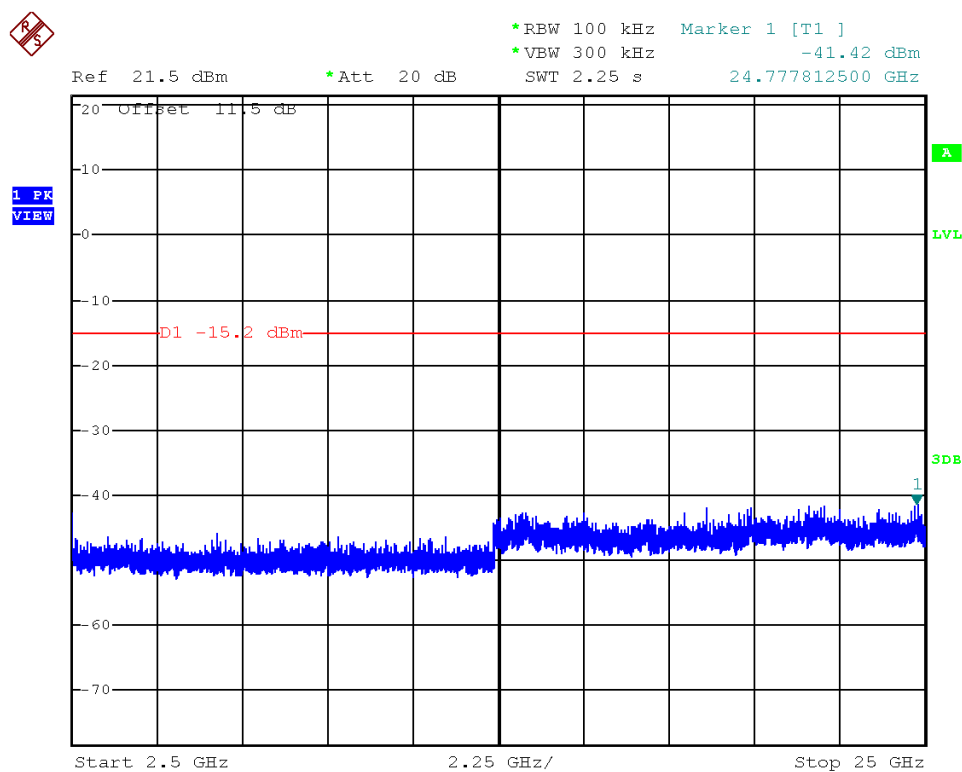
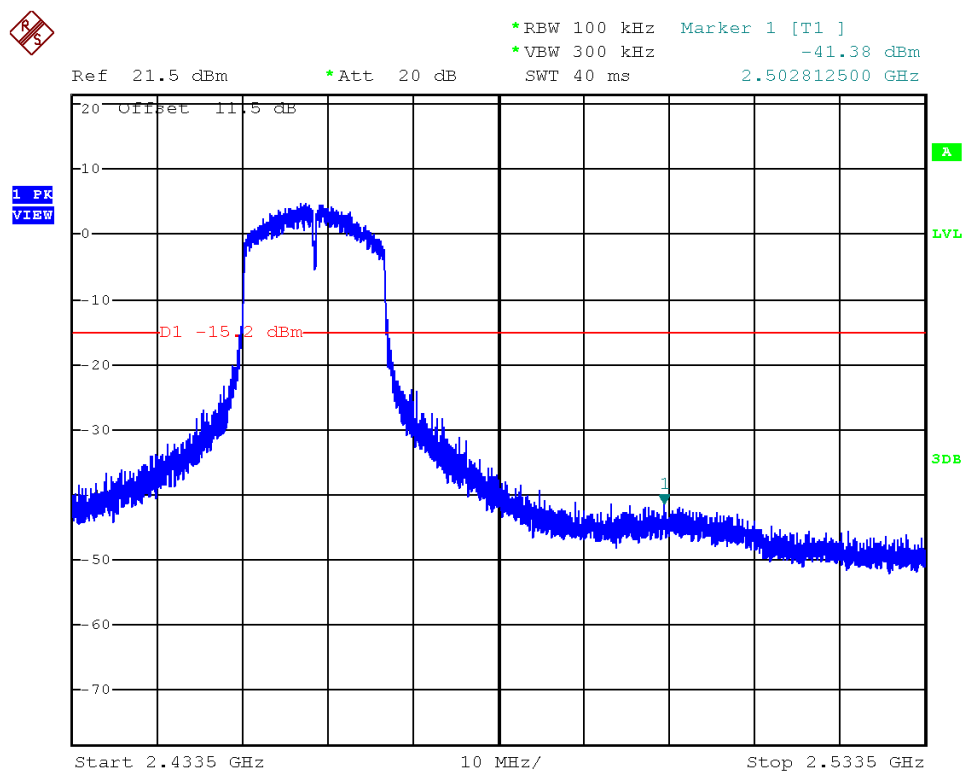
Modulation Standard: 802.11g (6Mbps)
Channel: 06





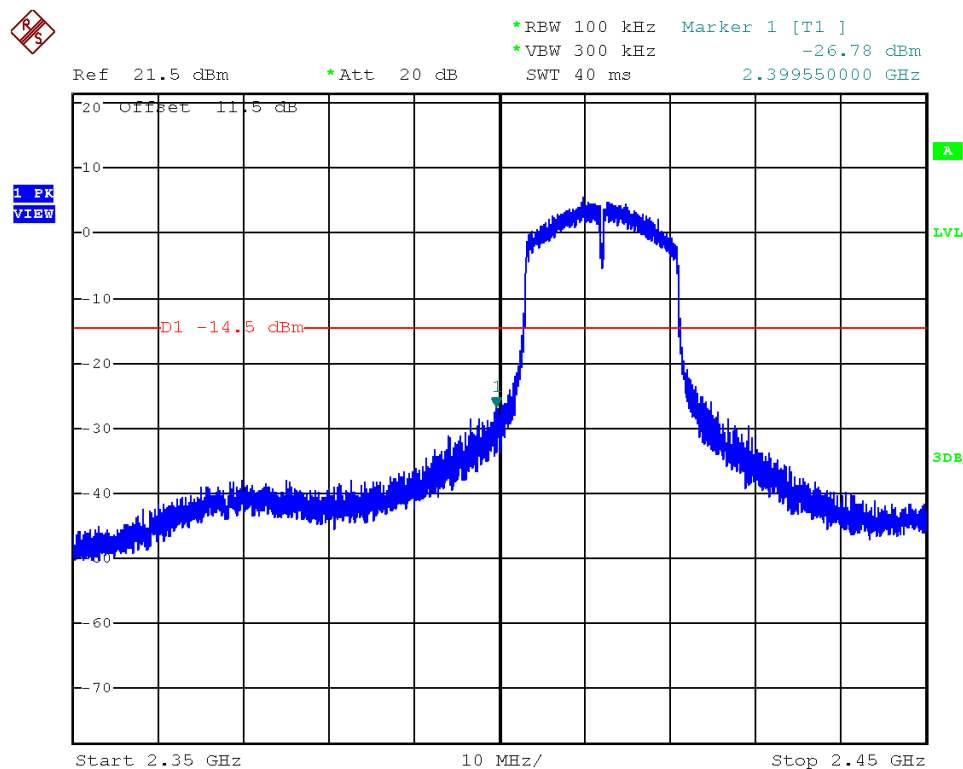
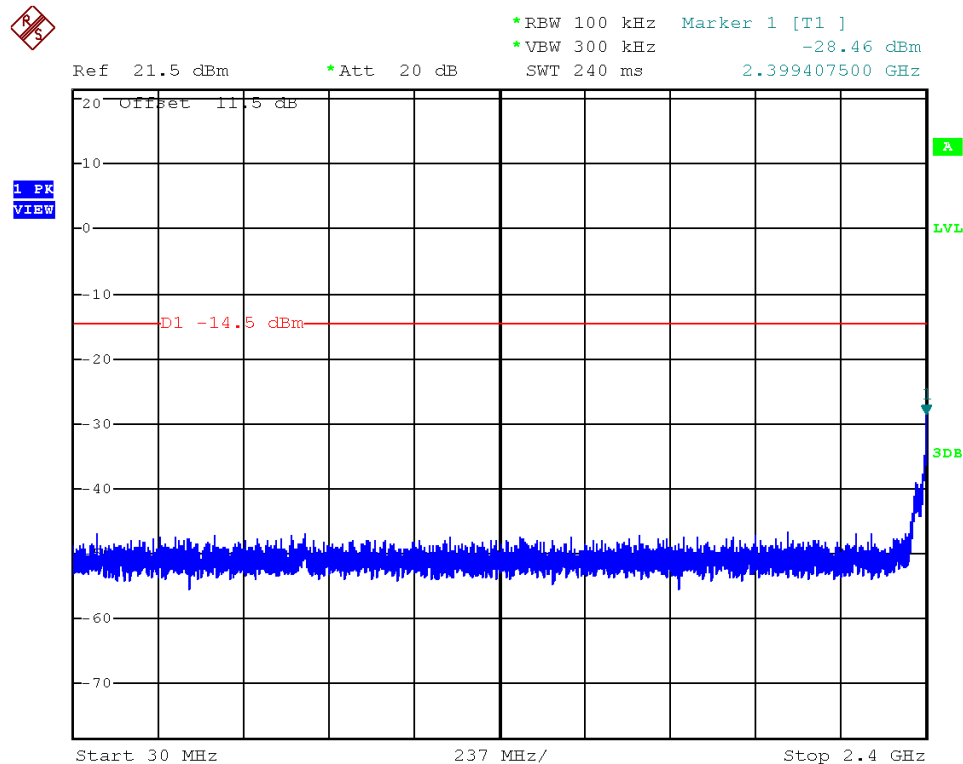
Modulation Standard: 802.11g (6Mbps)
Channel: 11

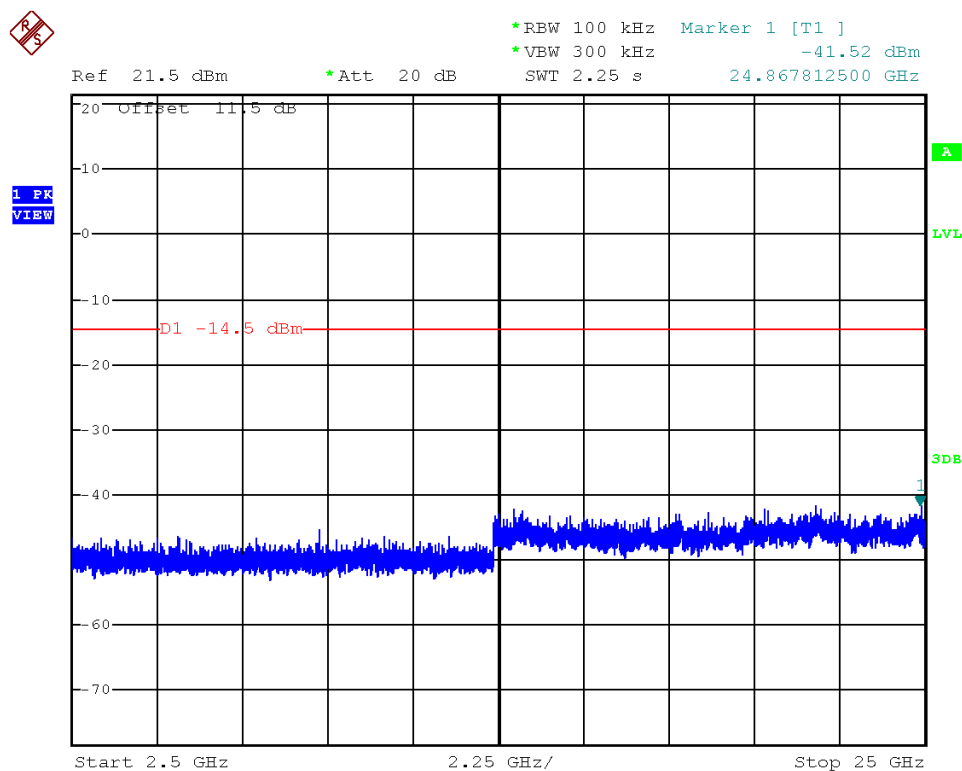






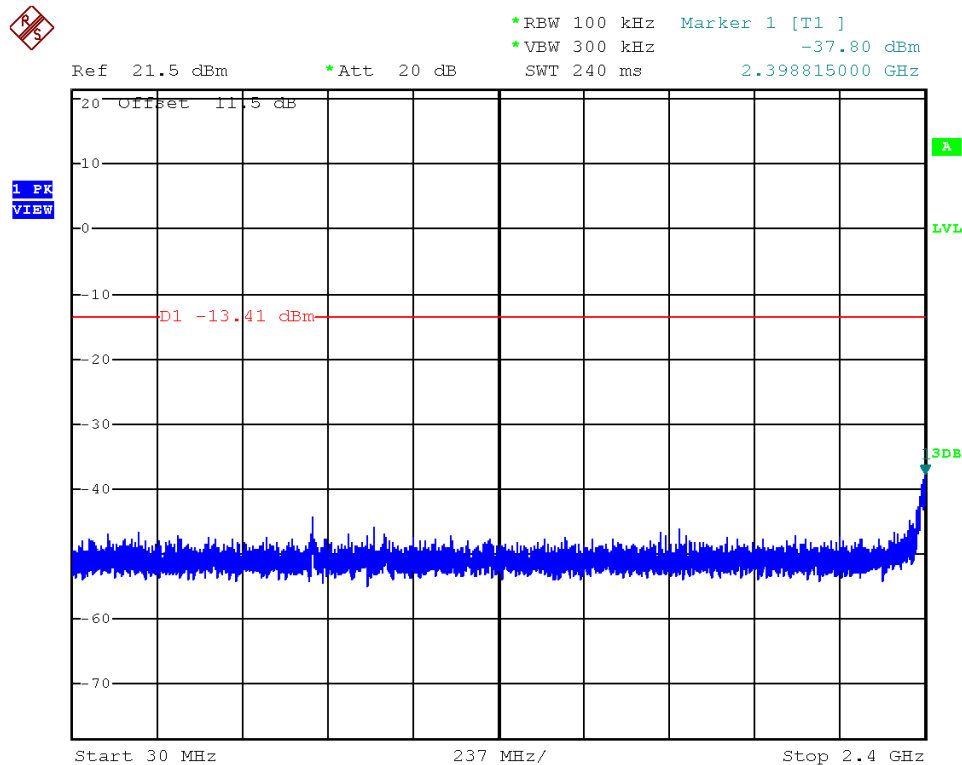
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 01

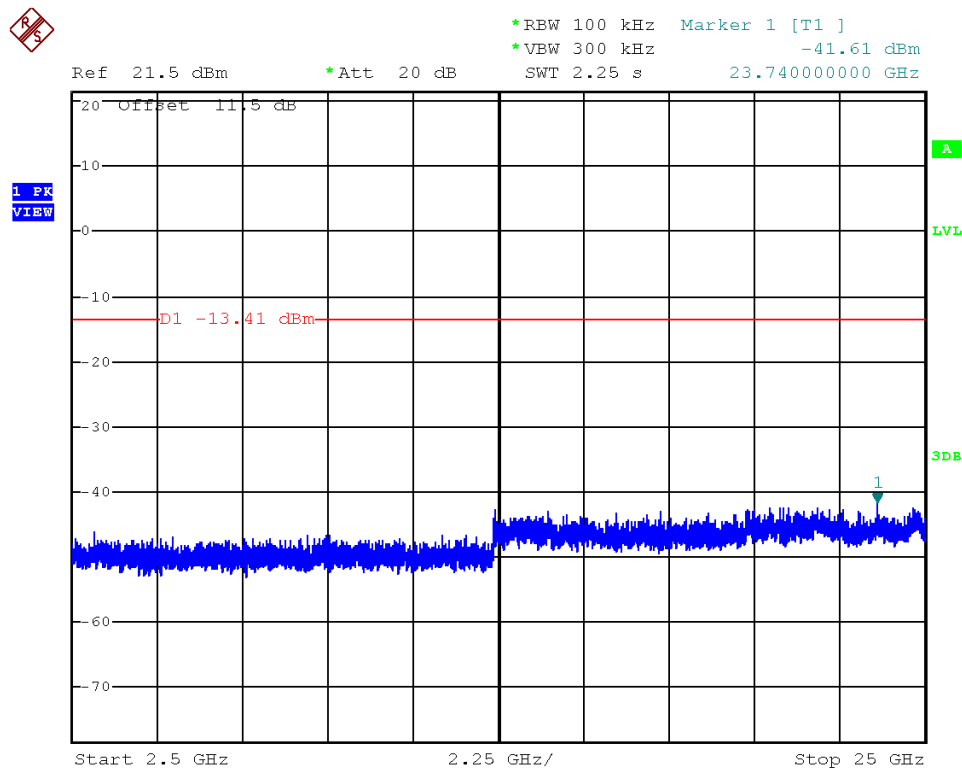
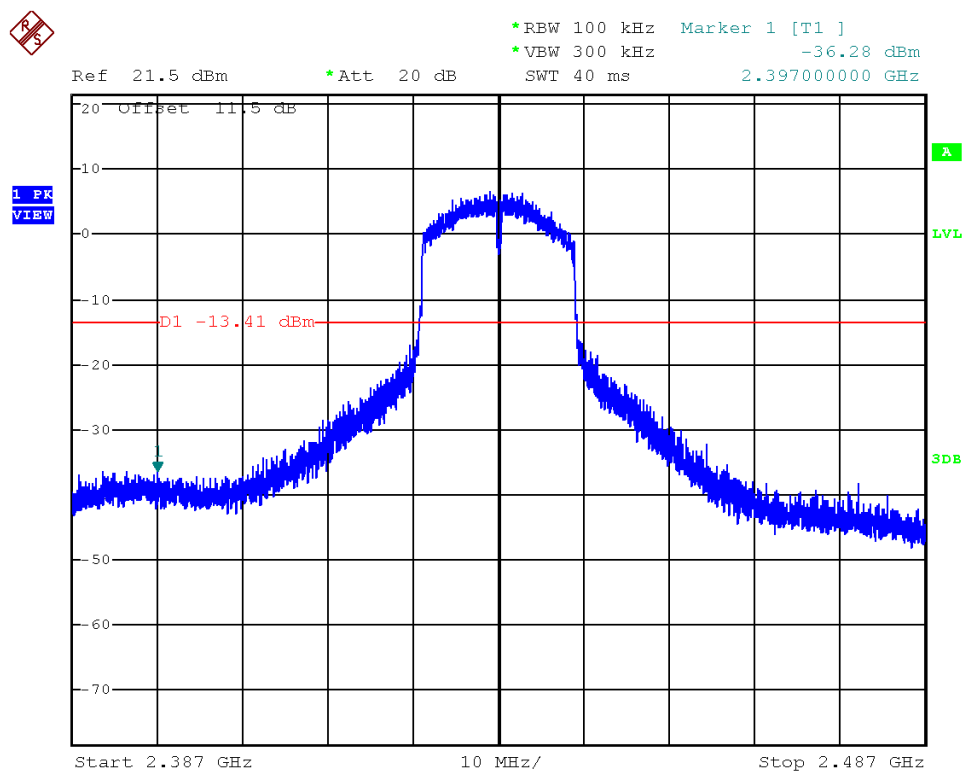




Modulation Standard: 802.11n HT20 (6.5Mbps)

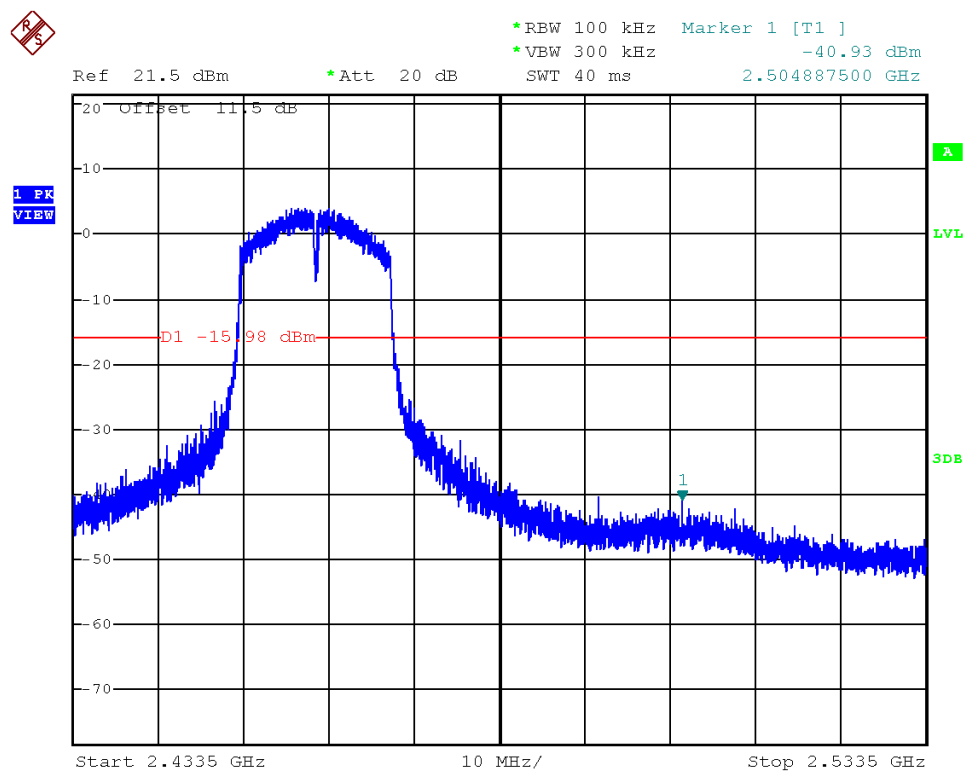
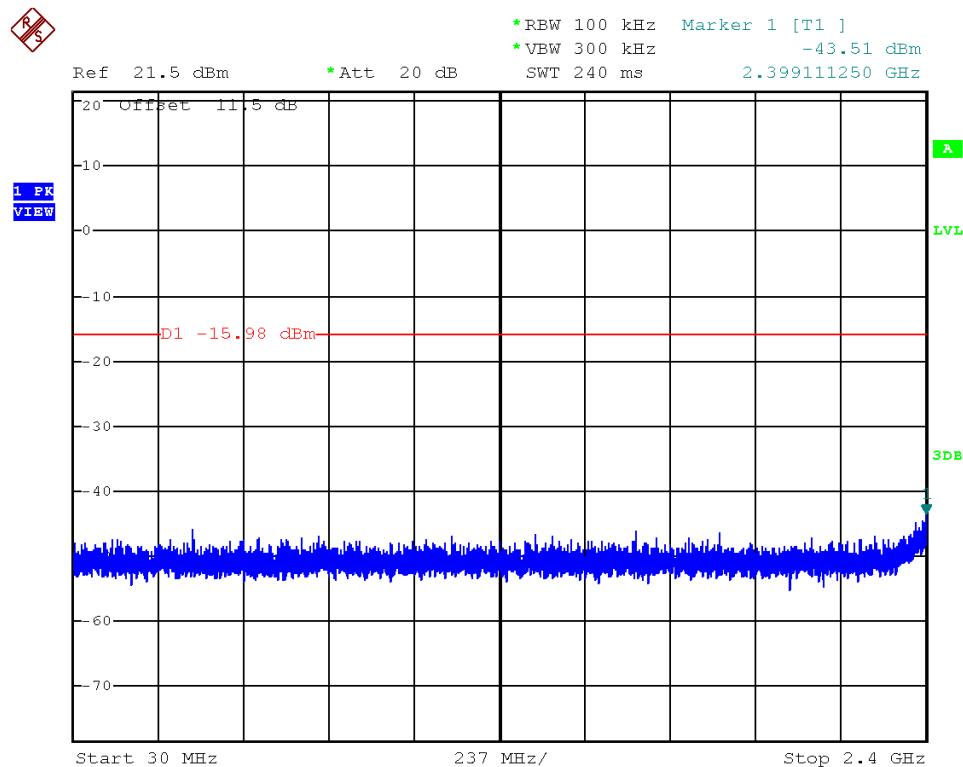
Channel: 06

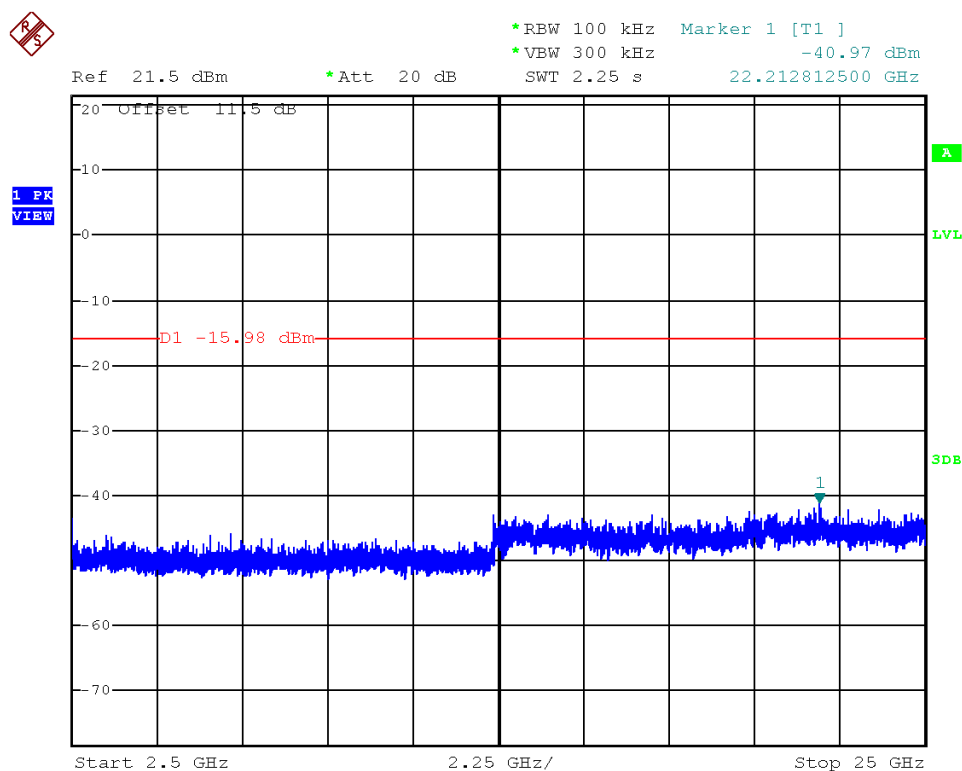




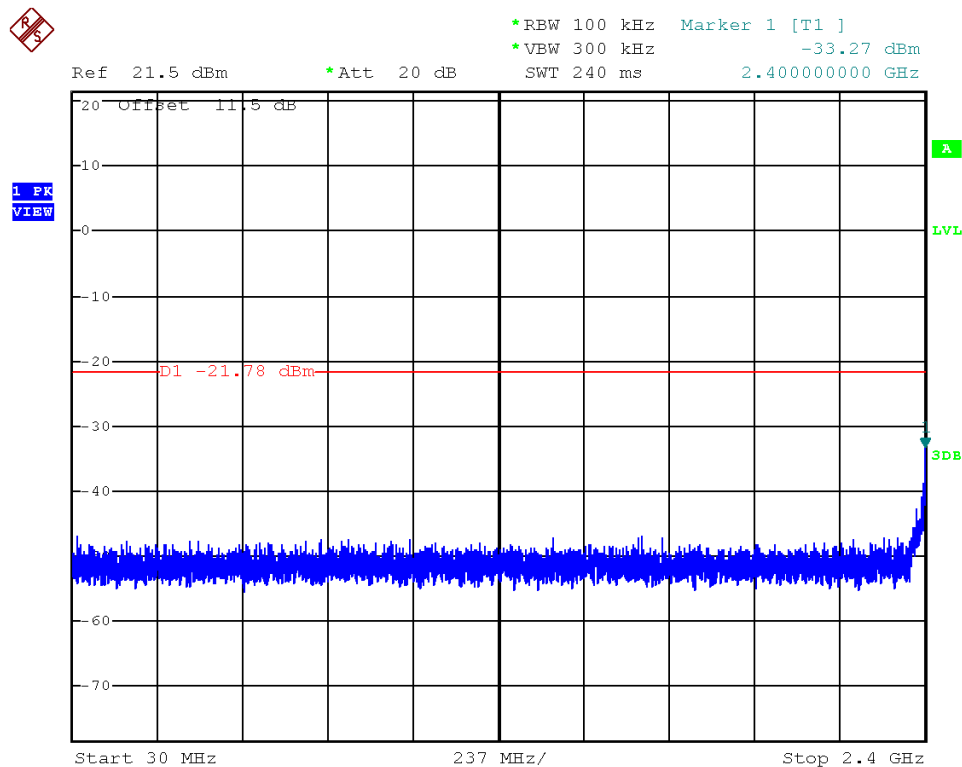


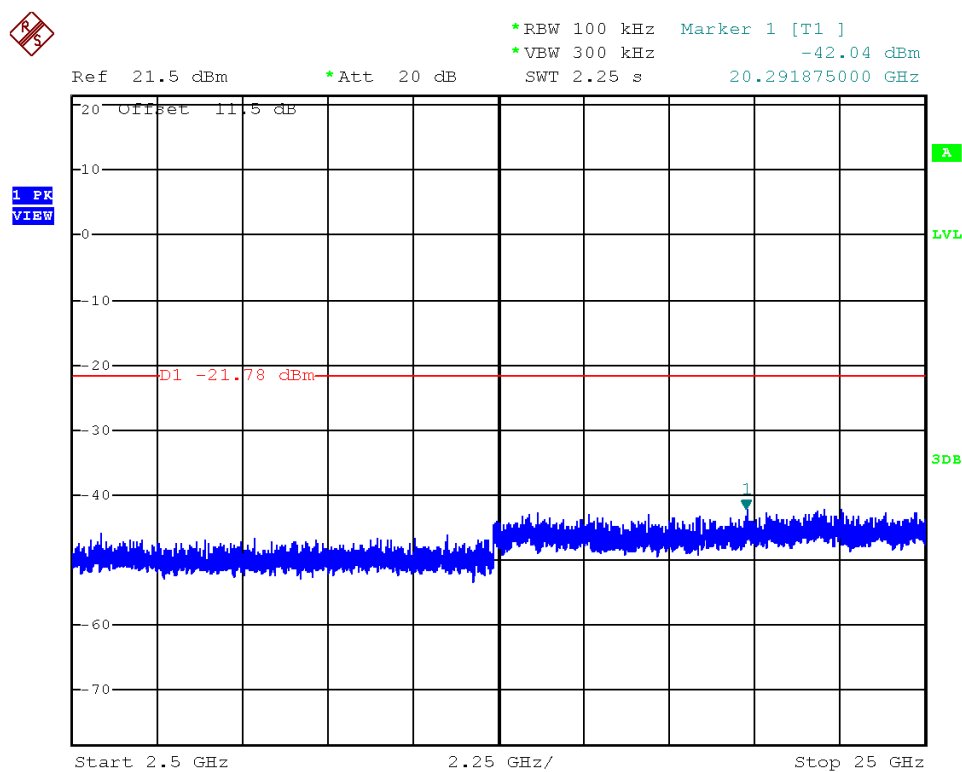
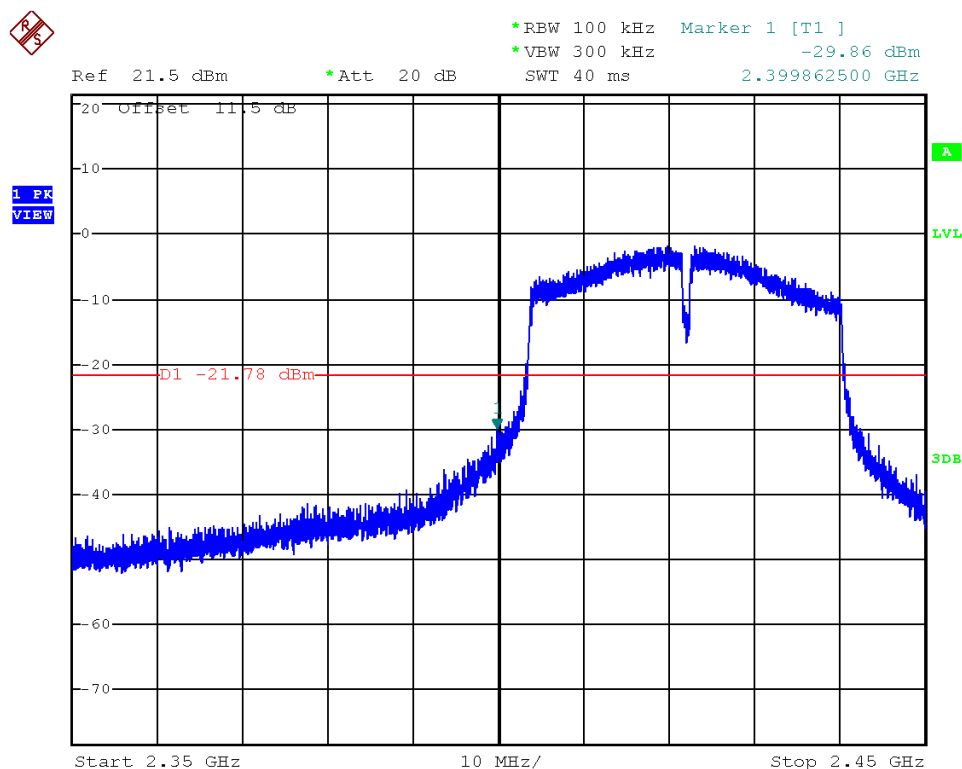
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 11





Modulation Standard: 802.11n HT40 (13.5Mbps)
Channel: 03

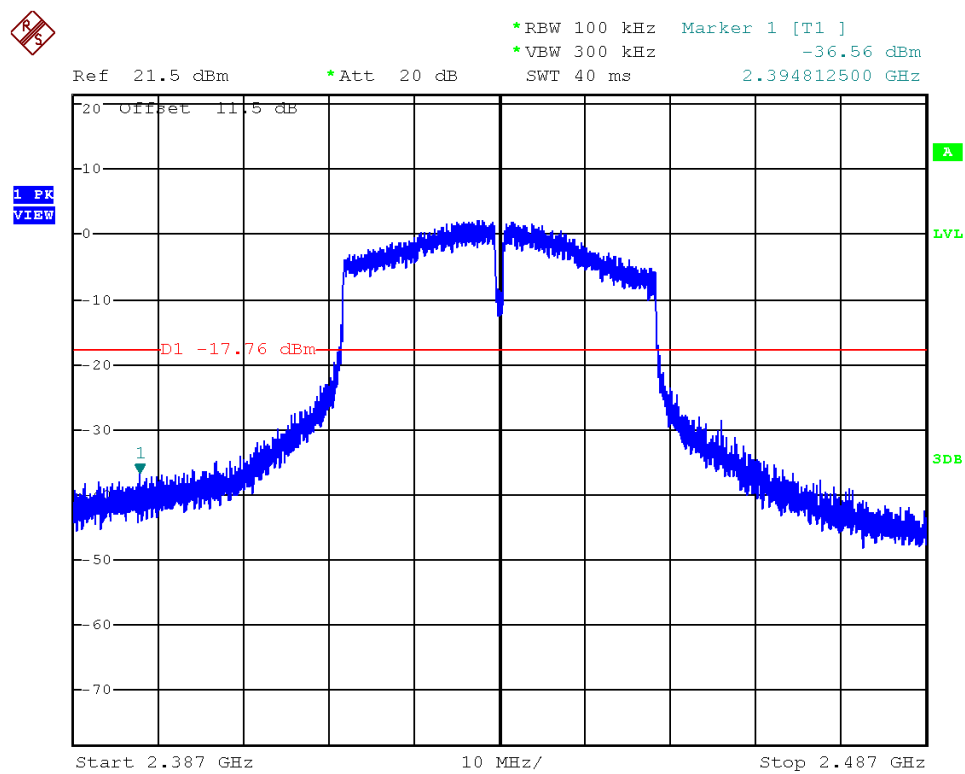
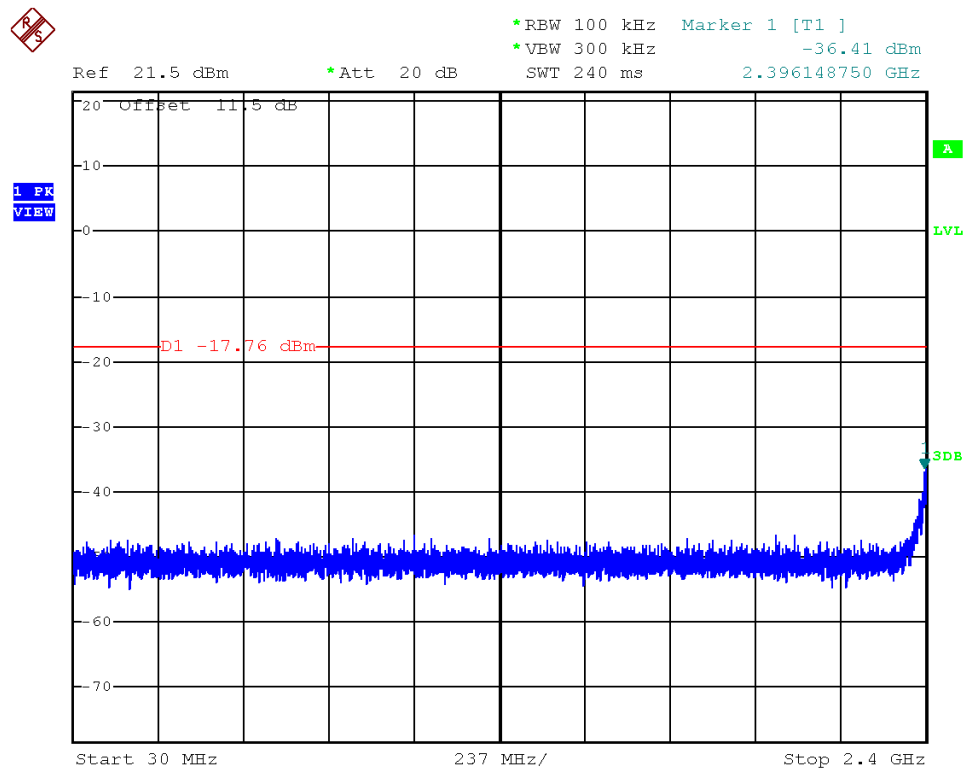


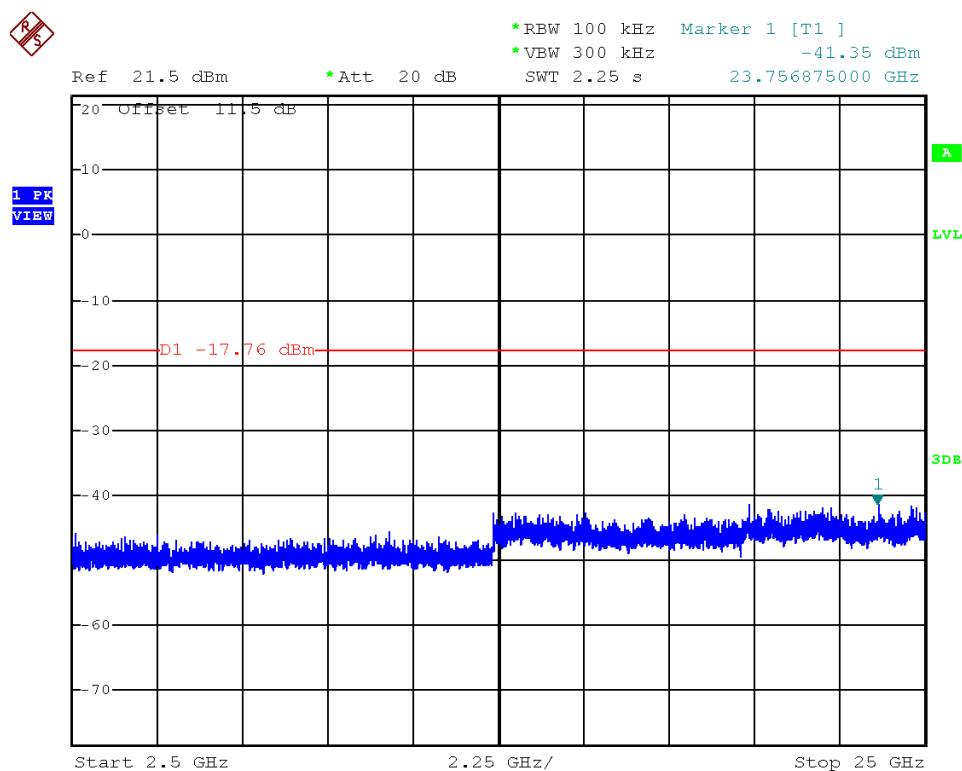




Modulation Standard: 802.11n HT40 (13.5Mbps)

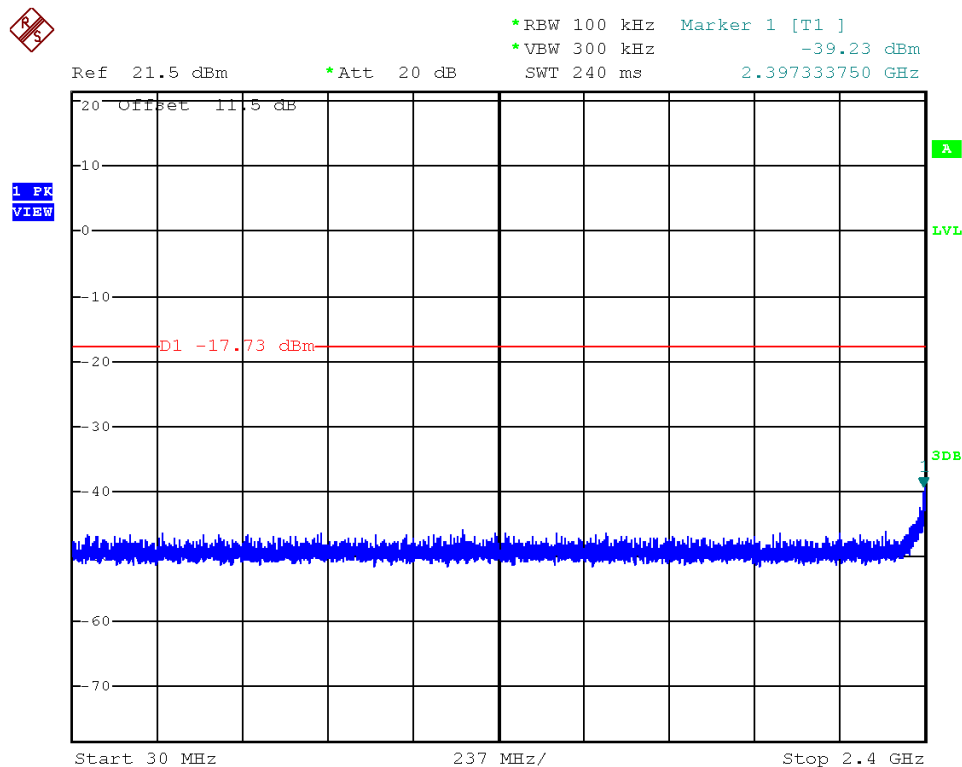
Channel: 06

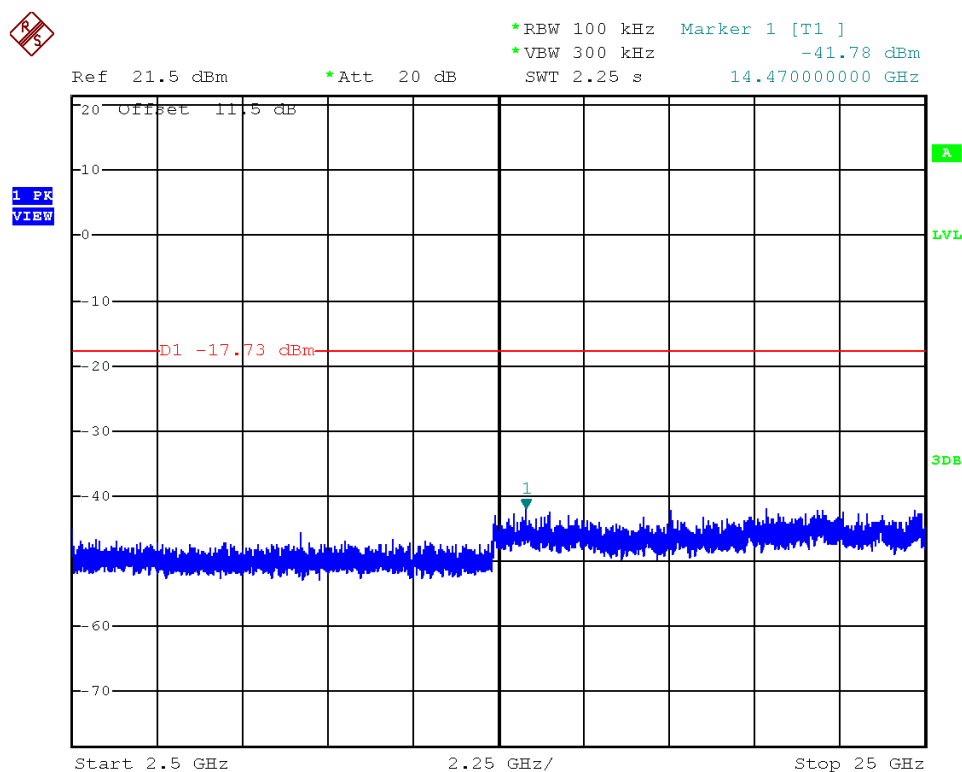
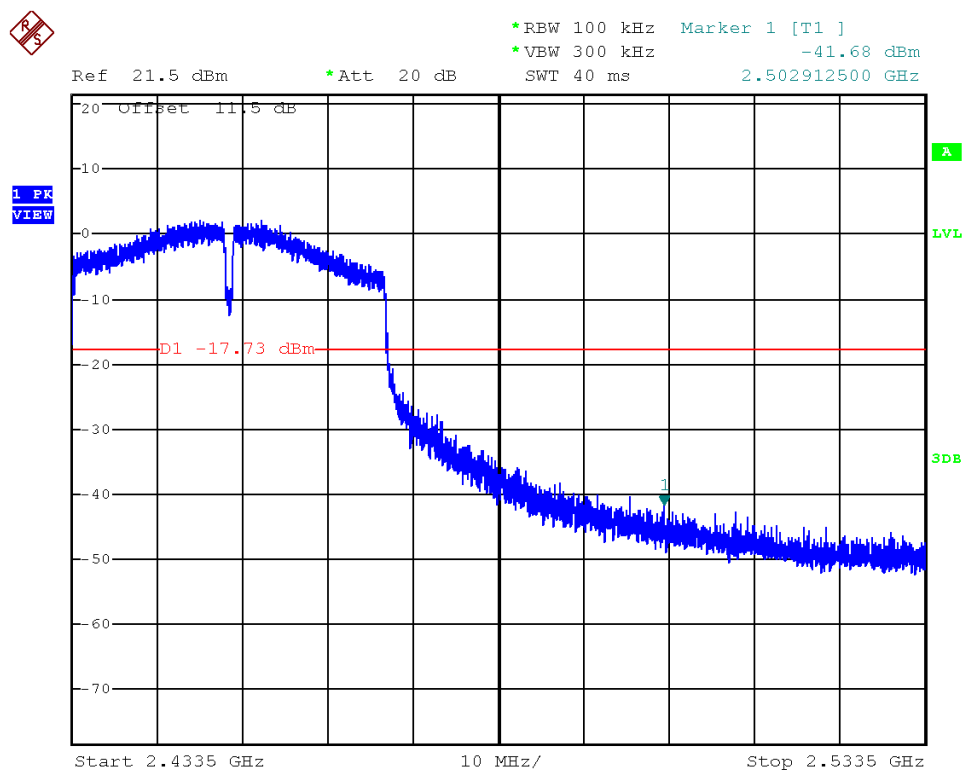




Modulation Standard: 802.11n HT40 (13.5Mbps)

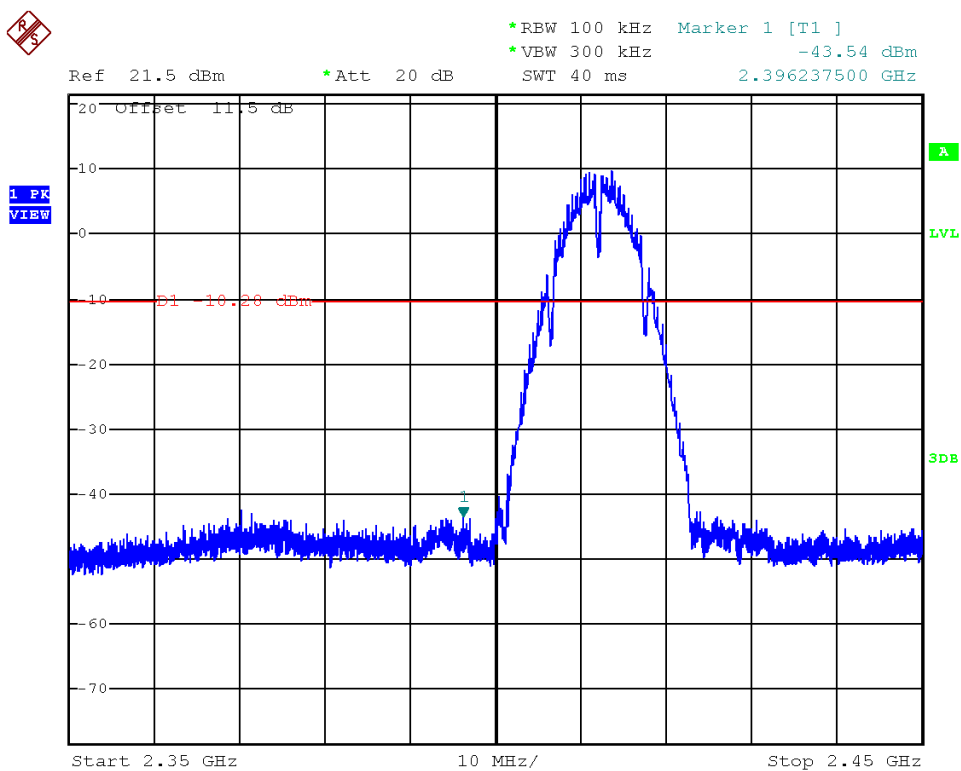
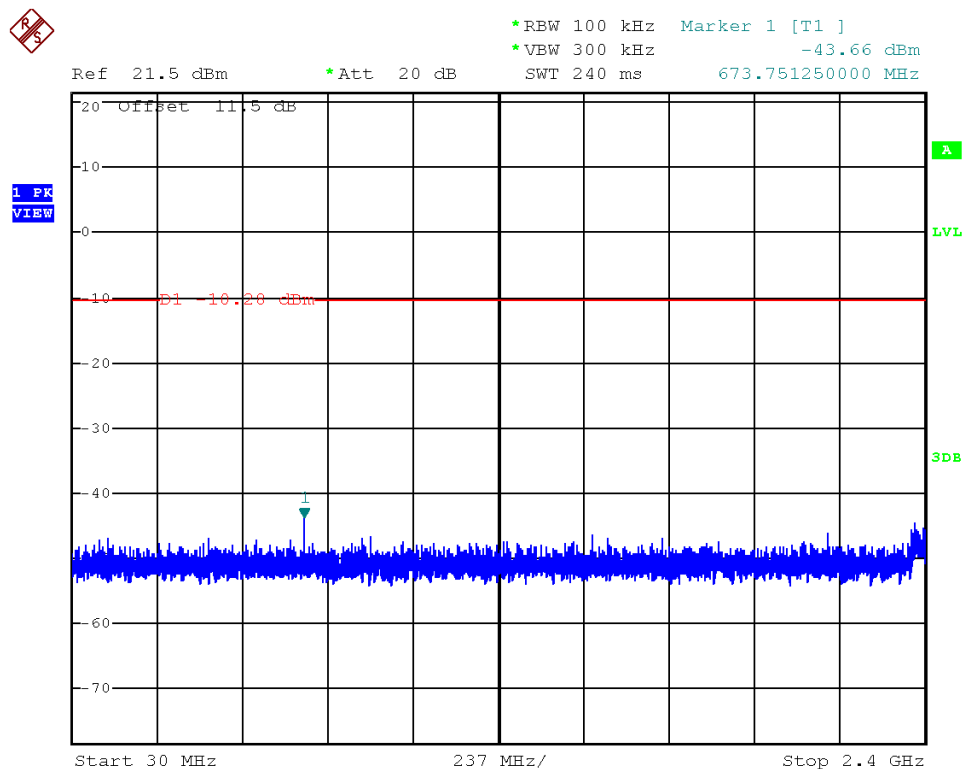
Channel: 09

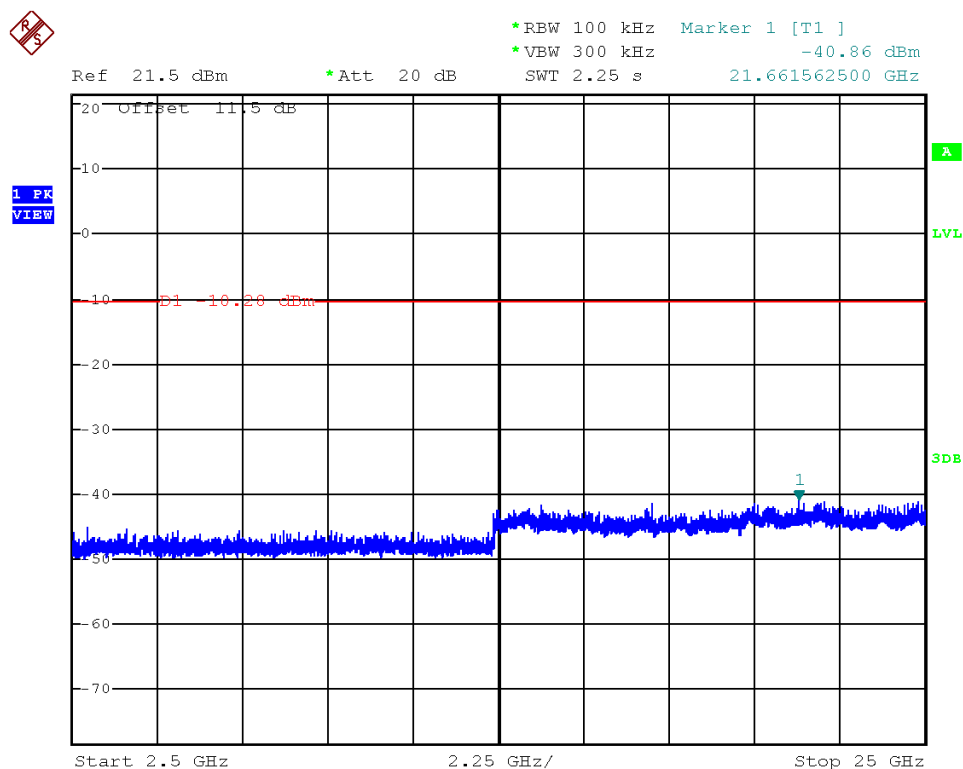






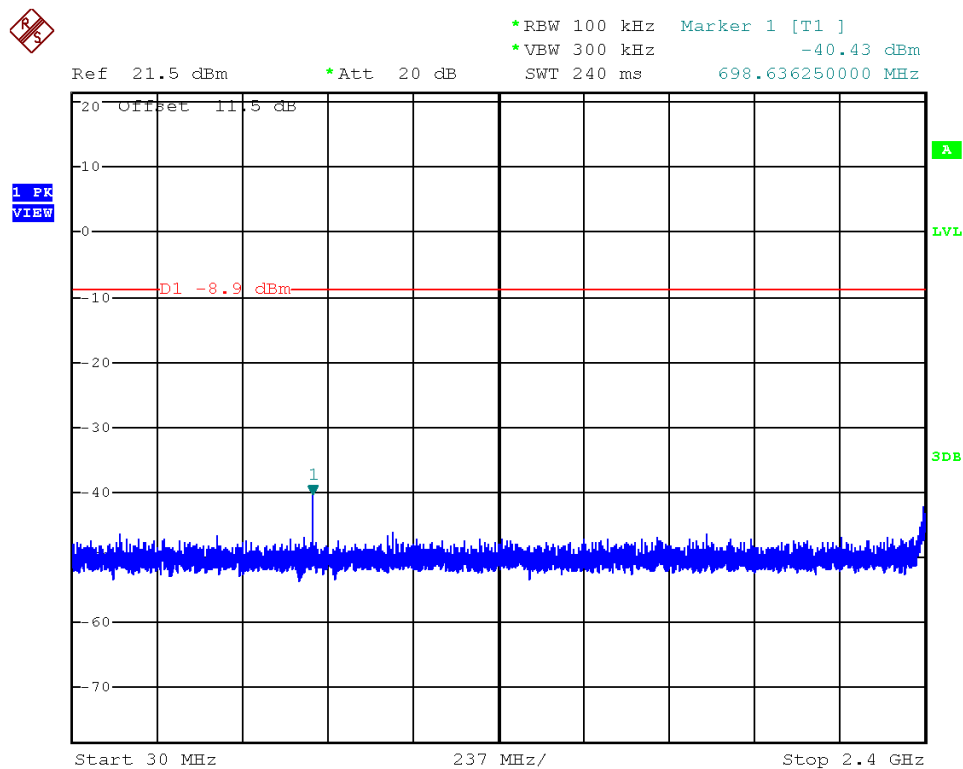
ANT B:
Modulation Standard: 802.11b (1Mbps)
Channel: 01

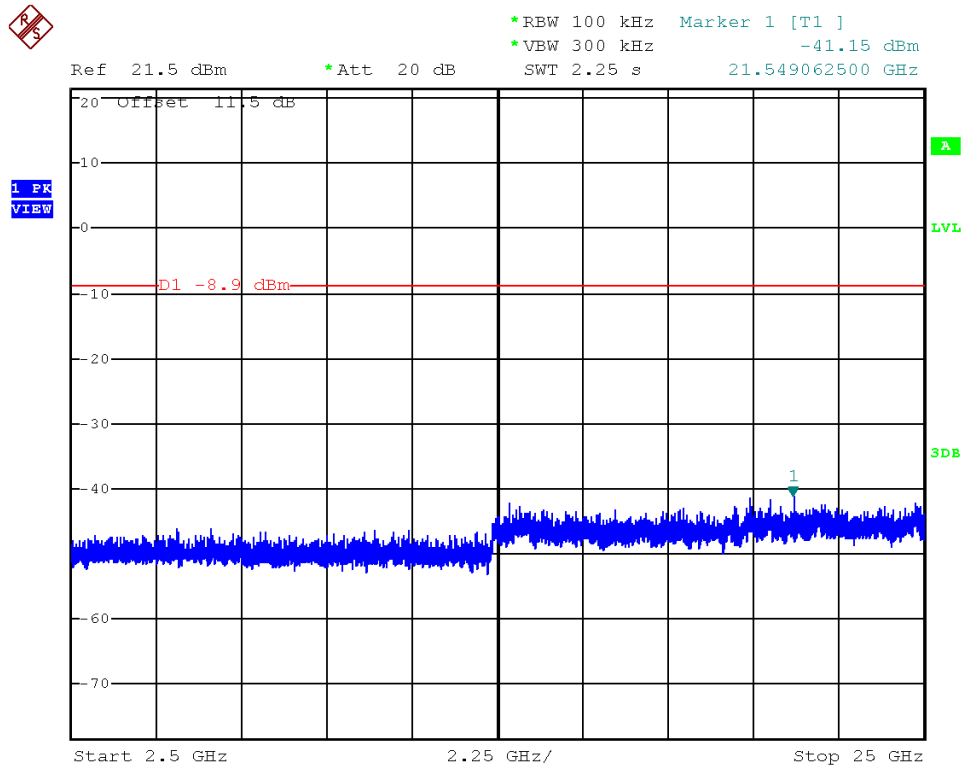
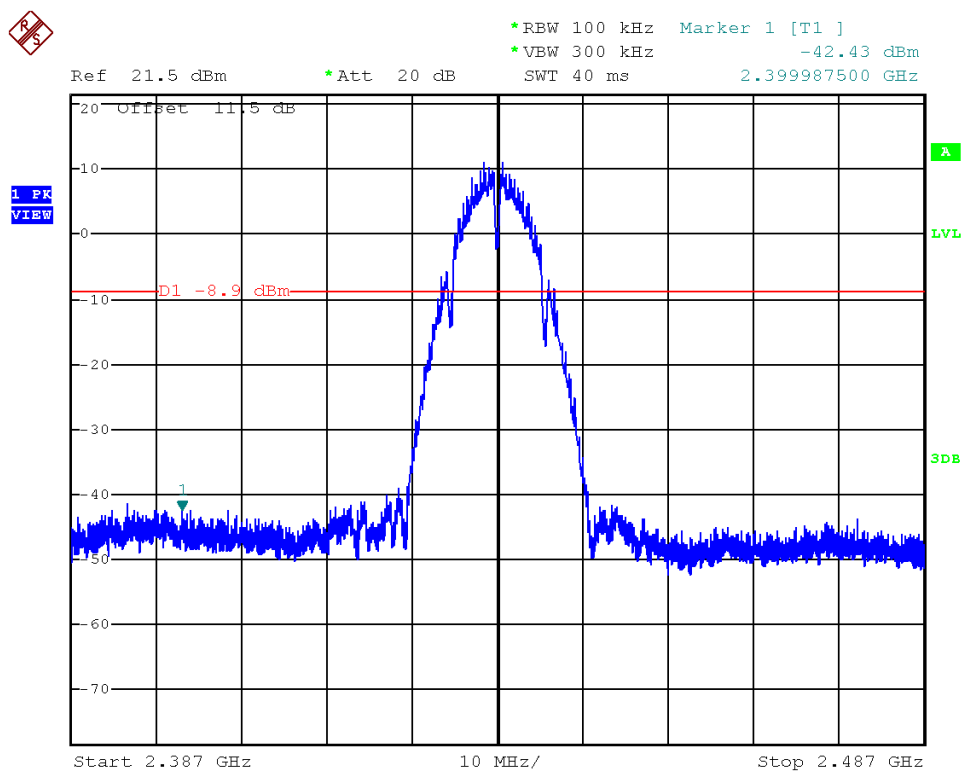




Modulation Standard: 802.11b (1Mbps)

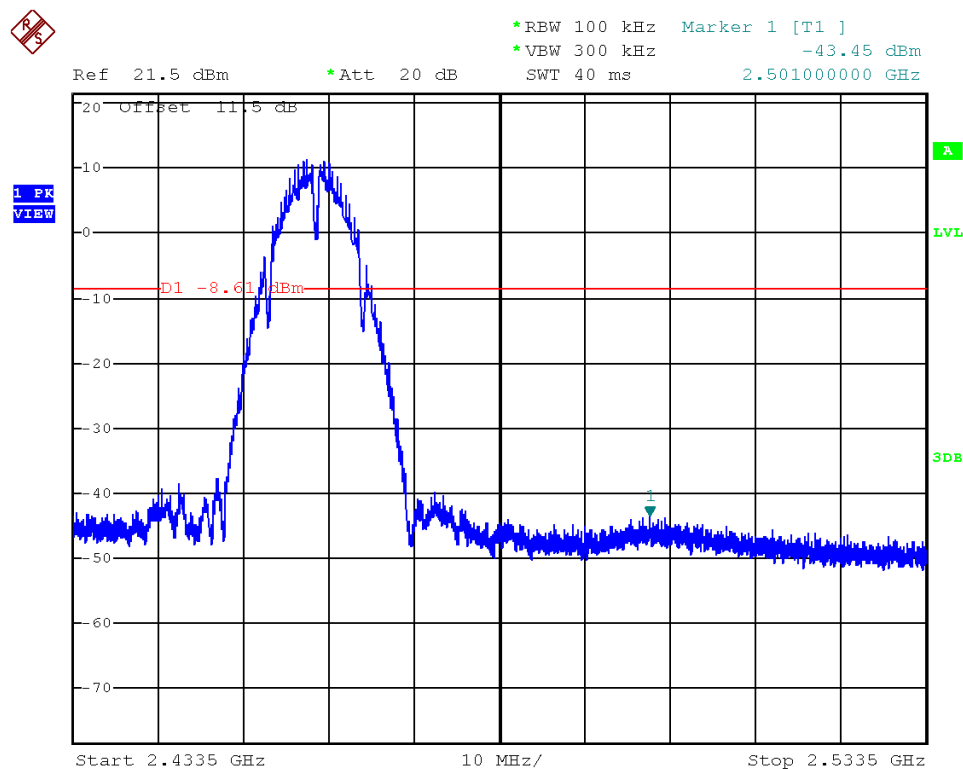
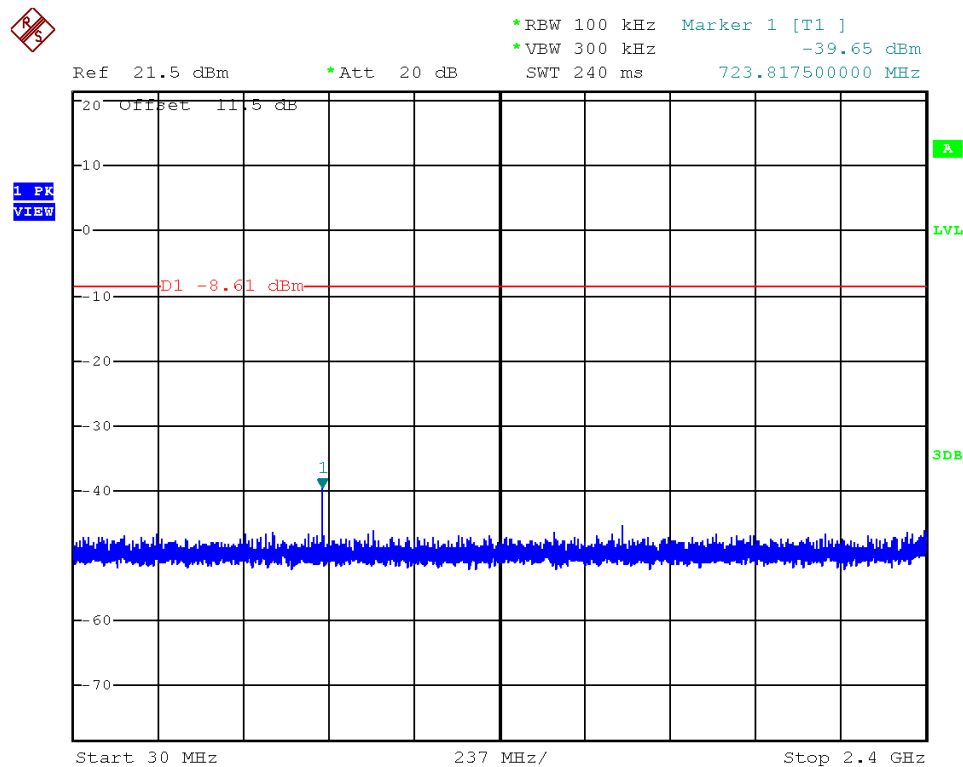
Channel: 06

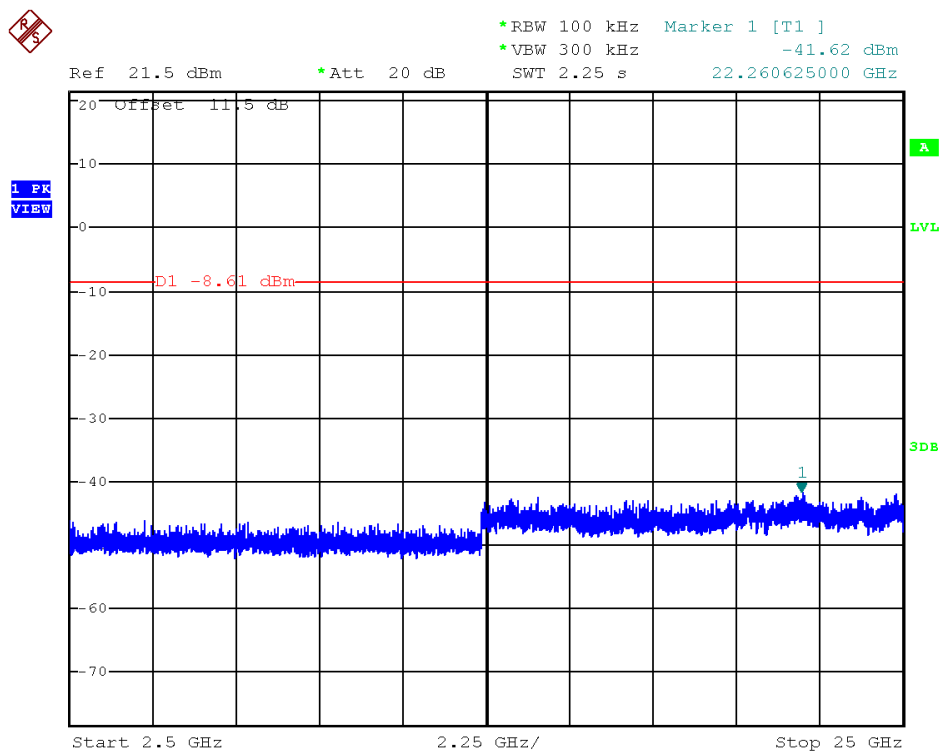




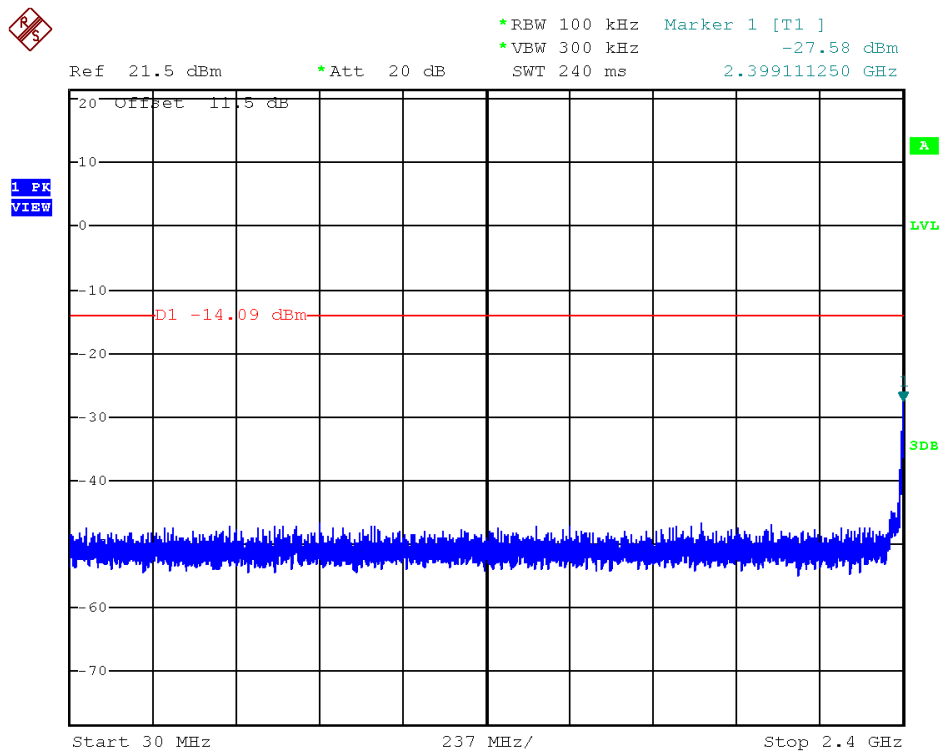


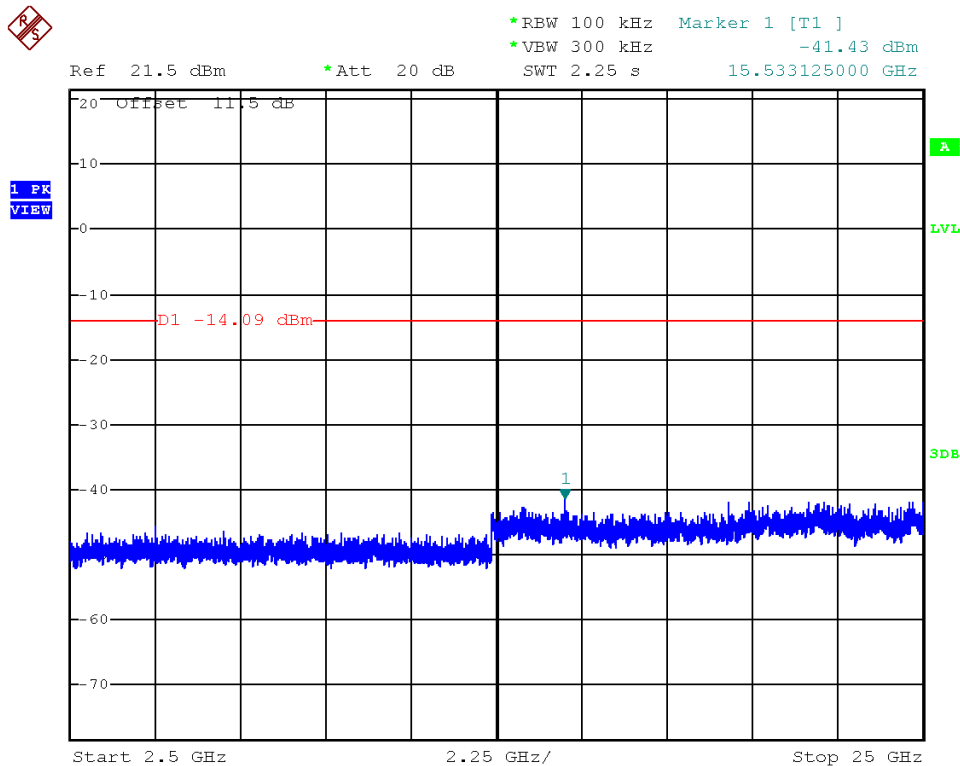
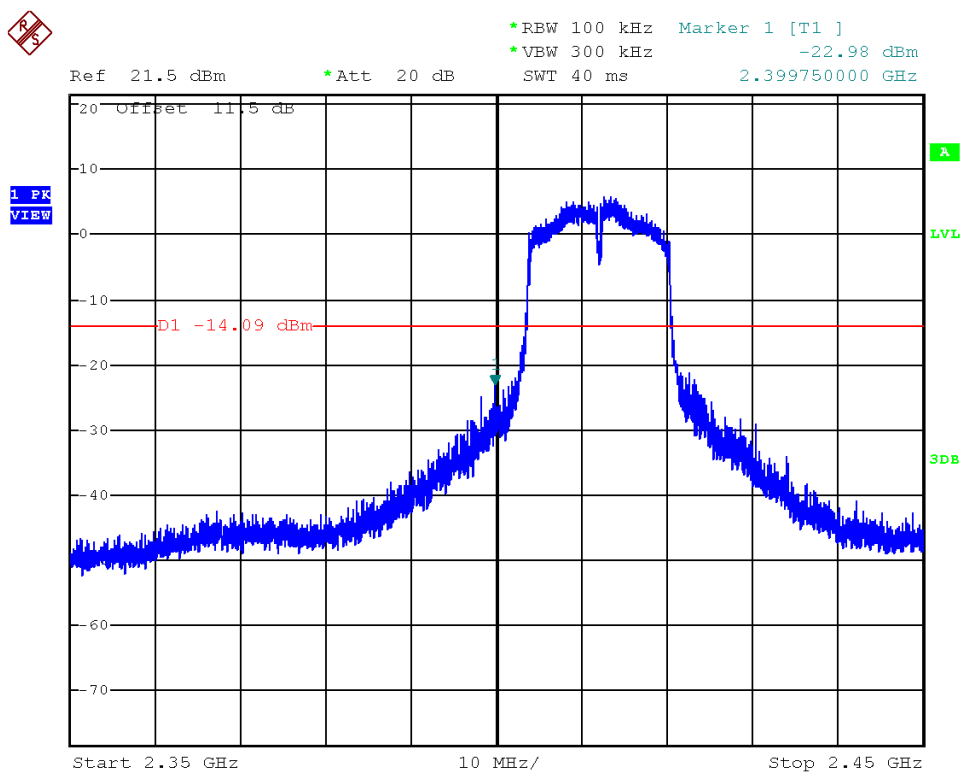
Modulation Standard: 802.11b (1Mbps)
Channel: 11





Modulation Standard: 802.11g (6Mbps)
Channel: 01

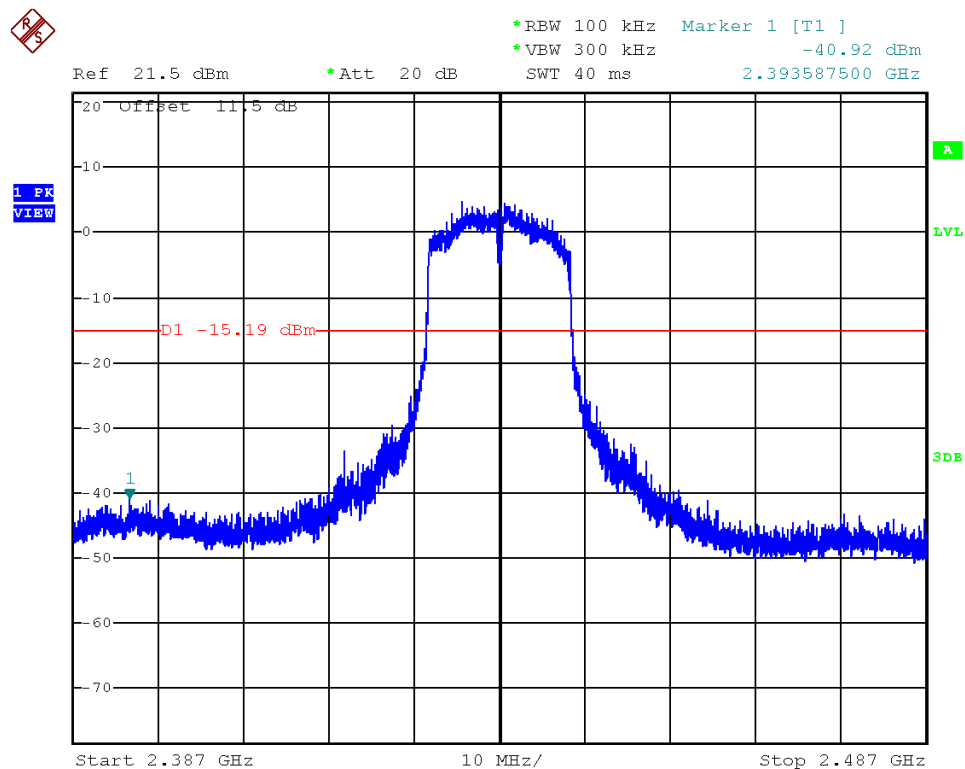
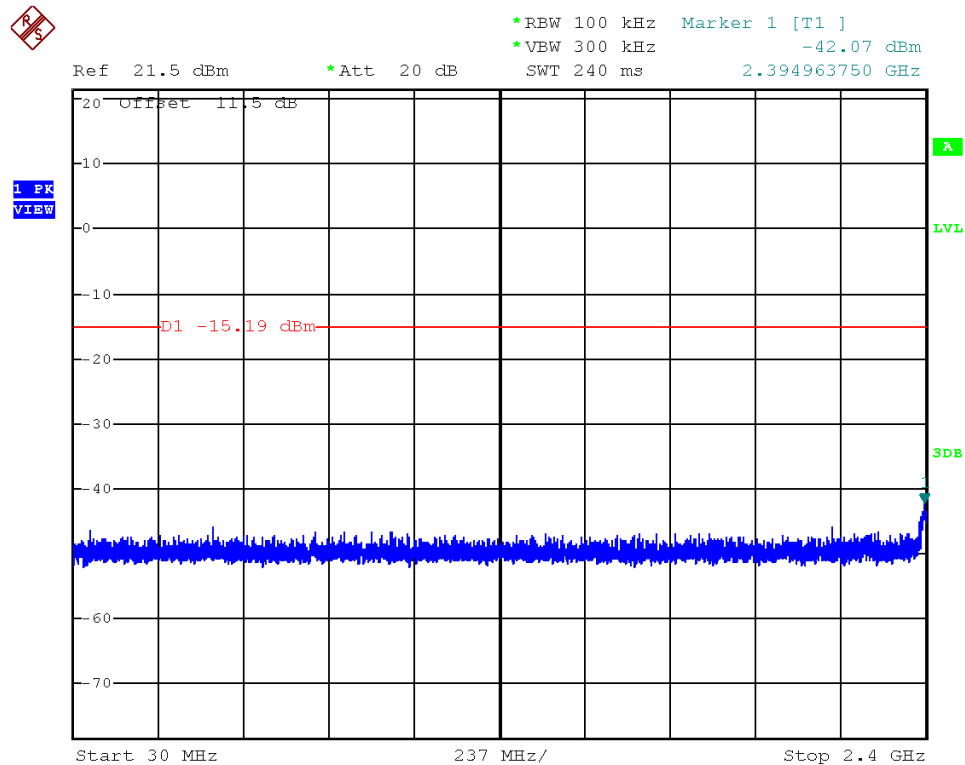


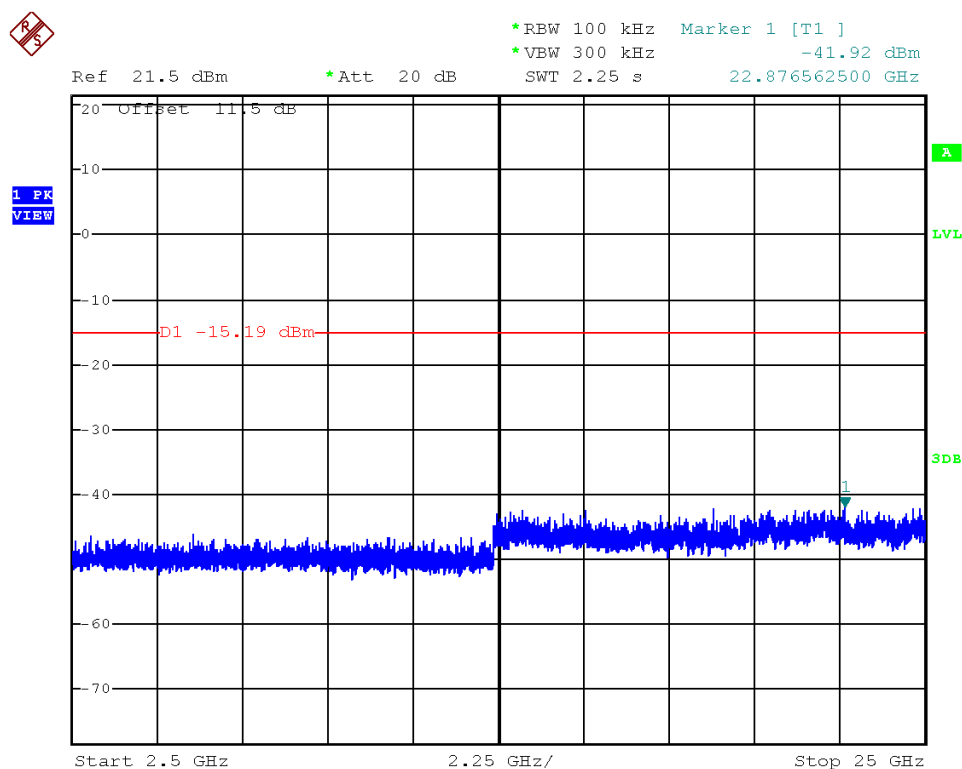




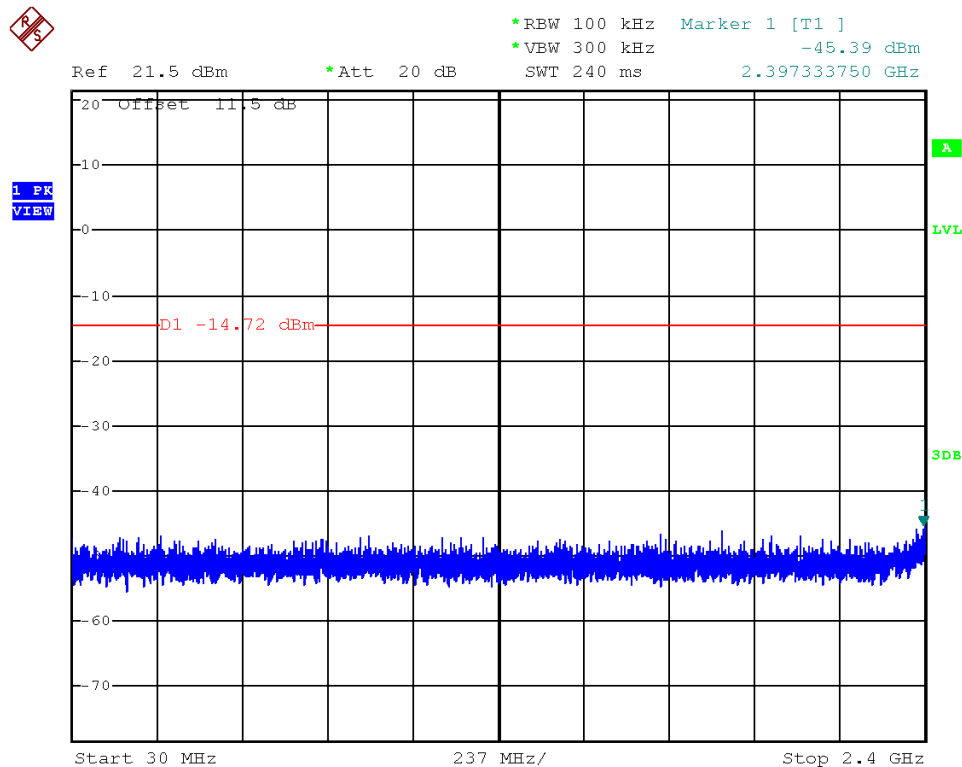
Modulation Standard: 802.11g (6Mbps)

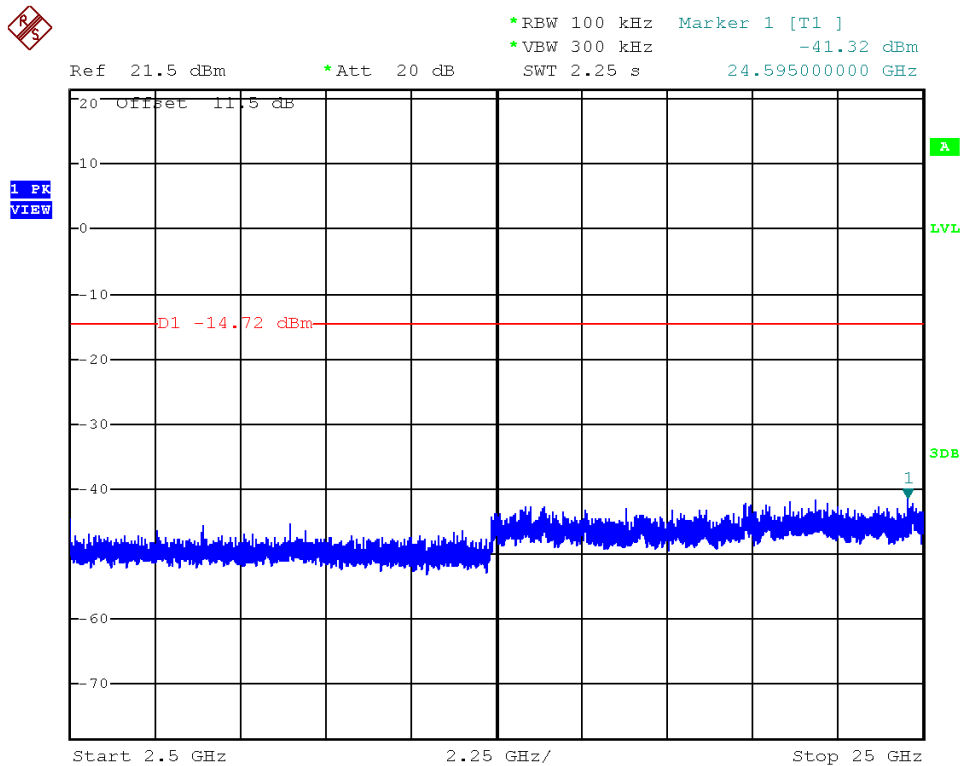
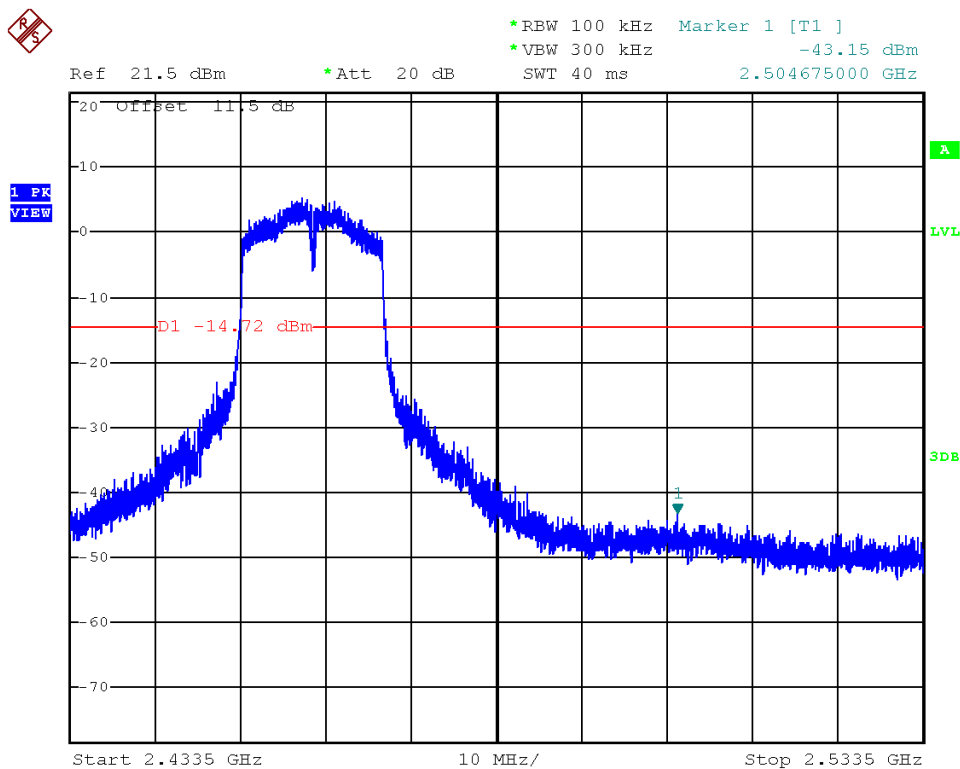
Channel: 06





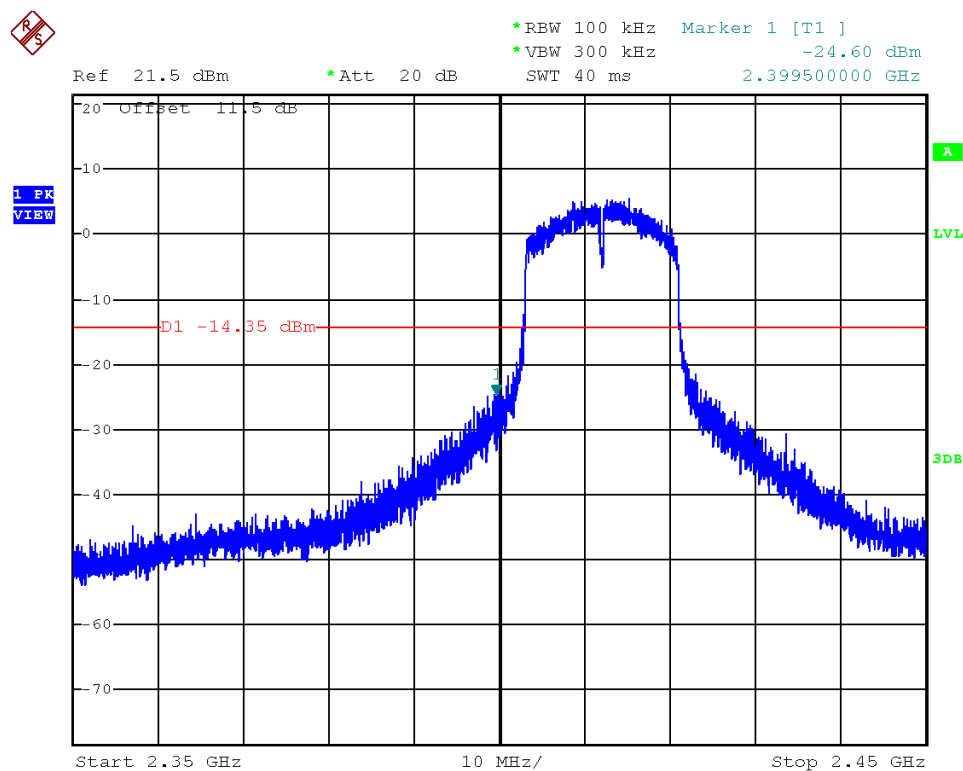
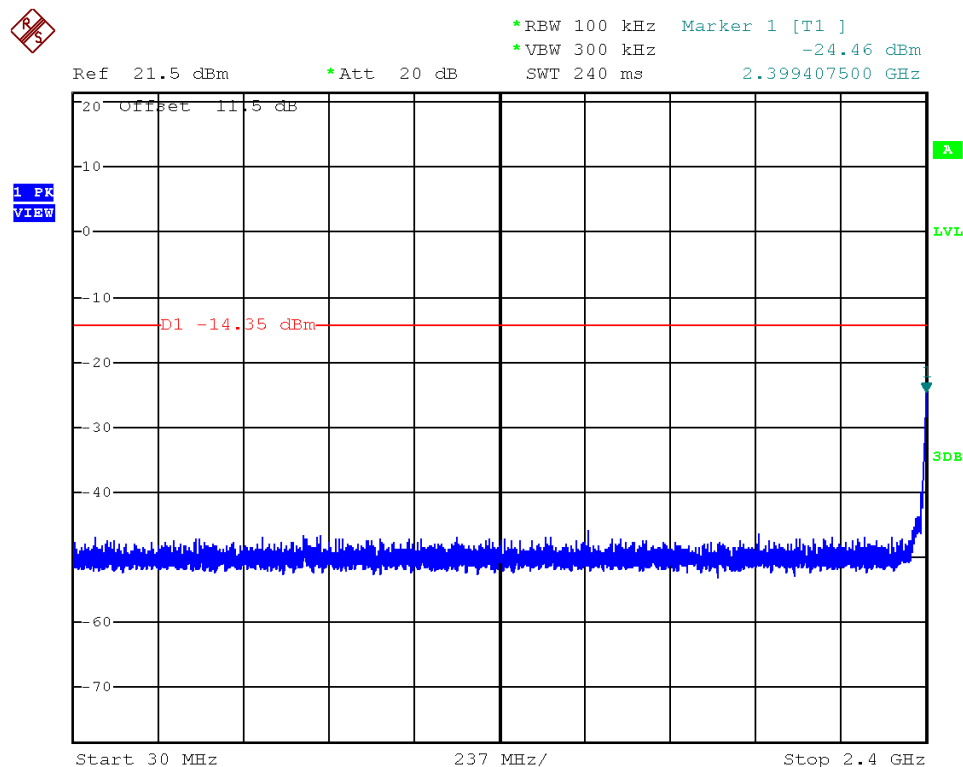
Modulation Standard: 802.11g (6Mbps)
Channel: 11

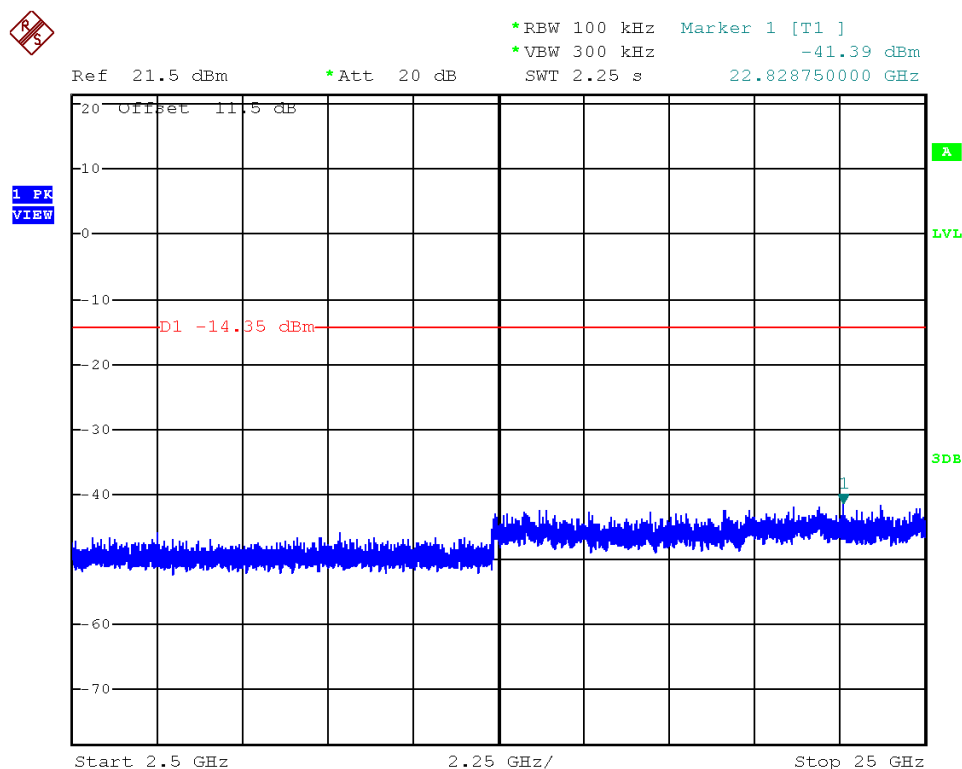




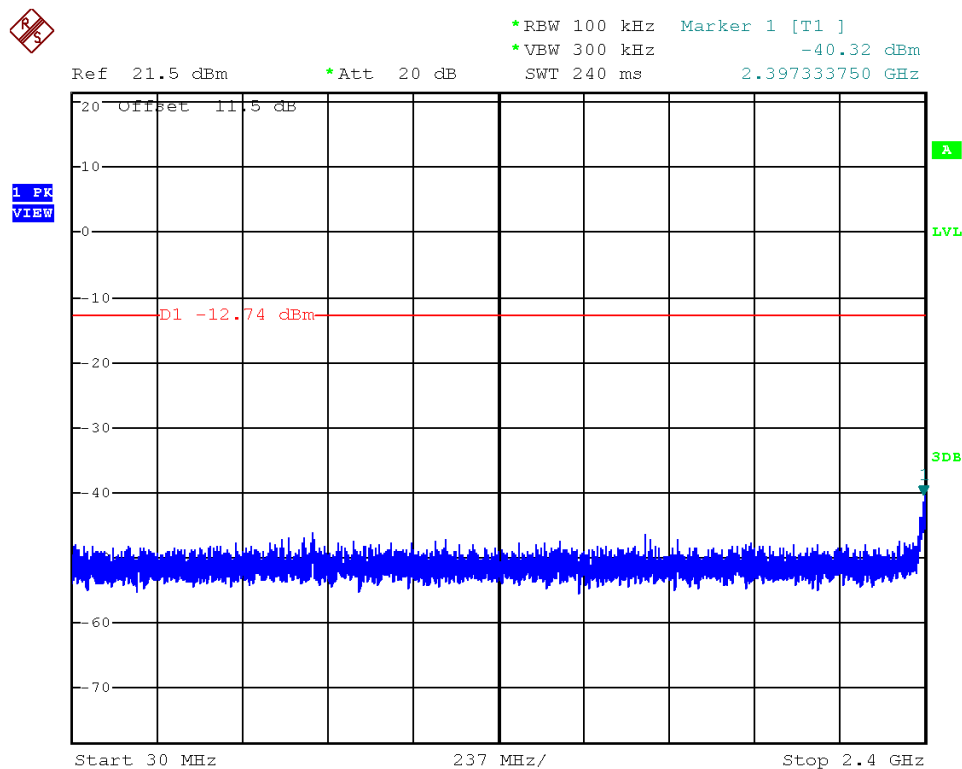


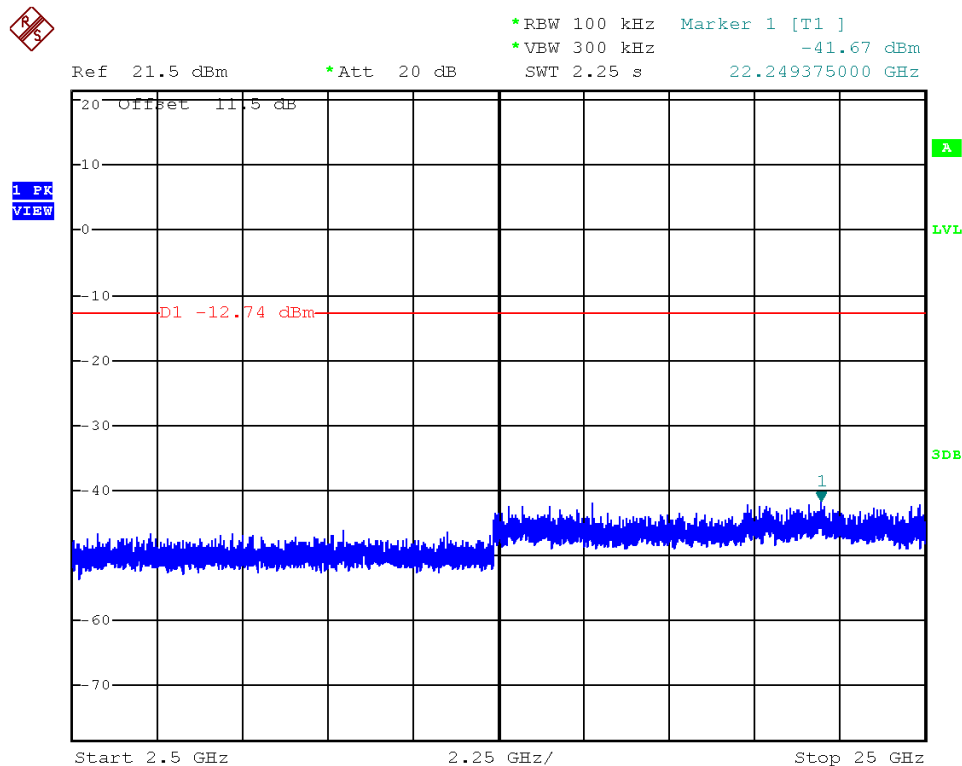
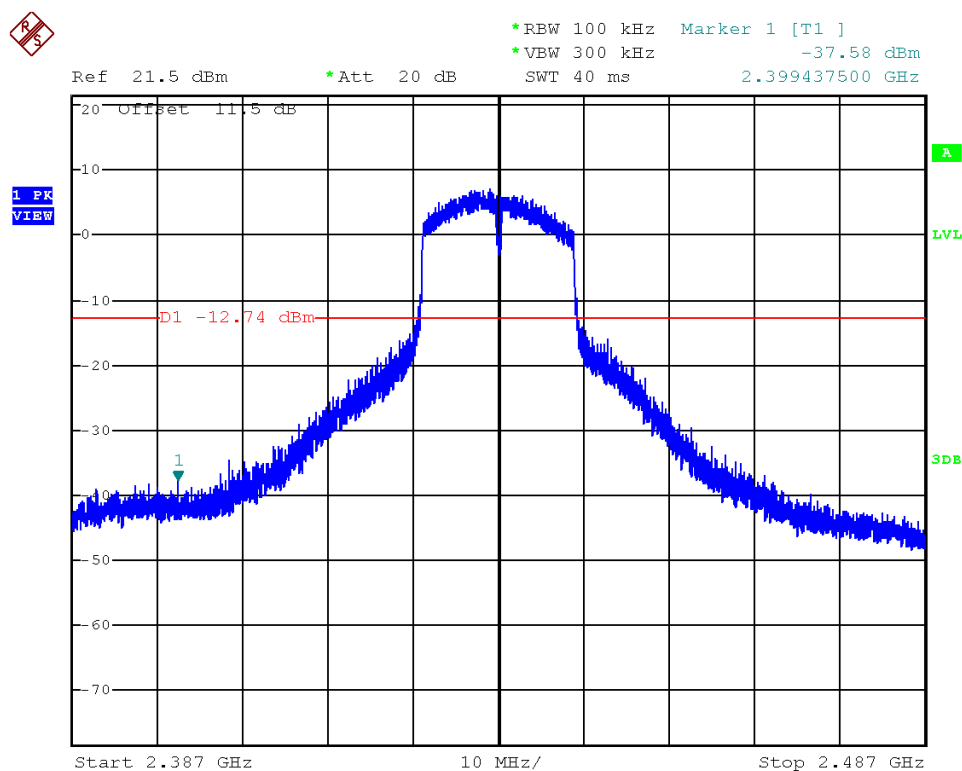
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 01





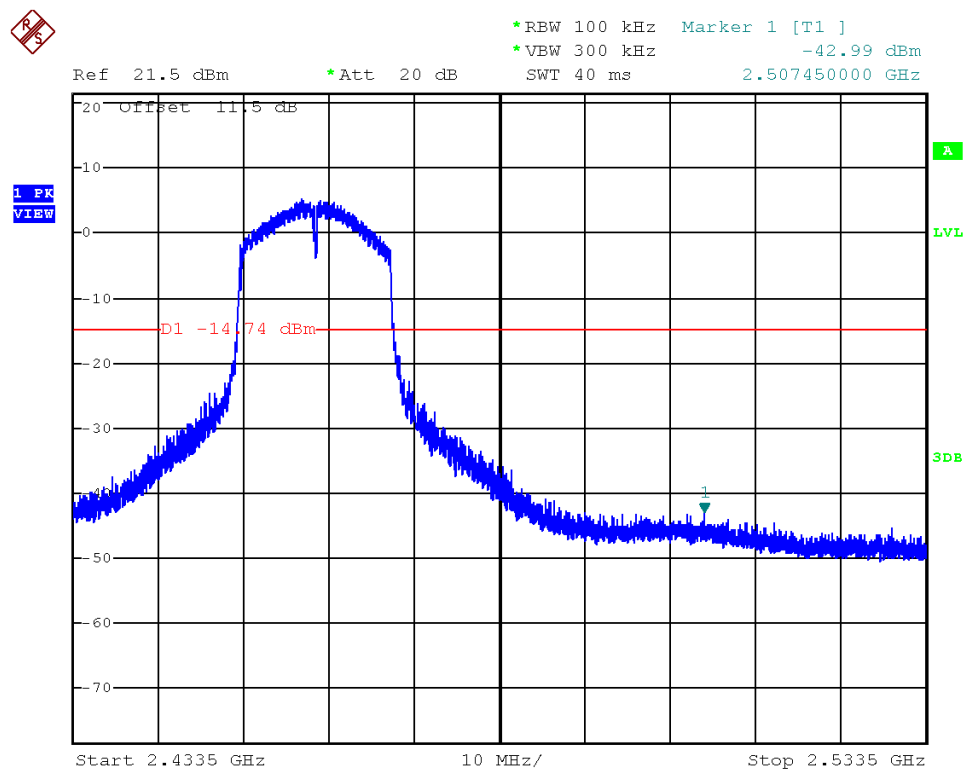
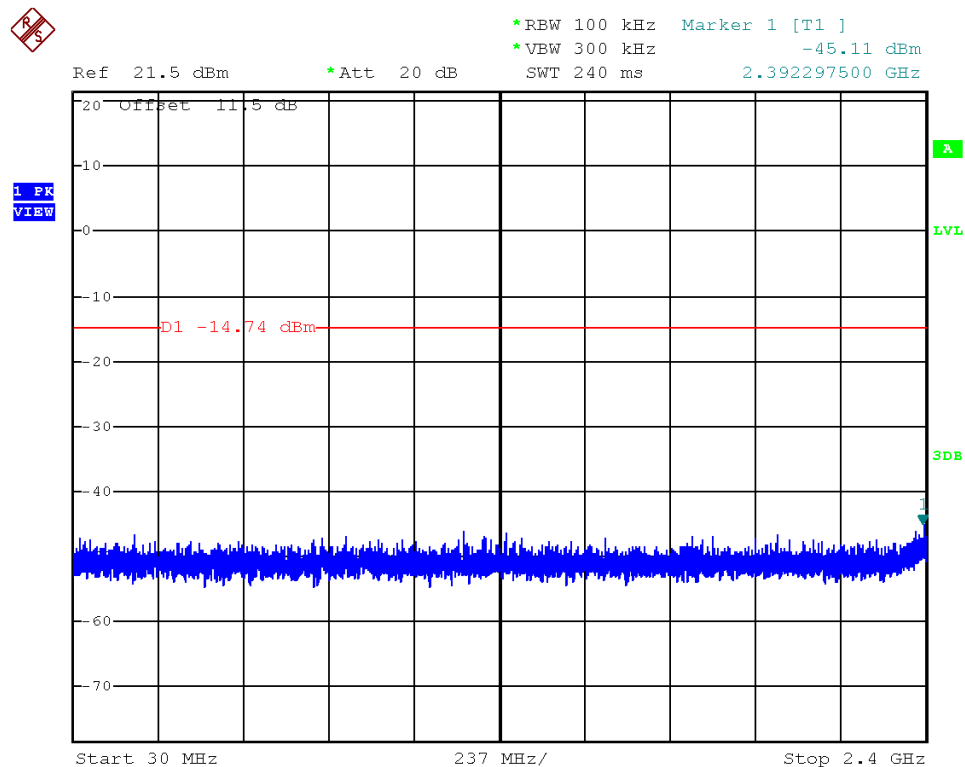
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 06

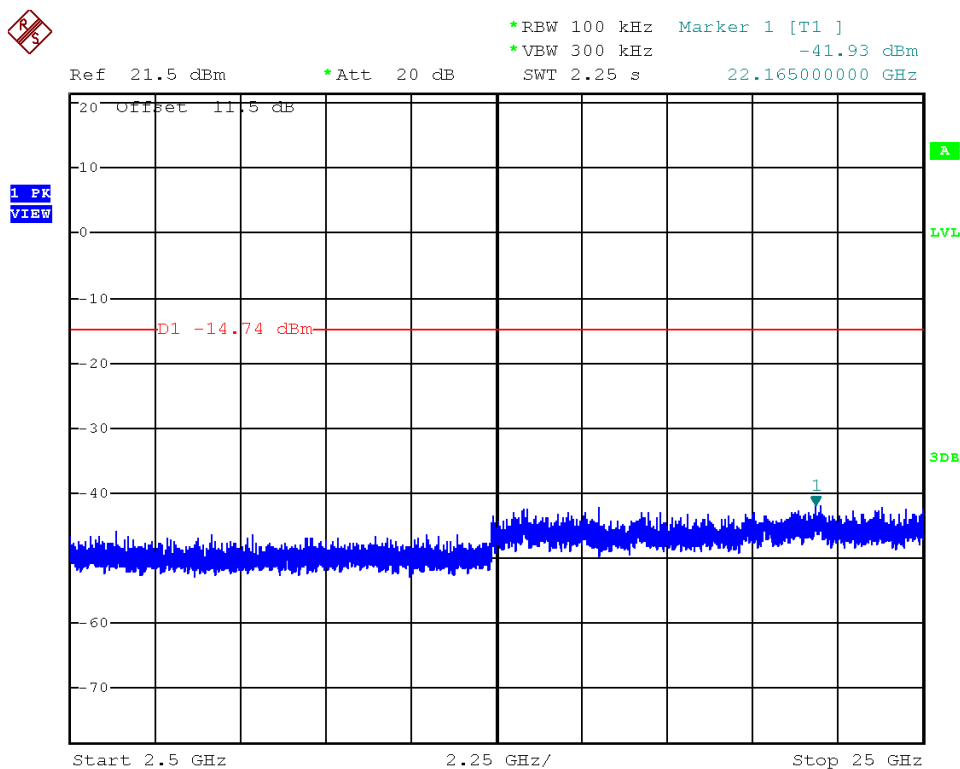






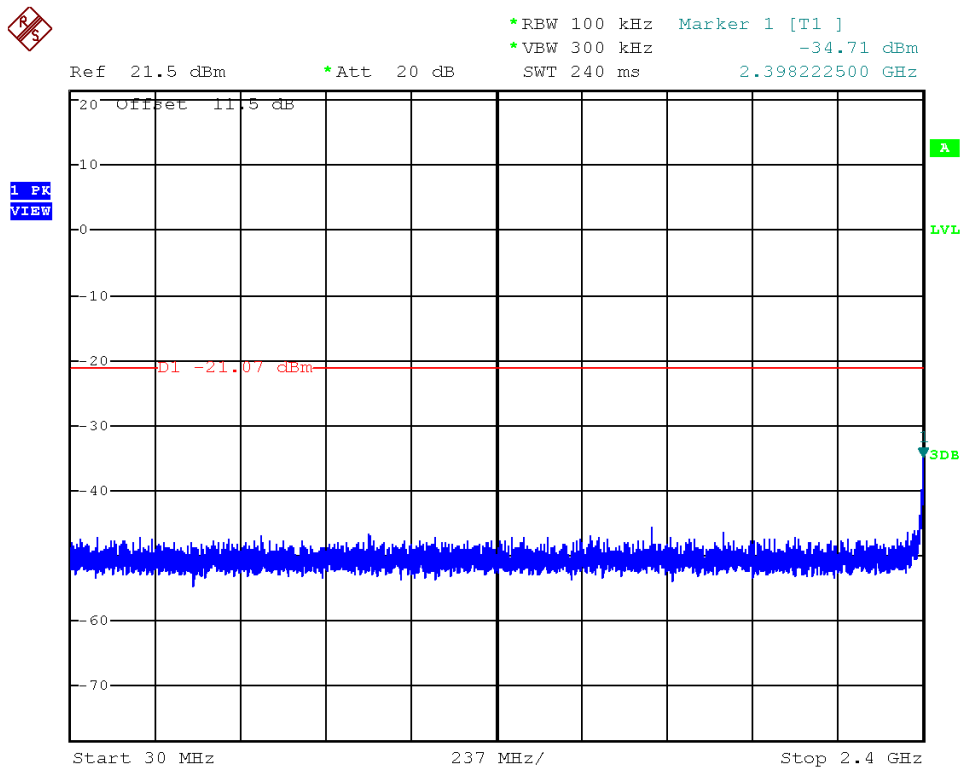
Modulation Standard: 802.11n HT20 (6.5Mbps)
Channel: 11

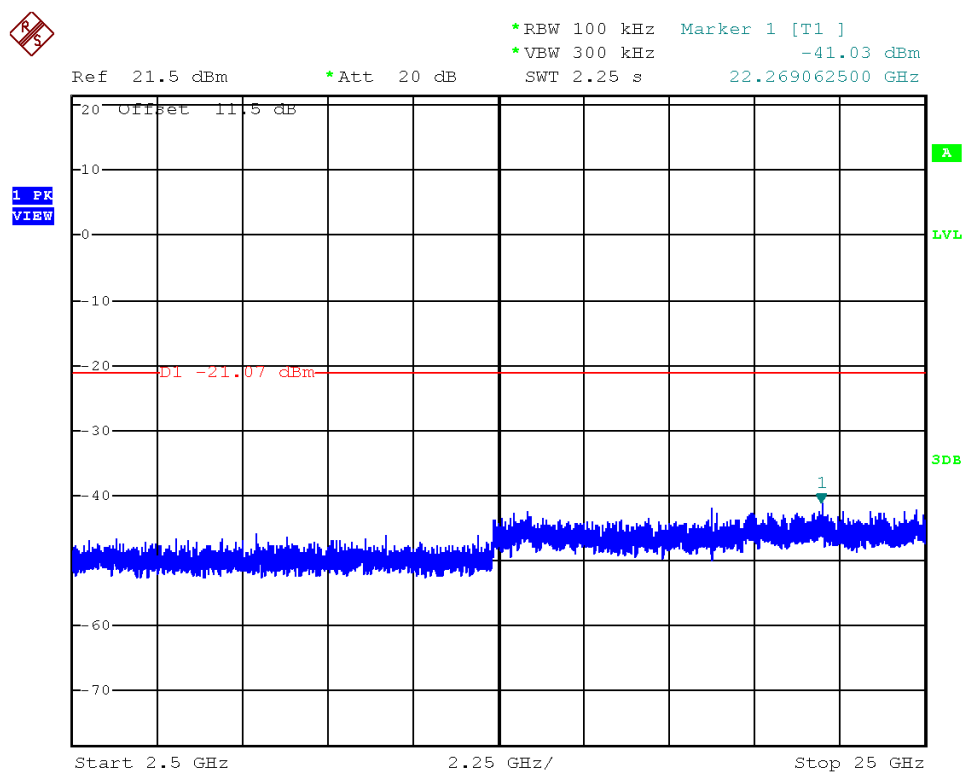
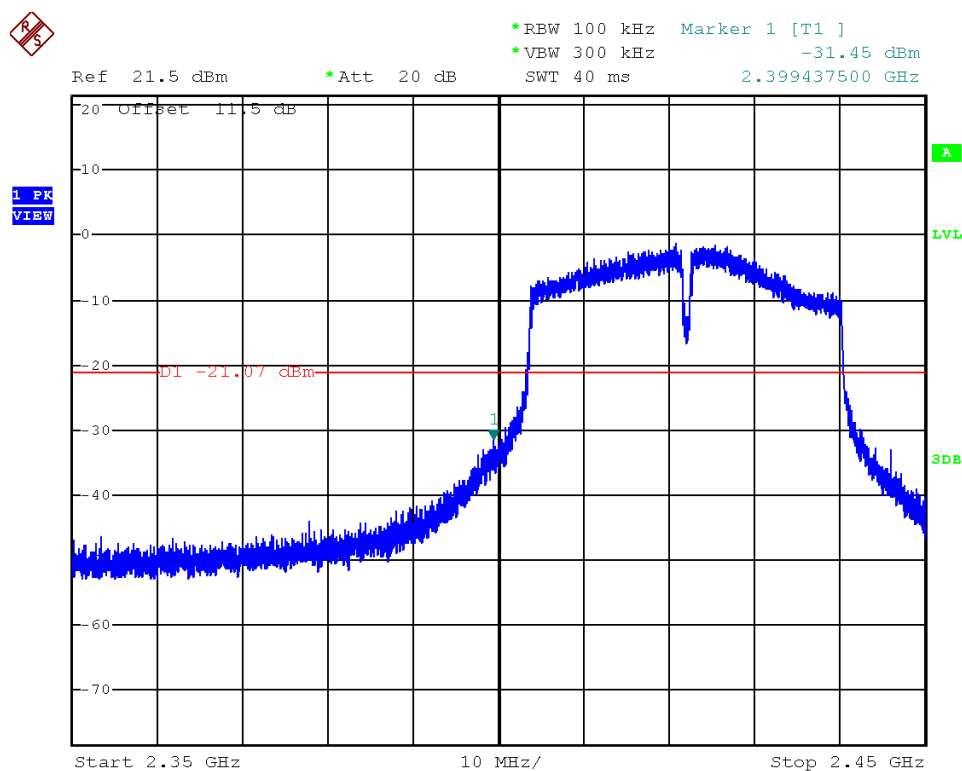




Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 03

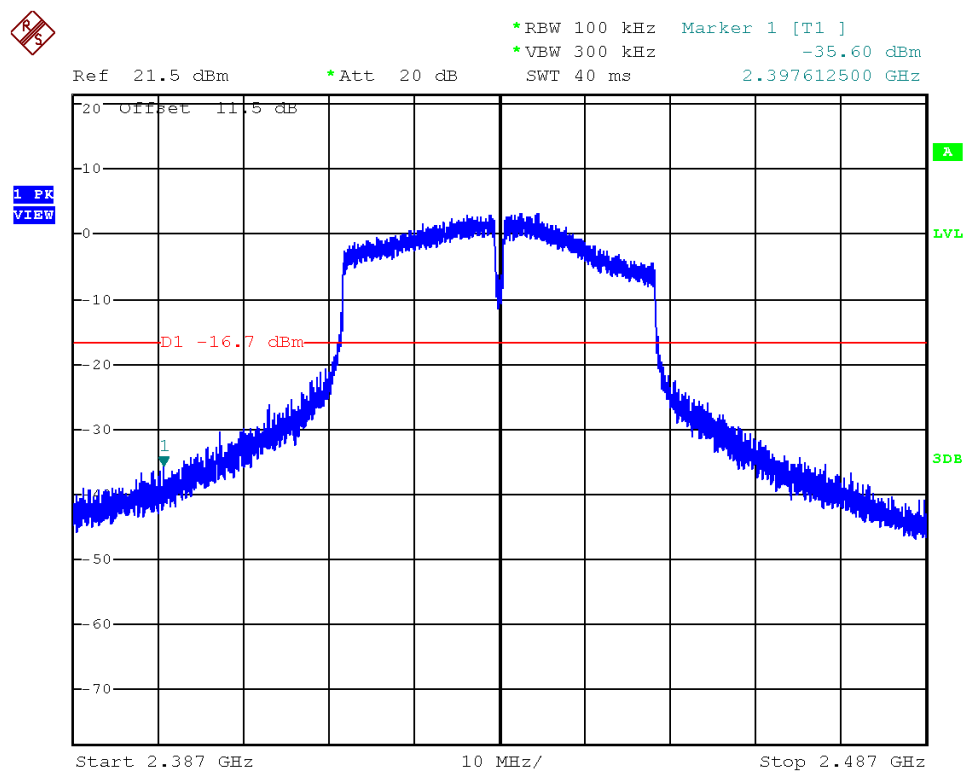
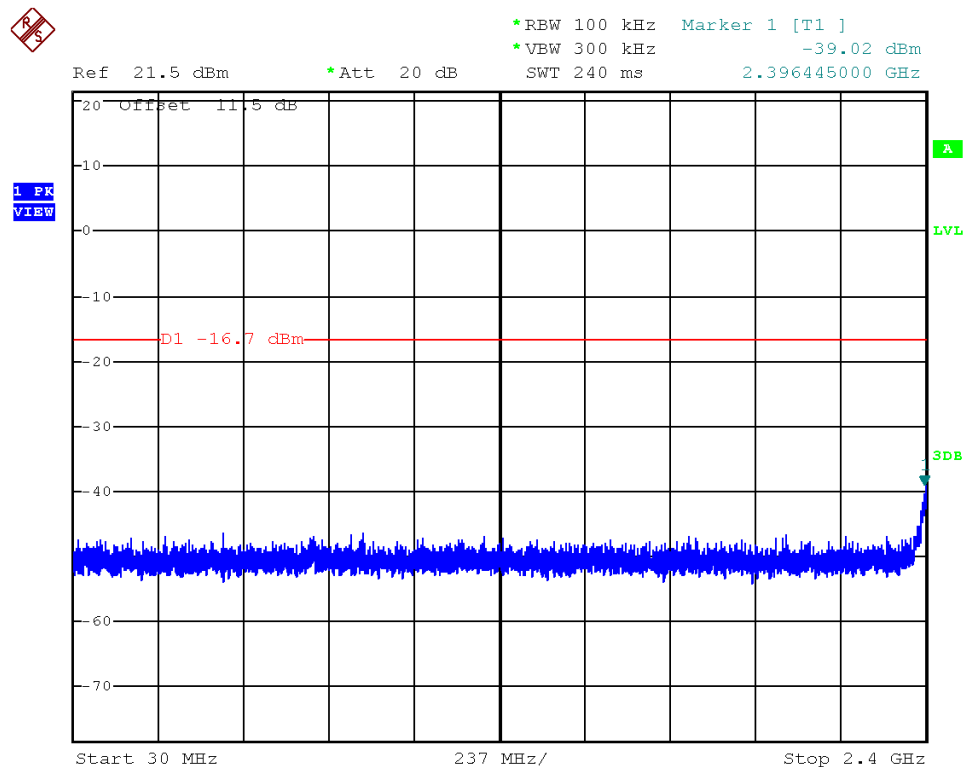


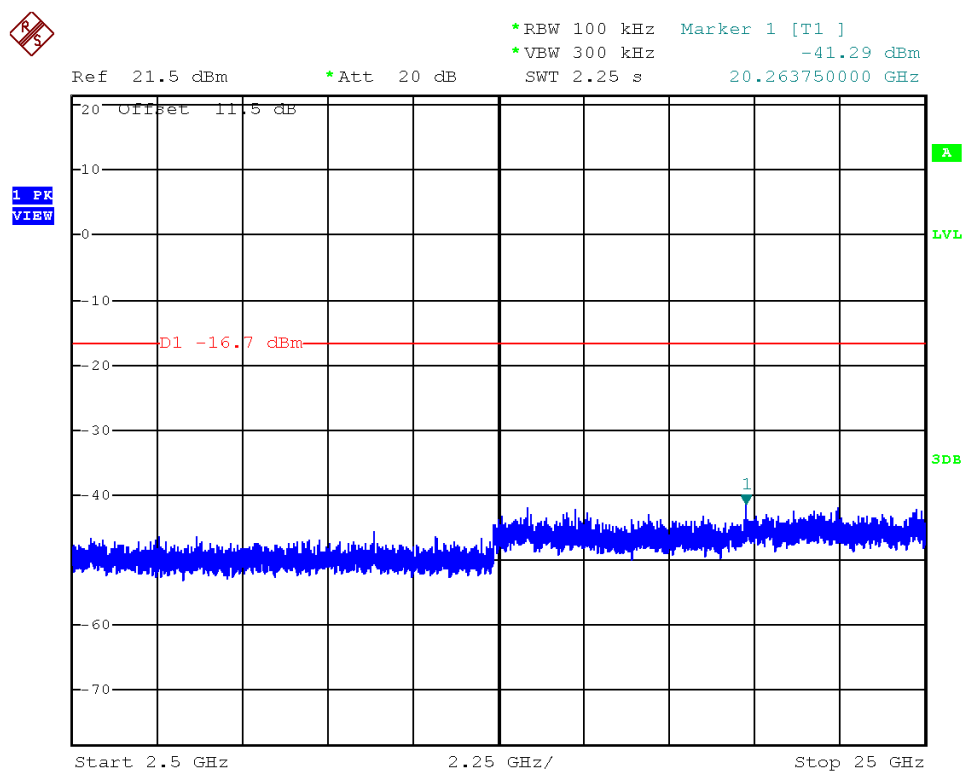




Modulation Standard: 802.11n HT40 (13.5Mbps)

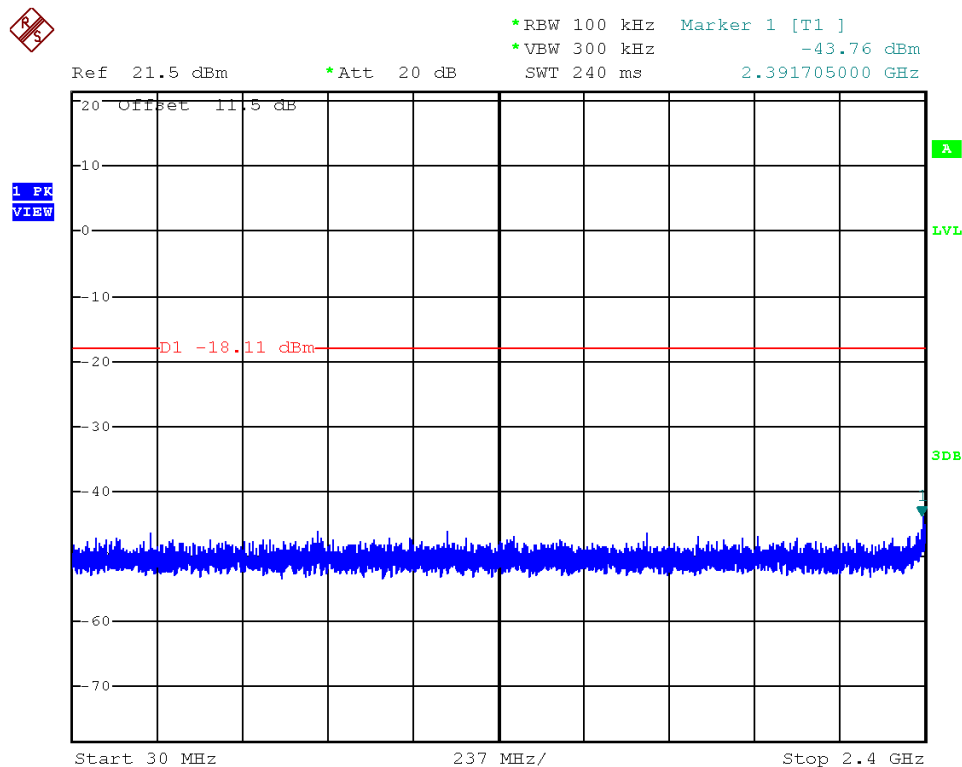
Channel: 06

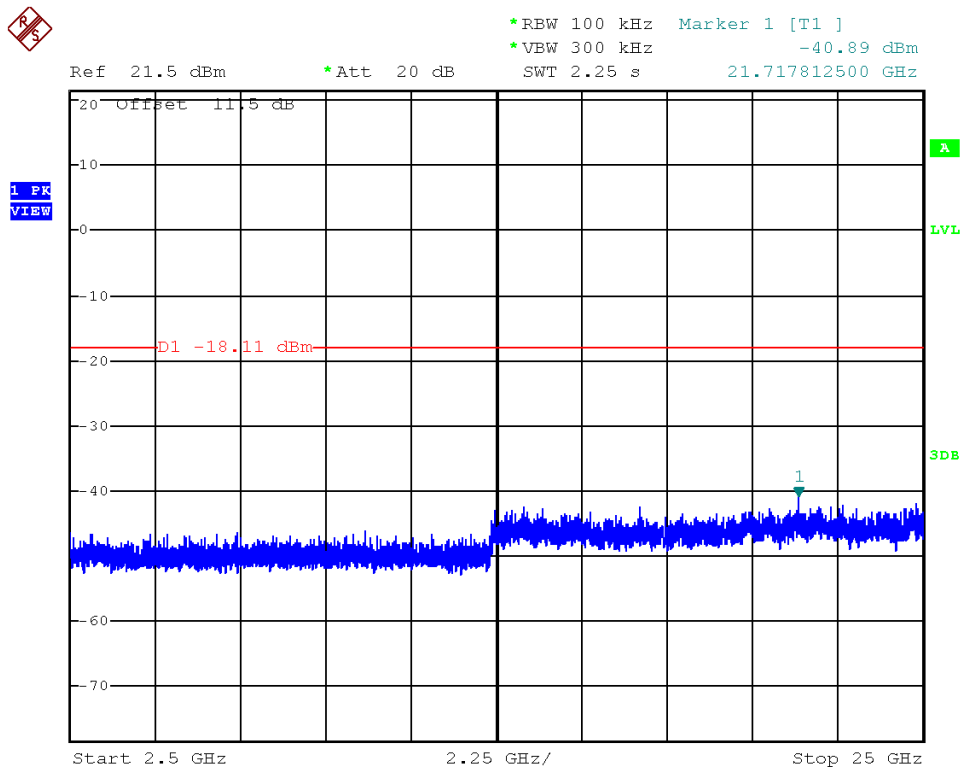
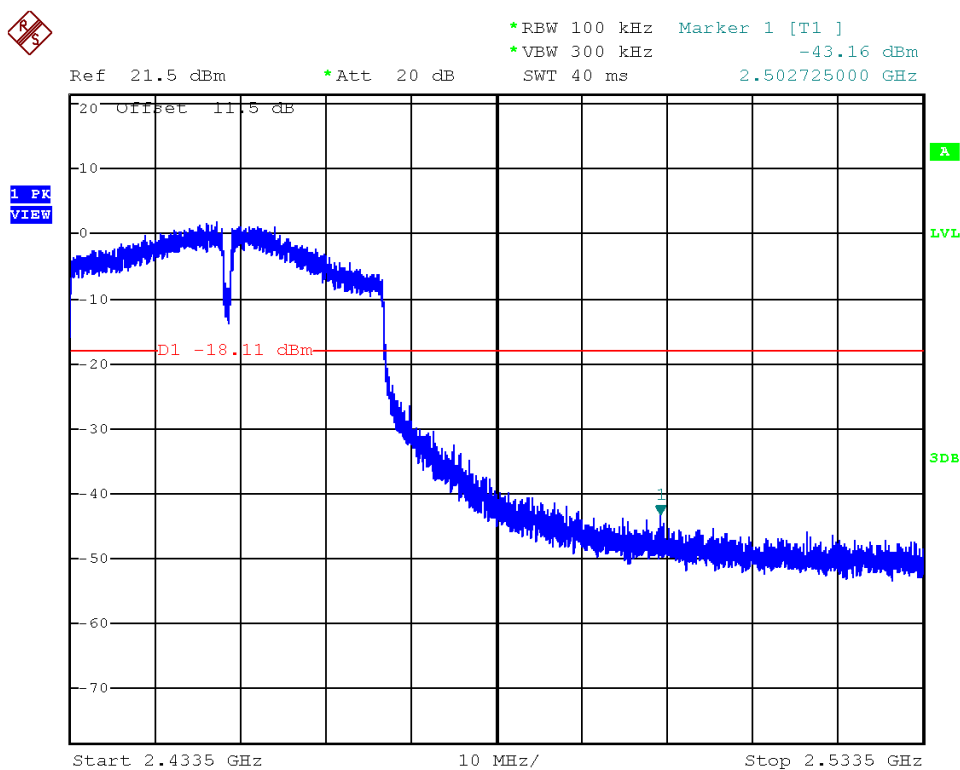




odulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 09







10. 功率密度之規定

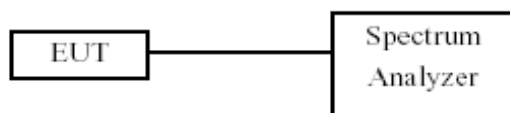
10.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之(2)(B)規定，對數位調變技術系統，在使用任意 3 kHz 之頻寬內，由發射機傳導至天線之峰值發射電功率密度在任意期間內，皆不得大於 8dBm，且應依 3.10.1.3 之方式降低功率頻譜密度限制值。

10.2. 測試方法

1. 將待測物和儀器相連接。
2. 設定儀器解析頻寬為 3kHz、視訊頻寬為 30 kHz。
3. 量測並記錄於報告中。

10.3. 測試配置



10.4. 功率密度之量測結果及數據

Temperature: 24°C

Humidity: 68%

Test Date: Aug. 16, 2017

Modulation Type	Channel	Frequency (MHz)	Maximum Power Density of 3KHz Bandwidth(dBm)		Sum chain (dBm)	Duty Cycle CF(dB)	Total PSD (dBm)	Limit (dBm)
			ANT A	ANT B				
IEEE 802.11b (1Mbps)	01	2412	-5.35	-4.63	-1.96	0.00	-1.96	7.99
	06	2437	-3.48	-2.72	-0.07	0.00	-0.07	7.99
	11	2462	-3.14	-3.62	-0.36	0.00	-0.36	7.99
IEEE 802.11g (6Mbps)	01	2412	-5.46	-5.31	-2.37	0.00	-2.37	7.99
	06	2437	-6.66	-7.24	-3.93	0.00	-3.93	7.99
	11	2462	-5.63	-6.2	-2.90	0.00	-2.90	7.99
IEEE 802.11n HT20 (6.5Mbps)	01	2412	-7.21	-6.25	-3.69	0.00	-3.69	7.99
	06	2437	-6.03	-5.53	-2.76	0.00	-2.76	7.99
	11	2462	-7.06	-8.14	-4.56	0.00	-4.56	7.99
IEEE 802.11n HT40 (13.5Mbps)	03	2422	-13.11	-13.07	-10.08	0.00	-10.08	7.99
	06	2437	-7.61	-7.17	-4.37	0.00	-4.37	7.99
	09	2452	-8.08	-8.76	-5.40	0.00	-5.40	7.99

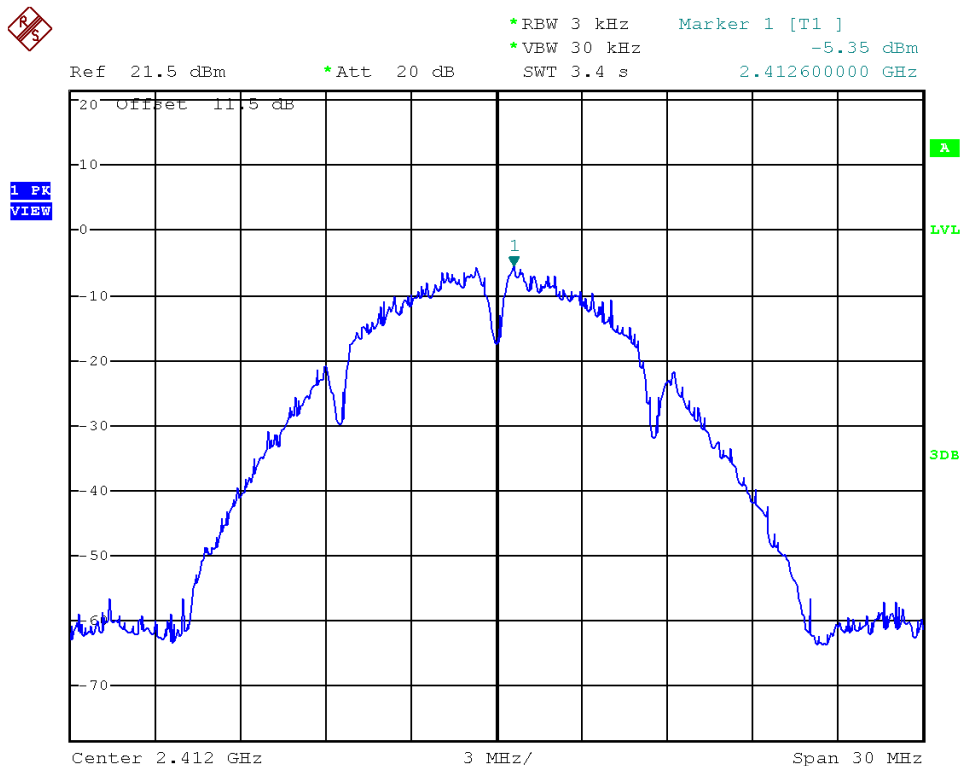
備註：繪圖資料請參考下頁。

10.5. 結果判定

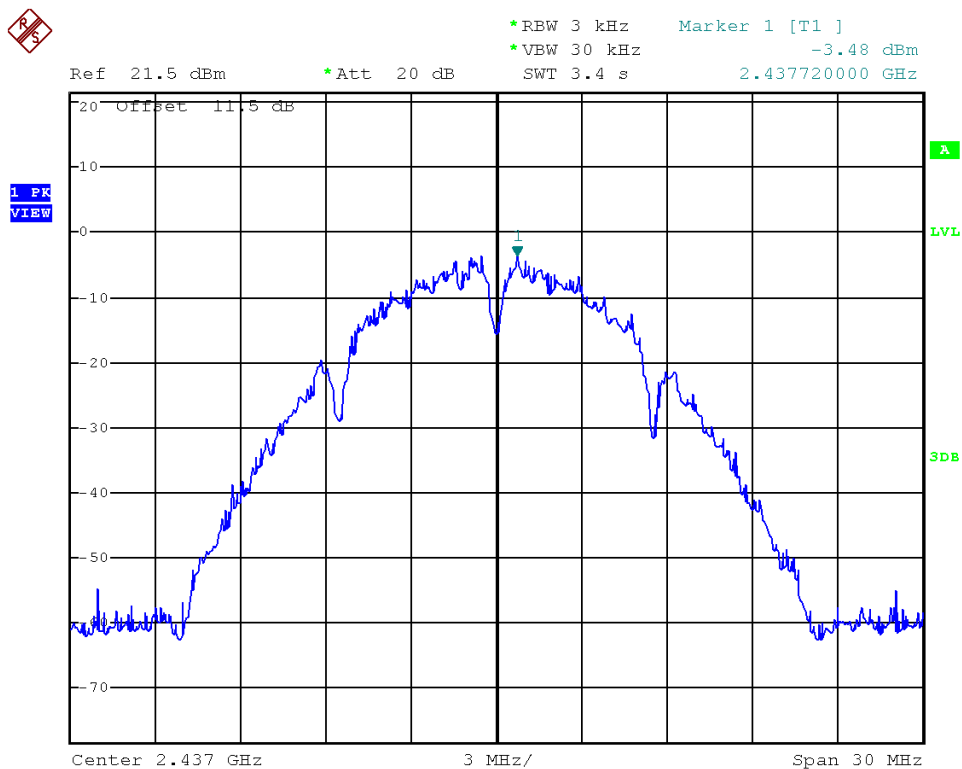
高、中、低頻段的 3 kHz 功率密度皆低於 8 dBm，合乎標準規定。



ANT A:
Modulation Standard: 802.11b (1Mbps)
Channel: 01

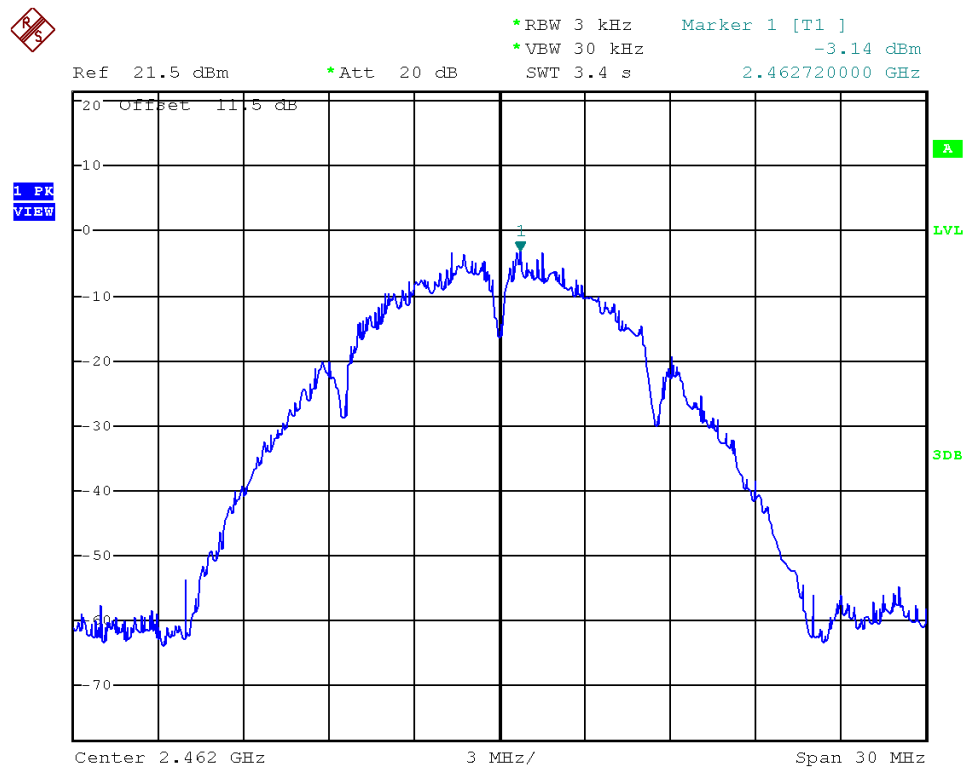


Modulation Standard: 802.11b (1Mbps)
Channel: 06

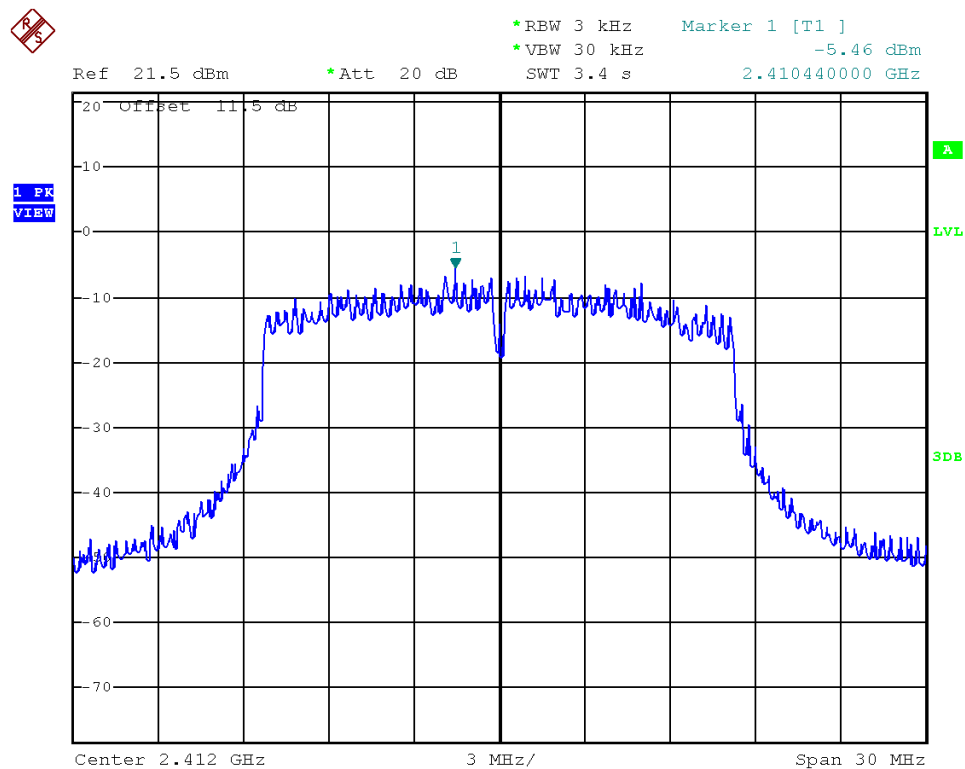




Modulation Standard: 802.11b (1Mbps)
Channel: 11



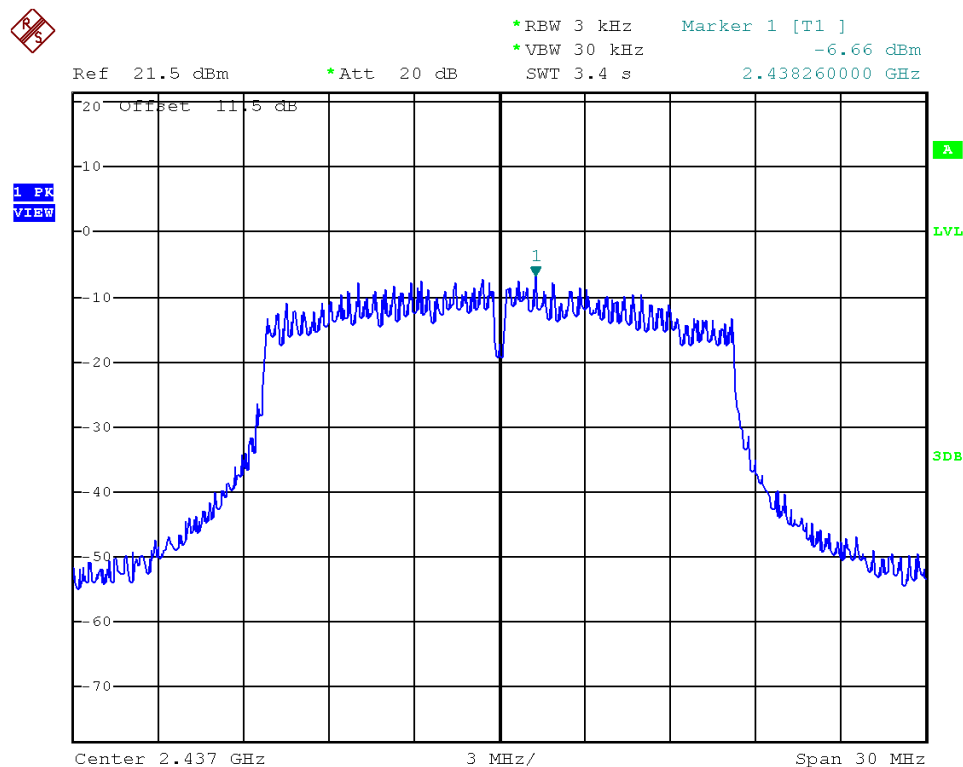
Modulation Standard: 802.11g (6Mbps)
Channel: 01





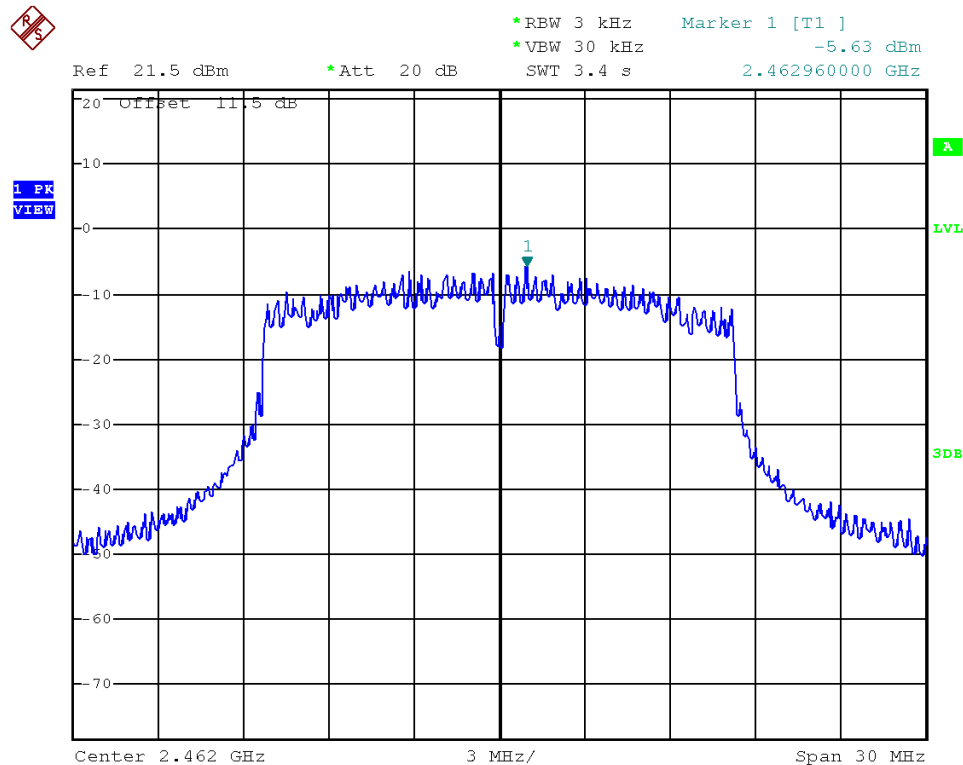
Modulation Standard: 802.11g (6Mbps)

Channel: 06



Modulation Standard: 802.11g (6Mbps)

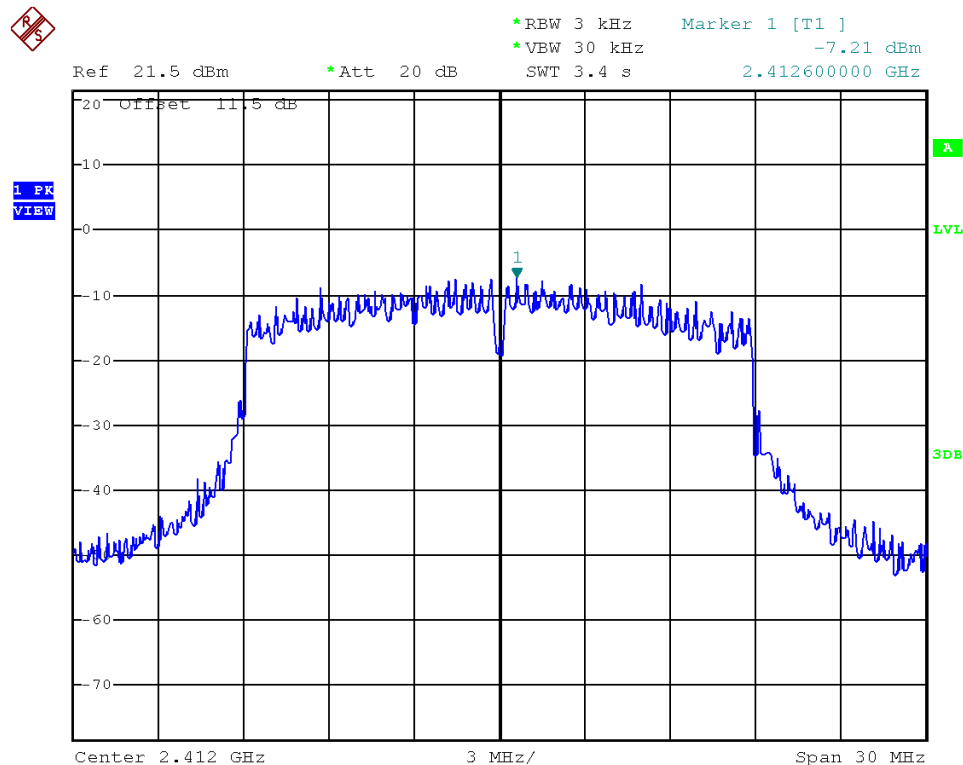
Channel: 11





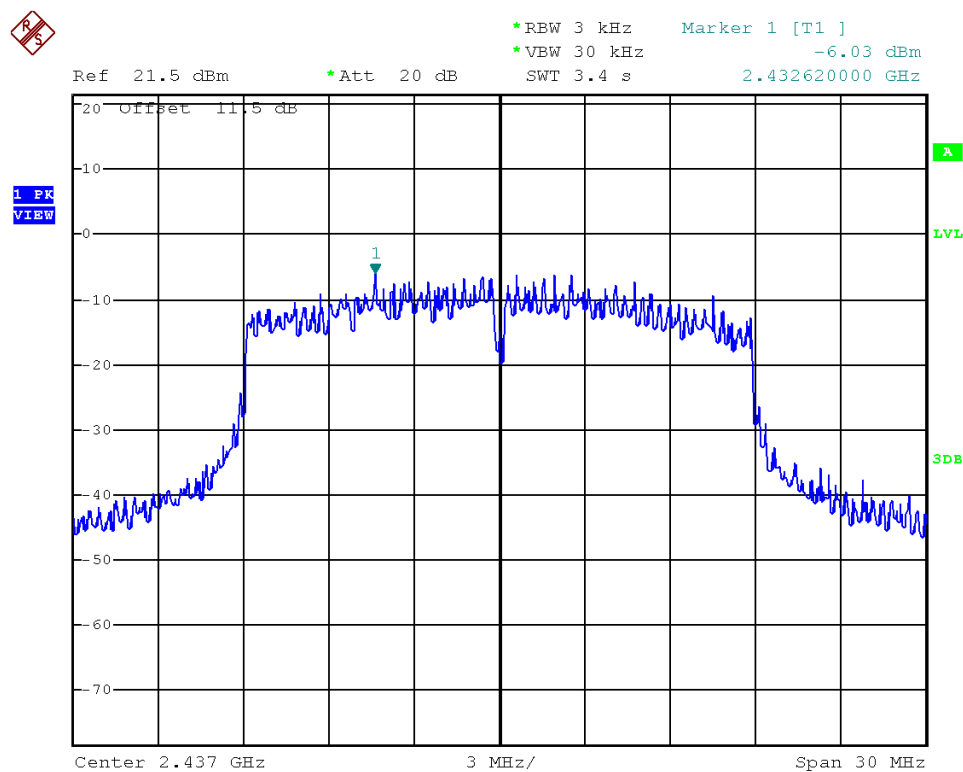
Modulation Standard: 802.11n HT20 (6.5Mbps)

Channel: 01



Modulation Standard: 802.11n HT20 (6.5Mbps)

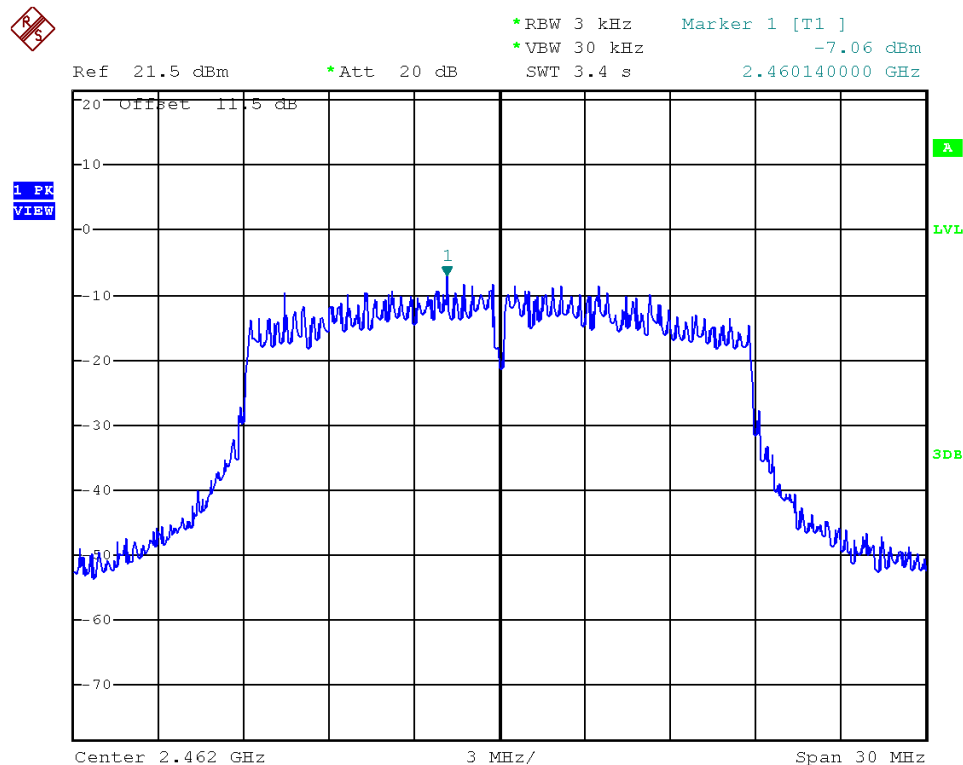
Channel: 06





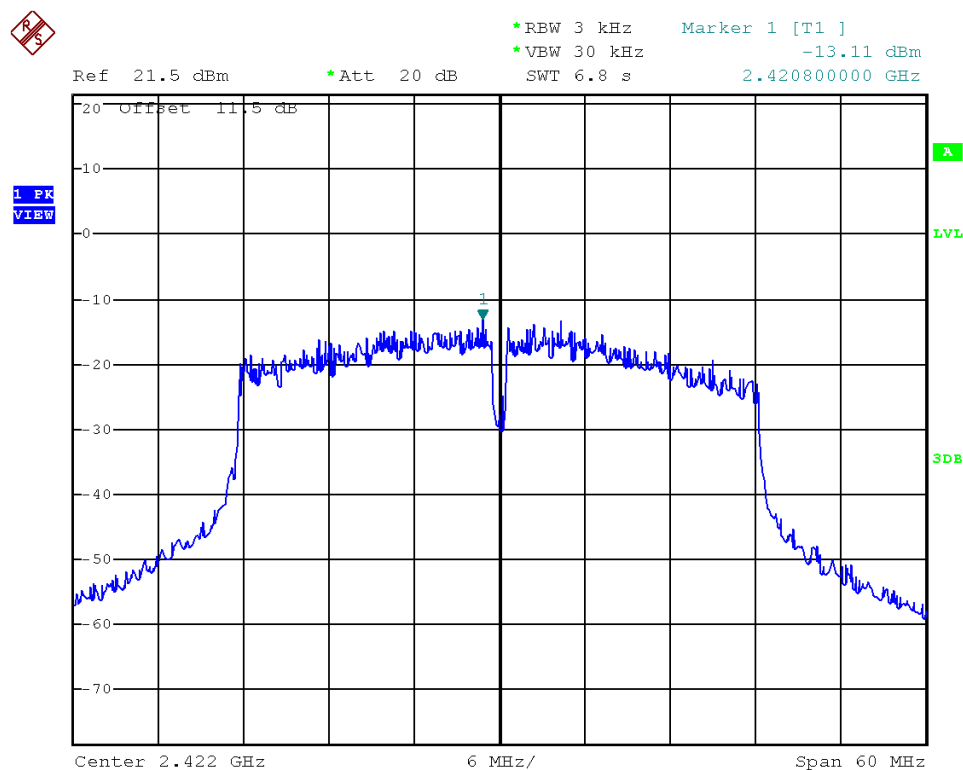
Modulation Standard: 802.11n HT20 (6.5Mbps)

Channel: 11



Modulation Standard: 802.11n HT40 (13.5Mbps)

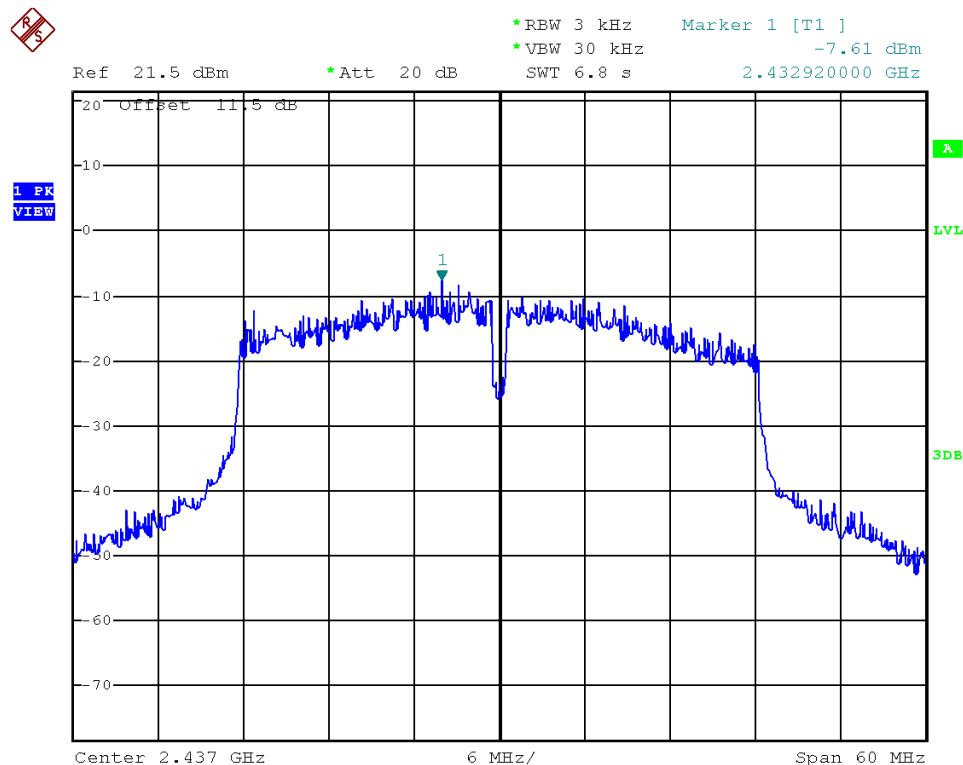
Channel: 03





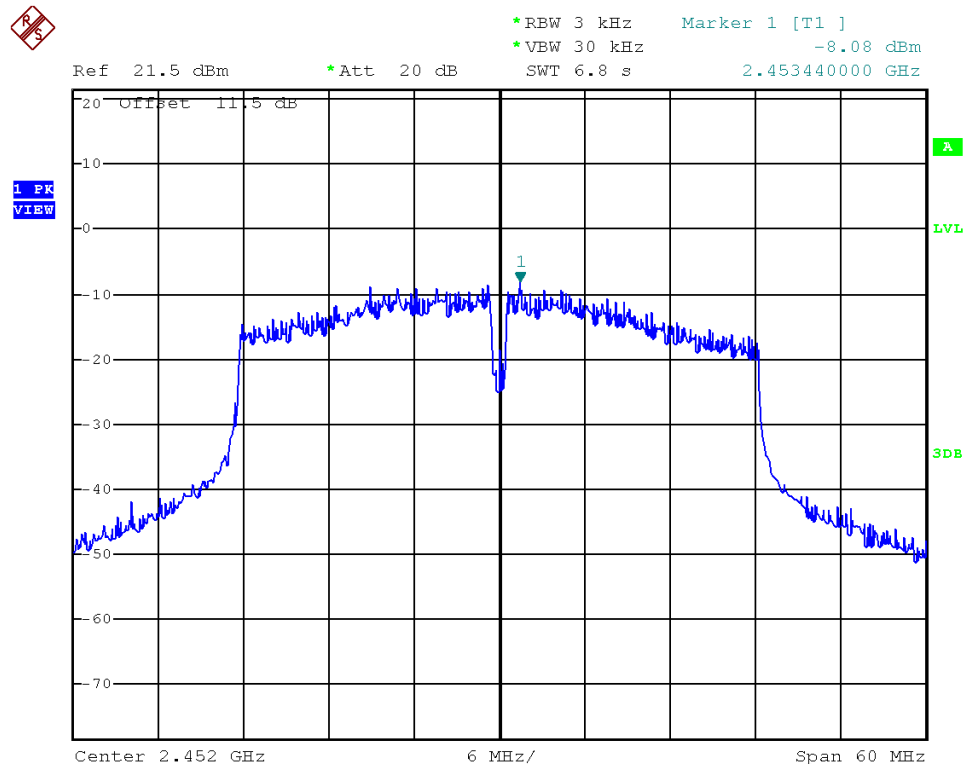
Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 06



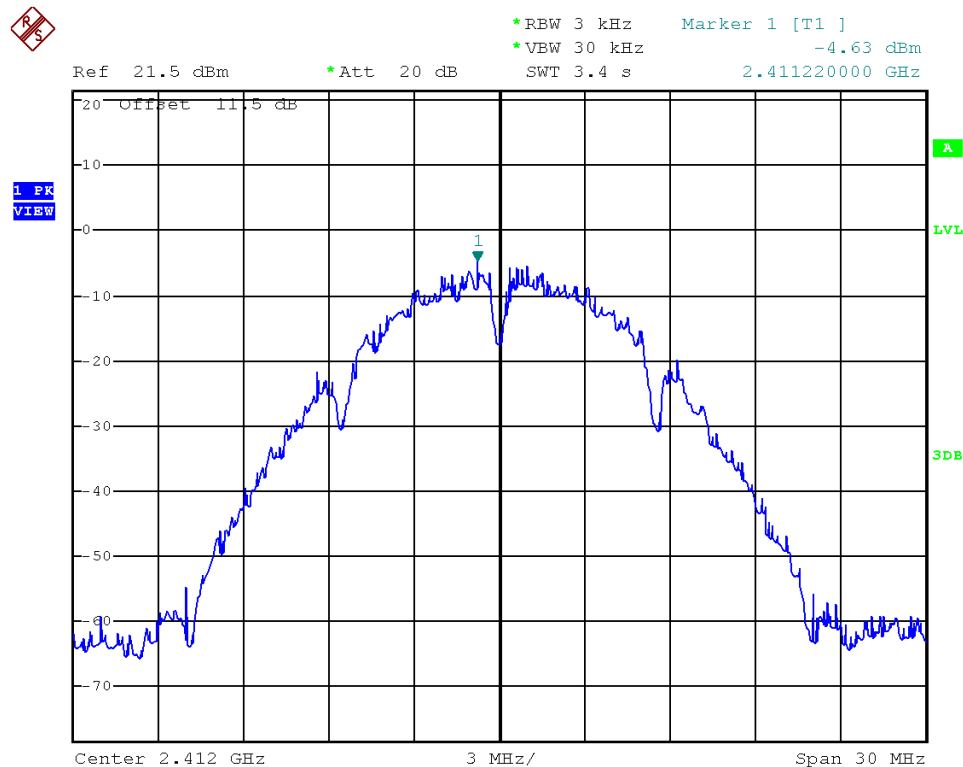
Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 09

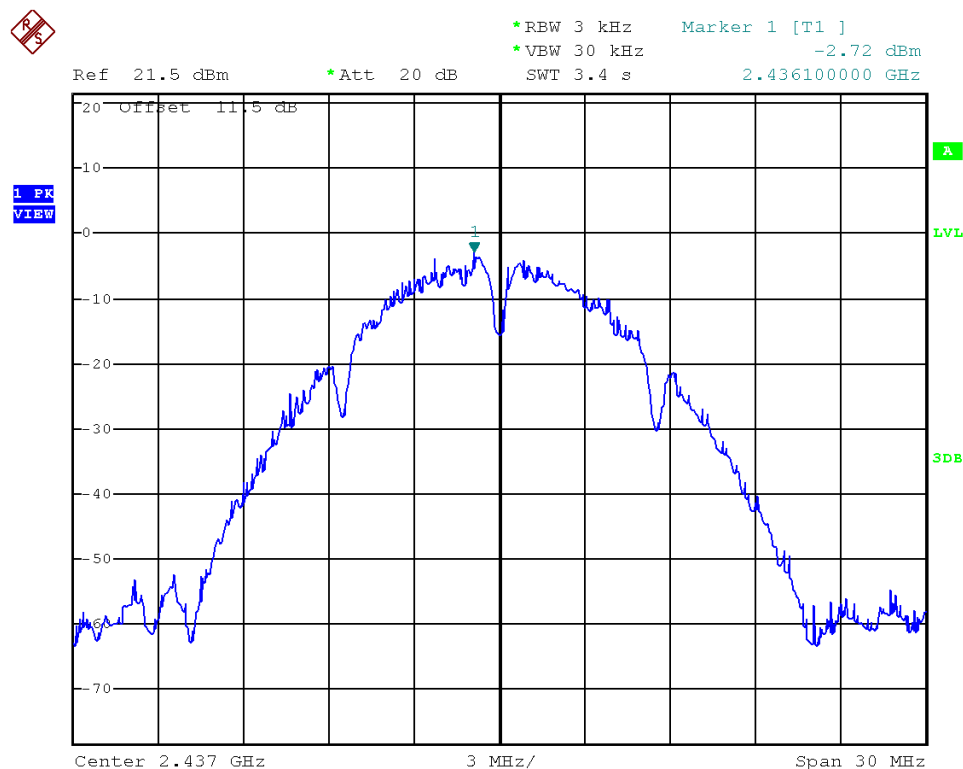




ANT B:
Modulation Standard: 802.11b (1Mbps)
Channel: 01



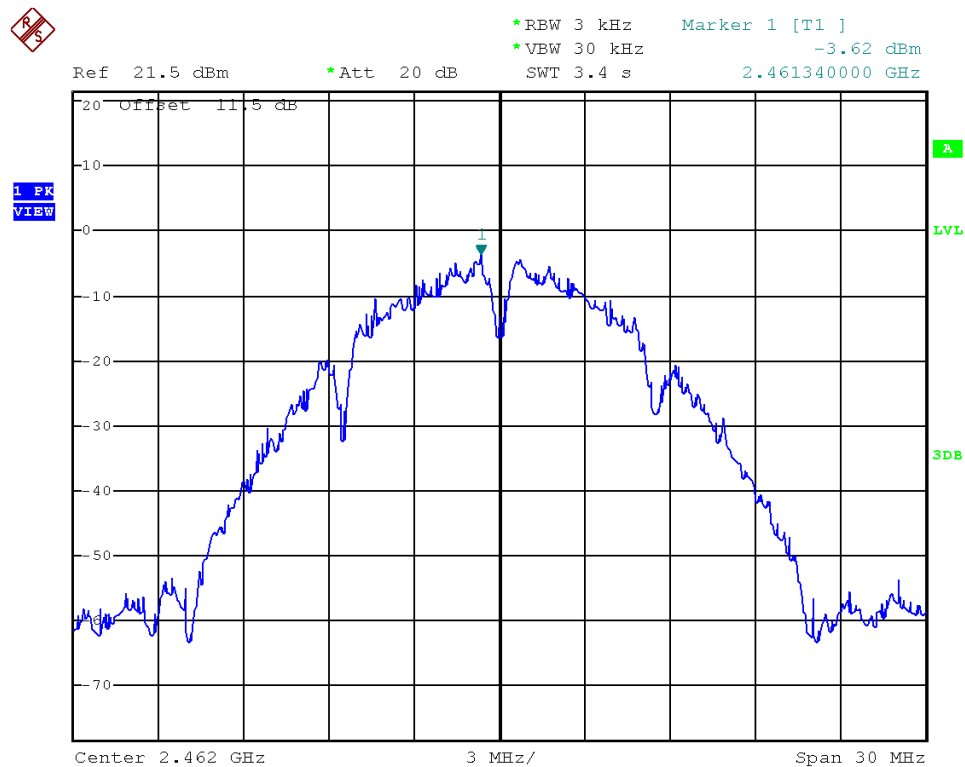
Modulation Standard: 802.11b (1Mbps)
Channel: 06





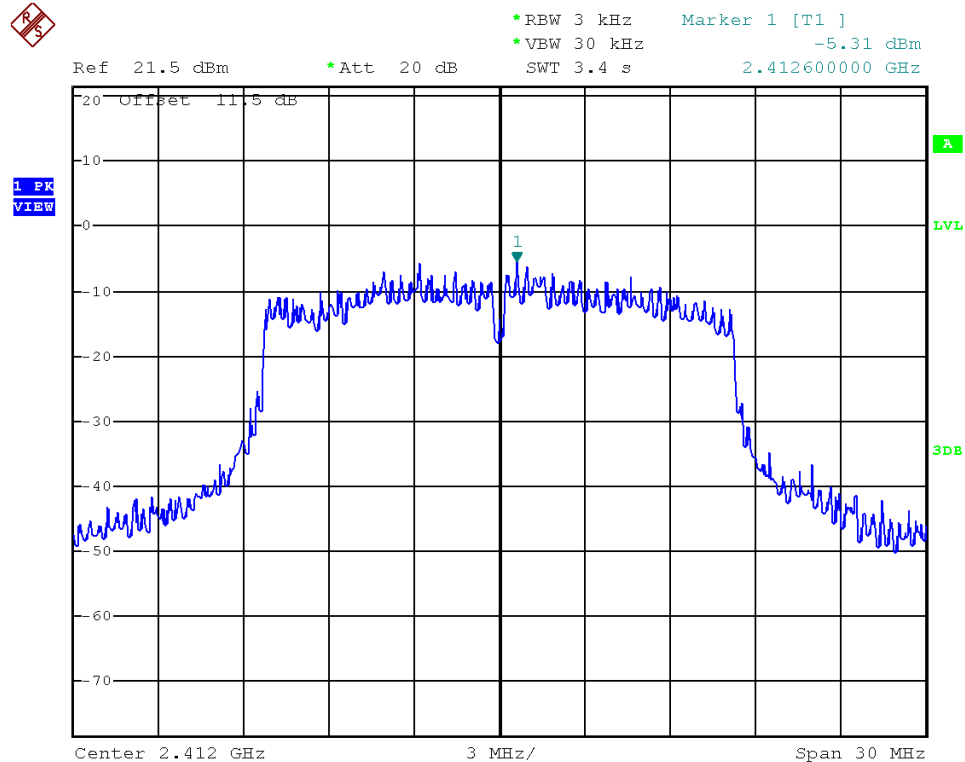
Modulation Standard: 802.11b (1Mbps)

Channel: 11



Modulation Standard: 802.11g (6Mbps)

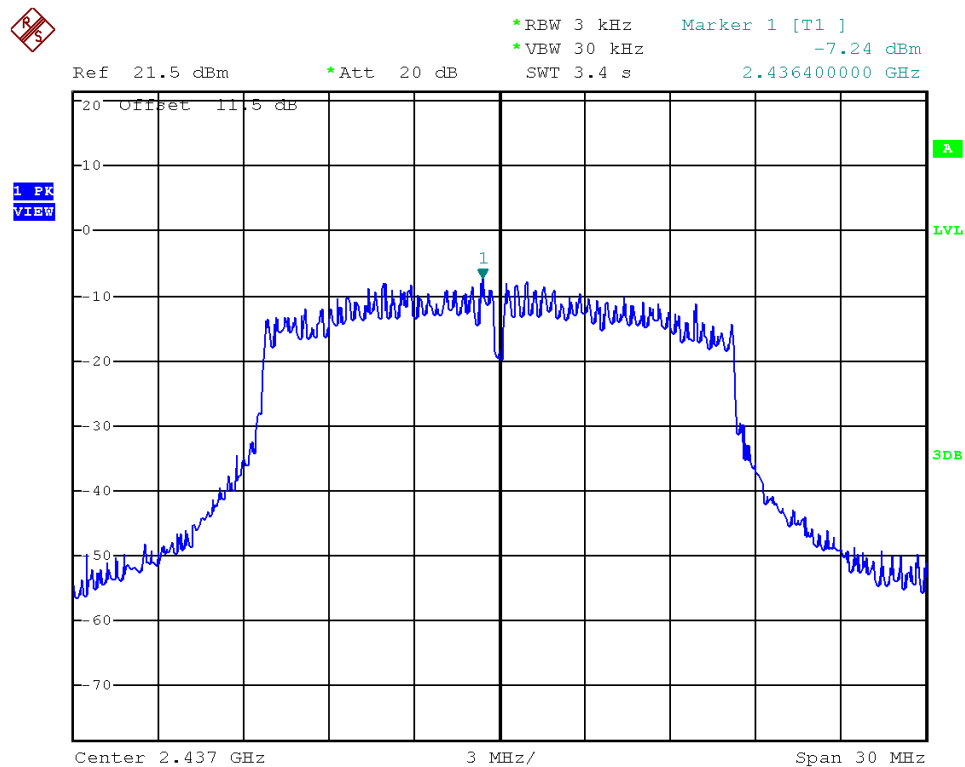
Channel: 01





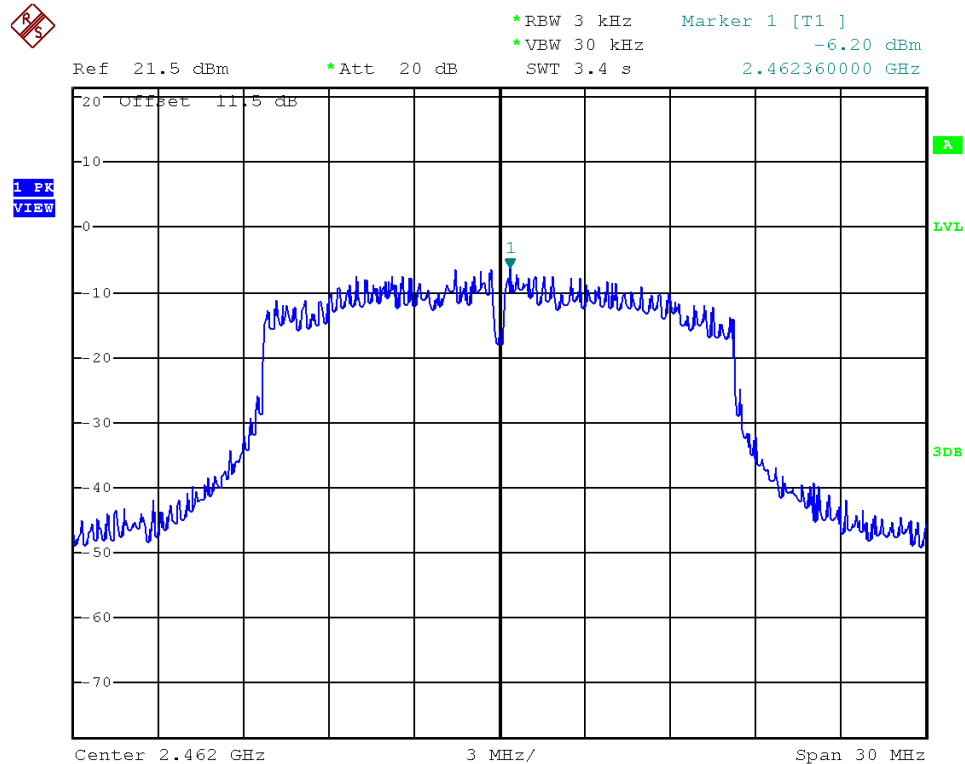
Modulation Standard: 802.11g (6Mbps)

Channel: 06



Modulation Standard: 802.11g (6Mbps)

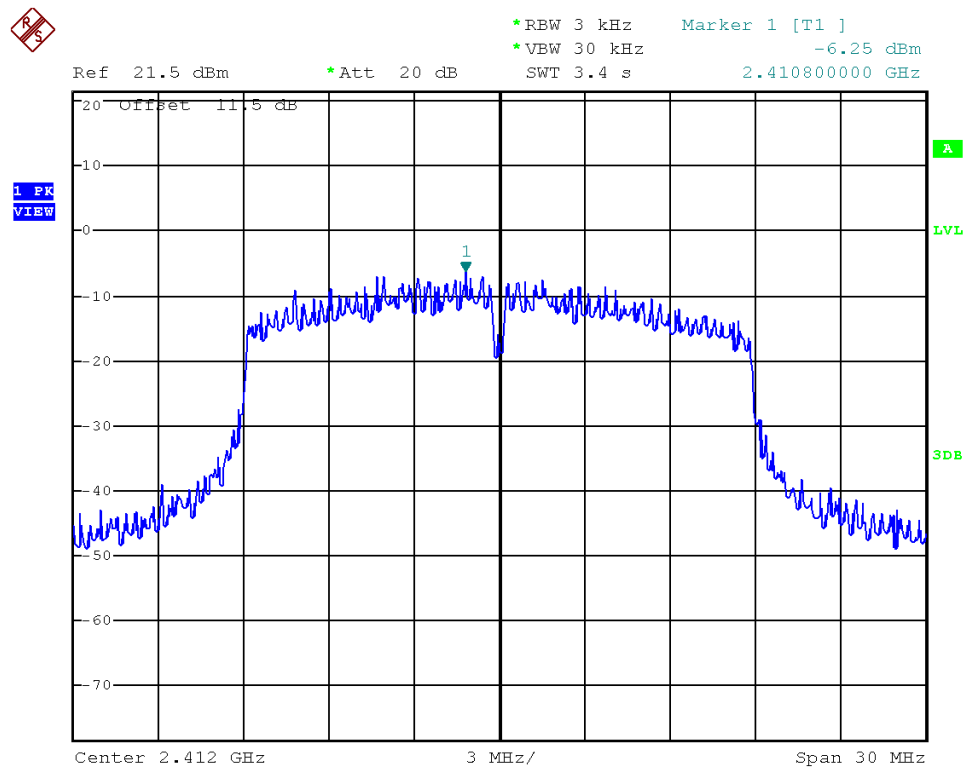
Channel: 11





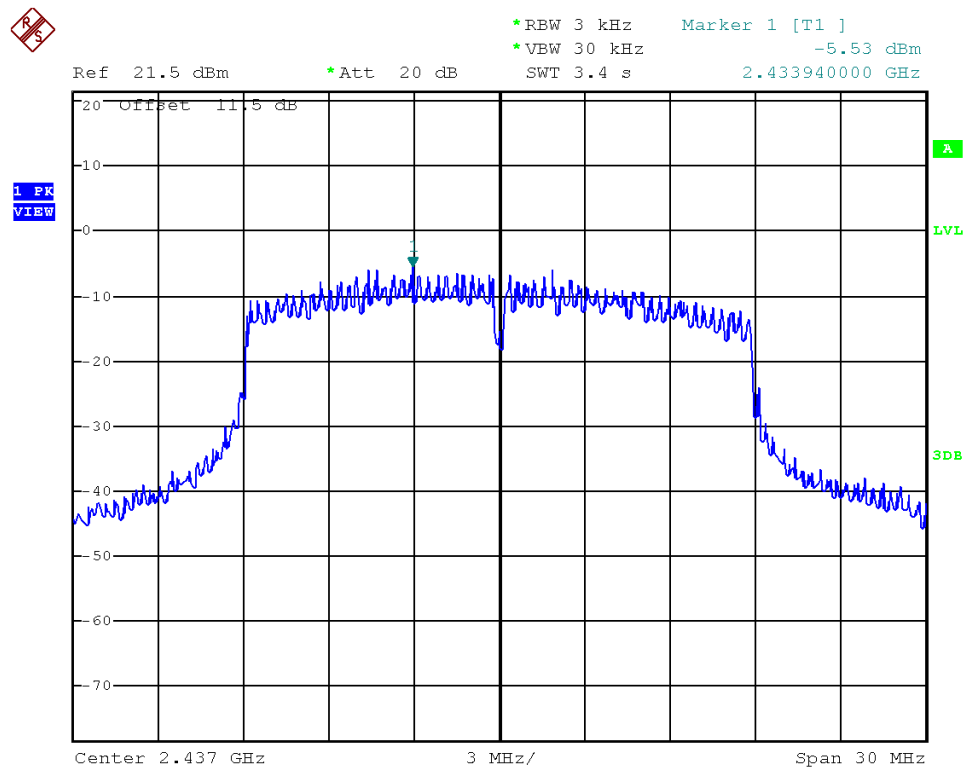
Modulation Standard: 802.11n HT20 (6.5Mbps)

Channel: 01



Modulation Standard: 802.11n HT20 (6.5Mbps)

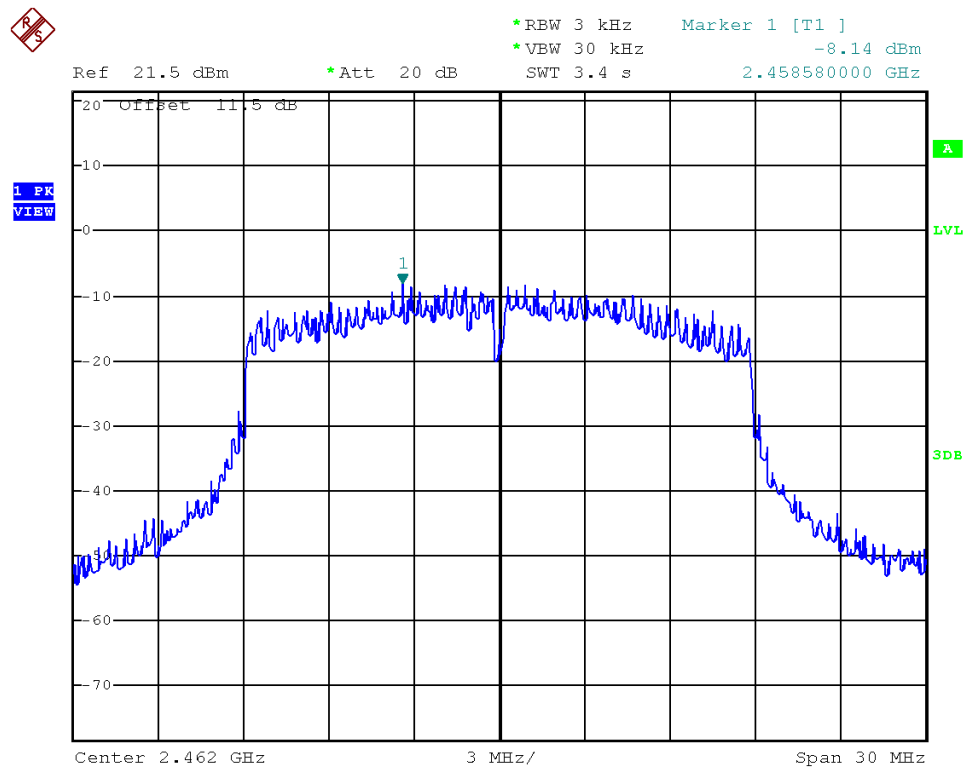
Channel: 06





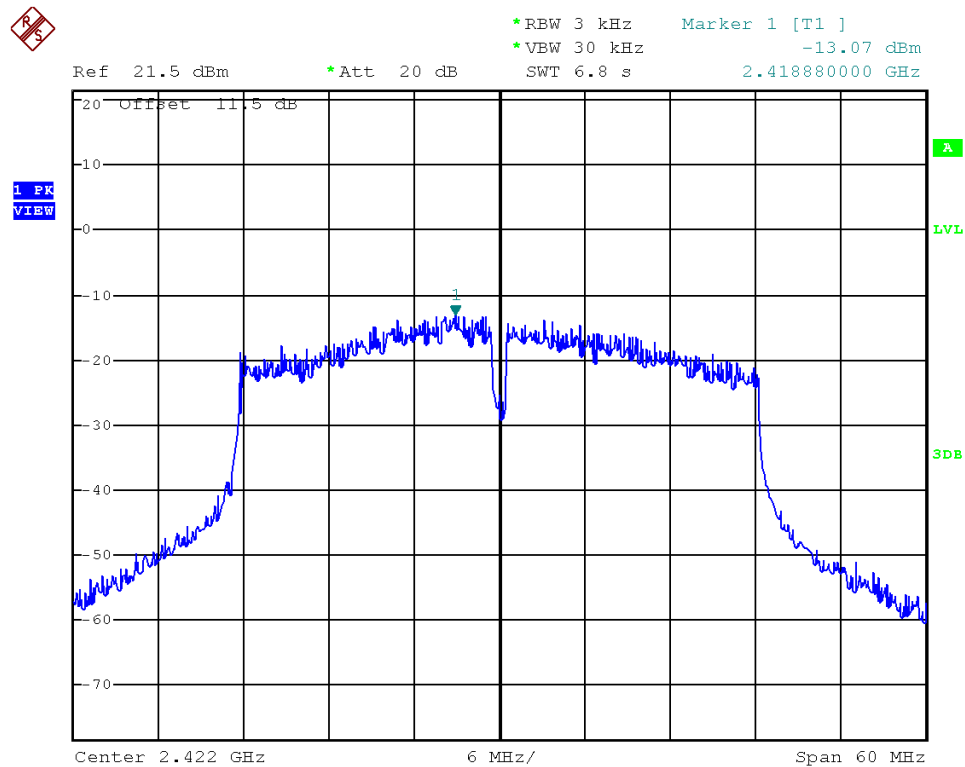
Modulation Standard: 802.11n HT20 (6.5Mbps)

Channel: 11



Modulation Standard: 802.11n HT40 (13.5Mbps)

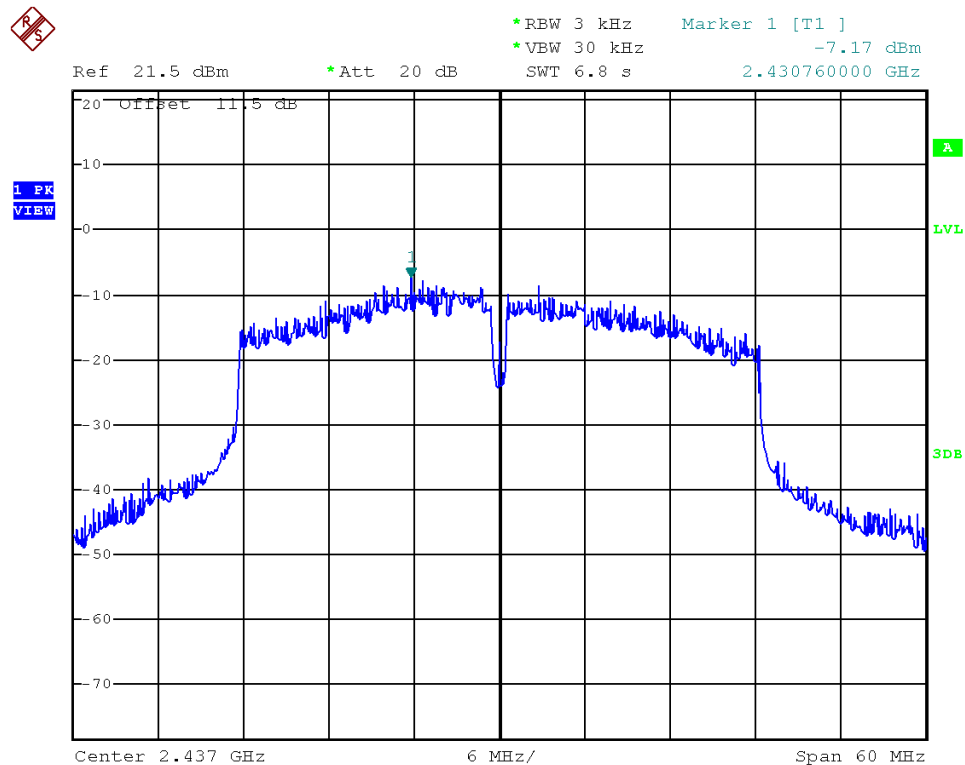
Channel: 03





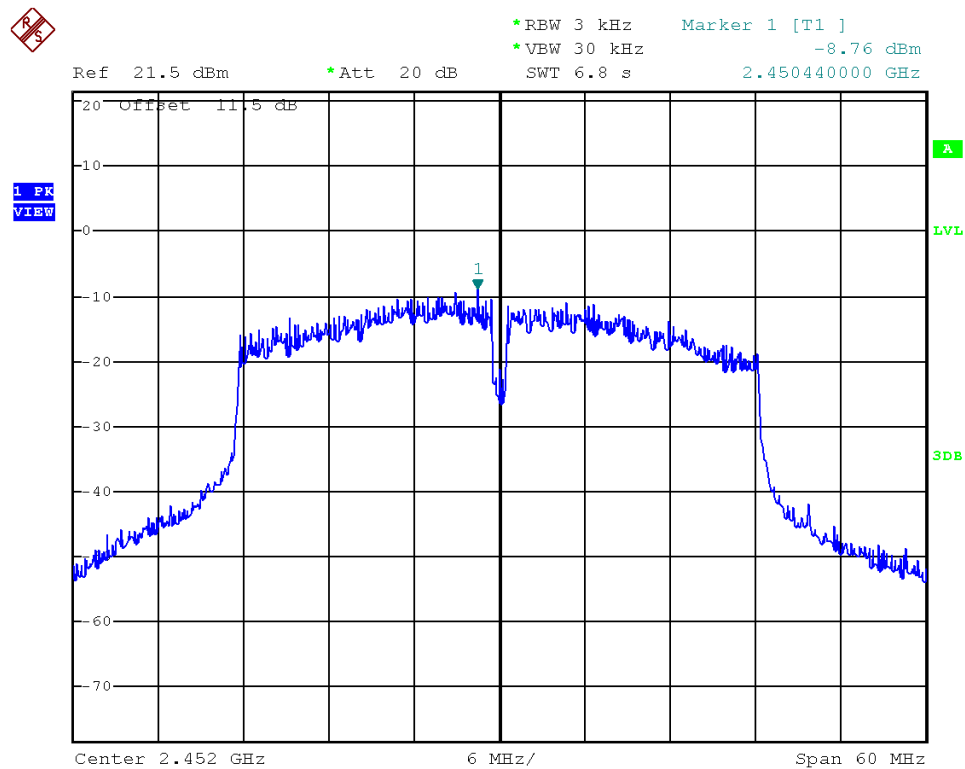
Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 06



Modulation Standard: 802.11n HT40 (13.5Mbps)

Channel: 09





11. 電波暴露量之評估

11.1. 適用標準

依據國家通訊傳播委員會低功率射頻電機技術規範 5.20 節之(5.20.2)規定，若受測物於正常操作模式下，其發射機距離人體 20 公分以上者，可測試最大暴露允許值(Maximum Permissible Exposure, MPE)以證明其符電波暴露量之要求。限制值如下：

(1) 職業性/可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3-3.0	614	1.63	*100	6
3-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500	-----	-----	f/300	6
1,500-100,000	-----	-----	5.0	6

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：百萬赫(MHz)。

(2) 一般人/不可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3-3.0	614	1.63	*100	30
3-30	1842/f	4.89/f	*180/f ²	30
30-300	27.5	0.073	1.0	30
300-1,500	-----	-----	f/1500	30
1,500-100,000	-----	-----	1.0	30

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：百萬赫(MHz)。



11.2. 電波暴露量之評估結果及數據

Temperature: 24°C

Humidity: 68%

Test Date: Aug. 16, 2017

Modulation Mode	Frequency band (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
IEEE 802.11b (11Mbps)	2412-2462	25.74	3	20	0.1489	1
IEEE 802.11g (6Mbps)	2412-2462	27.62	3	20	0.2296	1
802.11n HT20 (13Mbps)	2412-2462	27.95	3	20	0.2476	1
802.11n HT40 (27Mbps)	2422-2452	27.75	3	20	0.2365	1

11.3. 結果判定

高、中、低頻段的電波暴露量皆低於限制值，合乎標準規定。



12. 限制使用之頻帶

Only spurious emissions are permitted in any of the frequency bands listed below:

頻率(兆赫)	頻率(兆赫)	頻率(兆赫)
0.090 - 0.110	240.00 - 285.00	3332.0 - 3339.0
0.490 - 0.510	322.00 - 335.40	3345.8 - 3358.0
2.172 - 2.198	399.90 - 410.00	3500.0 - 4400.0
3.013 - 3.033	485.00 - 510.00	4500.0 - 5250.0
4.115 - 4.198	608.00 - 614.00	5350.0 - 5460.0
5.670 - 5.690	703.00 - 748.00	7250.0 - 7750.0
6.200 - 6.300	758.00 - 803.00	8025.0 - 8500.0
8.230 - 8.400	825.00 - 915.00	9000.0 - 9200.0
12.265 - 12.600	930.00 - 1240.0	9300.0 - 9500.0
13.340 - 13.430	1300.0 - 1427.0	10600 - 12700
14.965 - 15.020	1435.0 - 1626.5	13250 - 13400
16.700 - 16.755	1660.0 - 1770.0	14470 - 14500
19.965 - 20.020	1805.0 - 1865.0	15350 - 16200
25.500 - 25.700	1885.0 - 1900.0	17700 - 21400
37.475 - 38.275	1905.0 - 1985.0	22010 - 23120
73.500 - 75.400	2015.0 - 2025.0	23600 - 24000
108.00 - 138.00	2125.0 - 2165.0	31200 - 31800
149.90 - 150.05	2200.0 - 2300.0	36430 - 36500
156.70 - 156.90	2310.0 - 2390.0	38600 以上
162.01 - 167.17	2483.5 - 2900.0	
167.72 - 173.20	3260.0 - 3267.0	