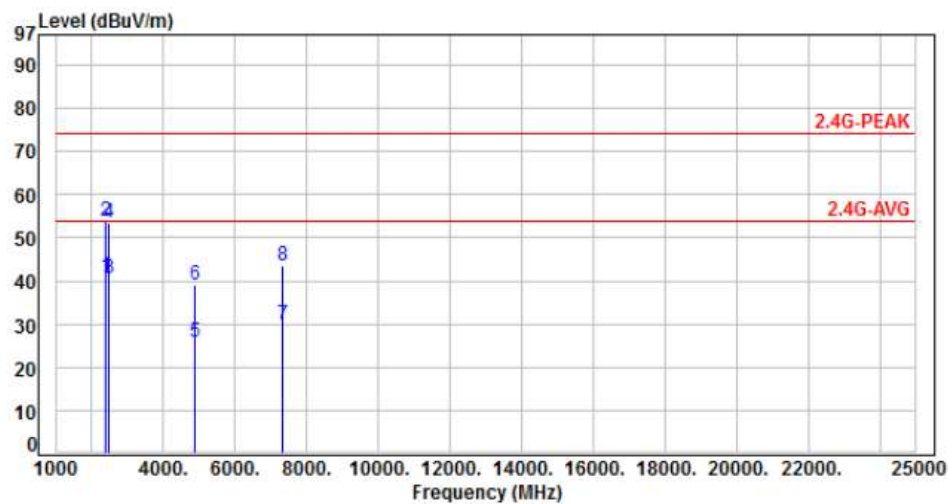




Power	: From PoE	Pol/Phase	: HORIZONTAL
Test Mode	: Mode 4, CH06	Temperature	: 22°C
Test Date	: Nov. 12, 2018	Humidity	: 63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-15.68	56.50	40.82	54.00	-13.18	Average	100	120	P
2	2390.00	-15.68	69.60	53.92	74.00	-20.08	Peak	100	120	P
3	2483.50	-15.36	55.90	40.54	54.00	-13.46	Average	100	120	P
4	2483.50	-15.36	68.70	53.34	74.00	-20.66	Peak	100	120	P
5	4874.00	-8.33	34.28	25.95	54.00	-28.05	Average	100	300	P
6	4874.00	-8.33	47.52	39.19	74.00	-34.81	Peak	100	300	P
7	7311.00	-3.86	33.85	29.99	54.00	-24.01	Average	100	300	P
8	7311.00	-3.86	47.56	43.70	74.00	-30.30	Peak	100	300	P

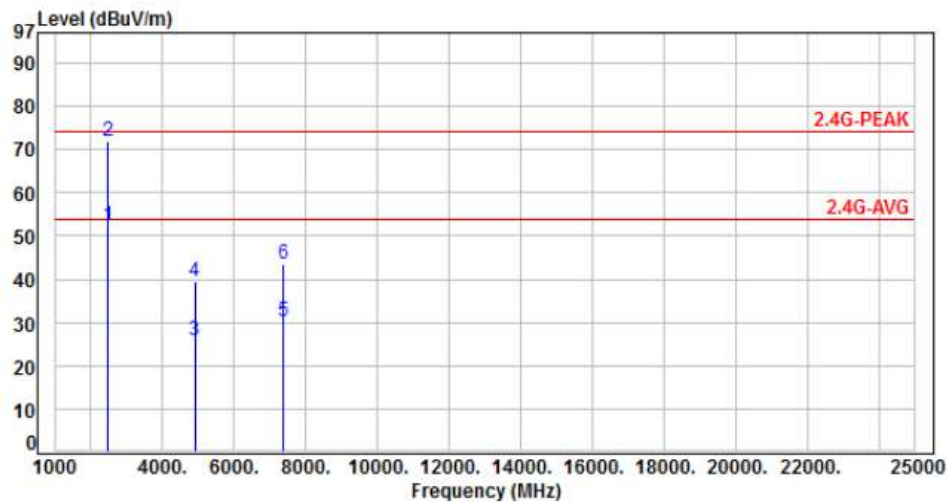
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	From PoE	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09	Temperature	:	22°C
Test Date	:	Nov. 12, 2018	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.36	67.90	52.54	54.00	-1.46	Average	255	342	P
2	2483.50	-15.36	87.20	71.84	74.00	-2.16	Peak	255	342	P
3	4904.00	-8.24	34.22	25.98	54.00	-28.02	Average	100	116	P
4	4904.00	-8.24	47.88	39.64	74.00	-34.36	Peak	100	116	P
5	7356.00	-3.74	33.85	30.11	54.00	-23.89	Average	100	81	P
6	7356.00	-3.74	47.44	43.70	74.00	-30.30	Peak	100	81	P

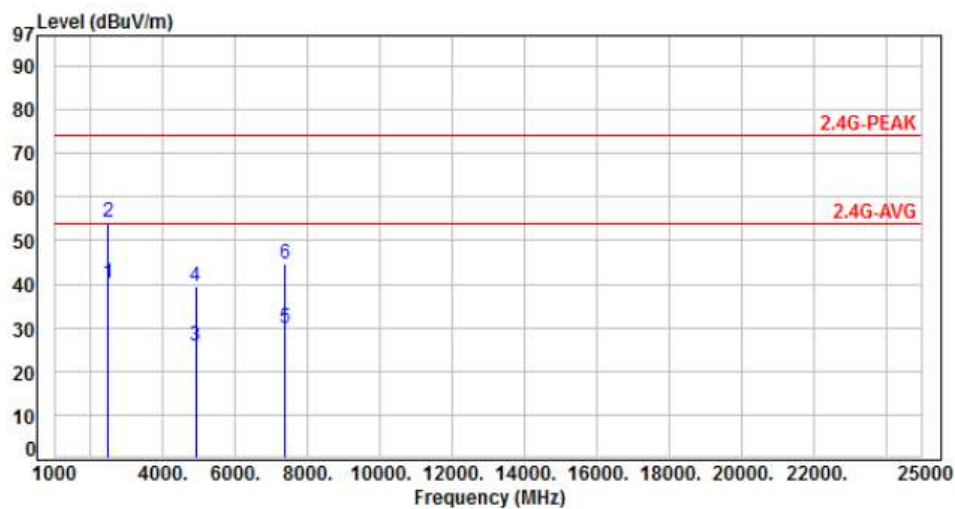
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Power	:	From PoE	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH09	Temperature	:	22°C
Test Date	:	Nov. 12, 2018	Humidity	:	63%



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2483.50	-15.36	55.70	40.34	54.00	-13.66	Average	100	124	P
2	2483.50	-15.36	69.70	54.34	74.00	-19.66	Peak	100	124	P
3	4904.00	-8.24	34.11	25.87	54.00	-28.13	Average	100	307	P
4	4904.00	-8.24	47.82	39.58	74.00	-34.42	Peak	100	307	P
5	7356.00	-3.74	33.57	29.83	54.00	-24.17	Average	100	318	P
6	7356.00	-3.74	48.52	44.78	74.00	-29.22	Peak	100	318	P

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



6. On Time, Duty Cycle and Measurement methods

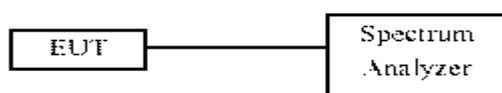
6.1. 適用標準

None; for reporting purposes only.

6.2. 測試方法

KDB 558074 Zero-Span Spectrum Analyzer Method.

6.3. 測試配置



6.4. 測試結果及數據

Temperature: 22°C

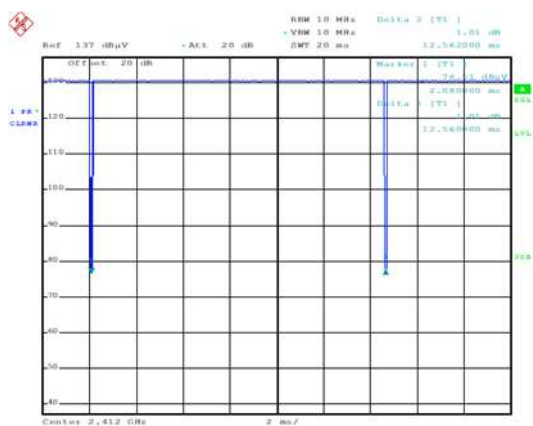
Humidity: 64%

Test Date: Jan. 23, 2019

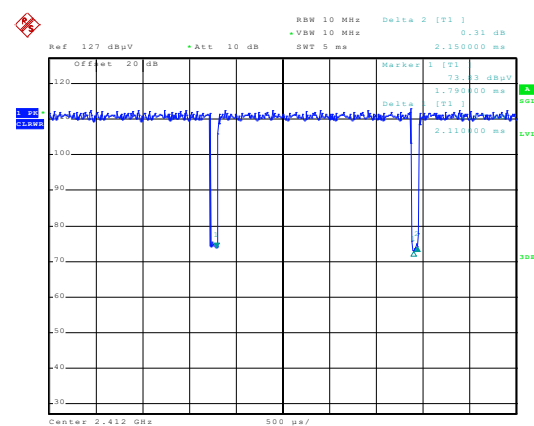
Modulation Mode	On Time (ms)	Period Time (ms)	Duty Cycle (%)
802.11b	12.56	12.56	99.98%
802.11g	2.11	2.15	98.14%
VHT20	5.10	5.14	99.22%
VHT40	2.47	2.52	98.02%



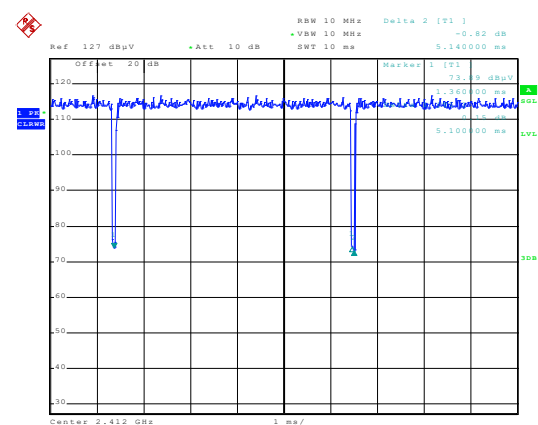
Modulation Mode: 802.11b (1Mbps)



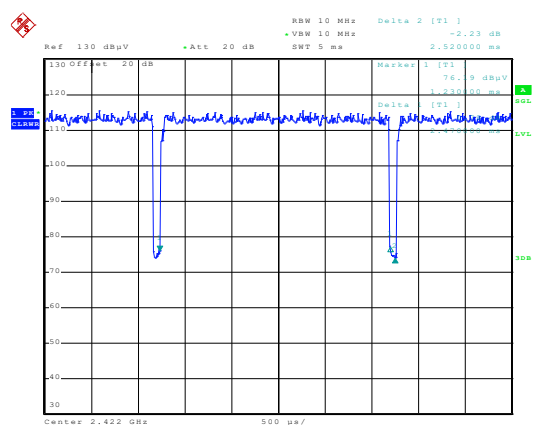
Modulation Mode: 802.11g (6Mbps)



Modulation Mode: VHT20 (6.5Mbps)



Modulation Mode: VHT40 (13.5Mbps)





7. 6dB 頻寬之規定

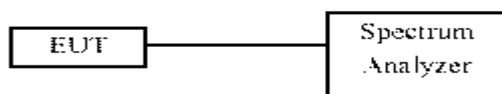
7.1. 適用標準

對使用數位調變技術之低功率發射機，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)(A)規定，6dB 頻寬至少應有 500 kHz。

7.2. 測試方法

- 將待測物和儀器相連接。
- 設定儀器解析頻寬 100KHz 和視訊頻寬為 300KHz。
- 量測峰值減去 6 dB 之頻寬並記錄於報告中。

7.3. 測試配置



7.4. 6dB 頻寬之測試結果及數據

Temperature: 22°C

Humidity: 64%

Test Date: Jan. 23, 2019

Modulation Mode	Channel	Frequency (MHz)	6dB Bandwidth (MHz)		Limit (MHz)
			ANT A	ANT B	
IEEE 802.11b (1Mbps)	1	2412	8.00	8.00	0.5
	6	2437	8.10	8.10	0.5
	11	2462	8.10	8.10	0.5
IEEE 802.11g (6Mbps)	1	2412	16.40	16.40	0.5
	6	2437	16.40	16.40	0.5
	11	2462	16.40	16.40	0.5
VHT20 (6.5Mbps)	1	2412	17.60	17.60	0.5
	6	2437	17.60	17.60	0.5
	11	2462	17.60	17.60	0.5
VHT40 (13.5Mbps)	3	2422	35.20	35.20	0.5
	6	2437	35.20	35.20	0.5
	9	2452	35.00	35.20	0.5

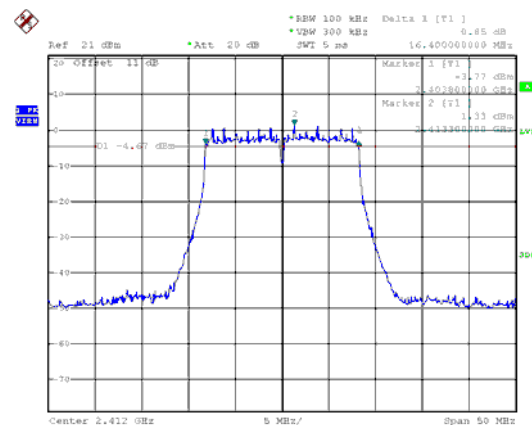
備註：繪圖資料請參考下頁。

7.5. 結果判定

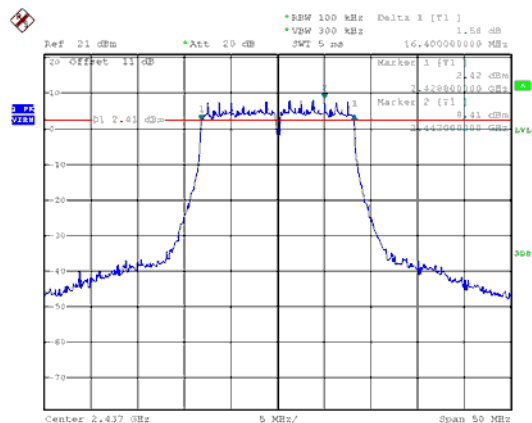
高、中、低頻段的 6dB 頻寬皆大於 500 KHz，合乎標準規定。



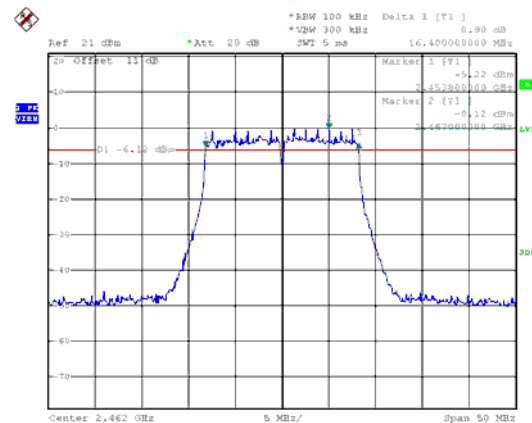
Modulation Mode: 802.11g
CH01



CH06

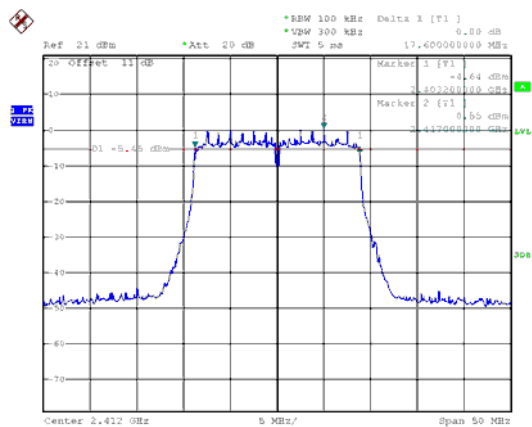


CH11

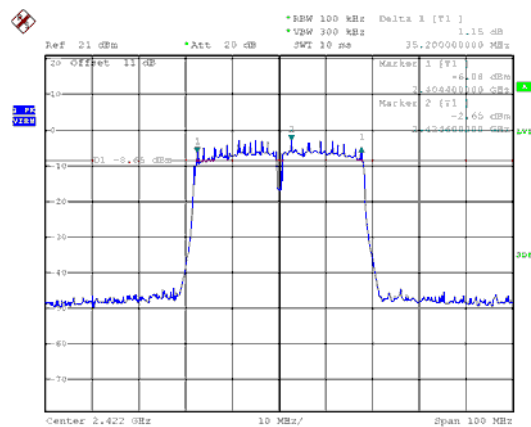




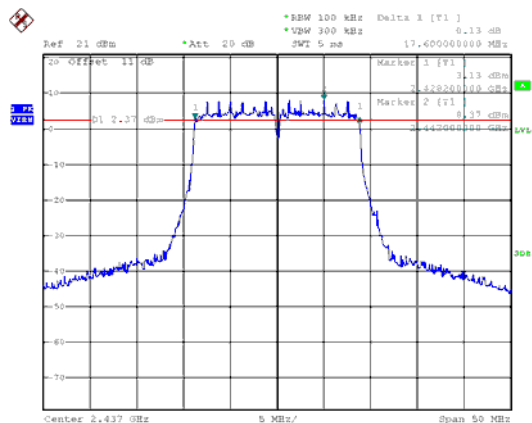
ANT A
Modulation Mode: VHT20
CH01



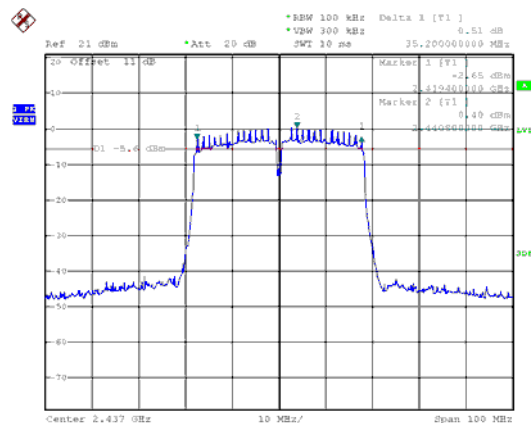
Modulation Mode: VHT40
CH03



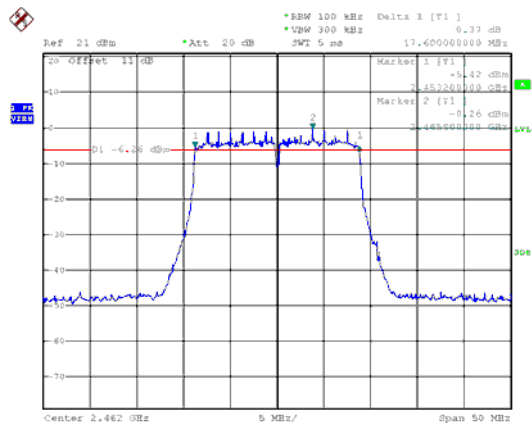
CH06



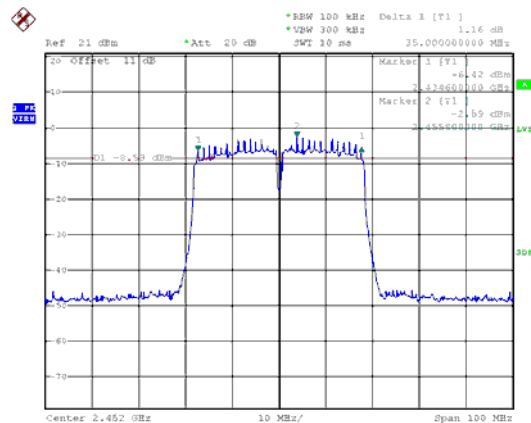
CH06



CH11

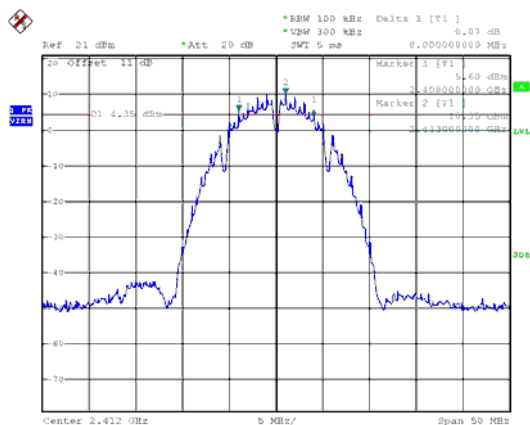


CH09

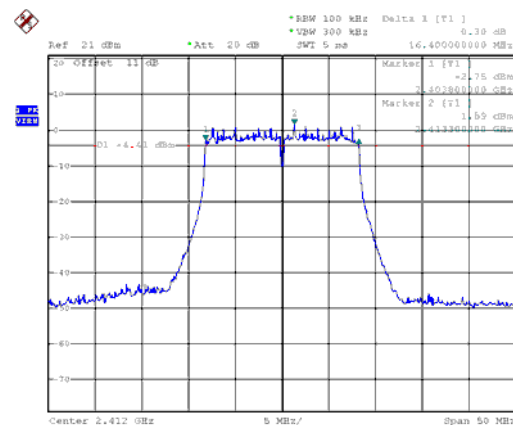




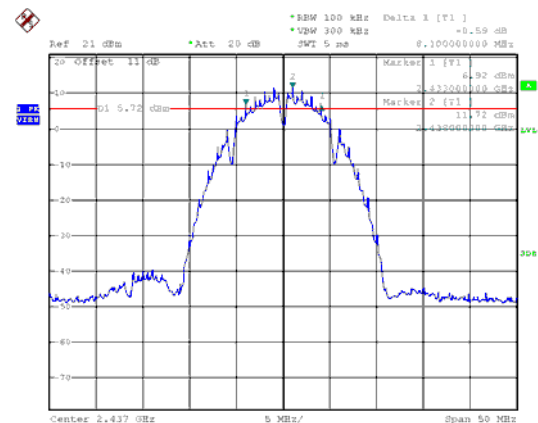
ANT B Modulation Mode: 802.11b CH01



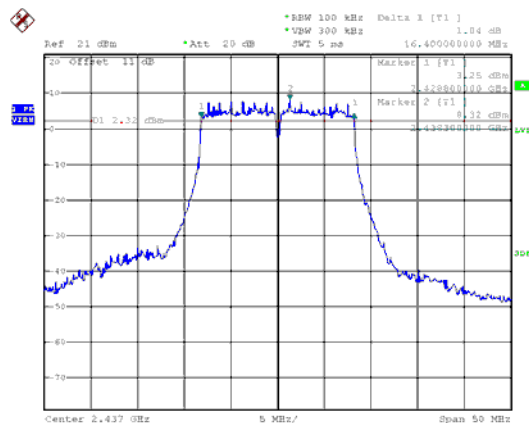
Modulation Mode: 802.11g CH01



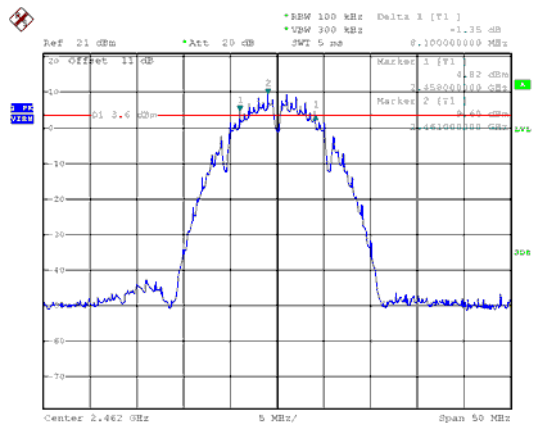
CH06



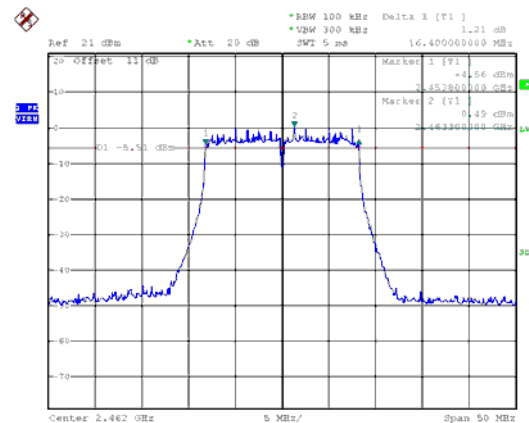
CH06



CH11



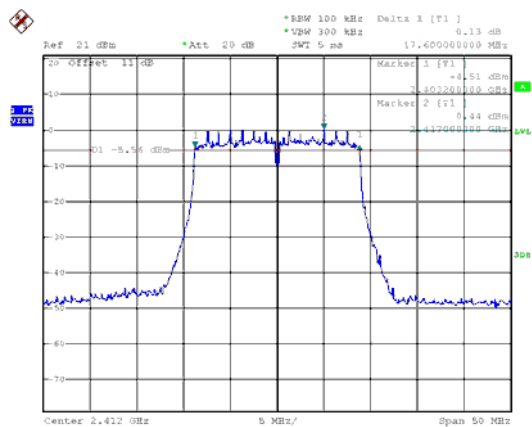
CH11



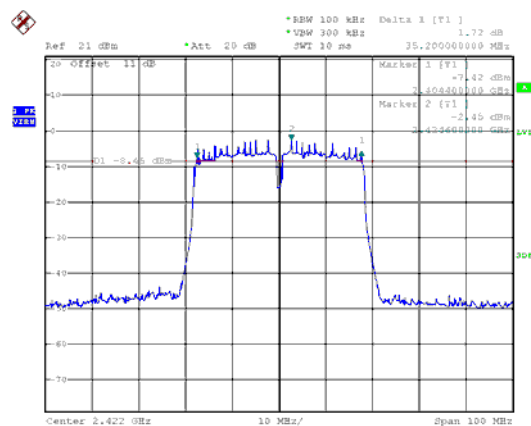
0



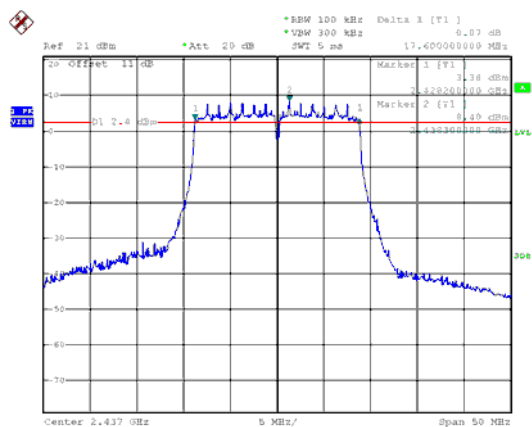
ANT B
Modulation Mode: VHT20
CH01



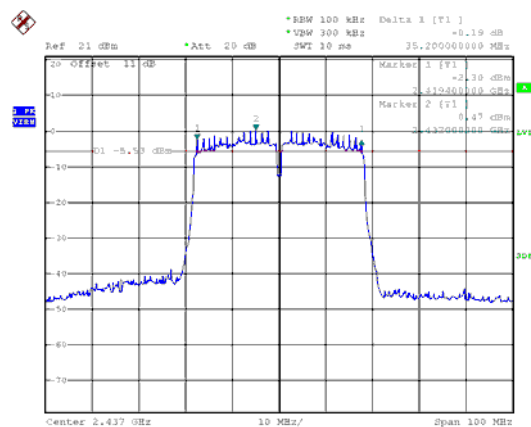
Modulation Mode: VHT40
CH03



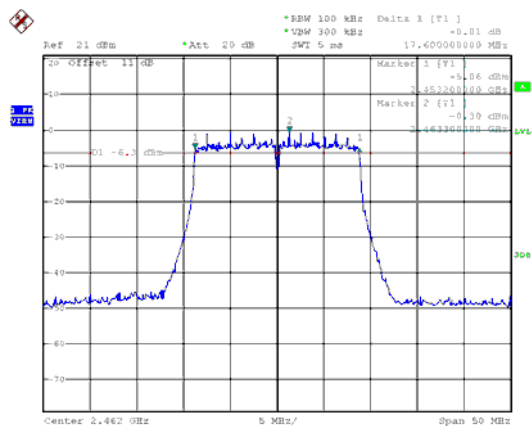
CH06



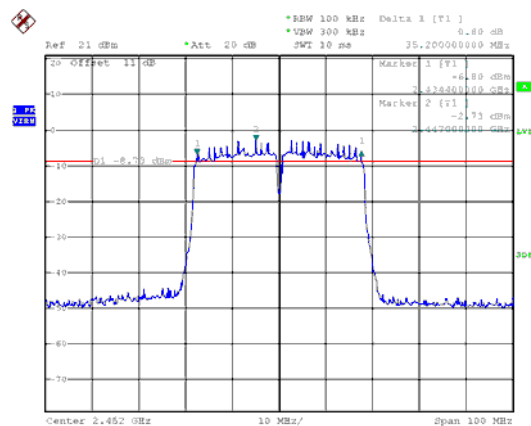
CH06



CH11



CH09





8. 峰值輸出功率之規定

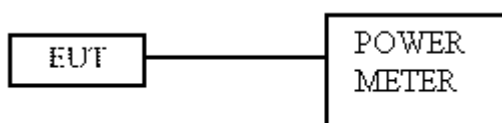
8.1. 適用標準

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

- 將待測物和儀器相連接。
- 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: 22°C

Humidity: 64%

Test Date: Jan. 23, 2019

Test Mode: Non-Beamforming

Modulation Mode	Channel	Frequency (MHz)	Conducted(Avg) output power (dBm)		Total power (dBm)	Power Limit (dBm)
			ANT A	ANT B		
IEEE 802.11b (1Mbps)	1	2412	18.01	18.01	21.02	30.00
	6	2437	19.62	19.43	22.54	30.00
	11	2462	17.37	17.23	20.31	30.00
IEEE 802.11g (6Mbps)	1	2412	12.56	12.58	15.58	30.00
	6	2437	19.55	19.38	22.48	30.00
	11	2462	11.39	11.40	14.41	30.00
IEEE 802.11n HT20 (6.5Mbps)	1	2412	11.54	11.63	14.60	30.00
	6	2437	19.41	19.37	22.40	30.00
	11	2462	11.02	10.96	14.00	30.00
IEEE 802.11n HT40 (13.5Mbps)	3	2422	11.26	11.20	14.24	30.00
	6	2437	14.03	14.00	17.03	30.00
	9	2452	11.18	11.01	14.11	30.00
VHT20 (6.5Mbps)	1	2412	11.56	11.64	14.61	30.00
	6	2437	19.45	19.41	22.44	30.00
	11	2462	11.04	10.97	14.02	30.00
VHT40 (13.5Mbps)	3	2422	11.30	11.21	14.27	30.00
	6	2437	14.04	14.03	17.05	30.00
	9	2452	11.20	11.03	14.13	30.00



Temperature: 22°C

Humidity: 64%

Test Date: Jan. 23, 2019

Test Mode: Beamforming

:

Modulation Mode	Channel	Frequency (MHz)	Conducted(Avg) output power (dBm)		Total Power (dBm)	Power Limit (dBm)
			ANT A	ANT B		
IEEE 802.11g (6Mbps)	01	2412	9.55	9.57	12.57	27.79
	06	2437	16.54	16.37	19.47	27.79
	11	2462	8.38	8.39	11.40	27.79
IEEE 802.11n HT20 (6.5Mbps)	01	2412	8.53	8.62	11.59	27.79
	06	2437	16.40	16.36	19.39	27.79
	11	2462	8.01	7.95	10.99	27.79
IEEE 802.11n HT40 (13.5Mbps)	03	2422	8.25	8.19	11.23	27.79
	06	2437	11.02	10.99	14.02	27.79
	09	2452	8.17	8.00	11.10	27.79
VHT20 (6.5Mbps)	01	2412	8.55	8.63	11.60	27.79
	06	2437	16.44	16.40	19.43	27.79
	11	2462	8.03	7.96	11.01	27.79
VHT40 (13.5Mbps)	03	2422	8.29	8.20	11.26	27.79
	06	2437	11.03	11.02	14.04	27.79
	09	2452	8.19	8.02	11.12	27.79

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：

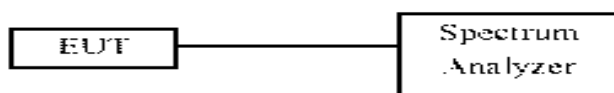
- (1) 輸出功率以峰值輸出功率方式量測者，至少需衰減 20dB，可使用射頻傳導或輻射方式測量。
- (2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少需衰減 30dB，可使用射頻傳導或輻射方式測量。

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 30dB 以上，合乎標準規定。

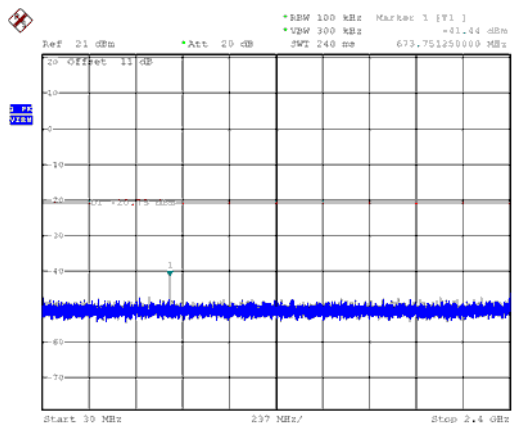
7.6.2 上邊緣頻帶：距上頻帶邊緣 40MHz 內最大混附波比主波低 30dB 以上，合乎標準規定。

備註：繪圖資料請參考下頁。

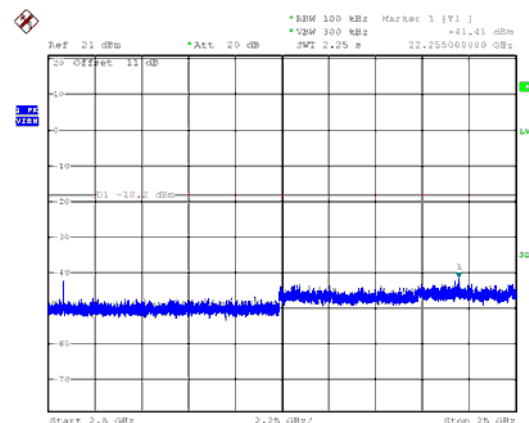
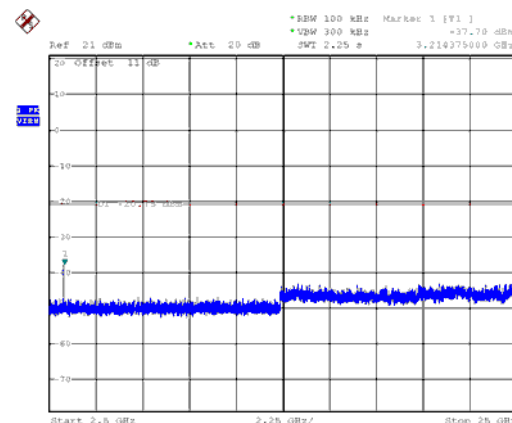
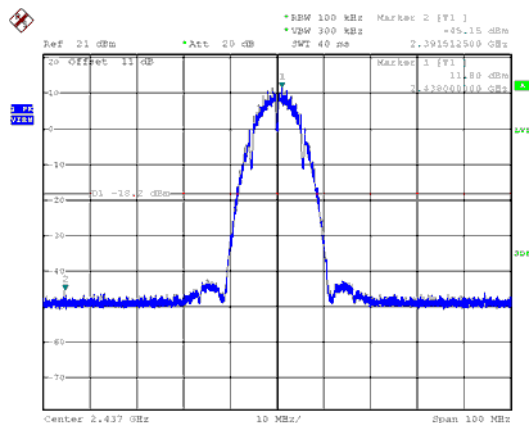
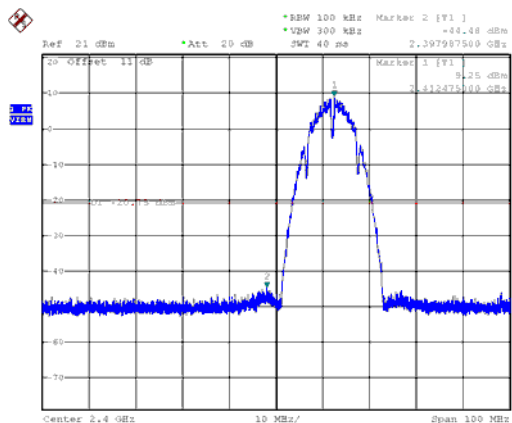
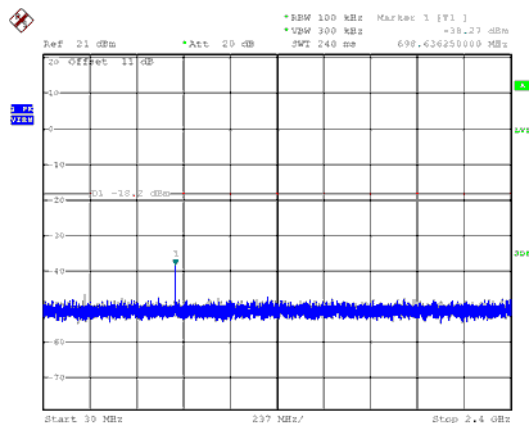


ANT A

Modulation Mode: 802.11b, CH01

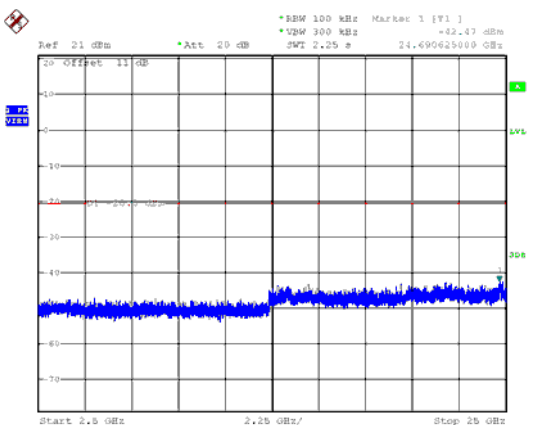
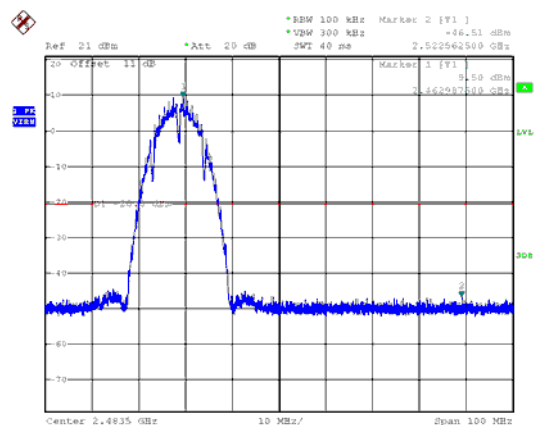
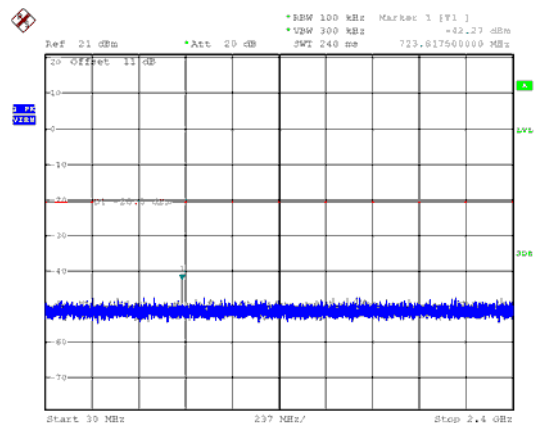


Modulation Mode: 802.11b, CH06





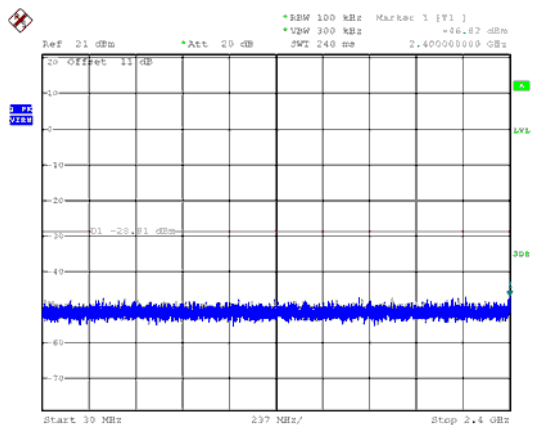
ANT A Modulation Mode: 802.11b, CH11



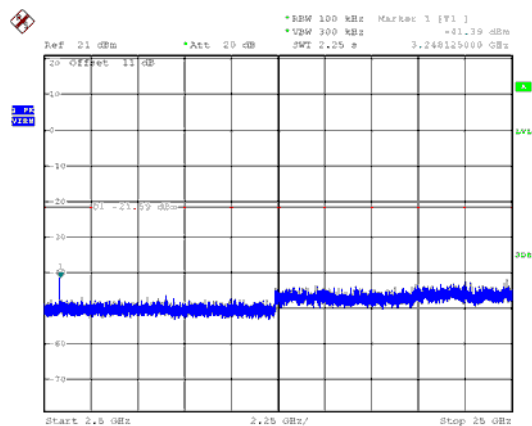
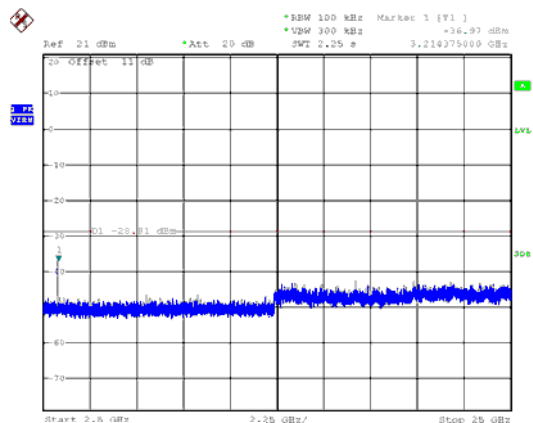
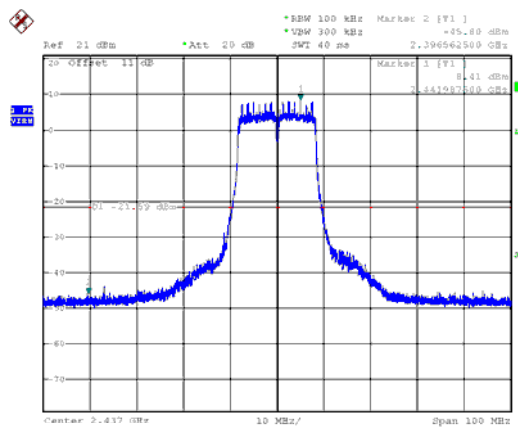
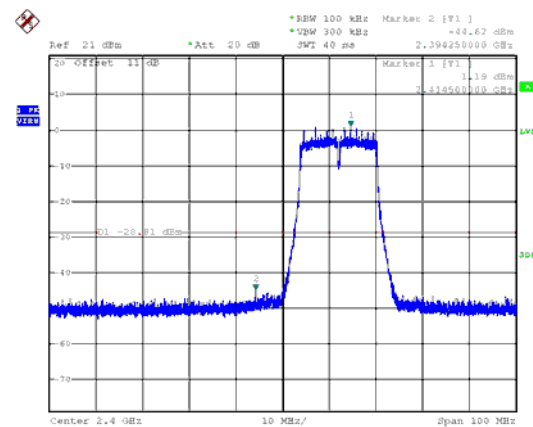
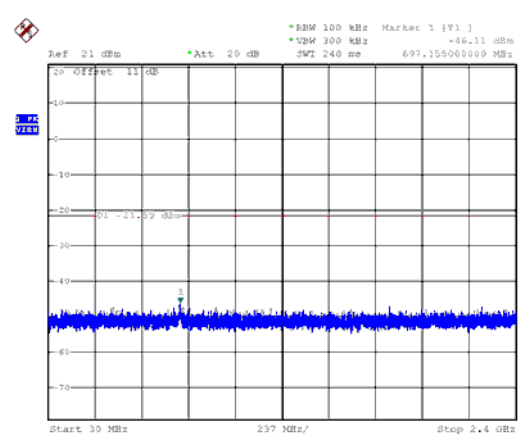


ANT A

Modulation Mode: 802.11g, CH01

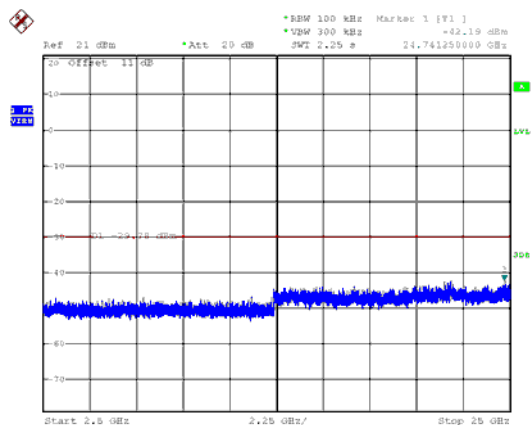
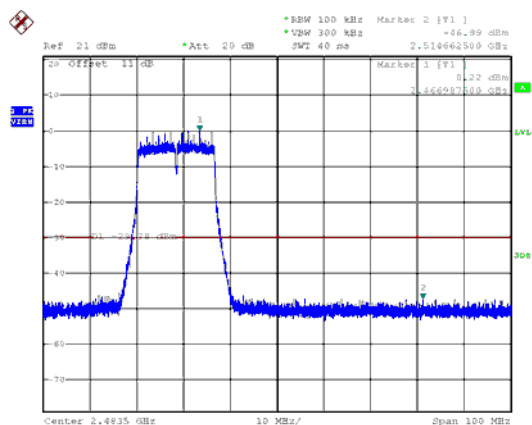
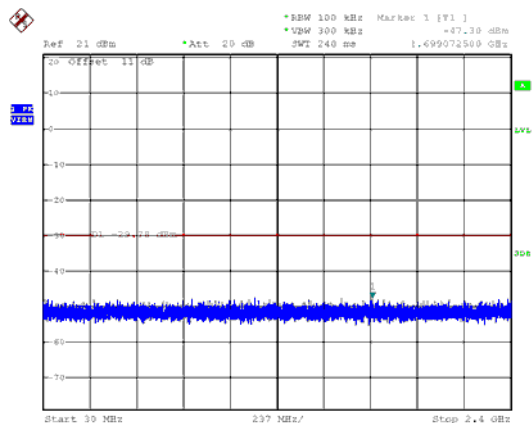


Modulation Mode: 802.11g, CH06





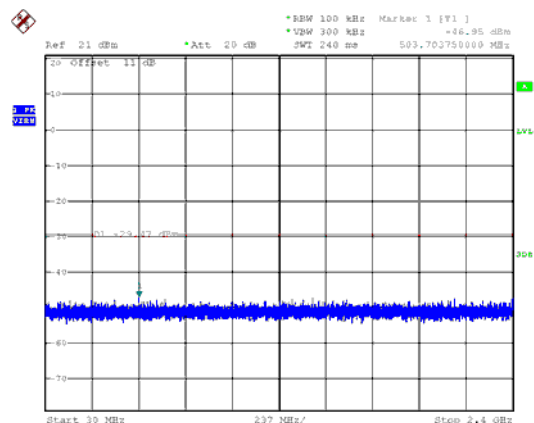
ANT A Modulation Mode: 802.11g, CH11



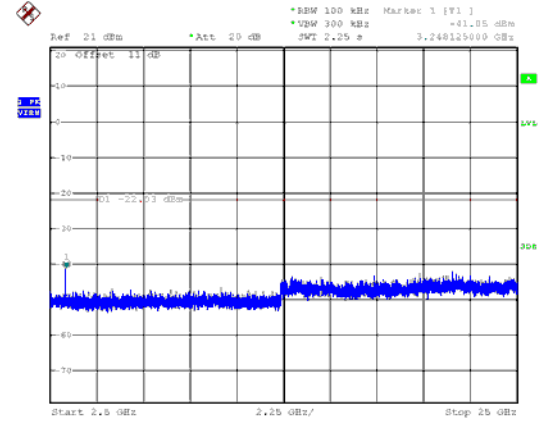
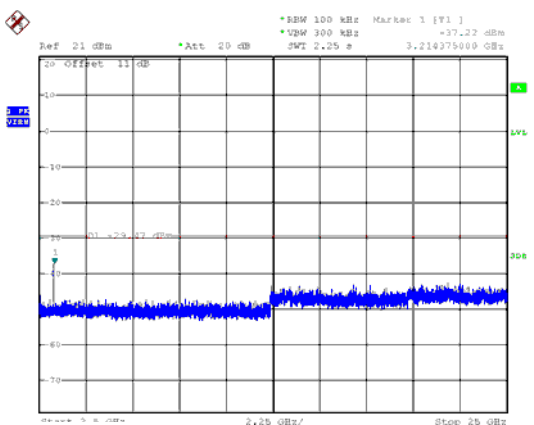
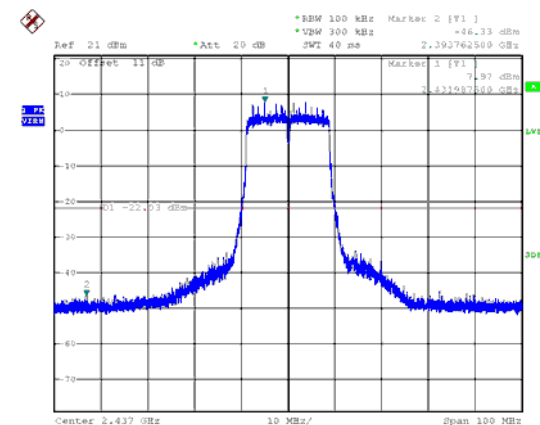
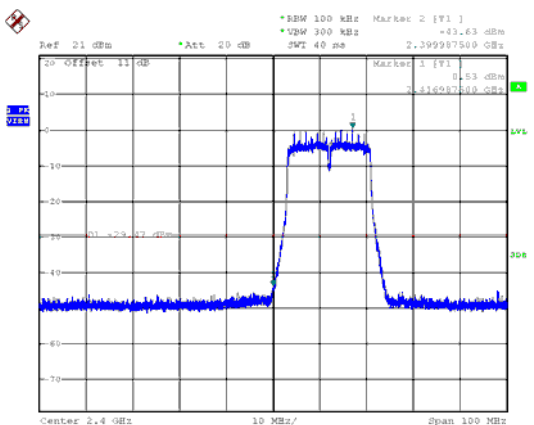
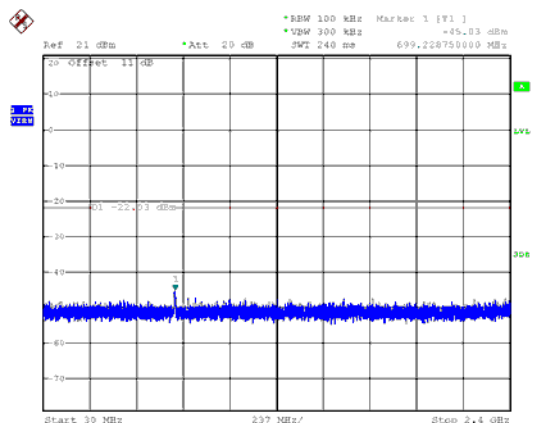


ANT A

Modulation Mode: VHT20, CH01

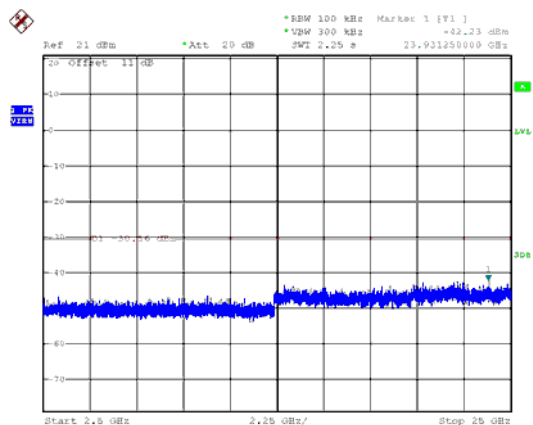
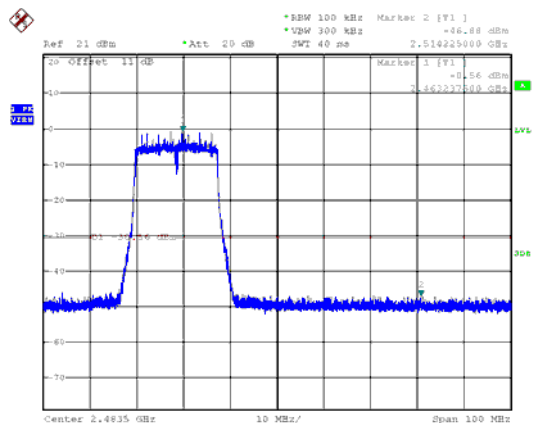
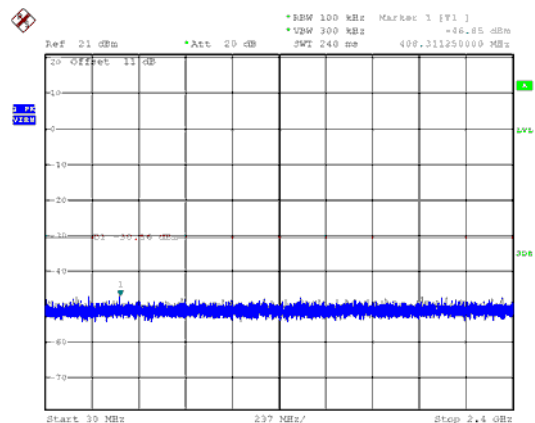


Modulation Mode: VHT20, CH06





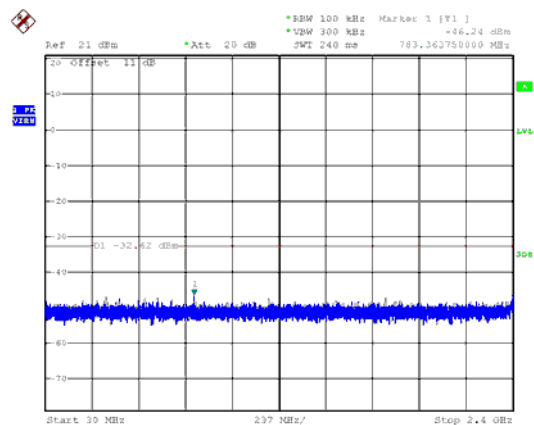
ANT A Modulation Mode: VHT20, CH11



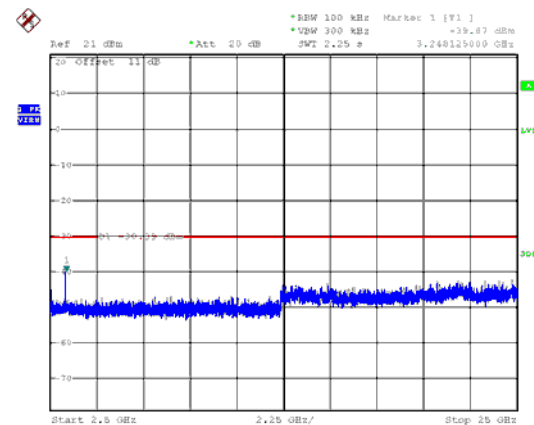
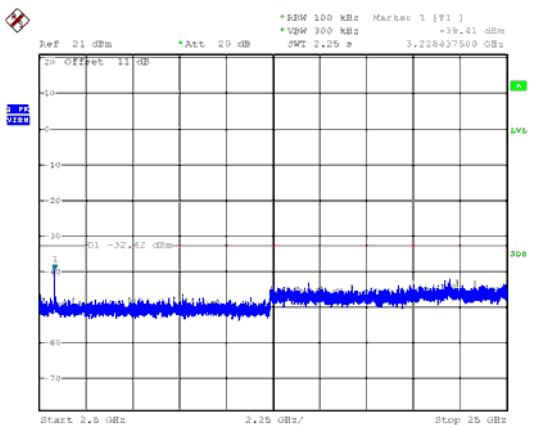
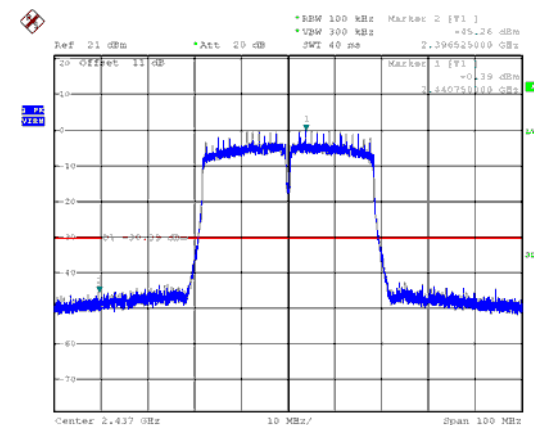
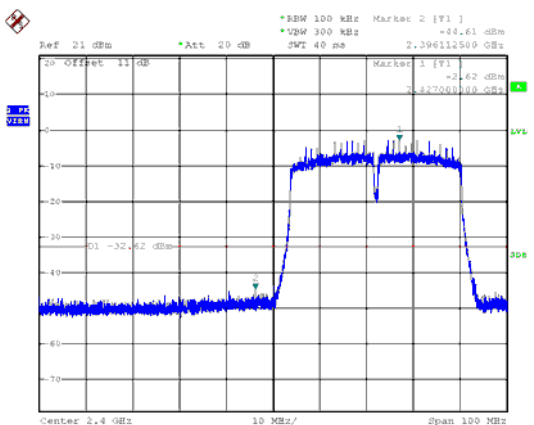
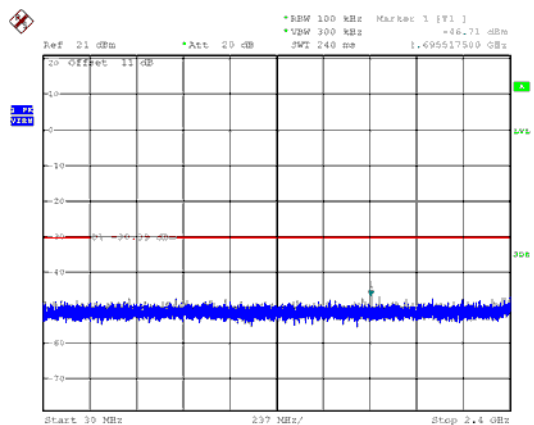


ANT A

Modulation Mode: VHT40, CH03



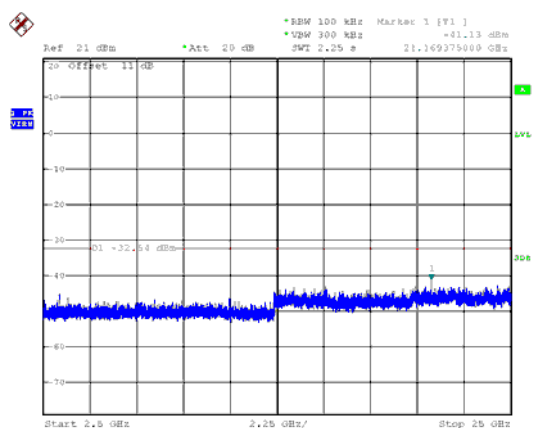
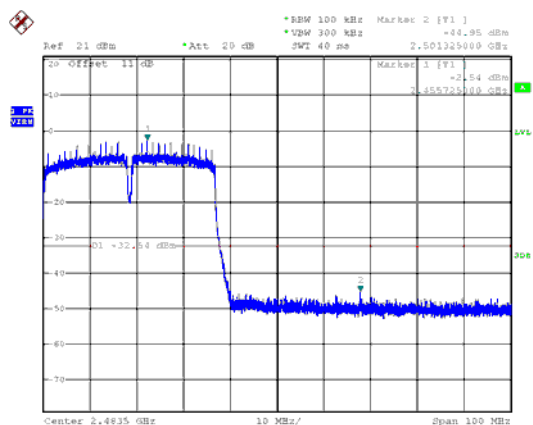
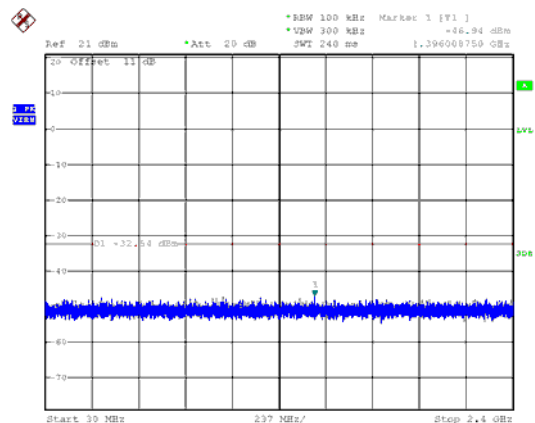
Modulation Mode: VHT40, CH06





ANT A

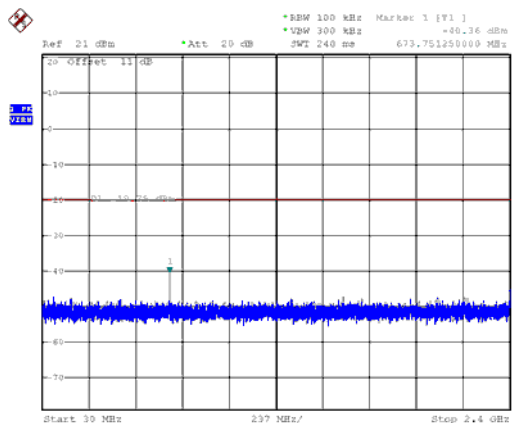
Modulation Mode: VHT40, CH09



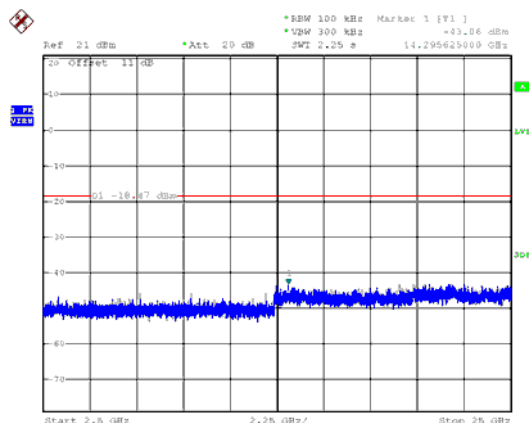
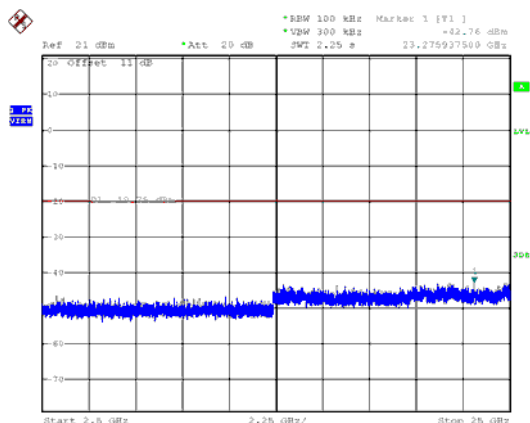
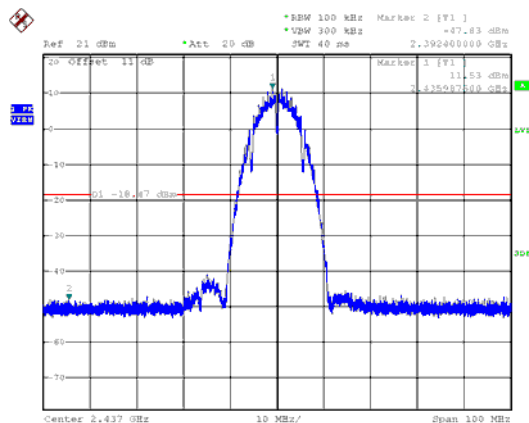
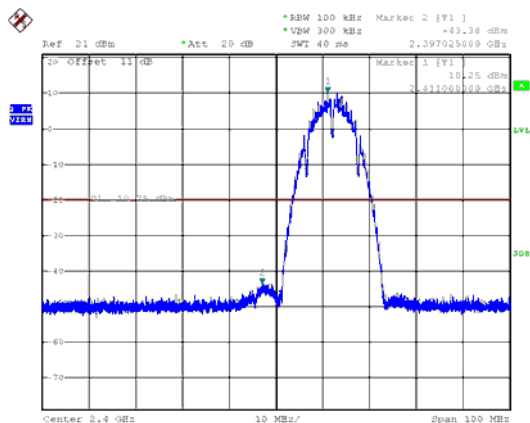
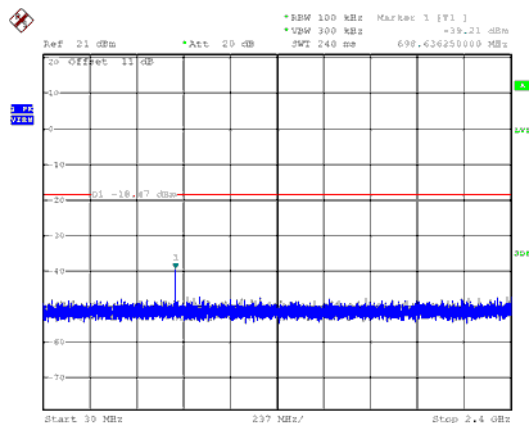


ANT B

Modulation Mode: 802.11b, CH01

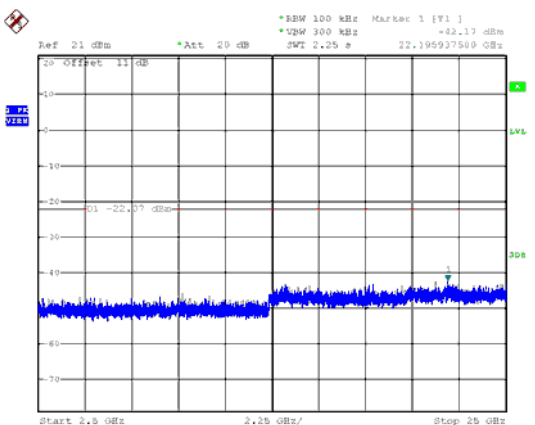
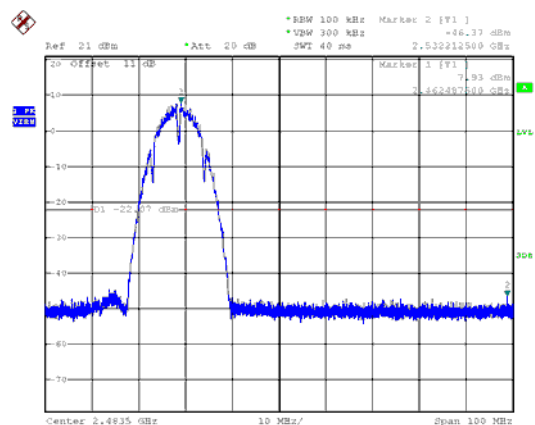
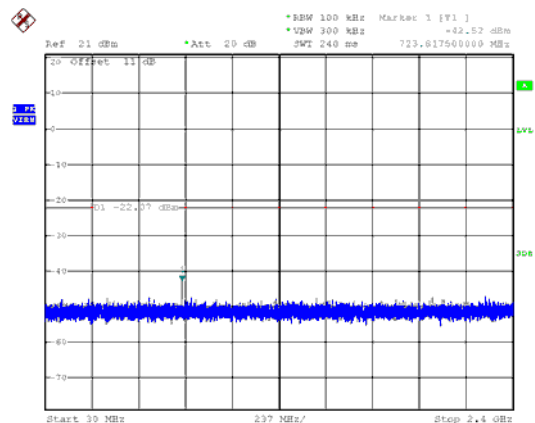


Modulation Mode: 802.11b, CH06





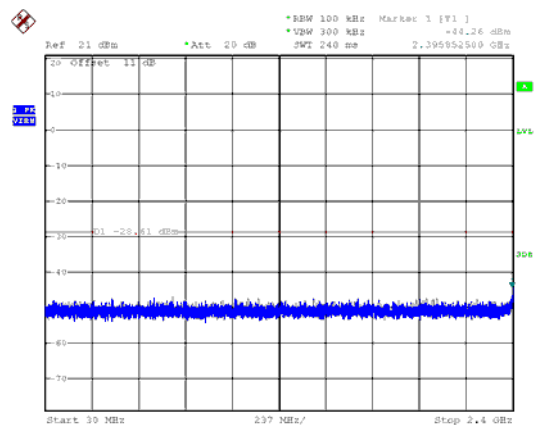
ANT B Modulation Mode: 802.11b, CH11



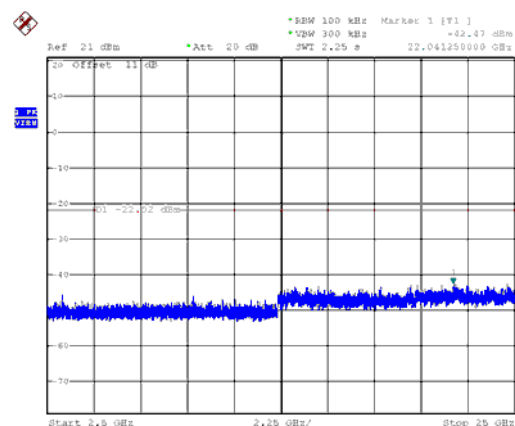
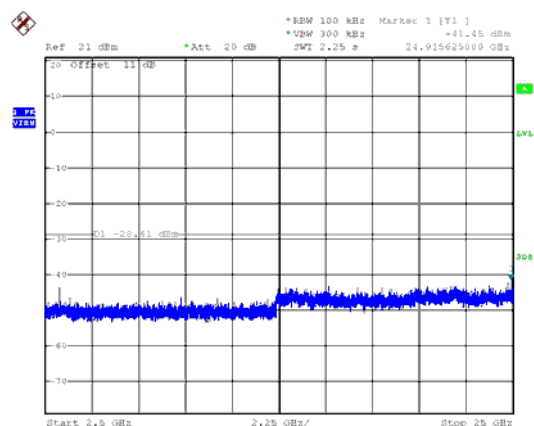
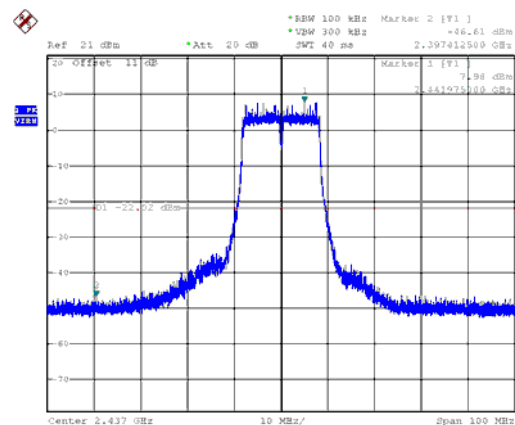
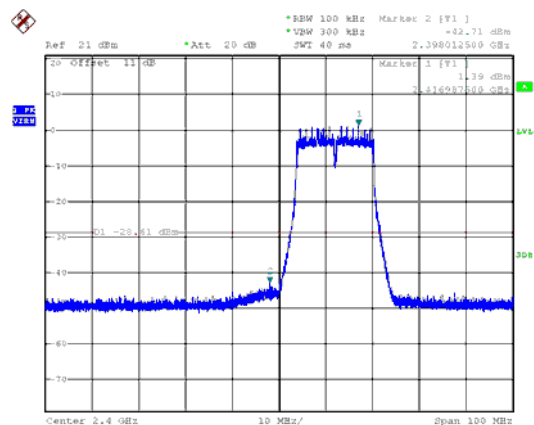
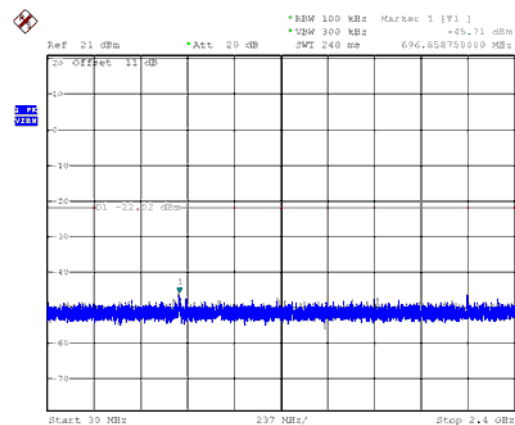


ANT B

Modulation Mode: 802.11g, CH01

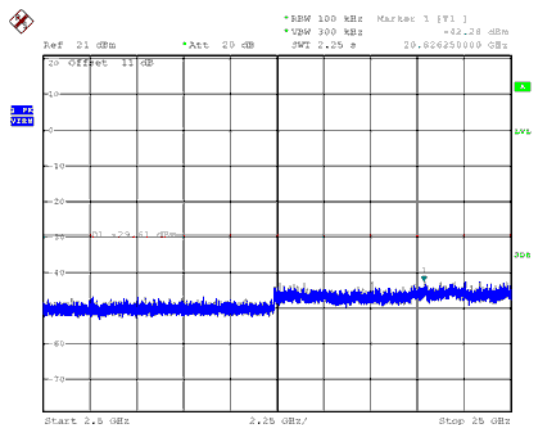
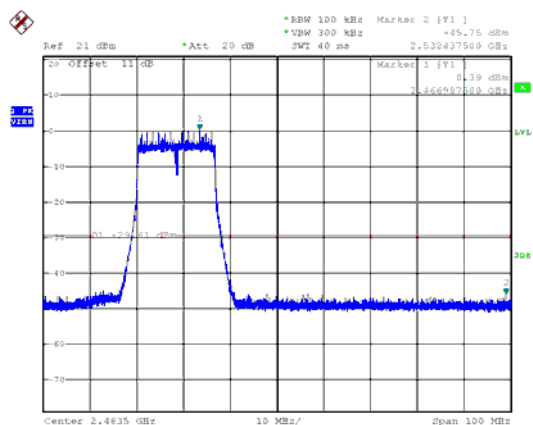
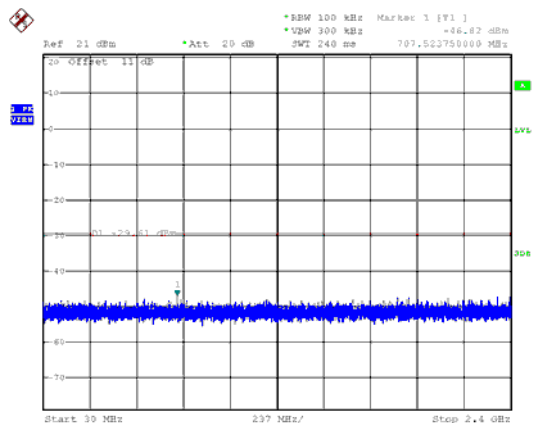


Modulation Mode: 802.11g, CH06





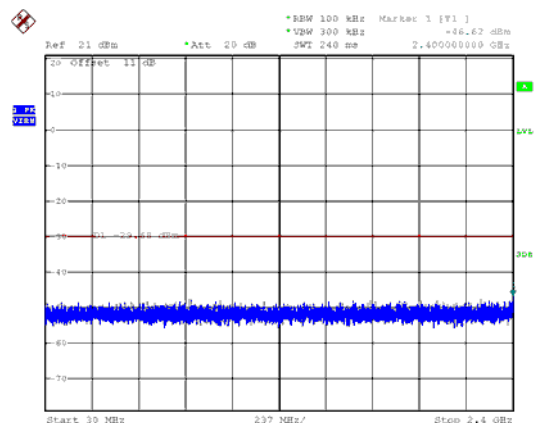
ANT B Modulation Mode: 802.11g, CH11



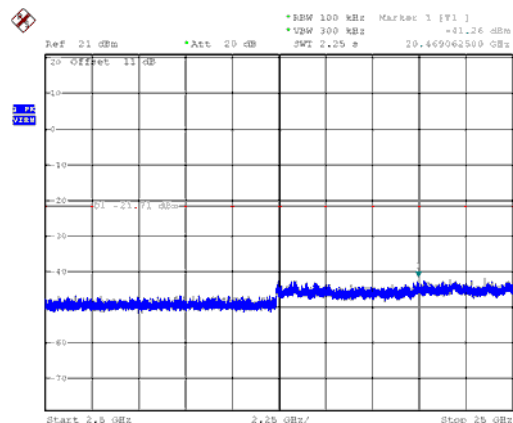
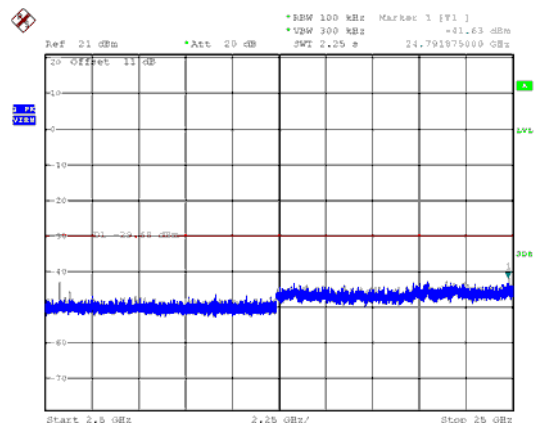
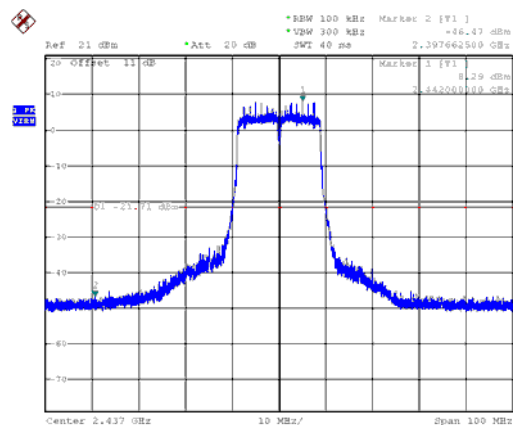
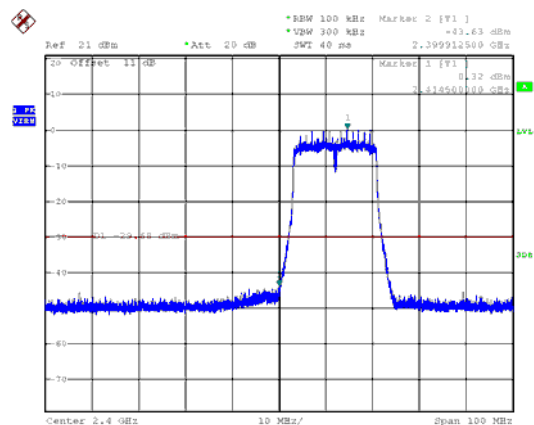
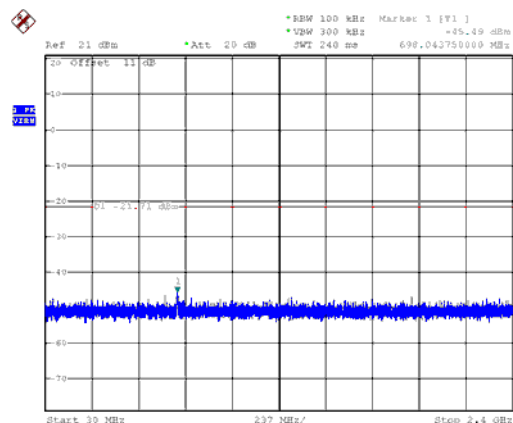


ANT B

Modulation Mode: VHT20, CH01

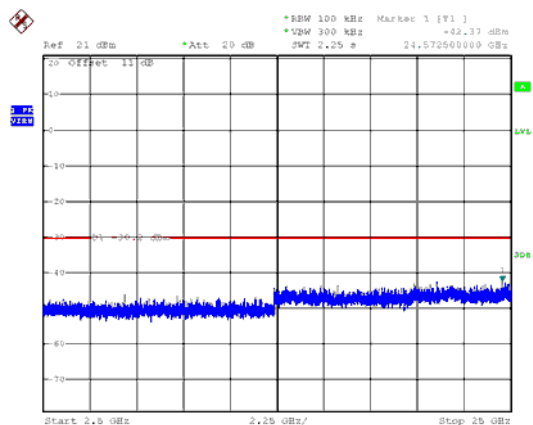
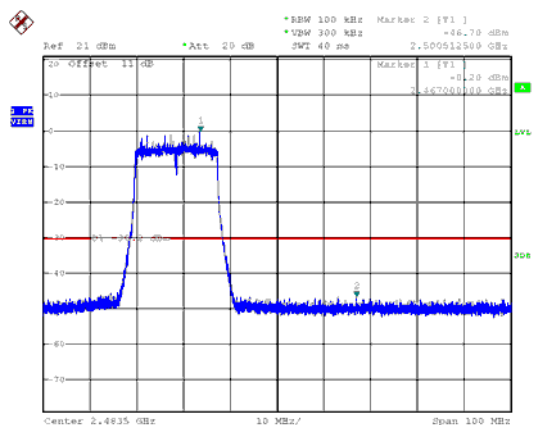
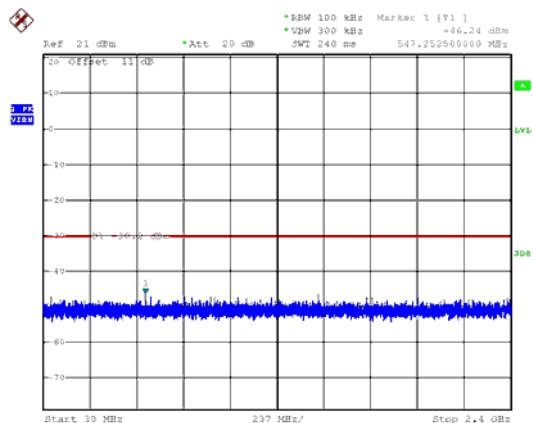


Modulation Mode: VHT20, CH06





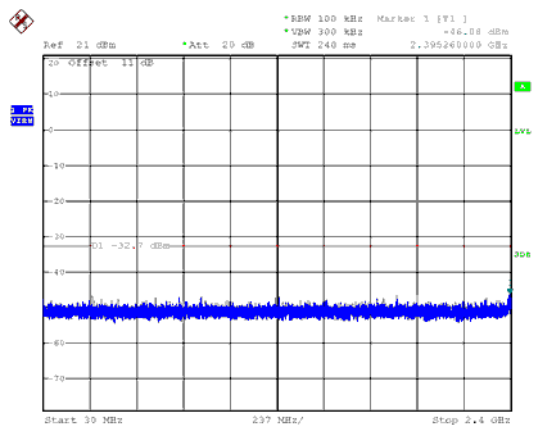
ANT B Modulation Mode: VHT20, CH11



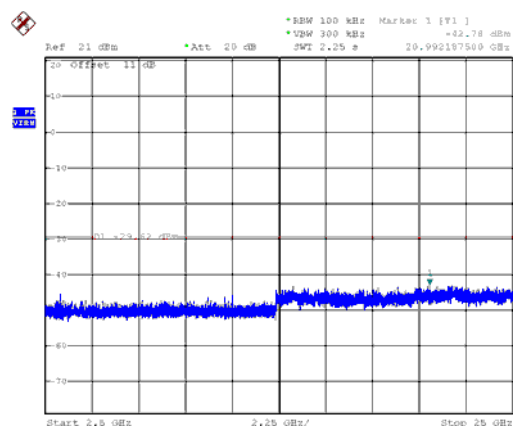
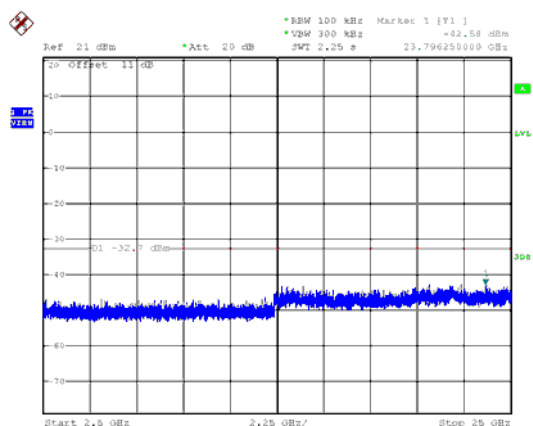
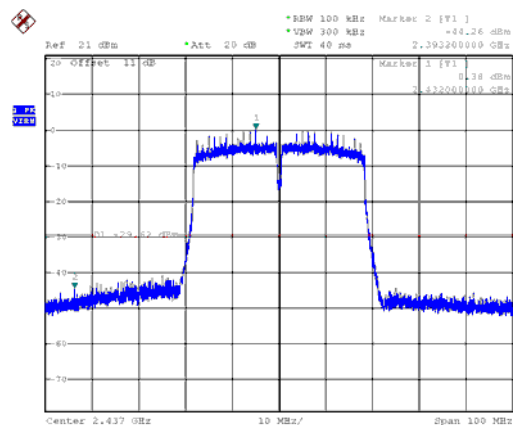
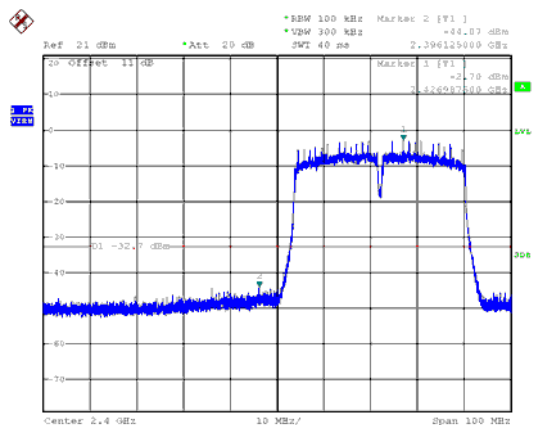
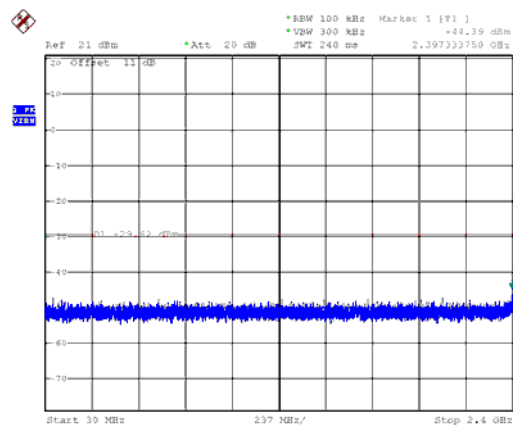


ANT B

Modulation Mode: VHT40, CH03



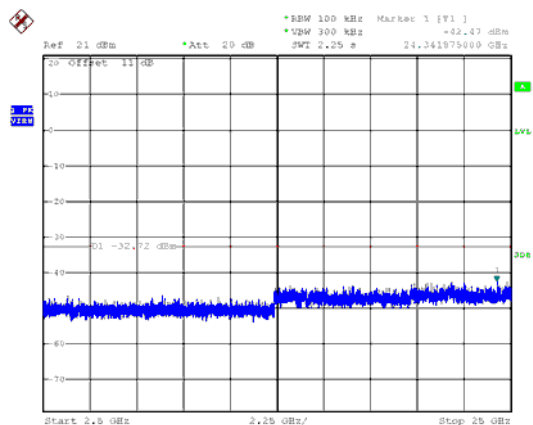
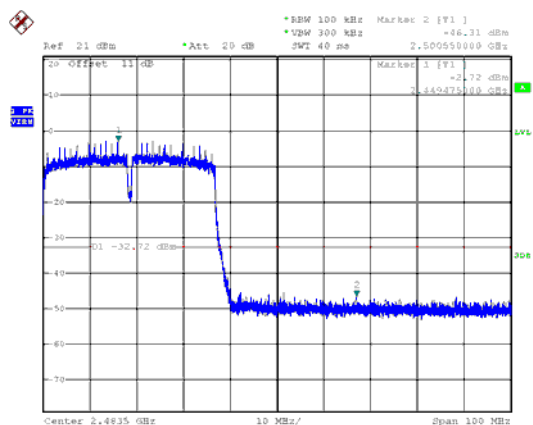
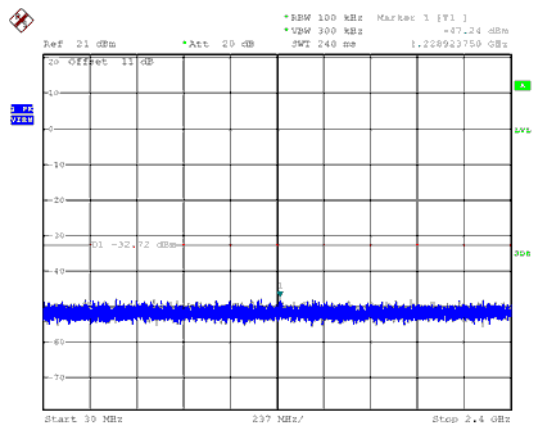
Modulation Mode: VHT40, CH06





ANT B

Modulation Mode: VHT40, CH09





10. 功率密度之規定

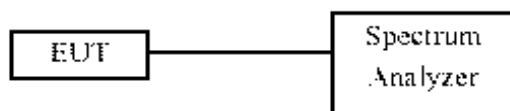
10.1. 適用標準

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: 22°C

Humidity: 64%

Test Date: Jan. 23, 2019

Modulation Mode	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)	1	2412	-8.72	-8.36	-5.53	0.00	-5.53	5.79
	6	2437	-7.14	-7.11	-4.11	0.00	-4.11	5.79
	11	2462	-9.29	-9.26	-6.26	0.00	-6.26	5.79
IEEE 802.11g (6Mbps)	1	2412	-16.66	-17.17	-13.90	0.00	-13.90	5.79
	6	2437	-10.39	-10.68	-7.52	0.00	-7.52	5.79
	11	2462	-18.45	-18.57	-15.50	0.00	-15.50	5.79
VHT20 (6.5Mbps)	1	2412	-17.93	-17.74	-14.82	0.00	-14.82	5.79
	6	2437	-10.03	-10.06	-7.03	0.00	-7.03	5.79
	11	2462	-18.57	-18.56	-15.55	0.00	-15.55	5.79
VHT40 (6.5Mbps)	3	2422	-21.31	-21.1	-18.19	0.00	-18.19	5.79
	6	2437	-17.95	-18.46	-15.19	0.00	-15.19	5.79
	9	2452	-21.43	-21.15	-18.28	0.00	-18.28	5.79

備註：繪圖資料請參考下頁。

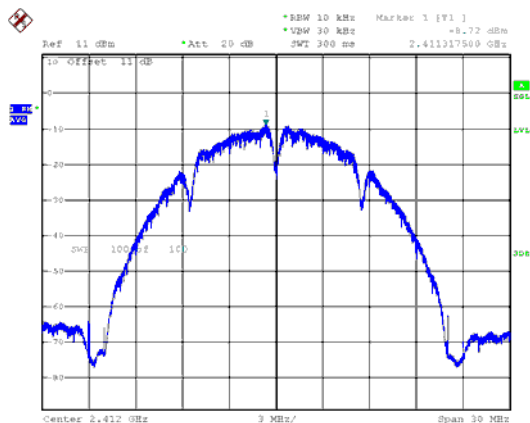


10.5. 結果判定

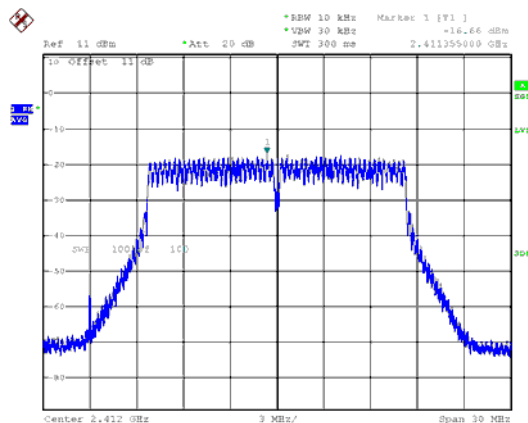
高、中、低頻段的 3 kHz 功率密度皆低於 8 dBm，合乎標準規定。



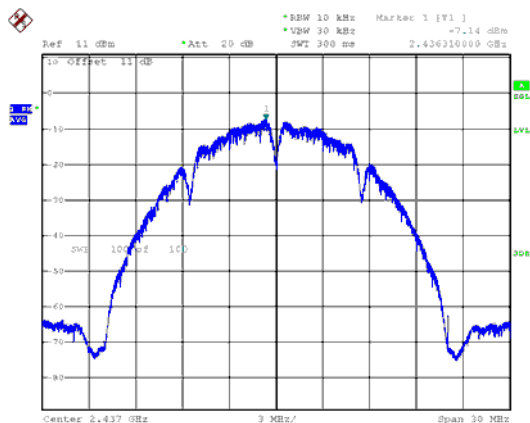
ANT A
Modulation Mode: 802.11b
CH01



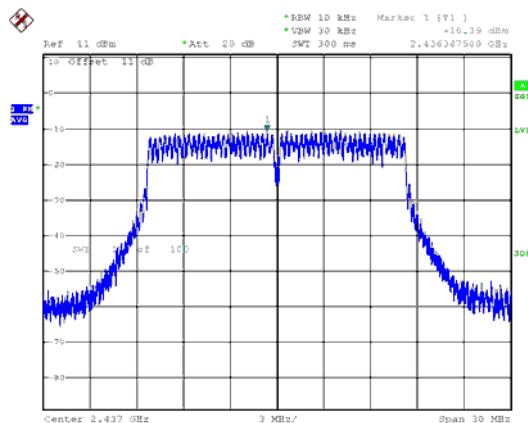
Modulation Mode: 802.11g
CH01



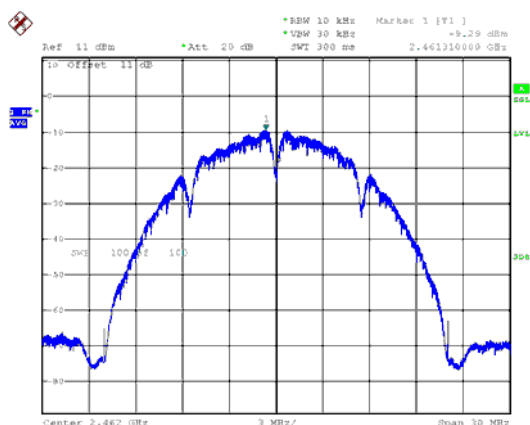
CH06



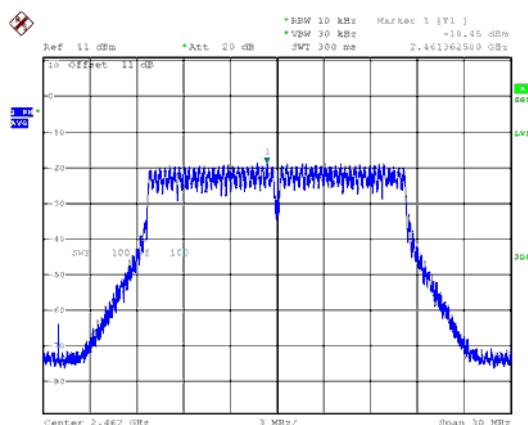
CH06



CH11

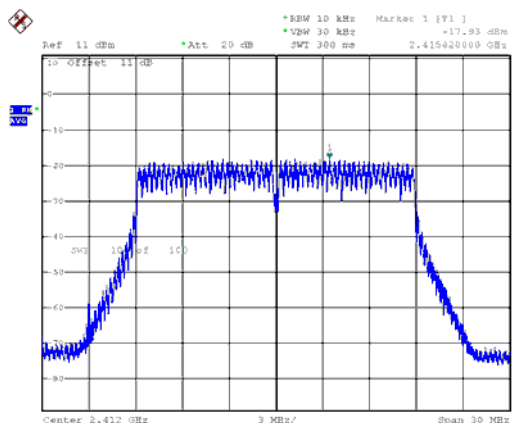


CH11

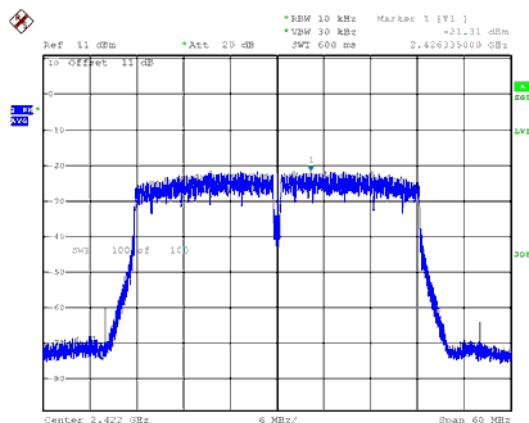




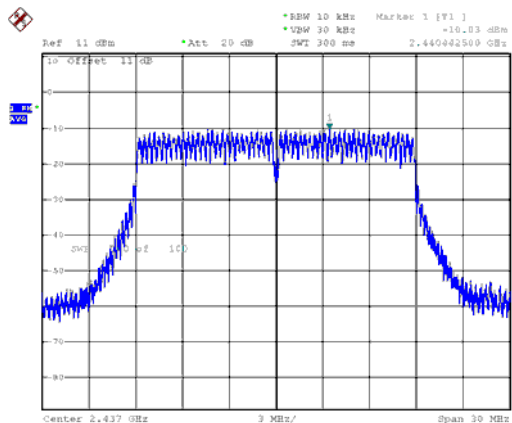
ANT A
Modulation Mode: VHT20
CH01



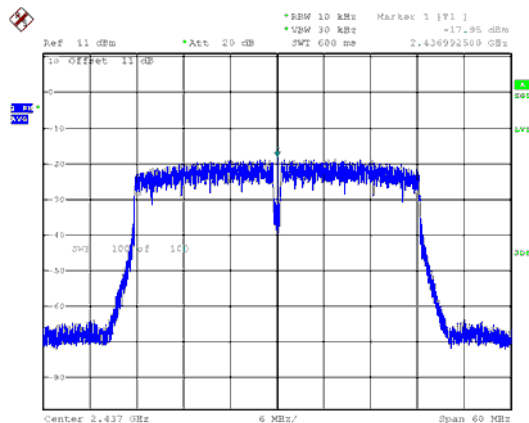
Modulation Mode: VHT40
CH03



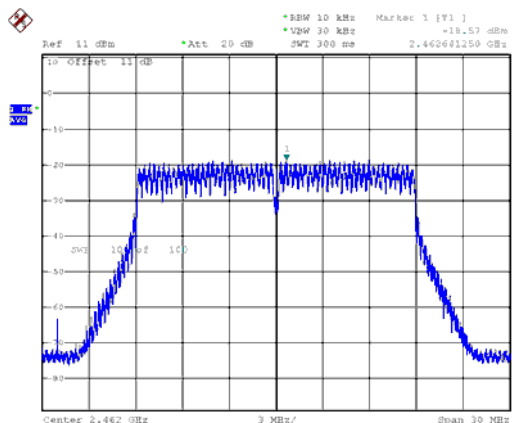
CH06



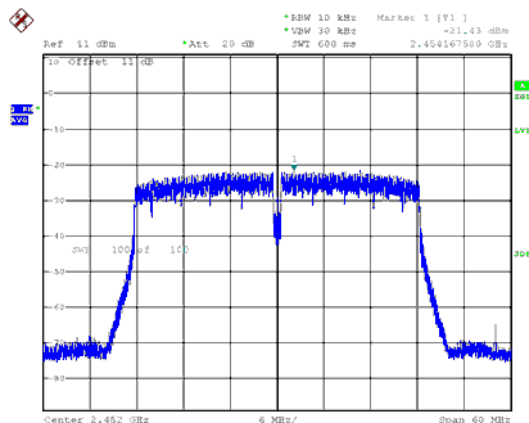
CH06



CH11

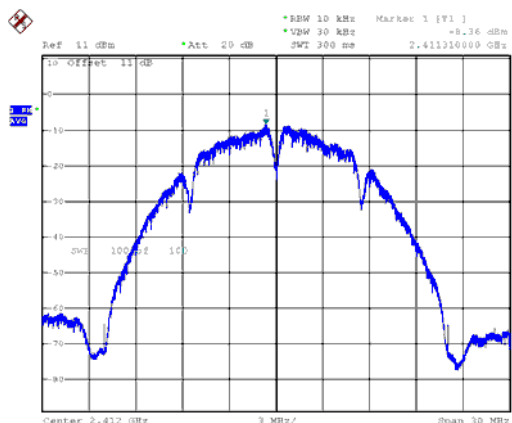


CH09

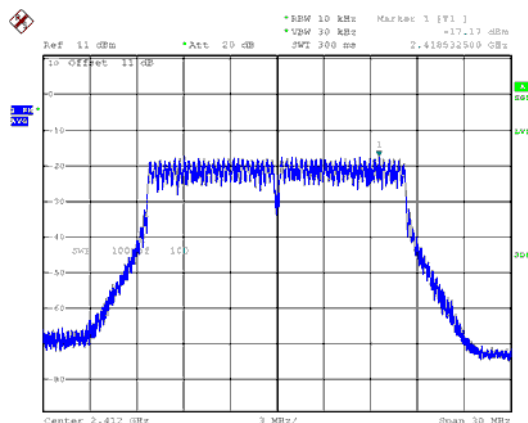




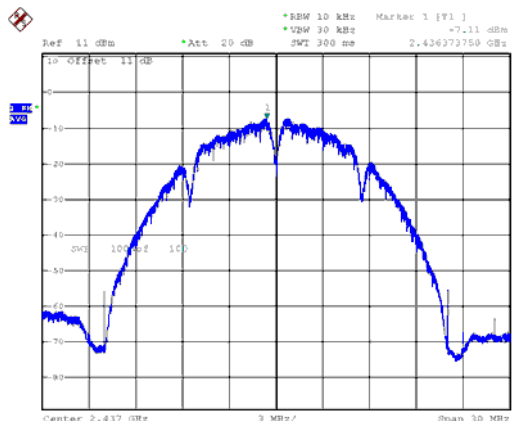
ANT B
Modulation Mode: 802.11b
CH01



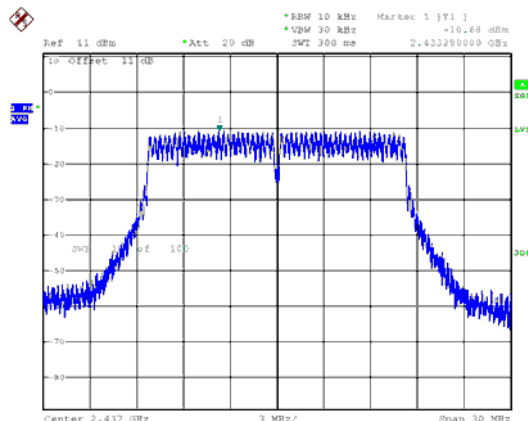
Modulation Mode: 802.11g
CH01



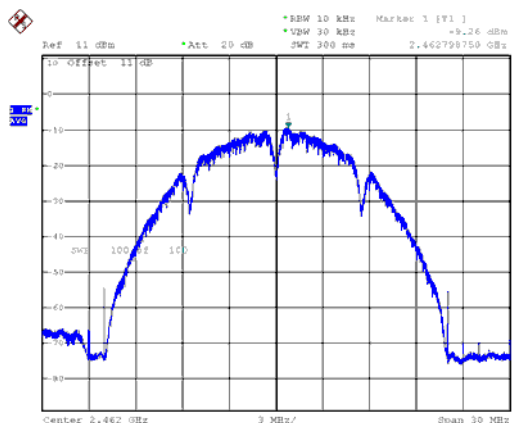
CH06



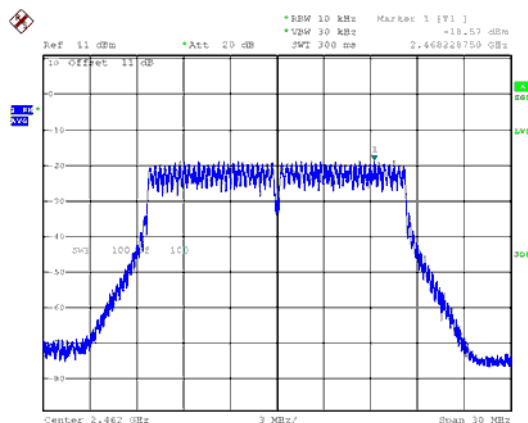
CH06



CH11

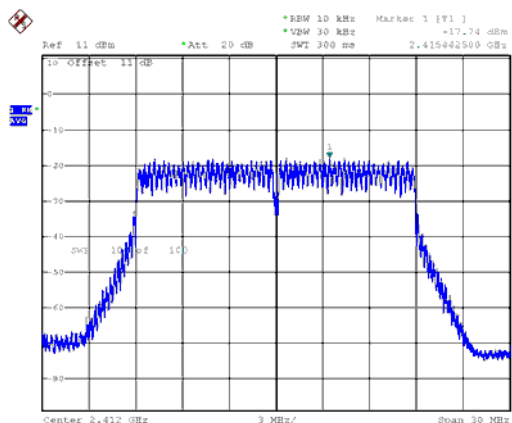


CH11

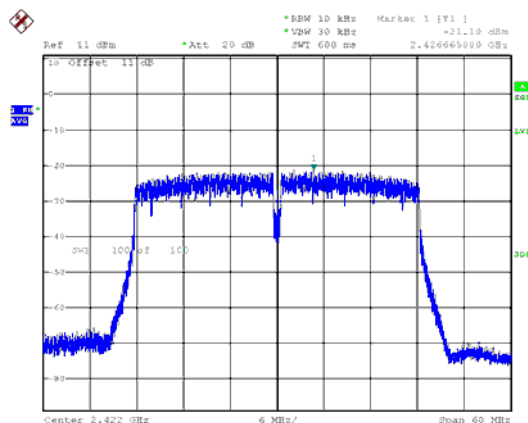




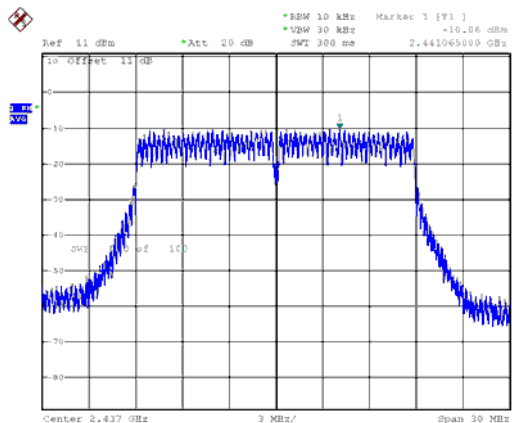
ANT B
Modulation Mode: VHT20
CH01



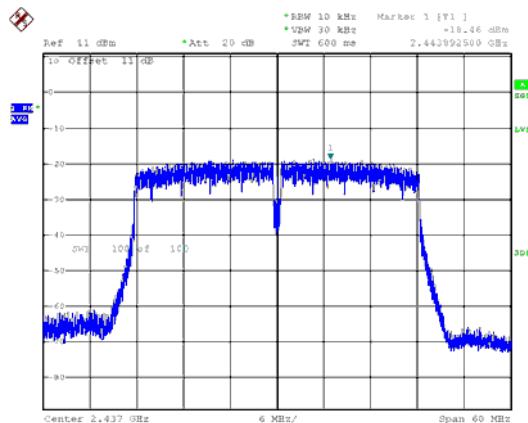
Modulation Mode: VHT40
CH03



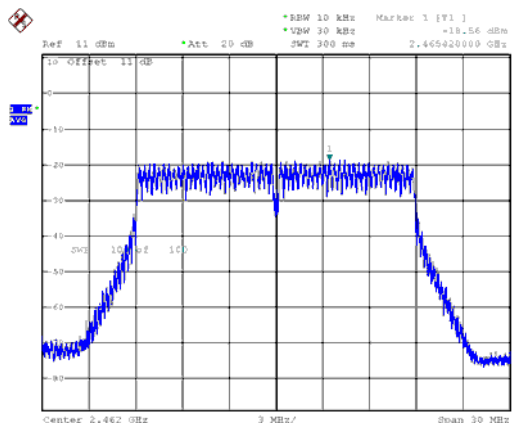
CH06



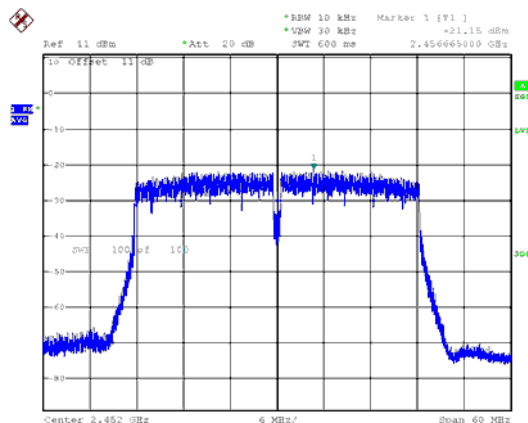
CH06



CH11



CH09





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: 22°C

Humidity: 64%

Test Date: Jan. 23, 2019

Maximum Permissible Exposure (Non-Beamforming)

Channel Frequency (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	22.54	5.2	20	0.118	1

Maximum Permissible Exposure (Beamforming)

Channel Frequency (MHz)	Max. Conducted output power(dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)
2412-2462	19.47	8.21	20	0.117	1

Maximum Permissible Exposure (Co-location)**(Non-Beamforming)**

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
802.11b	2412-2462	22.54	5.2	20	0.118
802.11a	5180-5240	23	6.91	20	0.195
802.11a	5745-5825	22.67	7.08	20	0.188
Co-location Total					0.501
Maximum Permissible Exposure Limit					1

(Beamforming)

Modulation Mode	Channel Frequency (MHz)	Max. Conducted output power (dBm)	Antenna Gain(dBi)	Distance (cm)	Power Density (mW/cm ²)
802.11g	2412-2462	19.47	8.21	20	0.117
802.11a	5180-5240	19.99	9.92	20	0.195
802.11a	5745-5825	19.66	10.09	20	0.188
Co-location Total					0.500
Maximum Permissible Exposure Limit					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	