低功率射頻電機
檢驗報告

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申請者地址	110台北市信義區松高路1號9樓
製造廠商	Sony Interactive Entertainment Inc.
受檢設備名稱	PlayStation®4 Testing Kit (With WLAN, Bluetooth Module)
廠牌	SONY
型號	DUH-T2200AA
檢驗依據標準	國家通訊傳播委員會低功率射頻電機技術規範 (LP0002)
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財團法人台灣電子檢驗中心
33383桃園市龜山區文明路29巷8號
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實驗室認可編號及範圍: 0371 (9 kHz to 325 GHz)
實驗室認可證書有效期限: 107年10月31日

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測試報告記錄

申請廠商 ：台灣索尼互動娛樂股份有限公司

製造廠商 ：Sony Interactive Entertainment Inc.

廠牌 ：SONY

品名 ：PlayStation®4 Testing Kit (With WLAN, Bluetooth Module)

型號 ：DUH-T2200AA

檢驗依據標準 ：國家通訊傳播委員會低功率射頻電機技術規範(LP0002)
規範修訂日期107年01月10日

發射功率(電場強度) ：22.77 dBm (發射功率)

工作頻率及調變方式 ：2412 ~ 2462 MHz / DSSS + OFDM

天線規格 ：廠牌/型號/天線增益:Sony / PWB printed antenna / 4 dBi
廠牌/型號/天線增益:Sony / PWB printed antenna / 4.2dBi

備註：1. 本測試報告僅對受測之樣品負責。
2. 非經本中心同意，測試報告不得摘錄複印使用。（全部複製除外）

項次	測試項目	適用規範	量測設備	測試結果	結果判定
1	電源線傳導干擾之要求	低功率射頻電機技術規範 2.3節	請參閱4.4節	請參閱4.3節	合格
2	天線增益之要求	低功率射頻電機技術規範 3.10.1.3	----	請參閱5.2節	----
3	發射頻寬之要求	低功率射頻電機技術規範 3.10.1.6節之(2)(A)	請參閱6.3節	請參閱6.4節	合格
4	峰值輸出功率之要求	低功率射頻電機技術規範 3.10.1.2節之(1)(C)	請參閱7.3節	請參閱7.4節	合格
5	功率密度之要求	低功率射頻電機技術規範 3.10.1.6節之(2)(B)	請參閱8.3節	請參閱8.4節	合格
6	混附波發射限制之要求	低功率射頻電機技術規範 3.10.1.5	請參閱9.3節	請參閱9.4節	合格
7	場強輻射之要求	低功率射頻電機技術規範 3.10.1.5	請參閱10.3節	請參閱10.5節	合格
	以下空白				

測量實驗室負責人：鄭昇文 107/06/04 直接主管：林志傑 107/06/04 量測員：鄭世勇 107/06/04

1 一般資料

1.1 產品描述

a) 產品型態 : PlayStation®4 Testing Kit (With WLAN, Bluetooth Module)
b) 商　　標 : SONY
c) 產品型號 : DUH-T2200AA
d) 供應電源 : AC 110V

備註：本產品內含WLAN、Bluetooth 及 Bluetooth LE 無線技術，WLAN部份包含DTS與UNII頻帶。本報告僅記錄 DTS 部份，Bluetooth 部份請見ETC報告編號: 18-04-MAS-043-01，Bluetooth LE 部份請見ETC報告編號: 18-04-MAS-043-02，UNII Band 1 (5180 MHz 至 5240 MHz)部份請見ETC報告編號: 18-04-MAS-043-04， UNII Band 2 (5260 至 5320 MHz)部份請見ETC報告編號: 18-04-MAS-043-05，UNII Band 3 (5500至 5700 MHz) 部份請見ETC報告編號: 18-04-MAS-043-06，UNII Band 4 (5725至 5850 MHz) 部份請見ETC報告編號: 18-04-MAS-043-07。

1.2 產品特性

此裝置為 PlayStation®4 Testing Kit (With WLAN, Bluetooth Module)，內含之WLAN其發射頻率落於 2412 至 2462 MHz頻段分為 11 個頻道，採用 IEEE 802.11b/g/n HT20/40 直接序列展頻調變技術，最高資料傳送速度為 300 Mbps，調變方式為 DSSS (IEEE 802.11b)：DBPSK，DQPSK，CCK 以及 OFDM (IEEE 802.11g/n HT20/40)：BPSK，QPSK，16QAM，64QAM，傳輸速度為 DSSS：1，2，5.5，11 Mbps，OFDM (for g)：6，9，12，18，24，36，48，54 Mbps，OFDM (for n HT20)：13，26，39，52，78，104，117，130，144.4 Mbps， OFDM (for n HT40)：27，54，81，108，162，216，243，270，300 Mbps。其應用為區域網路無線傳輸。主波發射功率為 22.77 dBm，即為 189.35 mW，其頻道對應頻率如下：

頻道	對應頻率(MHz)	頻道	對應頻率(MHz)
01	2412	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	11	2462
06	2437		

1.3 測試方法之依據

本測試報告之所有項目皆依據國家通訊傳播委員會低功率射頻電機技術規範以及參考IEEE ANSI、歐盟ETSI EN與美國EIA、FCC 47 CFR PART 2、KDB及ARIB STD-T67 等有關檢驗之規定。

試驗室介紹 ： 財團法人台灣電子檢驗中心電磁相容試驗室通過下列評鑑、認可、登錄與相互認可協議:
① ISO9001: TüV Product Service
② ISO/IEC 17025: BSMI, TAF, NCC, NVLAP, ILAC MRA, UL, Compliance
③ Filing: FCC, Industry Canada, VCCI
④ MRA: Australia, Hong Kong, New Zealand, Singapore, USA, Japan, Korea, China, APLAC through TAF
⑤ FCC Registration Number: TW0371, TW1112
⑥ Industry Canada Site Registration Number: IC 2949A-2

2 適用規範

2.1 規範要求

(1) 傳導之規定

依據國家通訊傳播委員會低功率射頻電機技術規範之2.3節，以市電為電源之低功率射頻電機，其傳導回電源線上頻率自150KHz~30MHz之射頻電壓(在電源端子每一電源線對接地點)應小於或等於下表所列之限制值。測量時應經過50微亨利及50歐姆之電源線阻抗穩定網路(Line Impedance Stabilization Network ; LISN)。頻率重疊處，以較低限制值為準。

頻率範圍 MHz	傳導限制值(dBμV)	
	準峰值(Quasi-peak)	平均值(Average)
0.15 – 0.5	66-56(註)	56-46(註)
0.5 – 5	56	46
5 – 30	60	50

註:隨頻率之對數遞減

(2) 天線增益之要求

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3.10.1.3之規定，若發射天線之方向性增益超過6dBi時，除符合下列情形外，應依其所超過之dB數降低最大傳導輸出功率。

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.3節之(3)規定，除3.10.1.3節之(1)與(2)外，使用超過6dBi方向增益之發射天線時，應依照超過6 dBi天線方向性增益的 dBi總量，等量減少最大傳導輸出功率限制值。

(3) 頻寬之要求

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。

(4) 峰值傳導輸出功率之要求

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節之(1)(C)規定，對使用數位調變技術之低功率發射機，其峰值傳導輸出功率不得大於 1 Watt，且其所使用天線之增益不可大於6 dBi，若使用大於6dBi增益之天線，則其峰值傳導輸出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。

(5) 功率密度之要求

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，在使用頻率範圍之任一3 kHz頻寬內，由發射機傳導至天線之功率頻譜密度在任意傳輸期間內，皆小於或等於8毫分貝(dBm)，且應依3.10.1.3之方式降低功率頻譜密度限制值。

(6) 發射限制之要求

操作頻帶範圍外之任意100 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 kHz內的射頻功率，其衰減值限制如下：

(1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減20 dB，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，至少須衰減30 dB。

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。

(7) 輻射之規定

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之要求，落於2.7節禁用頻段之輻射發射，應符合2.8節之規定：

頻率 MHz	測試距離 m	限制值 μV/m
0.009 - 0.490(含)	300	2400/頻率(kHz)
0.490(不含) - 1.705(含)	30	24000/頻率(kHz)
1.705(不含) - 30(不含)	30	30
30(含) - 88(含)	3	100
88(不含) - 216(含)	3	150
216(不含) - 960(含)	3	200
960(不含)以上	3	500

2.2 限制使用之頻帶

MHz	MHz
0.090 - 0.110	1660.0 – 1770.0
0.490 - 0.510	1805.0 – 1865.0
2.172 - 2.198	1855.0 – 1900.0
3.013 - 3.033	1905.0 – 1985.0
4.115 - 4.198	2015.0 – 2025.0
5.670 - 5.690	2125.0 – 2165.0
6.200 - 6.300	2200.0 – 2300.0
8.230 - 8.400	2310.0 - 2390.0
12.265 - 12.600	2483.5 - 2900.0
13.340 - 13.430	3260.0 – 3267.0
14.965 - 15.020	3332.0 – 3339.0
16.700 - 16.755	3345.8 – 3358.0
19.965 - 20.020	3500.0 - 4400.0
25.500 - 25.700	4500.0 – 5250.0
37.475 - 38.275	5350.0 - 5460.0
73.500 - 75.400	7250.0 - 7750.0
108.00 - 138.00	8025.0 - 8500.0
149.90 - 150.05	9000.0 - 9200.0
156.70 - 156.90	9300.0 - 9500.0
162.01 – 167.17	10600 - 12700
167.72 – 173.20	13250 - 13400
240.00 – 285.00	14470 - 14500
322.00 – 335.40	15350 - 16200
399.90 – 410.00	17700 - 21400
485.00 – 510.00	22010 - 23120
608.00 – 614.00	23600 - 24000
703.00 – 748.00	31200 - 31800
758.00 – 803.00	36430 - 36500
825.00 – 915.00	38600 以上
930.00 – 1240.0	
1300.0 – 1427.0	
1435.0 – 1626.5	

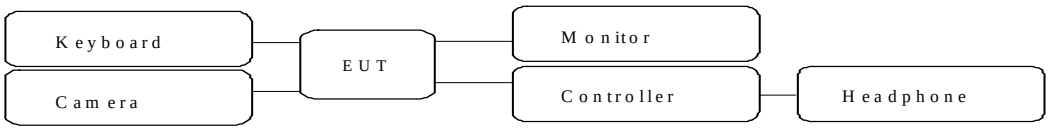
3 受測裝置之系統說明

3.1 受測裝置

裝置名稱	製造者/代理者	型　號	纜線說明
* PlayStation®4 Testing Kit (With WLAN, Bluetooth Module)	Sony Interactive Entertainment Inc.	DUH-T2200AA	----
Monitor	Dell	SE2216H	非隔離電源線 1.8m * 1 隔離信號線 1.8m * 1 (HDMI)
Keyboard	Sony	N/A	隔離信號線 1.8m * 1 (USB)
Controller	Sony	CUH-ZCT26	隔離信號線 1.5m * 1 (USB)
Headphone	Sony	N/A	非隔離信號線 1.2m * 1
Camera	Sony	N/A	隔離信號線 1.8m * 1

註: 1.標記“*”表欲申請之受測物。

2.測試配置：



3. 測試模式:

3.1 IEEE 802.11b,g and IEEE 802.11n HT20 mode:

測試頻道如下:

Channel	Frequency (MHz)
Low = 1	2412
Middle = 6	2437
High = 11	2462

IEEE 802.11b mode: 1 Mbps data rate is the worse case for full testing.

IEEE 802.11g mode: 6 Mbps data rate is the worse case for full testing.

IEEE 802.11n HT20 mode: MCS0 6.5 Mbps data rate is the worse case for full testing.

3.2 IEEE 802.11n HT40 mode:

測試頻道如下:

Channel	Frequency (MHz)
Low = 3	2422
Middle = 6	2437
High = 9	2452

IEEE 802.11n HT40 mode: MCS0 13.5 Mbps data rate is the worse case for full testing.

4. 軟體設定:

Modulation	Test Channel	Power Setting
IEEE 802.11b	L	16
	M	16
	H	16
IEEE 802.11g	L	16
	M	16
	H	16
IEEE 802.11n HT20	L	16
	M	16
	H	16
IEEE 802.11n HT40	L	16
	M	16
	H	16

3.2 測試模式說明

3.2.1 調變方式及模式

Test Mode	Modulation	Note
A	IEEE 802.11b	-
B	IEEE 802.11g	-
C	IEEE 802.11n HT20	-
D	IEEE 802.11n HT40	-

Mode	IEEE 802.11b/g/n HT20	IEEE 802.11n HT40
Test Channel	Frequency (MHz)	Frequency (MHz)
Channel Low (L)	2412	2422
Channel Mid (M)	2437	2437
Channel High (H)	2462	2452

3.2.2 測試項目及模式

Item	測試項目	測試模式(註1)	測試頻道
1	電源線傳導干擾之量測	D (註 2)	M (Worse Case)
2	發射頻寬之量測	A，B，C，D	L，M，H
3	峰值輸出功率之量測	A，B，C，D	L，M，H
4	功率密度之量測	A，B，C，D	L，M，H
5	混附波發射限制之量測	A，B，C，D	L，M，H
6	場強輻射之量測(主諧波)	A，B，C，D	L，M，H
6.1	場強輻射之量測(1GHz以下)	D (註 2)	M (Worse Case)
6.2	場強輻射之量測(1GHz以上)	A，B，C，D	L，M，H

註: 1. 此產品含兩個天線埠，操作在 TEST Mode A 及 B 時，無 MIMO 之功能，故以峰值輸出功率較大者做為 worse case 並作最終測試並記錄；操作在 TEST Mode C 及 D 時，有 MIMO 之功能，故對兩個天線埠分別做測試及加總並記錄之。

2. 各調變預掃時無差異，擇一作最終測試並記錄之。

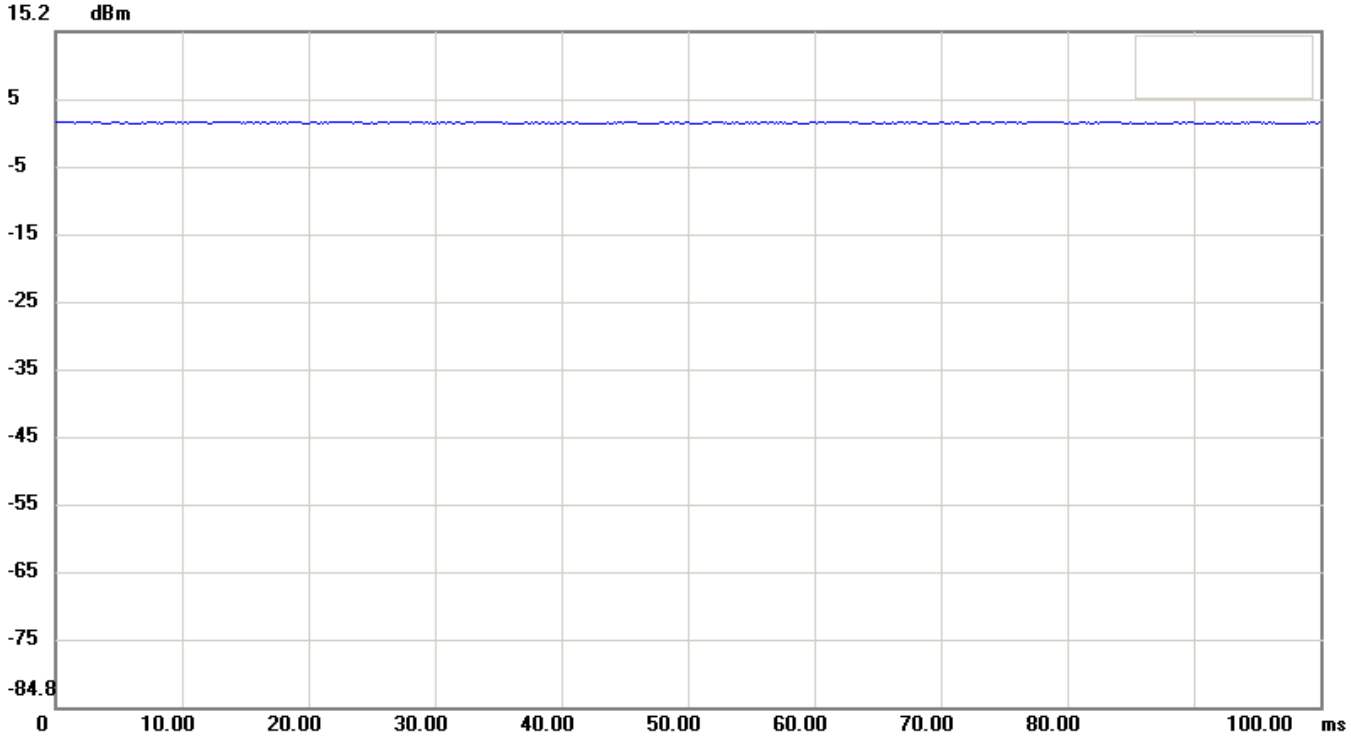
3. 此產品為手持式分別要以兩軸相(X、Z)放置，並分別測試以找出最大輻射電場強度軸相，其中以 X 軸模式較差，並記錄其讀值。

3.2.3 Duty cycle

Modulation	Duty cycle
IEEE 802.11b	>98%

File: **18-04-MAS-043_B_A1** **#15** **Date:** **2018/5/4** **Temperature:** **25 ℃**

Time: **下午 04:16:18** **Humidity:** **60 %**



Condition: **RF Conducted**

EUT: **Sweep Time: 100ms** **Att.: 20dB**

Model: **RBW: 1000 KHz** **VBW: 1000 KHz**

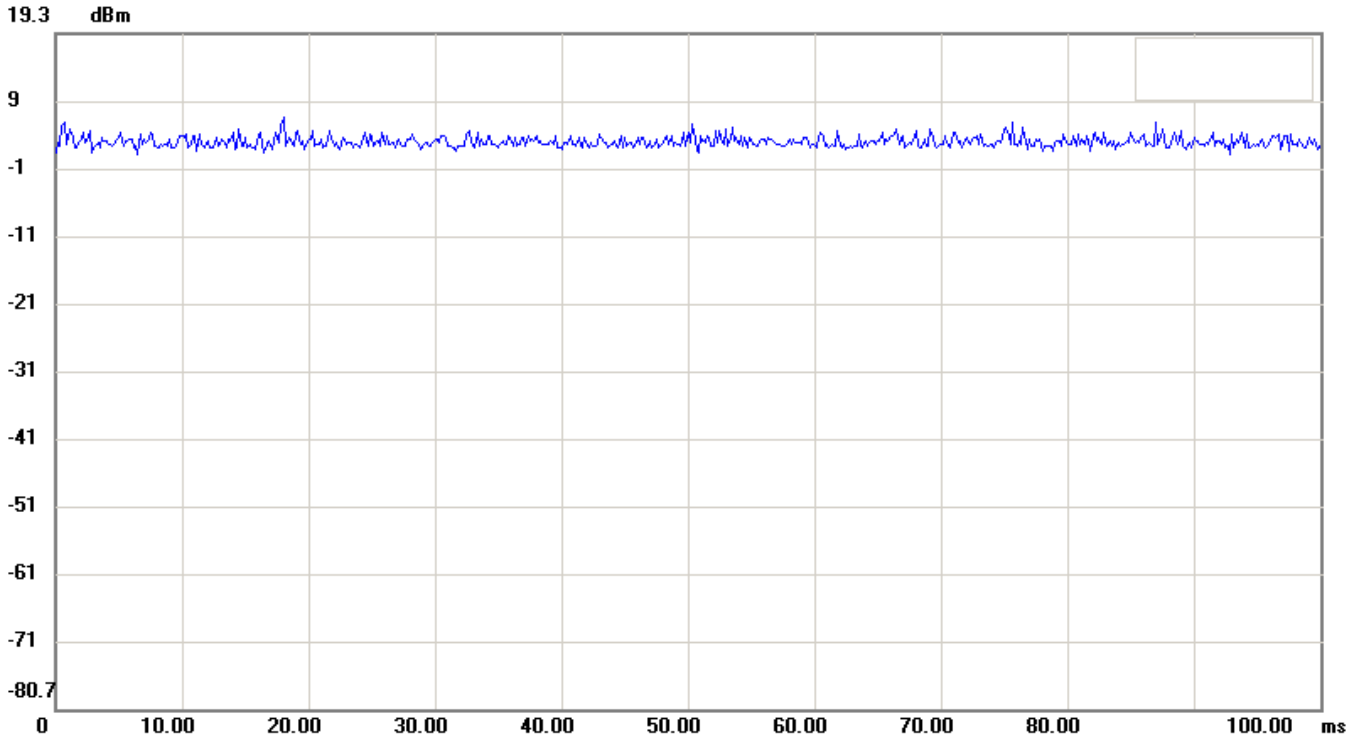
Test Mode:

Note: **NCC-802.11b Duty Cycle-1**

Modulation	Duty cycle
IEEE 802.11g	>98%

File: **18-04-MAS-043_G_A1** **#15** **Date:** **2018/5/7** **Temperature:** **25 ℃**

Time: **上午 10:42:23** **Humidity:** **60 %**



Condition: **RF Conducted**

EUT: **Sweep Time: 100ms** **Att.: 20dB**

Model: **RBW: 1000 KHz** **VBW: 1000 KHz**

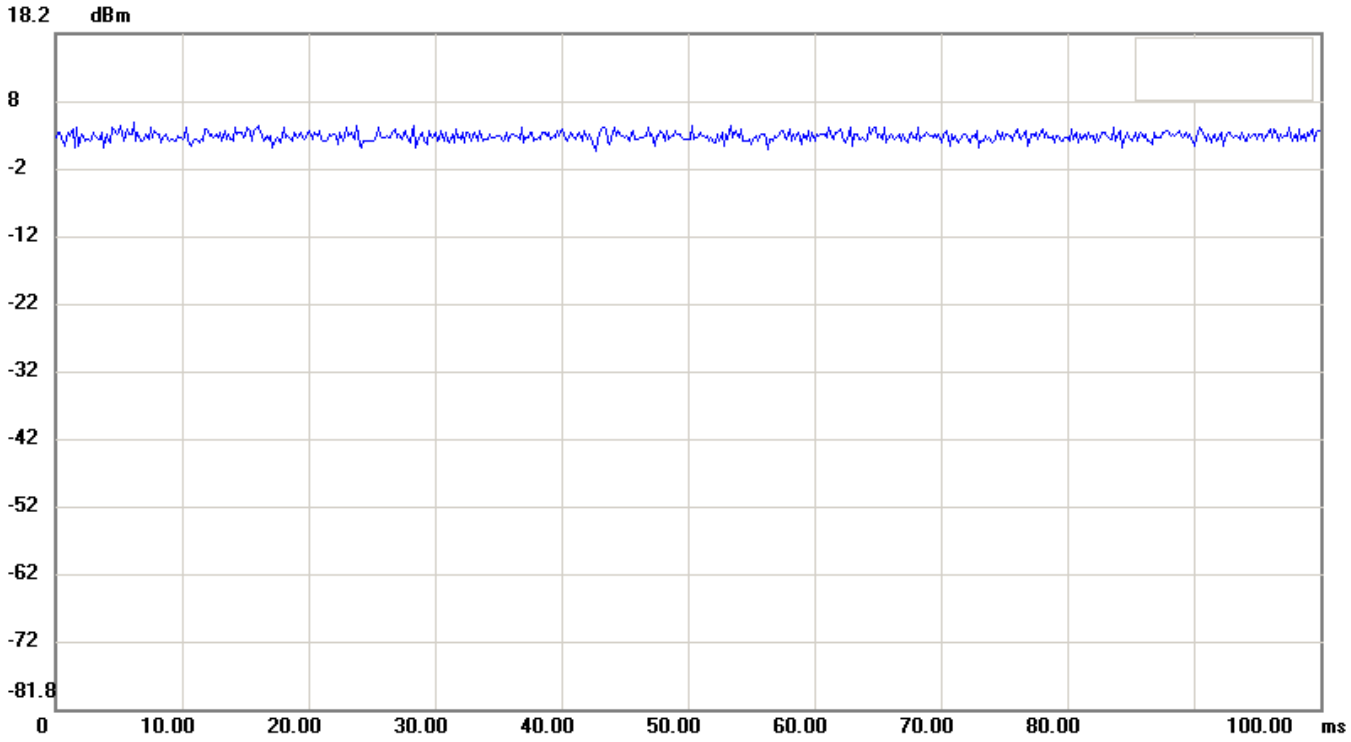
Test Mode:

Note: **NCC-802.11g Duty Cycle-1**

Modulation	Duty cycle
IEEE 802.11n HT20	>98%

File: **18-04-MAS-043_HT20_A1** **#15** **Date:** **2018/5/7** **Temperature:** **25 ℃**

Time: **下午 02:10:20** **Humidity:** **60 %**



Condition: **RF Conducted**

EUT: **Sweep Time: 100ms** **Att.: 20dB**

Model: **RBW: 1000 KHz** **VBW: 1000 KHz**

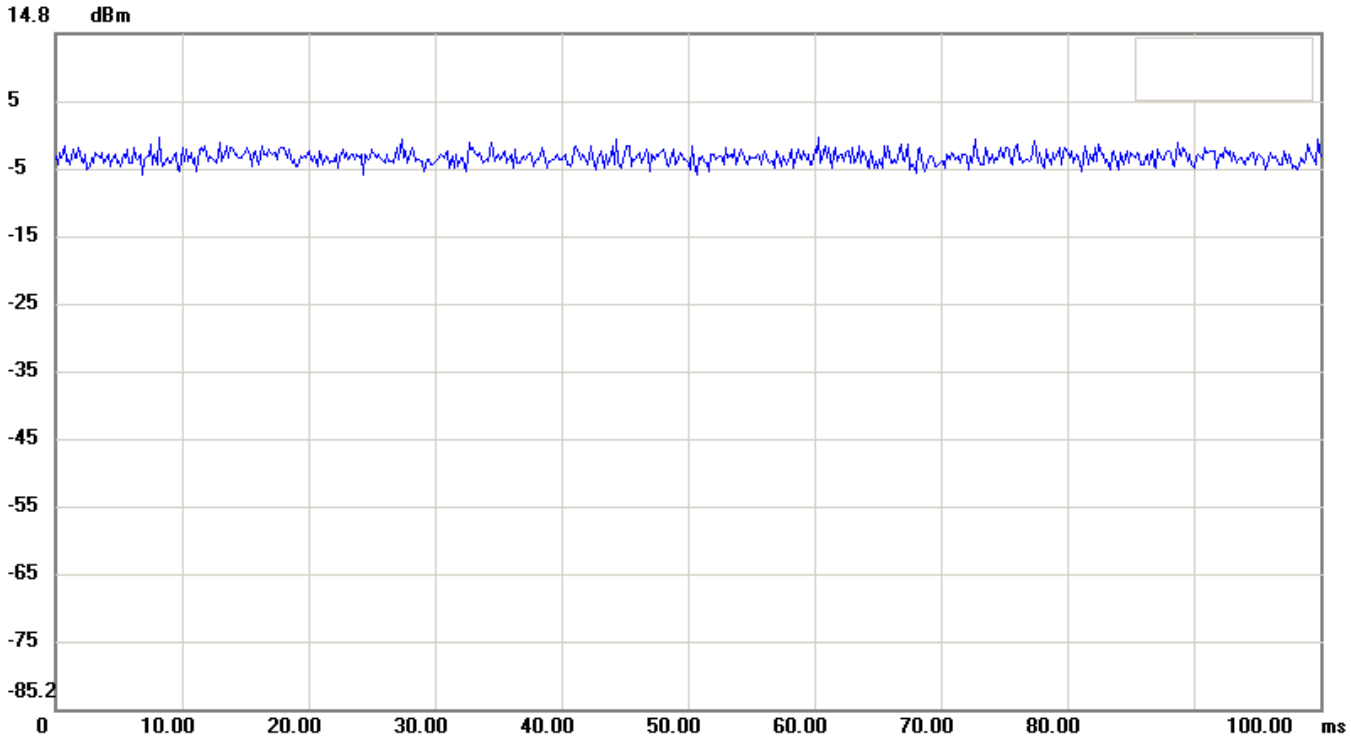
Test Mode:

Note: **NCC-802.11HT20 Duty Cycle-1**

Modulation	Duty cycle
IEEE 802.11n HT40	>98%

File: **18-04-MAS-043_HT40_A2** **#15** **Date:** **2018/5/7** **Temperature:** **25 ℃**

Time: **下午 04:16:07** **Humidity:** **60 %**



Condition: **RF Conducted**

EUT: **Sweep Time: 100ms** **Att.: 20dB**

Model: **RBW: 1000 KHz** **VBW: 1000 KHz**

Test Mode:

Note: **NCC-802.11HT40 Duty Cycle-1**

4 電源線傳導干擾之量測

4.1 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2.3節之要求。

4.2 測試方法

將待測物置於0.8米高的非金屬桌面，使其在工作狀態，待測物電源線接至電源線阻抗穩定網路上，從測試接收機記錄頻率由 0.15MHz 至 30MHz 之間之電源線傳導干擾強度。

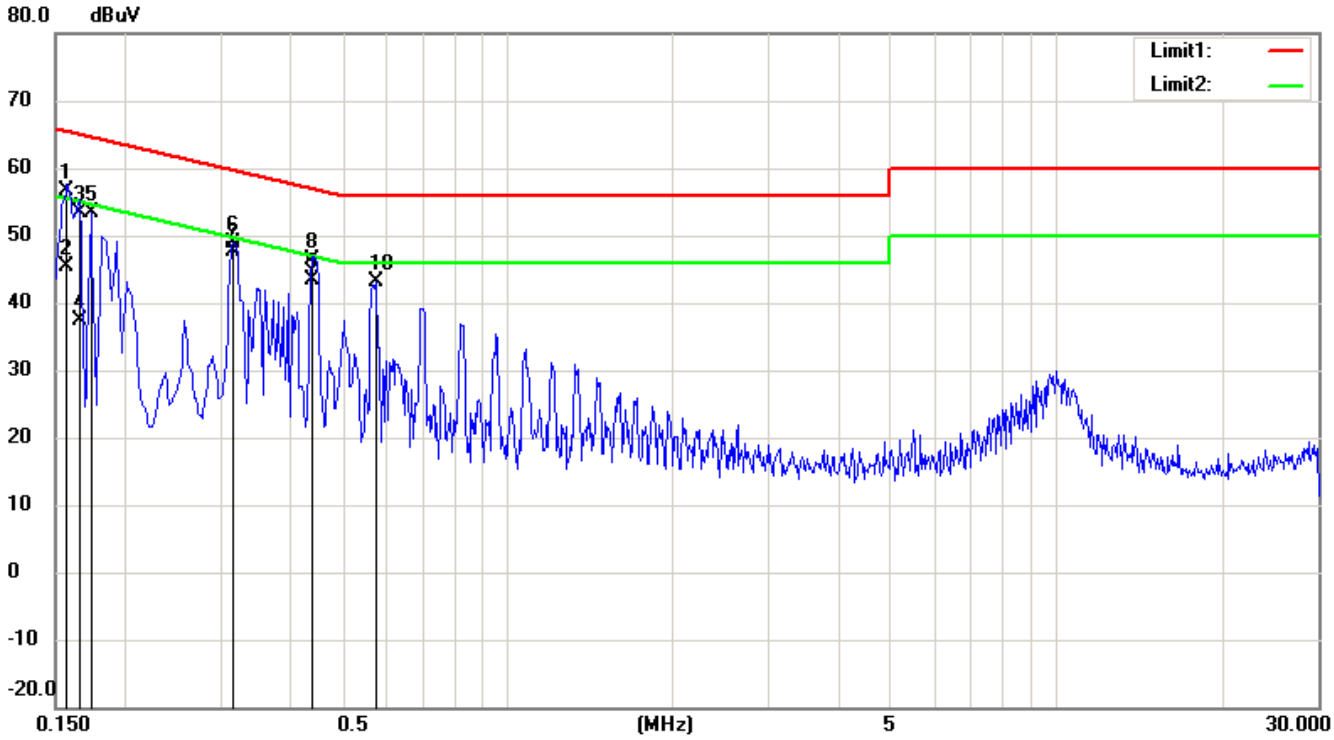
4.3 量測電源線傳導干擾之儀器

儀器名稱	廠　　牌	型　　號
EMI Test Receiver	R&S	ESCI
V-LISN	R&S	ENV216

4.4 傳導干擾之量測結果

測試工程師: 羅世勇

File: 1500003 #5 **Date:** 2018/4/27 **Temperature:** 20 ℃
Time: 下午 08:46:06 **Humidity:** 58 %

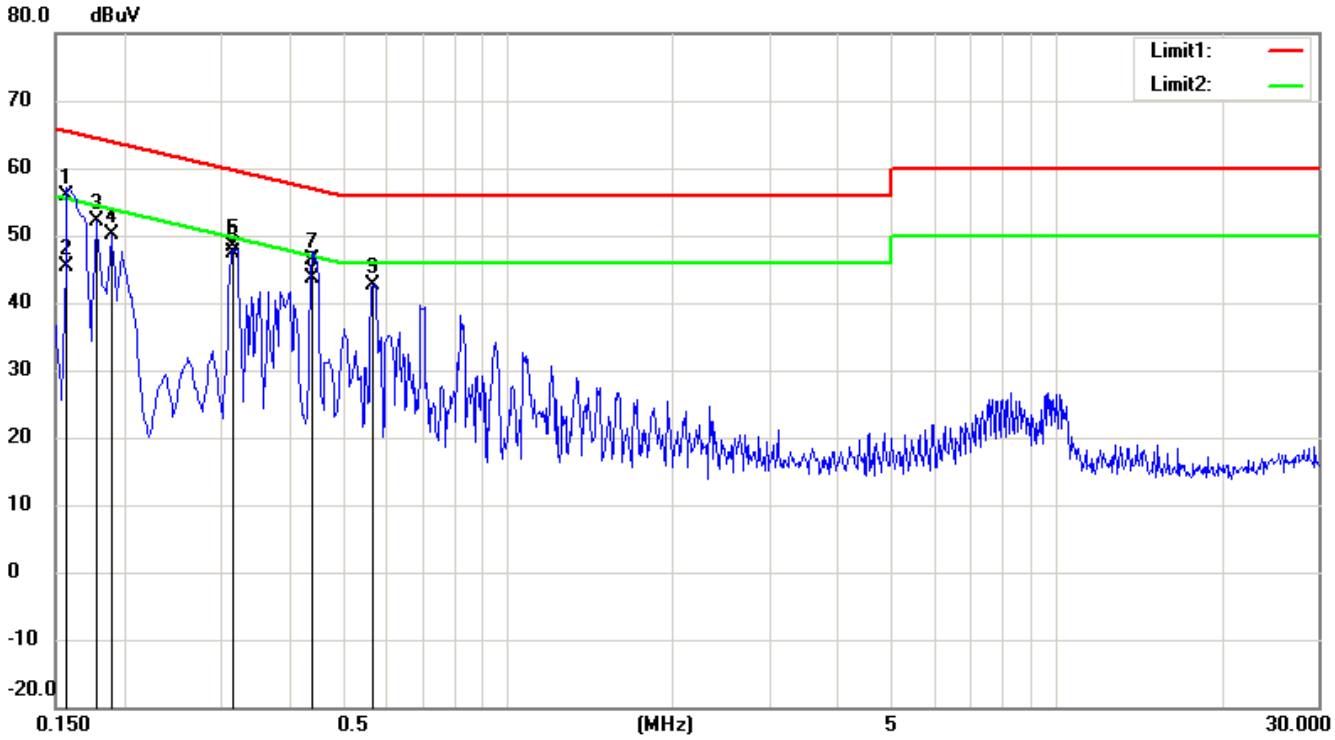


Condition: **Phase:** **L1**
EUT:
Model:
Test Mode: **WIFI**
Note:

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1580	46.86	QP	9.68	56.54	65.57	-9.03
2	0.1580	35.65	AVG	9.68	45.33	55.57	-10.24
3	0.1660	43.69	QP	9.68	53.37	65.16	-11.79
4	0.1660	27.62	AVG	9.68	37.30	55.16	-17.86
5	0.1740	43.67	QP	9.68	53.35	64.77	-11.42
6	0.3180	39.08	QP	9.68	48.76	59.76	-11.00
7	0.3180	37.83	AVG	9.68	47.51	49.76	-2.25
8	0.4420	36.66	QP	9.69	46.35	57.02	-10.67
9	0.4420	33.79	AVG	9.69	43.48	47.02	-3.54
10	0.5780	33.34	QP	9.69	43.03	56.00	-12.97

註： 1. “----“表示量測準峰值的結果符合平均值的限制值，則視為同時符合準峰值與平均值的限制值，不需再對其平均值進行量測。
2. “#“表示干擾值太小，直接量取其峰值。
3. 標記“***”表示為本地震盪頻率及其諧波。
4. 量測不準確度: ±2.5dB(150kHz≦f≦30MHz)。

File: 1500003 **#6** **Date:** 2018/4/27 **Temperature:** 20 ℃
Time: 下午 08:47:39 **Humidity:** 58 %



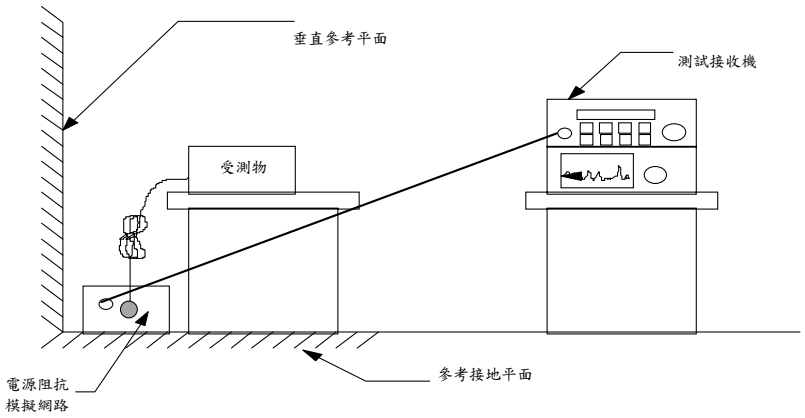
Condition: **Phase:** N
EUT:
Model:
Test Mode: WIFI
Note:

No.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected Factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)
1	0.1580	46.19	QP	9.68	55.87	65.57	-9.70
2	0.1580	35.82	AVG	9.68	45.50	55.57	-10.07
3	0.1780	42.35	QP	9.68	52.03	64.58	-12.55
4	0.1900	40.34	QP	9.68	50.02	64.04	-14.02
5	0.3180	38.75	QP	9.68	48.43	59.76	-11.33
6	0.3180	37.73	AVG	9.68	47.41	49.76	-2.35
7	0.4420	36.65	QP	9.69	46.34	57.02	-10.68
8	0.4420	33.85	AVG	9.69	43.54	47.02	-3.48
9	0.5700	33.03	QP	9.69	42.72	56.00	-13.28

註： 1. “----“表示量測準峰值的結果符合平均值的限制值，則視為同時符合準峰值與平均值的限制值，不需再對其平均值進行量測。
2. “#“表示干擾值太小，直接量取其峰值。
3. 標記“***”表示為本地震盪頻率及其諧波。
4. 量測不準確度: ±2.5dB(150kHz≦f≦30MHz)。

4.5 電源線傳導干擾之測試配置

圖 1



4.6 傳導量測之配置照片

請參考產品照片

5 天線增益之要求

5.1 適用標準

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3.10.1.3之規定，若發射天線之方向性增益超過6dBi時，除符合下列情形外，應依其所超過之dB數降低最大傳導輸出功率。

依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.3節之(3)規定，除3.10.1.3節之(1)與(2)外，使用超過6dBi方向增益之發射天線時，應依照超過6 dBi天線方向性增益的 dBi總量，等量減少最大傳導輸出功率限制值。

5.2 天線增益

此裝置使用外接式天線，其天線資料如下:\

Antenna 0:

廠牌: Sony 型號: PWB printed antenna

Antenna Type	IFA
Operation Frequency Range	2400~2500 MHz
Antenna Gain	4 dBi

Antenna 1:

廠牌: Sony 型號: PWB printed antenna

Antenna Type	IFA
Operation Frequency Range	2400~2500 MHz
Antenna Gain	4.2 dBi

(參照天線規格資料)

5.3 結果判定

單一天線之方向性增益皆低於6dBi，無需減少最大傳導輸出功率限制值。
操作在MIMO模式下，CHAIN 0 + CHAIN 1之天線增益為 7.11 dBi ，高於6dBi 需減少最大傳導輸出功率限制值。

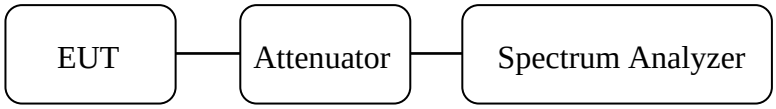
6 發射頻寬之要求

6.1 適用標準

對使用直接序列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) 之規定，6dB頻寬至少應有500 kHz。

6.2 測試配置

圖 2 : 發射頻寬之測試配置



6.3 發射頻寬之量測儀器

儀器名稱	製造者	型　　號
Spectrum Analyzer	Agilent	E4446A
Attenuator	WEINSCHEL	56-10

6.4 量測結果

測試工程師: 羅世勇

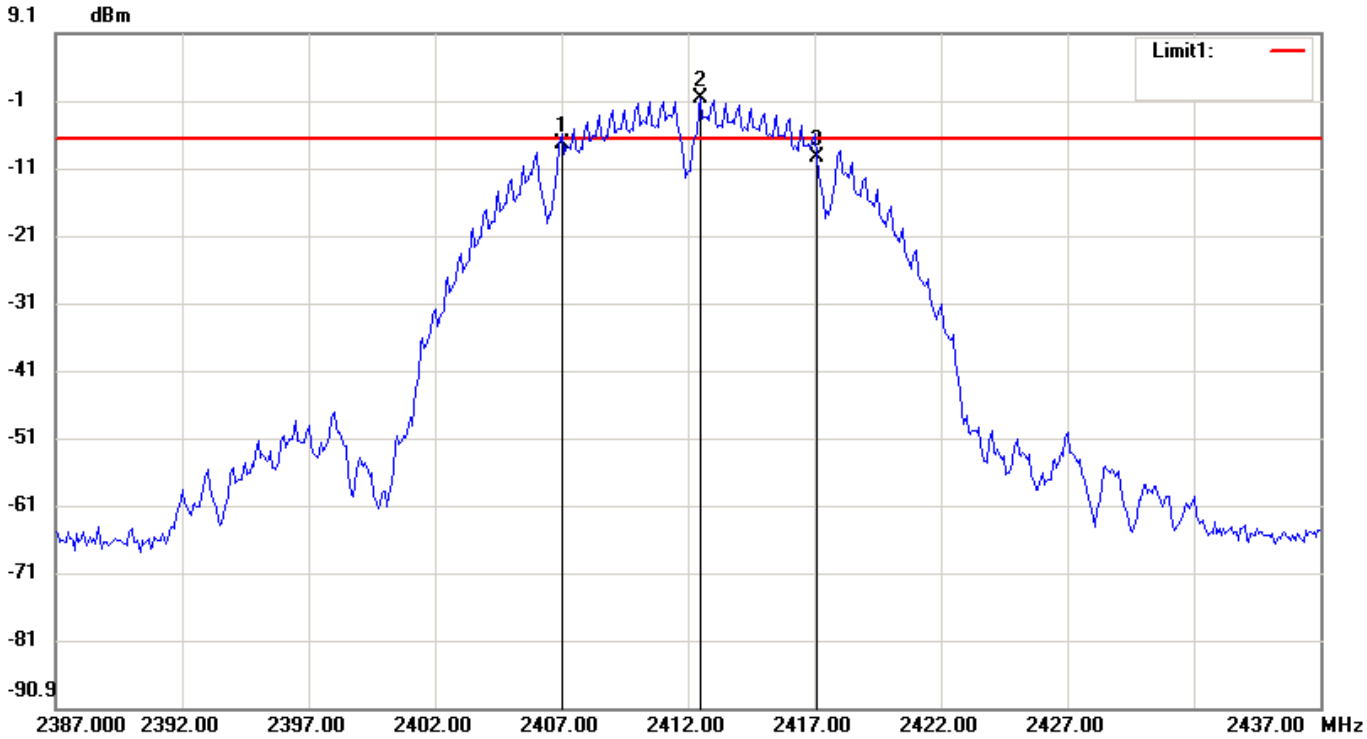
6.4.1 調變技術: IEEE 802.11b

測試日期: May 04, 2018 環境溫度 ：25℃ 環境濕度: 60%

Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	10.1666	500	Page 23
M	10.1666	500	Page 24
H	10.1666	500	Page 25

註：1. 繪圖資料請參考第 23-25 頁。
2. 量測不準確度8.25×10^{-7}(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_B_A1**	**Data**	**#1**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:24:43**	**Humidity:**	**60 %**



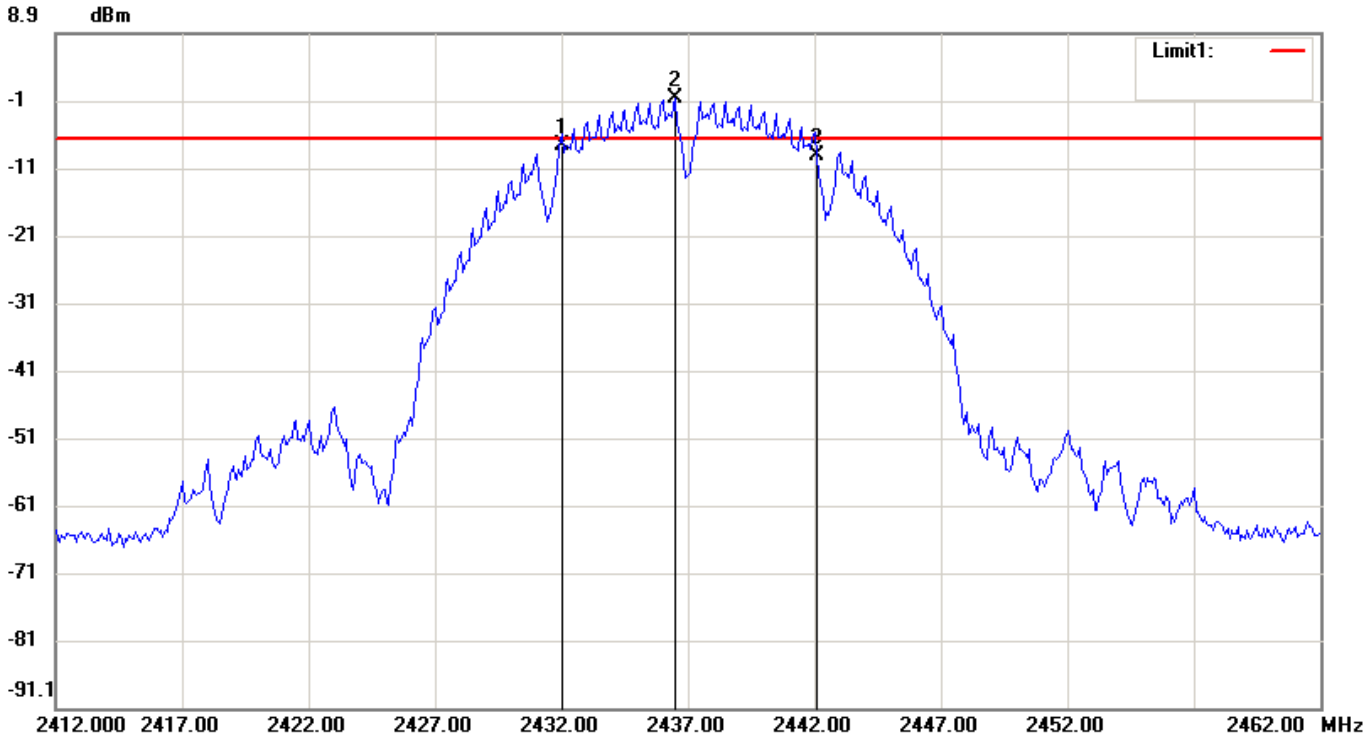
Condition: **-6.49dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11b Channel 01-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2406.91670	-7.31
2	2412.50000	-0.49
3	2417.08330	-9.32

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	10.1666	-2.01

File:	**18-04-MAS-043_B_A1**	**Data**	**#6**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:49:46**	**Humidity:**	**60 %**



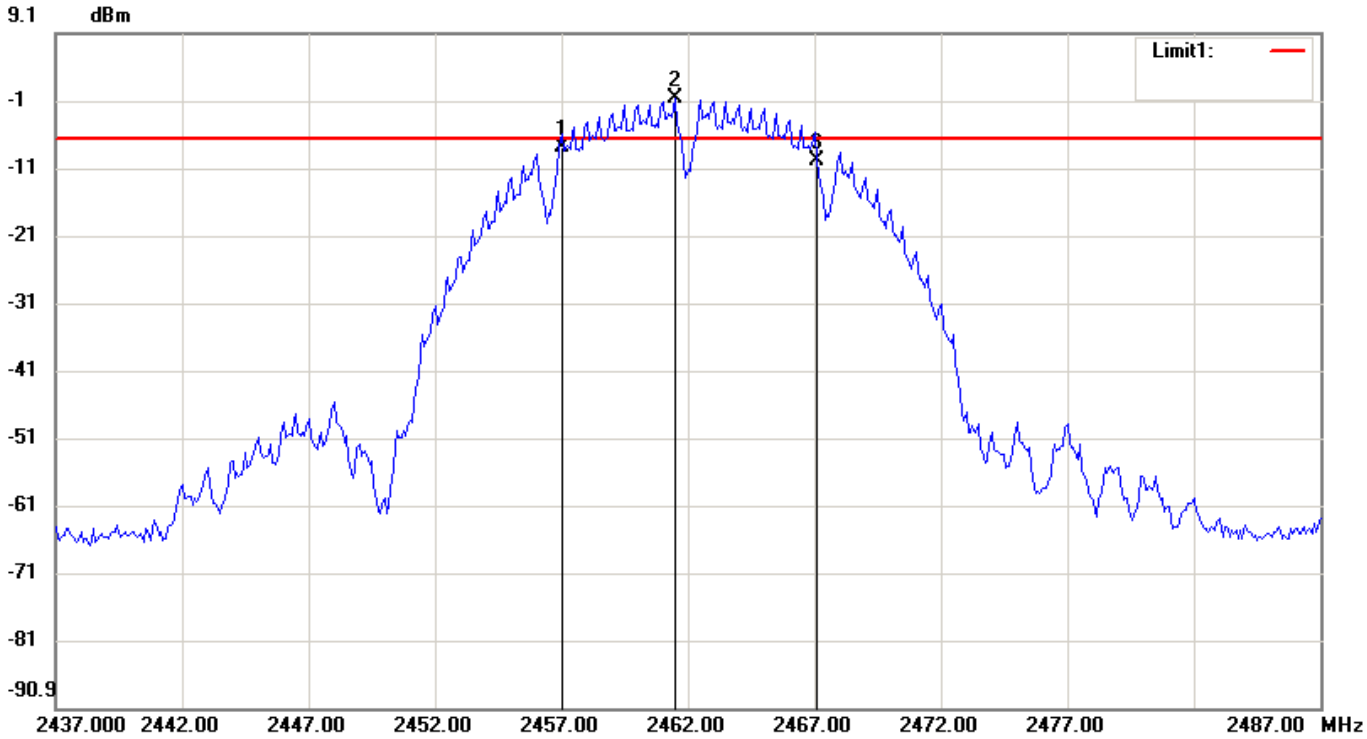
Condition: **-6.76dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11b Channel 06-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2431.91670	-7.78
2	2436.50000	-0.76
3	2442.08330	-9.31

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	10.1666	-1.53

File:	**18-04-MAS-043_B_A1**	**Data**	**#10**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 04:09:01**	**Humidity:**	**60 %**



Condition: **-6.52dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11b channel 11-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2456.91670	-7.67
2	2461.50000	-0.52
3	2467.08330	-9.78

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	10.1666	-2.11

6.4.2 調變技術: IEEE 802.11g

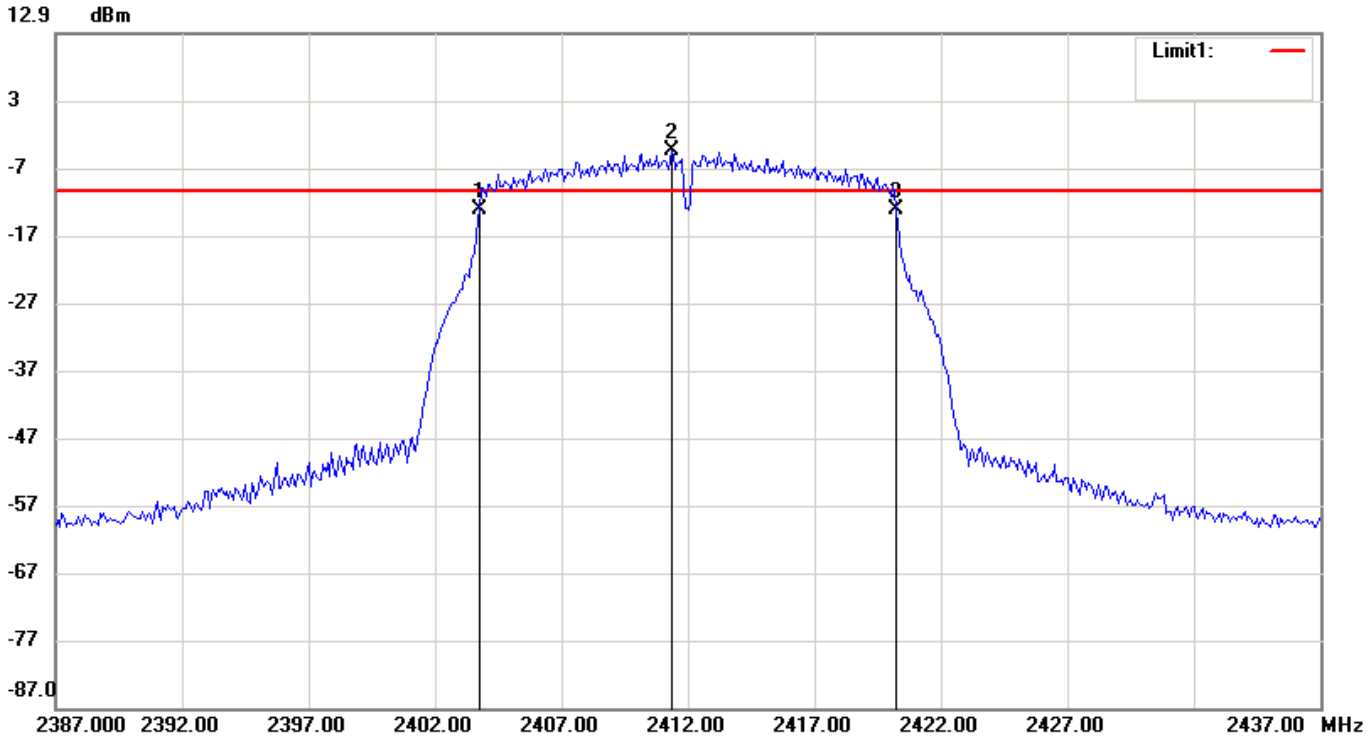
測試日期: May 04, 2018 環境溫度 : 25℃ 環境濕度: 60%

Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	16.5	500	Page 27
M	16.5	500	Page 28
H	16.4167	500	Page 29

註：1. 繪圖資料請參考第 27-29 頁。

2. 量測不準確度 8.25×10^{-7} (1GHz≦f≦18GHz)

File:	**18-04-MAS-043_G_A1**	**Data #1**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 10:01:25**	**Humidity:**	**60 %**



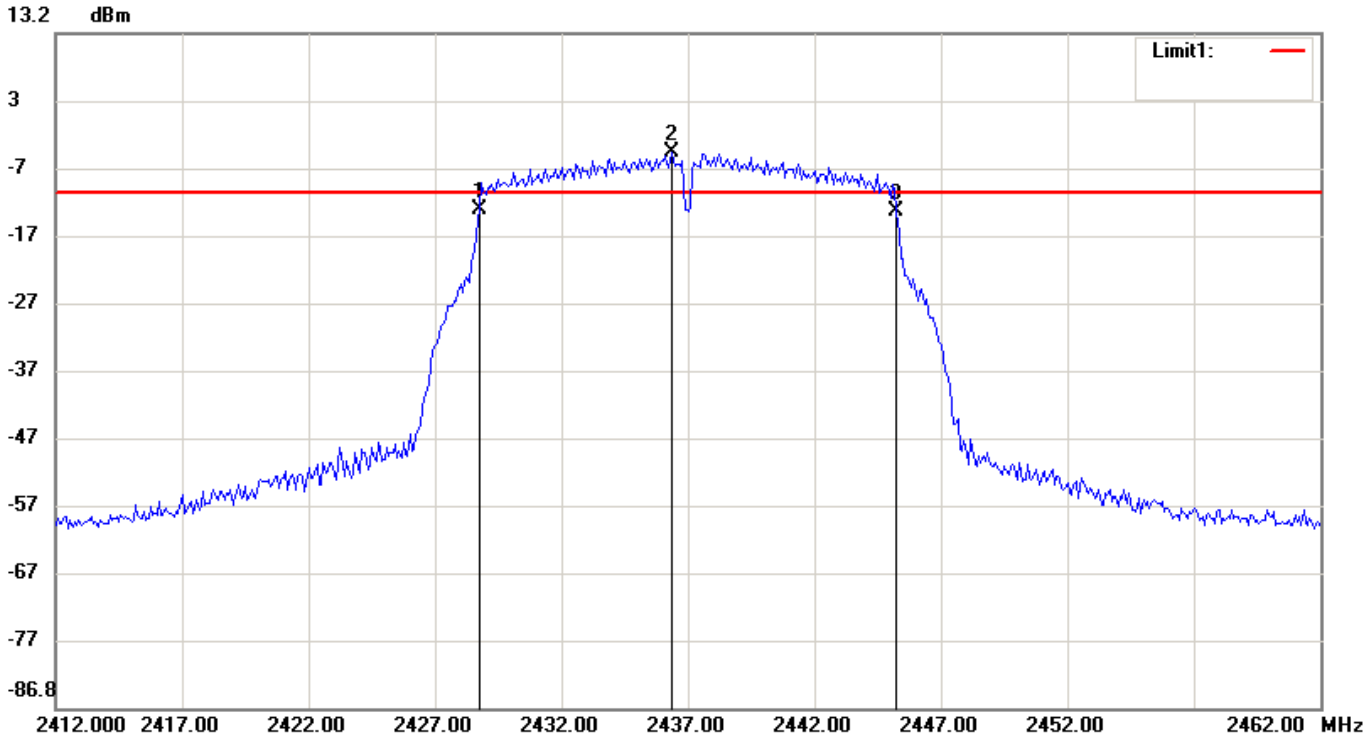
Condition: **-10.46dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 01-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 20dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2403.75000	-13.11
2	2411.33330	-4.46
3	2420.25000	-13.12

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	16.5	-0.01

File:	**18-04-MAS-043_G_A1**	**Data #6**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 10:20:09**	**Humidity:**	**60 %**



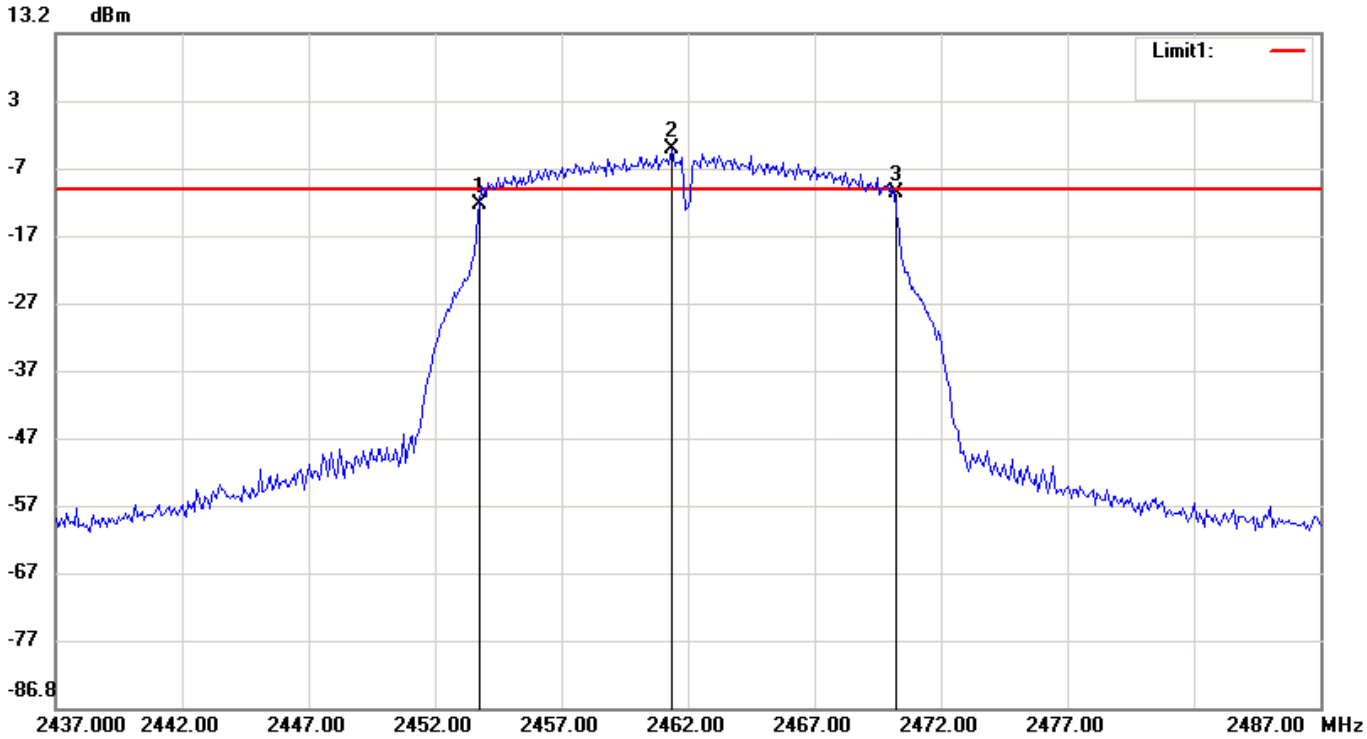
Condition: **-10.57dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 06-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 20dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2428.75000	-12.88
2	2436.33330	-4.57
3	2445.25000	-13.21

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	16.5	-0.33

File:	**18-04-MAS-043_G_A1**	**Data**	**#10**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:35:05**	**Humidity:**	**60 %**



Condition: **-10.04dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 11-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 20dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2453.75000	-12.12
2	2461.33330	-4.04
3	2470.16670	-10.50

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	16.4167	1.62

6.4.3 調變技術: IEEE 802.11n HT20

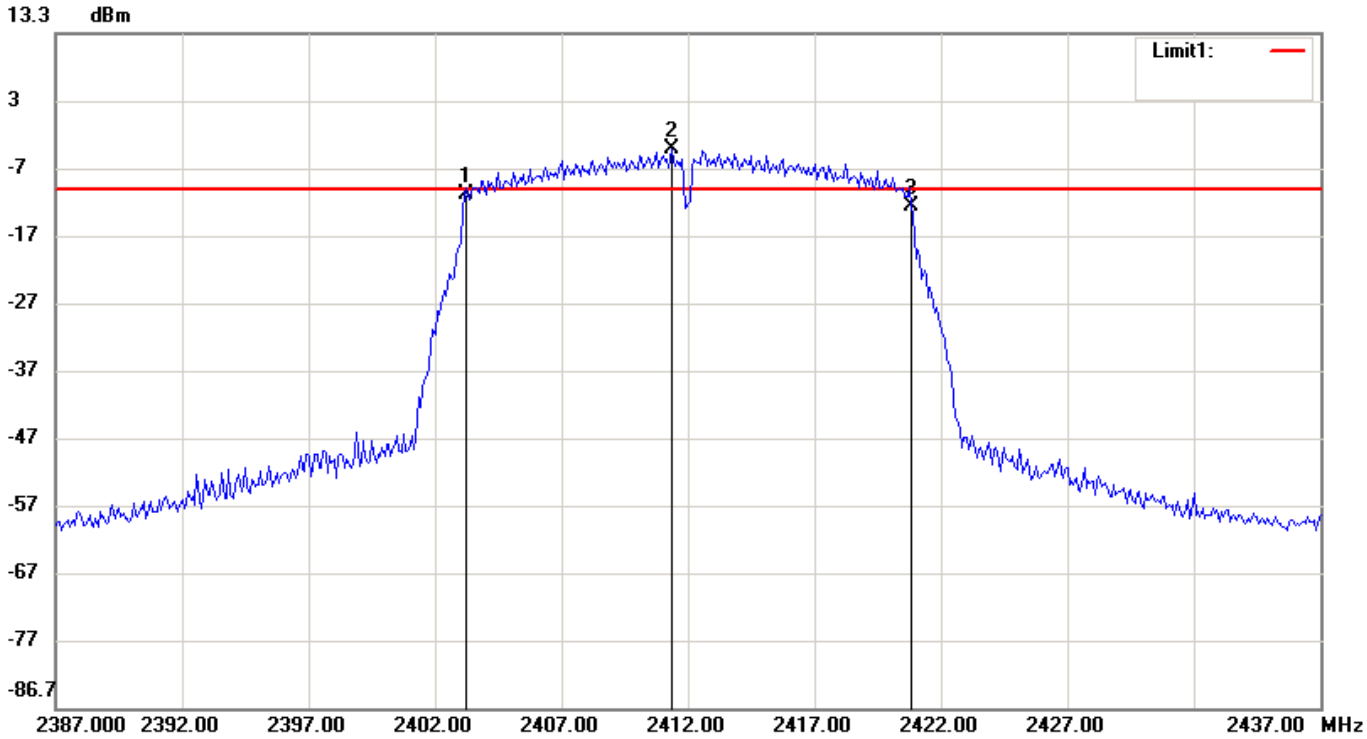
6.4.3.1 CHAIN 0

測試日期: May 04, 2018 環境溫度 : 25℃ 環境濕度: 60%

Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	17.6666	500	Page 31
M	17.6666	500	Page 32
H	17.6666	500	Page 33

註：1. 繪圖資料請參考第 31-33 頁。
2. 量測不準確度 8.25×10^{-7} (1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#1**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:13:42**	**Humidity:**	**60 %**

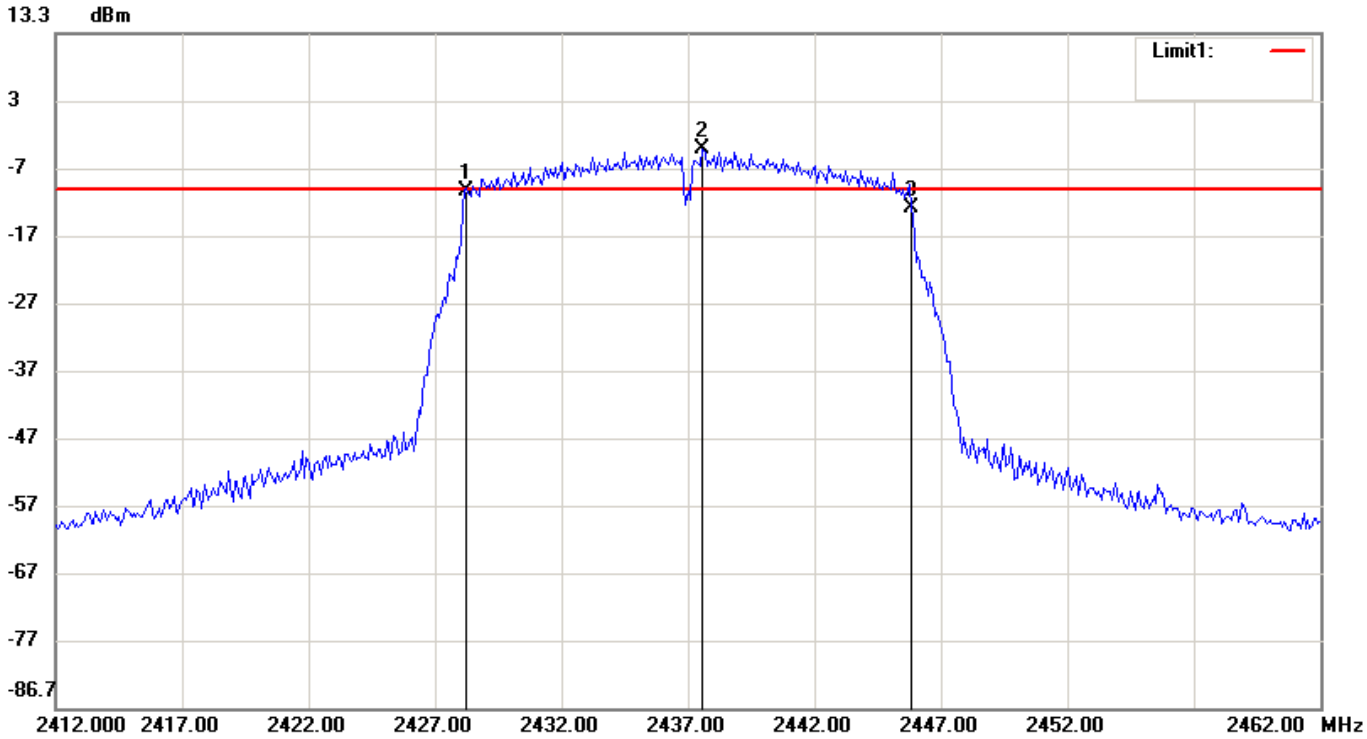


Condition: **-9.87dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 20dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2403.16670	-10.49
2	2411.33330	-3.87
3	2420.83330	-12.31

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-1.82

File:	**18-04-MAS-043_HT20_A1**	**Data #6**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**下午 01:27:54**	**Humidity:**	**60 %**

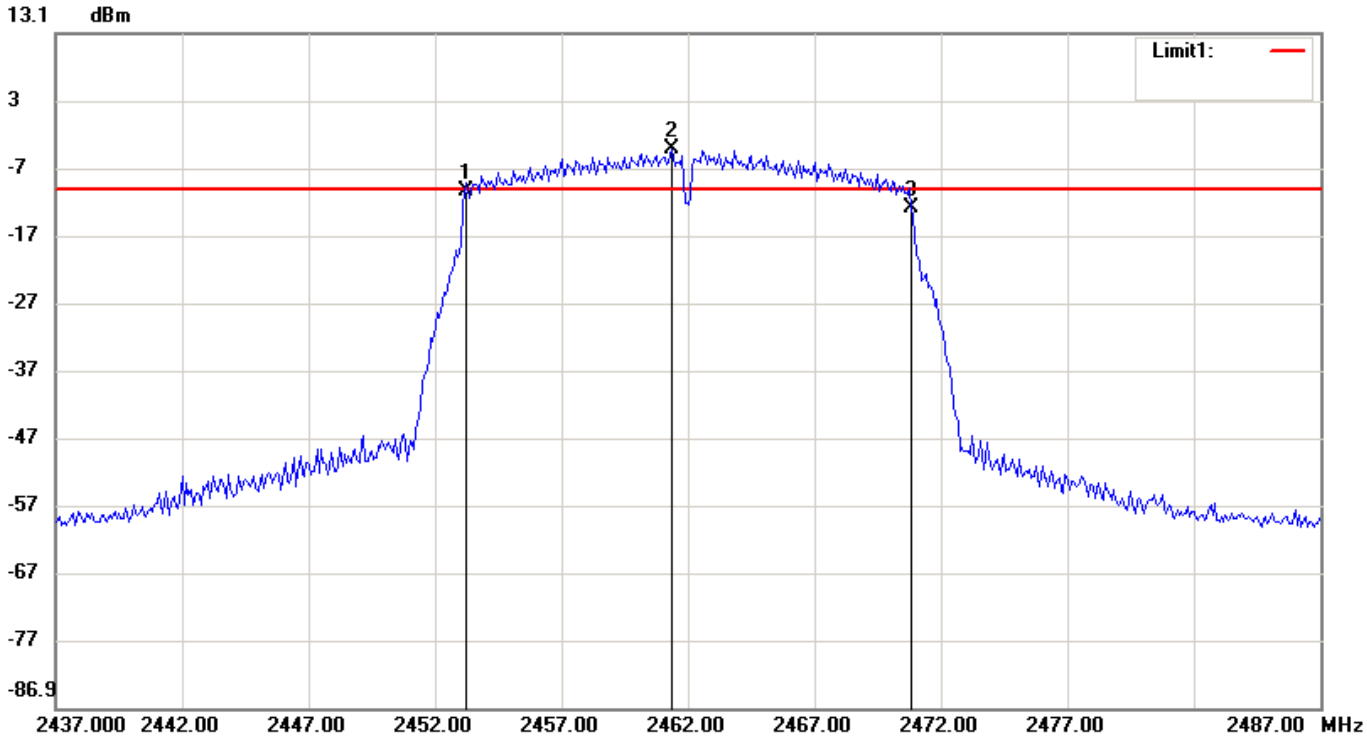


Condition: **-9.76dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 20dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2428.16670	-9.99
2	2437.58330	-3.76
3	2445.83330	-12.48

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-2.49

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#10**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:03:03**	**Humidity:**	**60 %**



Condition: **-10.14dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 20dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2453.16670	-10.35
2	2461.33330	-4.14
3	2470.83330	-12.70

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-2.35

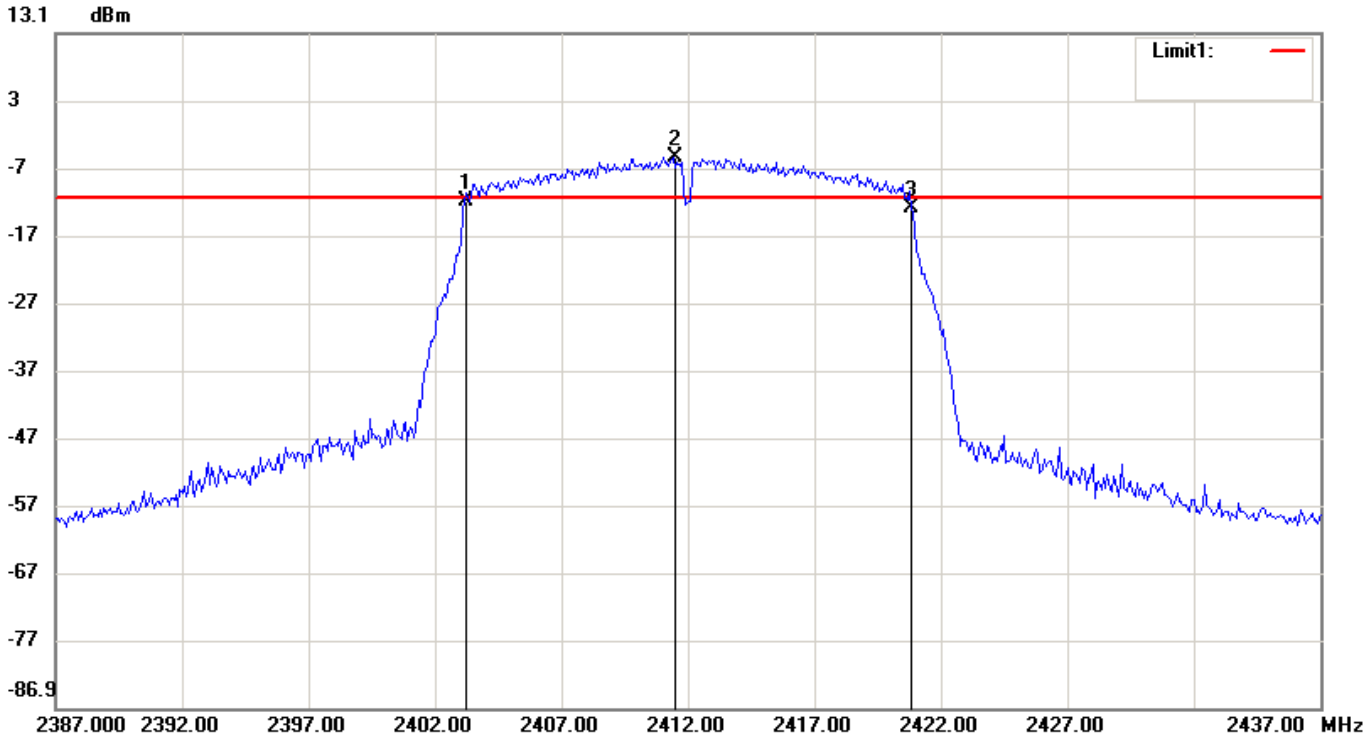
6.4.3.2 CHAIN 1

測試日期: May 04, 2018 環境溫度 : 25℃ 環境濕度: 60%

Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	17.6666	500	Page 35
M	17.6666	500	Page 36
H	17.6666	500	Page 37

註：1. 繪圖資料請參考第 35-37 頁。
2. 量測不準確度 8.25×10^{-7} (1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT20_A2**	**Data #1**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 11:39:39**	**Humidity:**	**60 %**

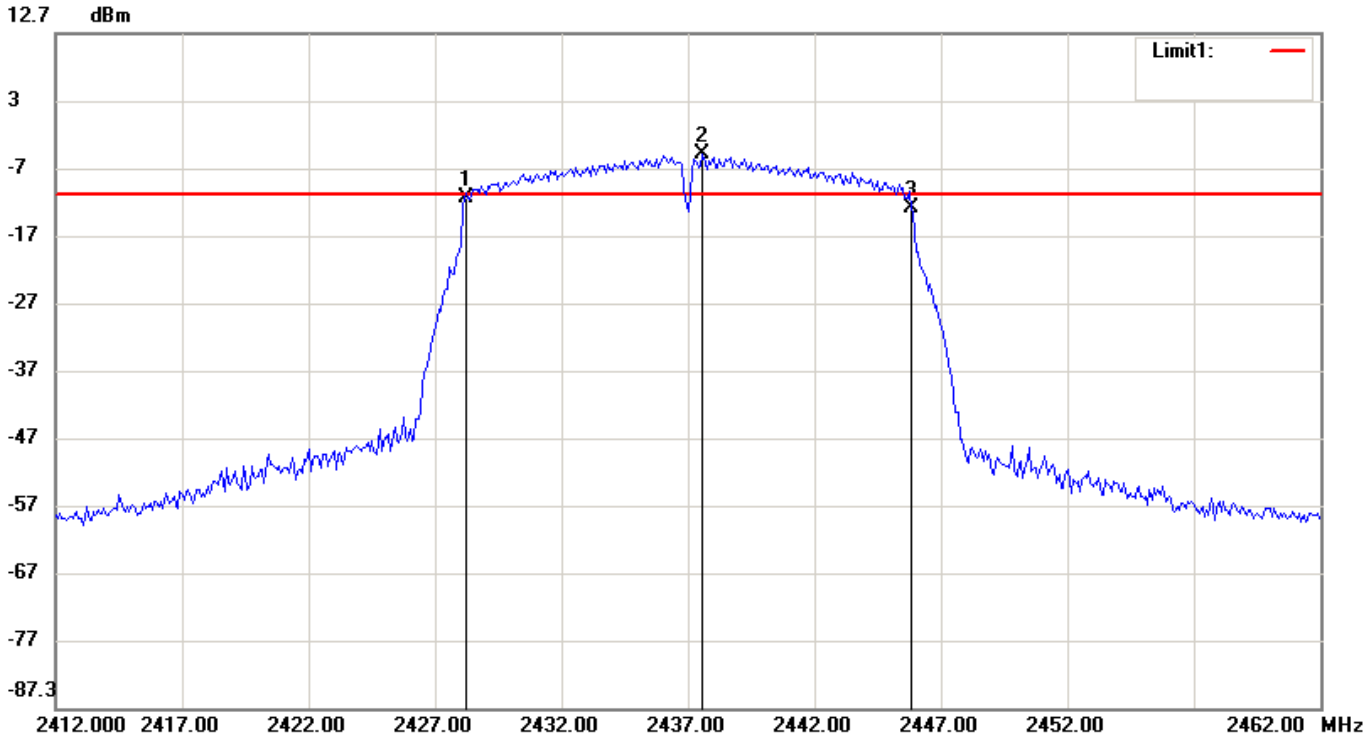


Condition: **-11.25dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 20dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2403.16670	-11.67
2	2411.41670	-5.25
3	2420.83330	-12.68

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-1.01

File:	**18-04-MAS-043_HT20_A2**	**Data #6**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 11:51:06**	**Humidity:**	**60 %**



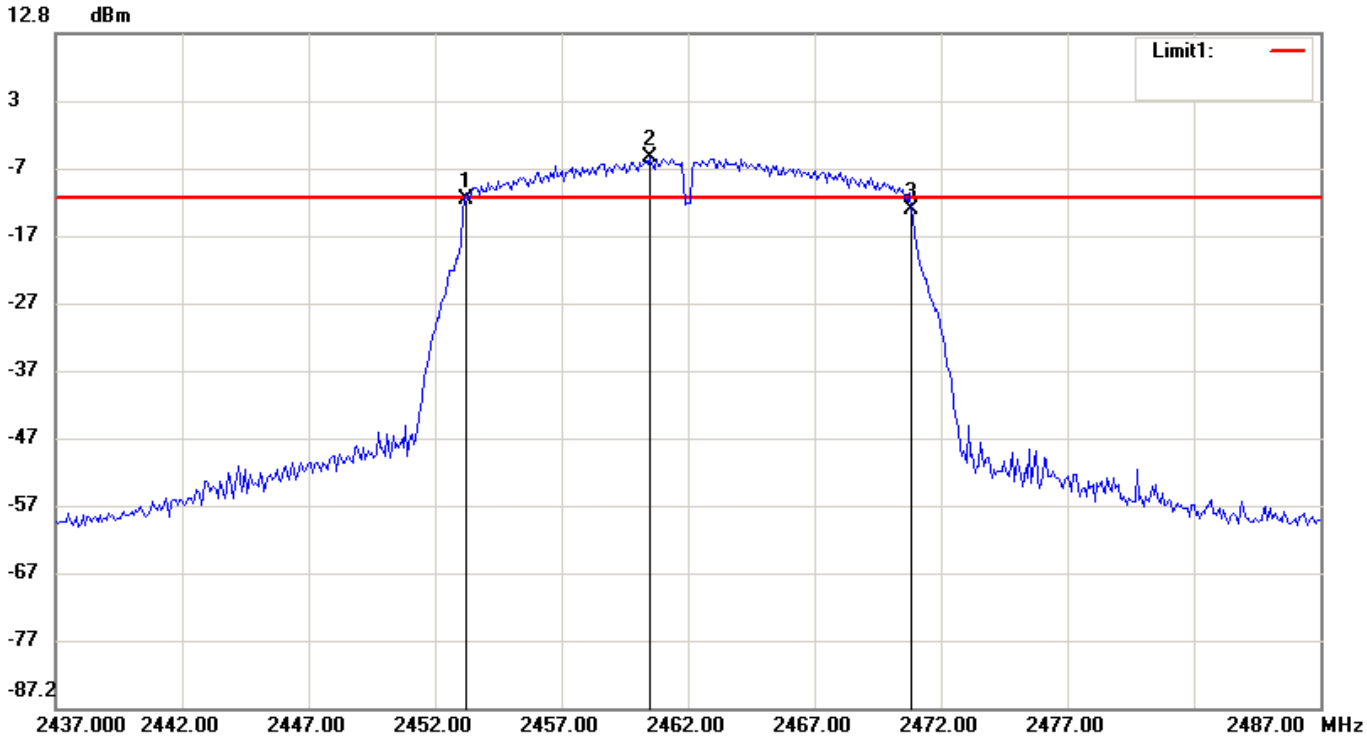
Condition: **-11.15dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 20dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2428.16670	-11.68
2	2437.58330	-5.15
3	2445.83330	-13.19

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-1.51

File:	**18-04-MAS-043_HT20_A2**	**Data**	**#10**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 12:55:18**	**Humidity:**	**60 %**



Condition: **-11.68dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 20dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2453.16670	-11.77
2	2460.50000	-5.68
3	2470.83330	-13.29

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	17.6666	-1.52

6.4.4 調變技術: IEEE 802.11n HT40

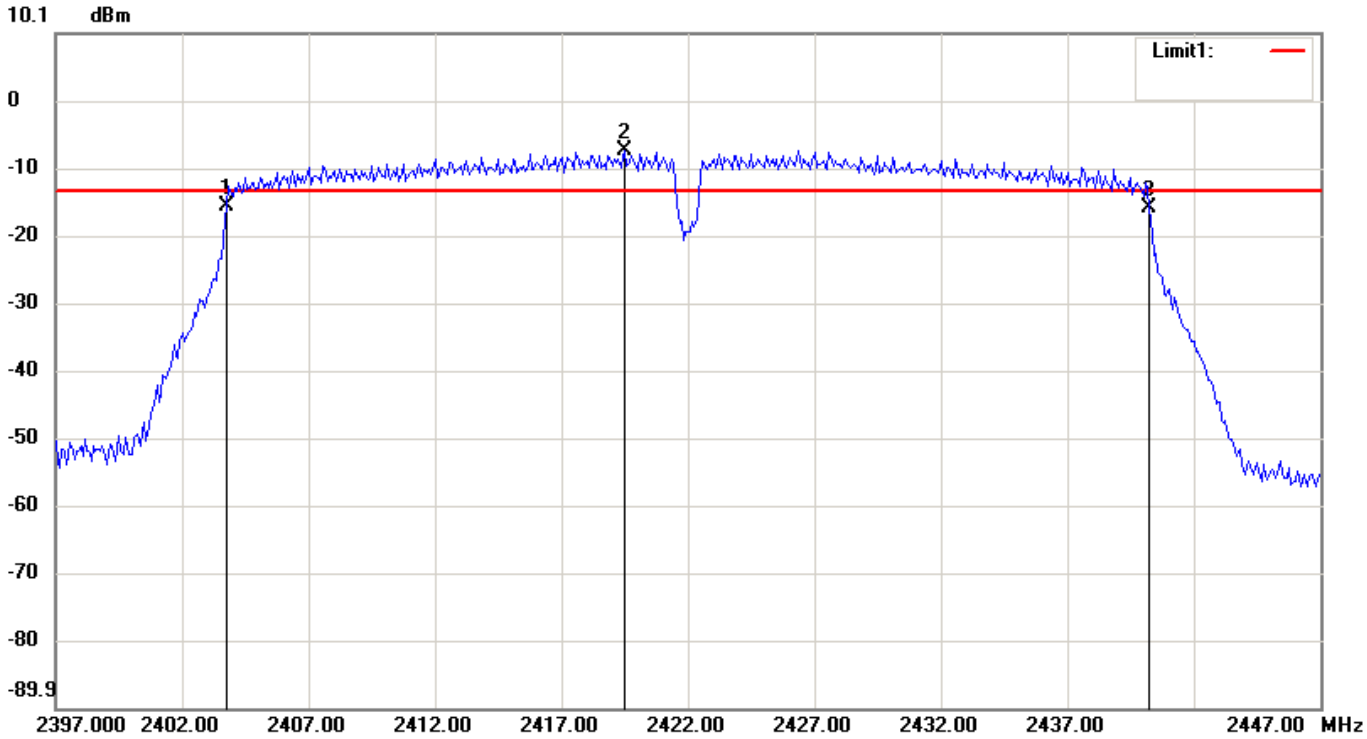
6.4.4.1 CHAIN 0

測試日期: May 04, 2018 環境溫度 ：25℃ 環境濕度: 60%

Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	36.5	500	Page 39
M	36.5	500	Page 40
H	36.5	500	Page 41

註：1. 繪圖資料請參考第 39-41 頁。
2. 量測不準確度8.25×10^{-7}(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#1**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:39:12**	**Humidity:**	**60 %**

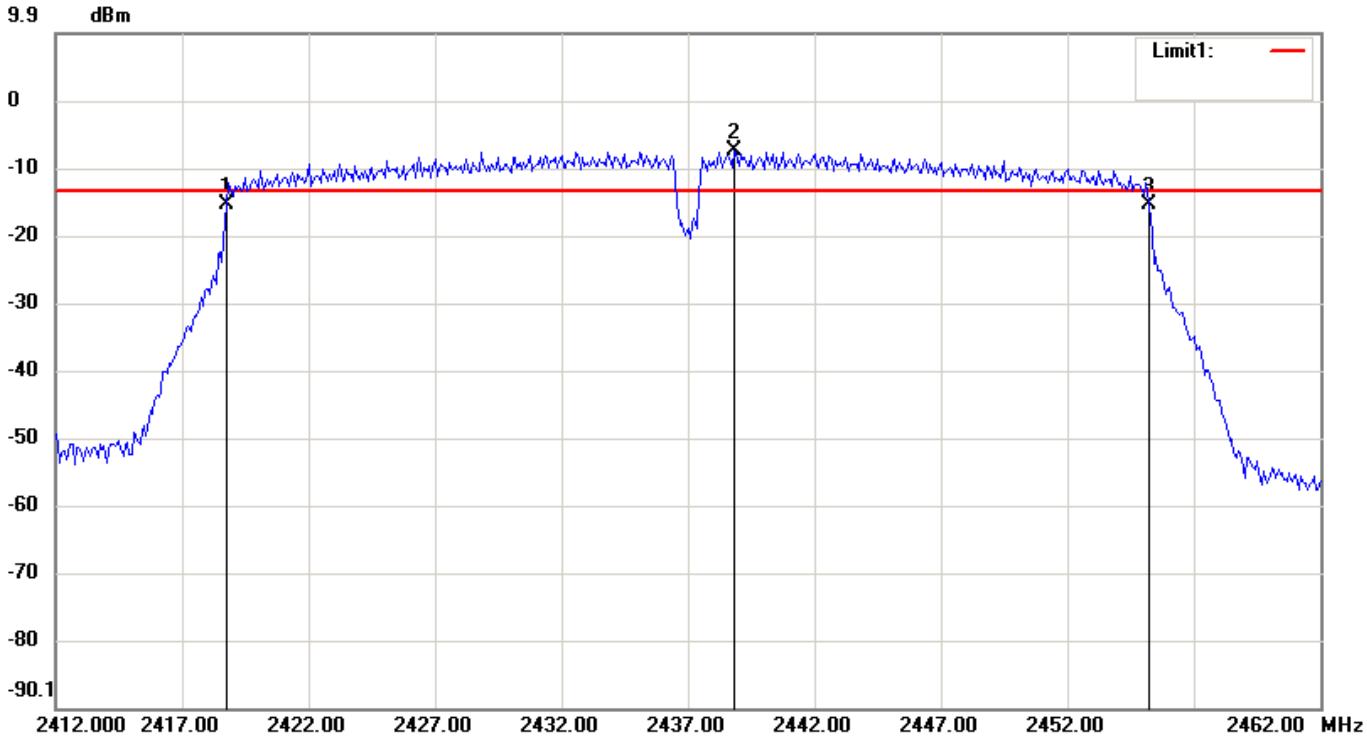


Condition: **-13.28dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2403.75000	-15.54
2	2419.50000	-7.28
3	2440.25000	-15.69

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	-0.15

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#6**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:06:08**	**Humidity:**	**60 %**

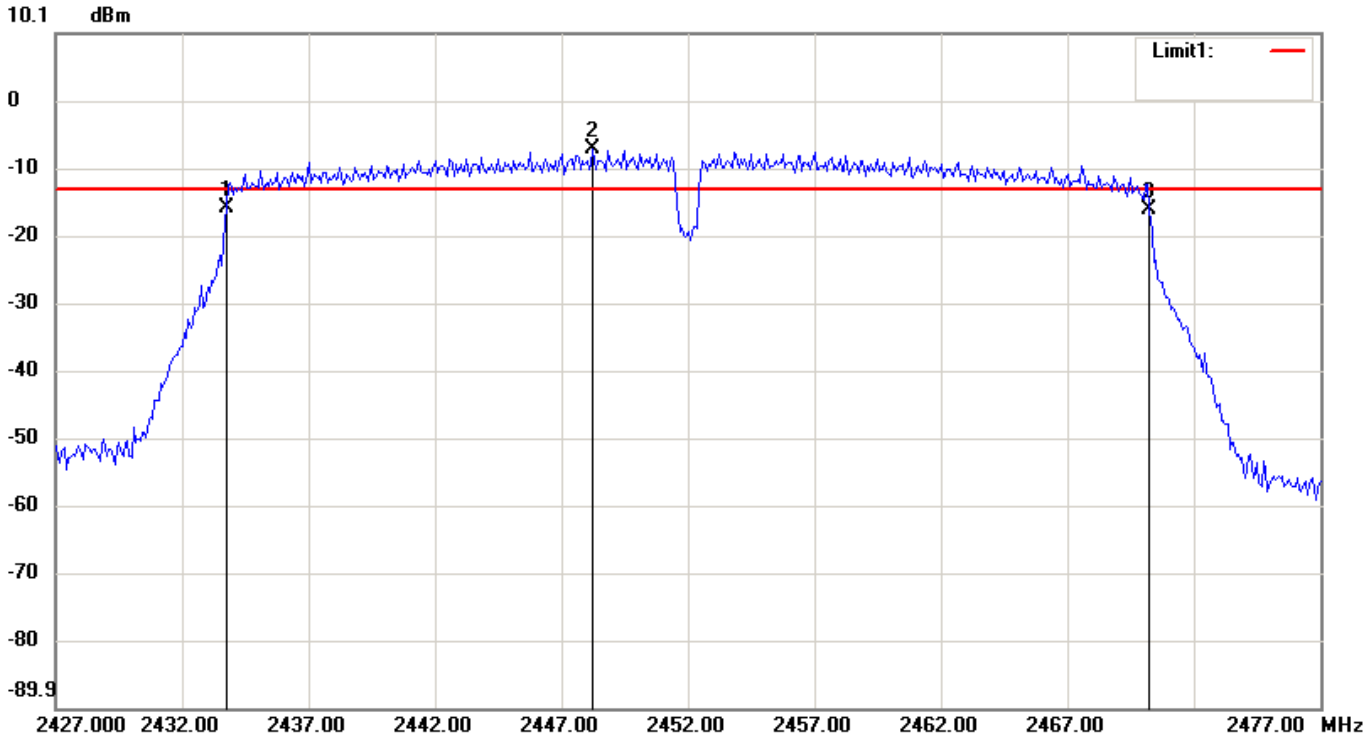


Condition: **-13.49dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2418.75000	-15.33
2	2438.83330	-7.49
3	2455.25000	-15.50

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	-0.17

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#10**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:18:09**	**Humidity:**	**60 %**



Condition: **-13.08dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-6dB EBW**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2433.75000	-15.69
2	2448.25000	-7.08
3	2470.25000	-16.03

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	-0.34

6.4.4.2 CHAIN 1

測試日期: May 04, 2018 環境溫度 : 25℃ 環境濕度: 60%

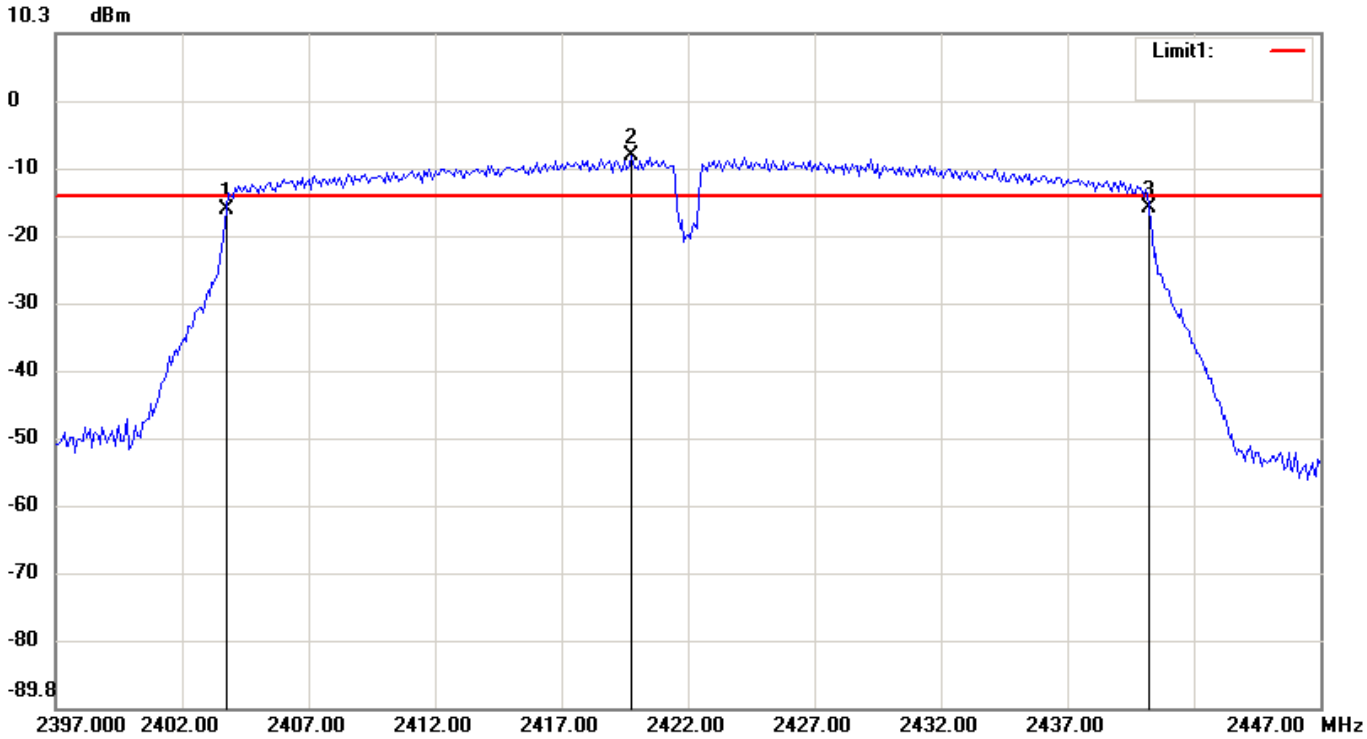
Channel	6dB Bandwidth (MHz)	NCC Limit (kHz)	Chart
L	36.5	500	Page 43
M	36.5	500	Page 44
H	36.5	500	Page 45

註：1. 繪圖資料請參考第 43-45 頁。
2. 量測不準確度8.25×10^{-7}(1GHz≦f≦18GHz)

6.5 結果判定

高、中、低頻段的6dB頻寬皆大於500KHz。

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#1**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:42:34**	**Humidity:**	**60 %**

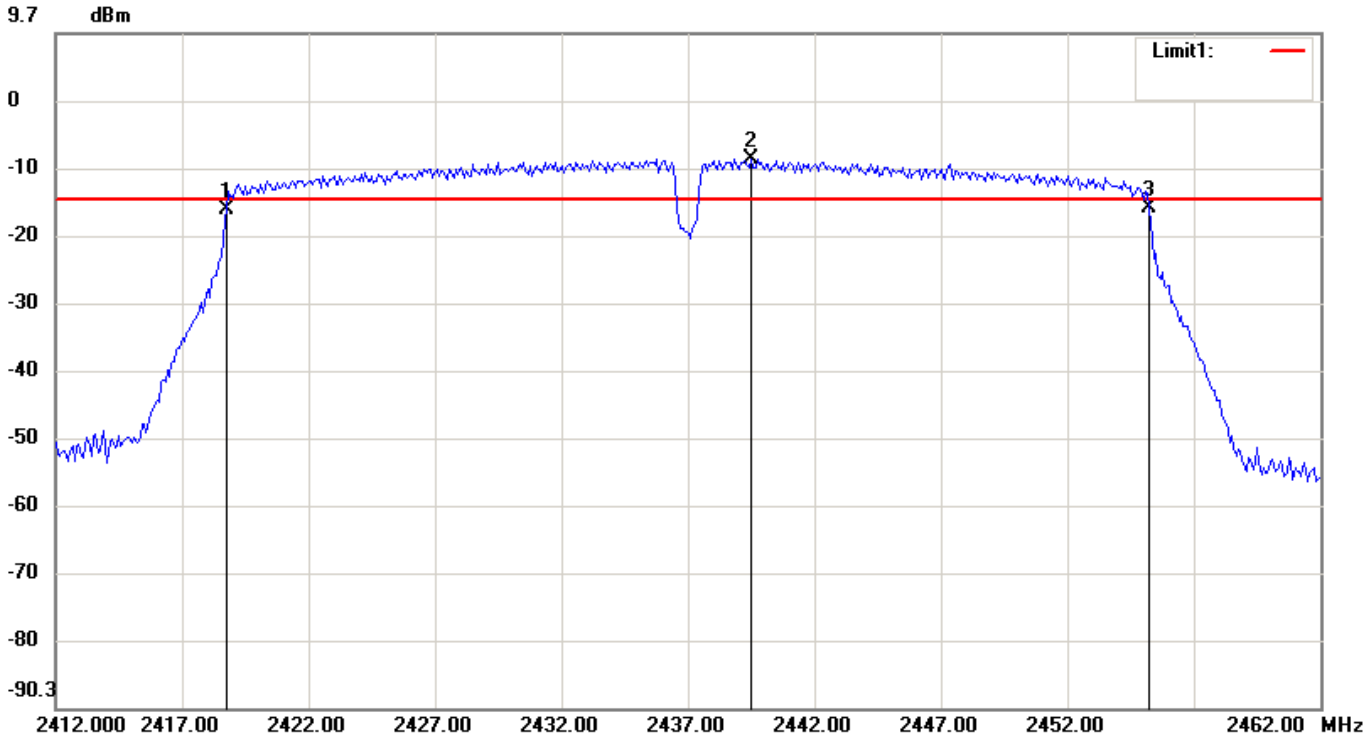


Condition: **-13.82dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2403.75000	-15.98
2	2419.75000	-7.82
3	2440.25000	-15.73

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	0.25

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#6**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:58:39**	**Humidity:**	**60 %**

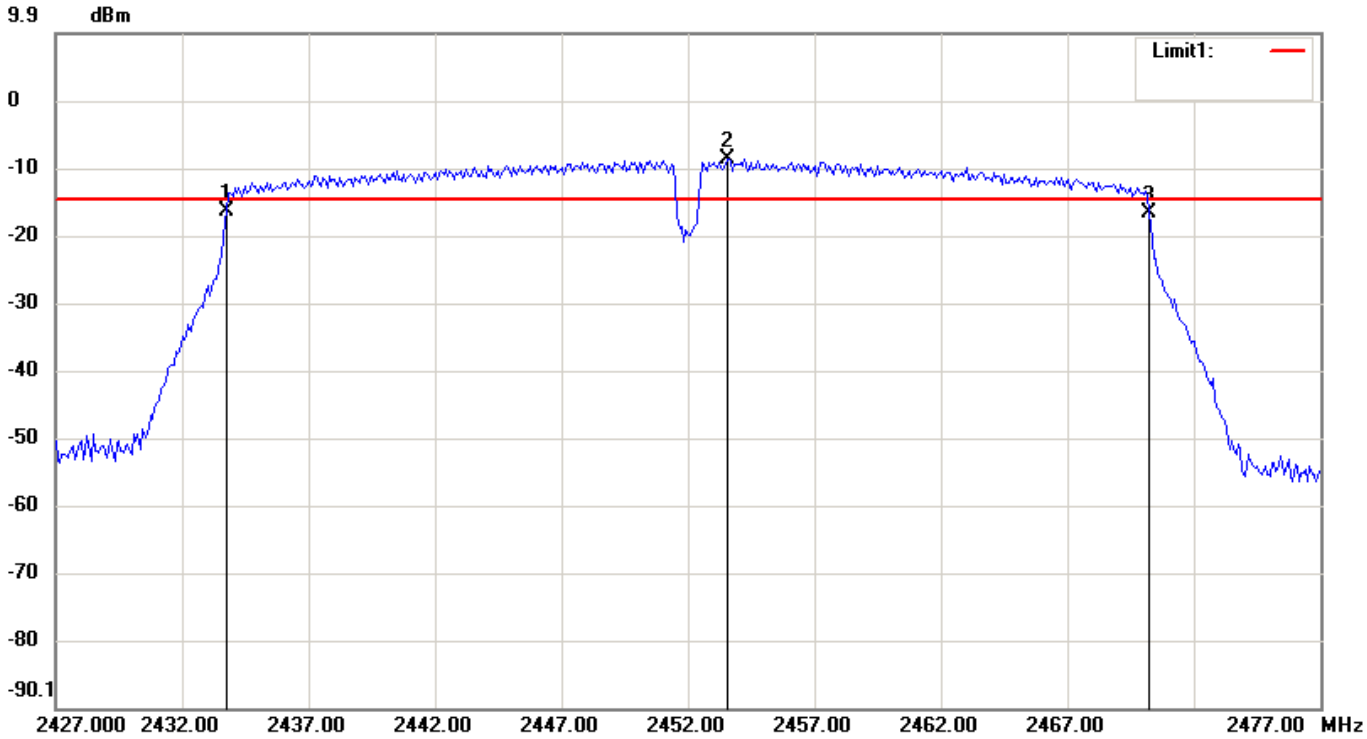


Condition: **-14.9dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2418.75000	-16.36
2	2439.50000	-8.90
3	2455.25000	-16.21

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	0.15

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#10**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 04:08:51**	**Humidity:**	**60 %**



Condition: **-14.71dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-6dB EBW**

No.	Frequency(MHz)	Level(dBm)
1	2433.75000	-16.50
2	2453.58330	-8.71
3	2470.25000	-16.78

No.		△Frequency(MHz)	△Level(dB)
1	mk3-mk1	36.5	-0.28

7 峰值傳導輸出功率之量測

7.1 峰值適用標準

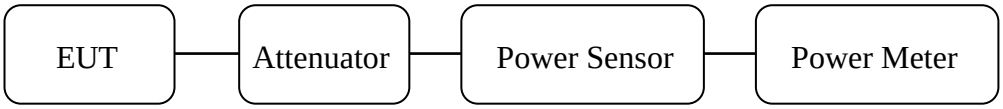
依據國家通訊傳播委員會低功率射頻電機技術規範3.10.1.2節之(1)(C)規定，操作於2400-2483.5兆赫(MHz)之所有數位調變技術系統:1瓦(W)(含)以下。

用於非於固定式點對點操作時，若其發射天線之方向性增益超過6dBi，應依所超過之dB數等量降低峰值輸出功率。如用於固定式點對點操作時，應符合下列情形：

操作於2400-2483.5兆赫(MHz)者，其發射天線之方向性增益超過6dBi，每超過3 dBi，最大傳導輸出功率限制值應降低1dB。

7.2 峰值輸出功率之測試配置

圖 3 : 峰值輸出功率之測試配置



7.3 峰值輸出功率之量測儀器

儀器名稱	製造者	型　　號
Power Meter	Agilent	N1912A
Power Sensor	Agilent	N1922A
Attenuator	WEINSCHEL	56-10

7.4 峰值輸出功率之量測結果

測試工程師: 羅世勇

測試日期: May 04, 2018 環境溫度：25℃ 環境濕度: 60%

7.4.1 調變技術: IEEE 802.11b

7.4.1.1 CHAIN 0

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	10.19	30	-
M	10.16	30	-
H	10.13	30	-

7.4.1.2 CHAIN 1

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	9.89	30	-
M	9.53	30	-
H	9.60	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.2 調變技術: IEEE 802.11g

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

7.4.2.1 CHAIN 0

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	19.11	30	-
M	19.38	30	-
H	19.48	30	-

7.4.2.2 CHAIN 1

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	18.9	30	-
M	18.89	30	-
H	18.86	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.3 調變技術: IEEE 802.11n HT20

7.4.3.1 CHAIN 0

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4 dBi，NCC Limit 如下表所示：

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	19.51	30	-
M	19.73	30	-
H	19.64	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.3.2 CHAIN 1

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4.2 dBi，NCC Limit 如下表所示：

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	19.78	30	-
M	19.53	30	-
H	19.69	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.3.3 CHAIN 0 + CHAIN 1

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

Ant 1 / Ant 2 combination 天線增益最大值為 7.11 dBi，NCC Limit 如下表所示：

Channel	CHAIN 0 Maximum Peak Output Power (dBm)	CHAIN 1 Maximum Peak Output Power (dBm)	TOTAL Power (dBm)	NCC Limit (dBm)
L	19.51	19.78	22.66	28.89
M	19.73	19.53	22.64	28.89
H	19.64	19.69	22.68	28.89

註:

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.4 調變技術: IEEE 802.11n HT40

7.4.4.1 CHAIN 0

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4 dBi，NCC Limit 如下表所示：

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	19.98	30	-
M	20.14	30	-
H	20.18	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.4.2 CHAIN 1

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4.2 dBi，NCC Limit 如下表所示：

Channel	Maximum Peak Output Power (dBm)	NCC Limit (dBm)	Chart
L	19.47	30	-
M	19.00	30	-
H	19.30	30	-

註：

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4. NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.4.4.3 CHAIN 0 + CHAIN 1

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

Ant 0 / Ant 1 combination 天線增益最大值為 7.11 dBi，NCC Limit 如下表所示：

Channel	CHAIN 0 Maximum Peak Output Power (dBm)	CHAIN 1 Maximum Peak Output Power (dBm)	TOTAL Power (dBm)	NCC Limit (dBm)
L	19.98	19.47	22.74	28.89
M	20.14	19.00	22.62	28.89
H	20.18	19.30	22.77	28.89

註:

1. 最大峰值輸出功率 (Maximum Peak Output Power) 為經儀器校正補償過後的結果值。
2. If antenna gain ≦ 6dBi, NCC Limit = 30 dBm
3. If antenna gain > 6dBi, NCC Limit = 30dBm – (highest antenna gain – 6 dBi)
4 NCC Limit (dBm)=10 log NCC Limit (mW)
5. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

7.5 結果判定

高、中、低頻段的峰值輸出功率皆低於限制值。

8 功率密度之量測

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3.10.1.6節之(2)(B)規定，對數位調變技術系統，在使用頻率範圍之任一3 kHz頻寬內，由發射機傳導至天線之功率頻譜密度在任意傳輸期間內，皆小於或等於8毫分貝(dBm)，且應依3.10.1.3之方式降低功率頻譜密度限制值。

8.2 量測功率密度之配置

如圖 2 所示。

8.3 量測功率密度之儀器

儀器名稱	製造者	型　　號
Spectrum Analyzer	Agilent	E4446A
Attenuator	WEINSCHEL	56-10

8.4 量測結果

測試工程師: 羅世勇

8.4.1 調變技術: IEEE 802.11b

測試日期: May 04, 2018 環境溫度: 25℃ 環境濕度: 60%

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-14.18	8	Page 57
M	-14.01	8	Page 58
H	-13.71	8	Page 59

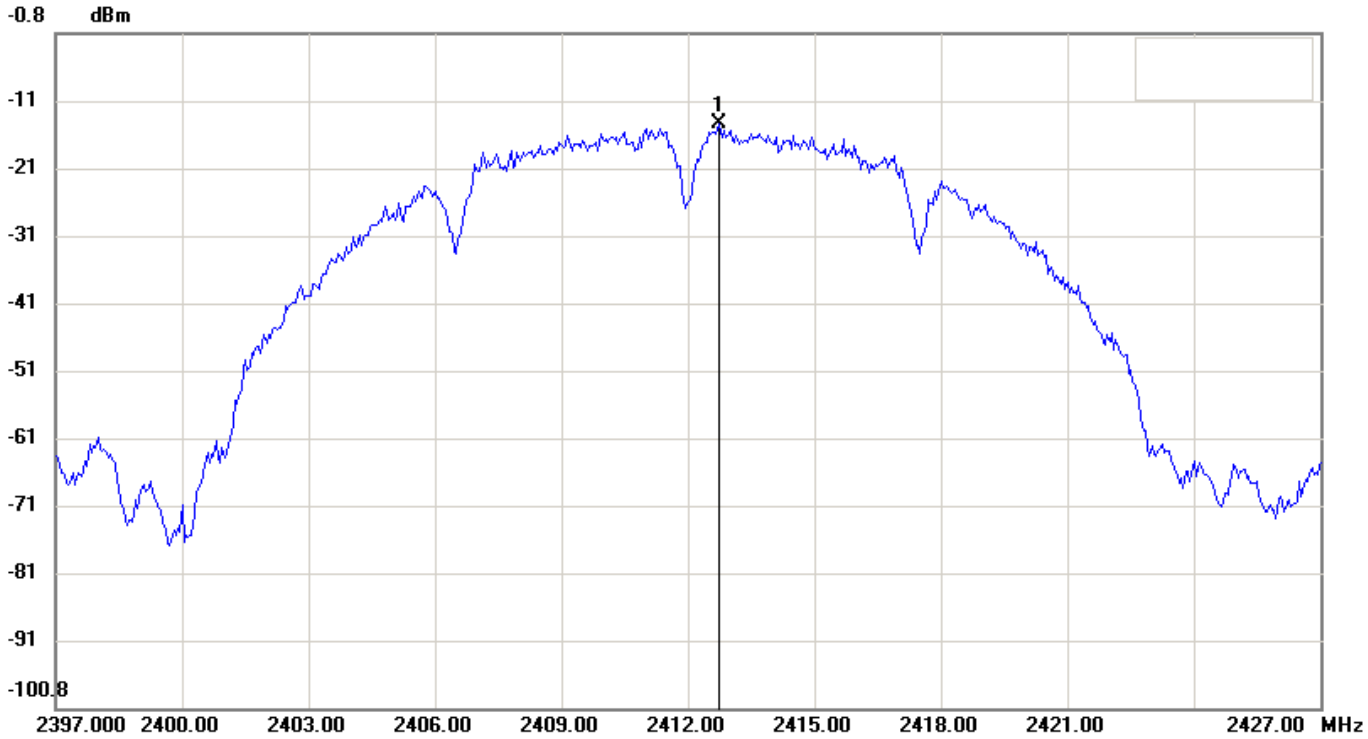
註：1. 繪圖資料請參考第 57-59 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

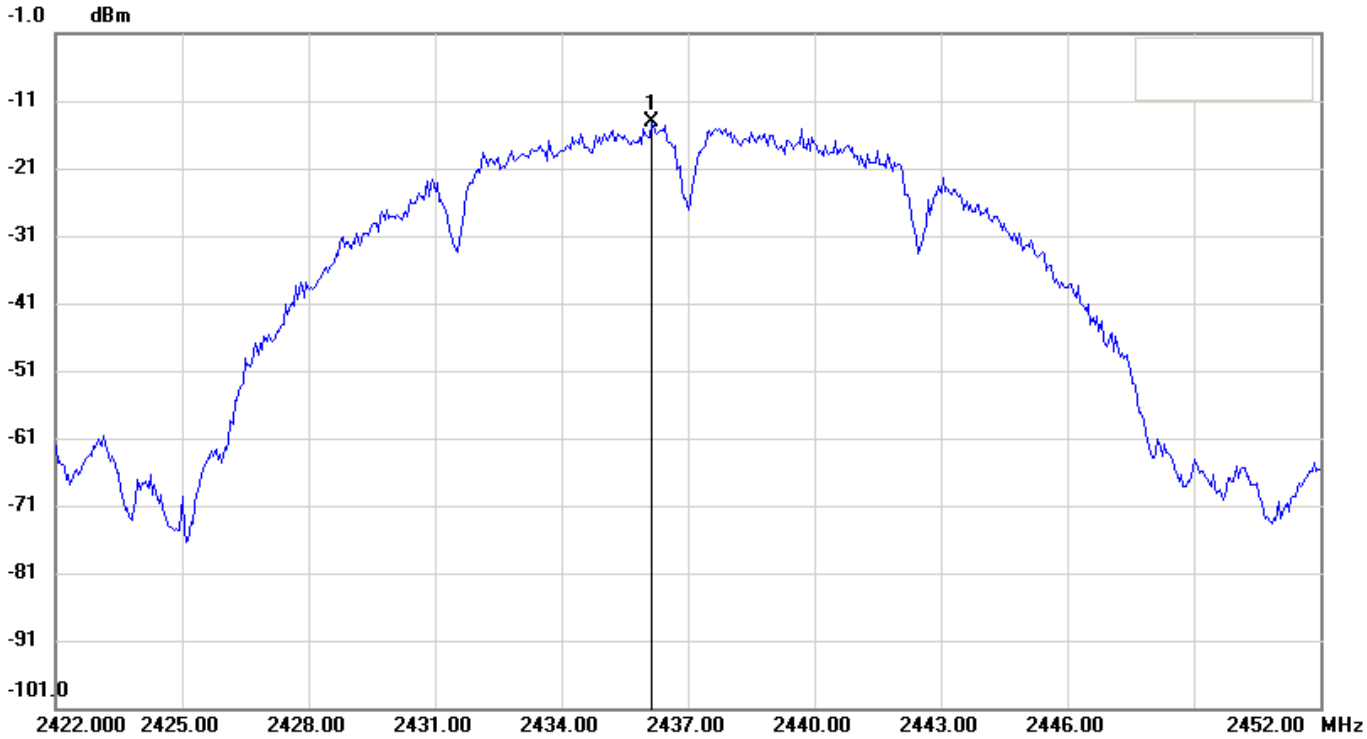
File:	**18-04-MAS-043_B_A1**	**Data**	**#4**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:30:28**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11b Channel 01-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2412.75000	-14.18

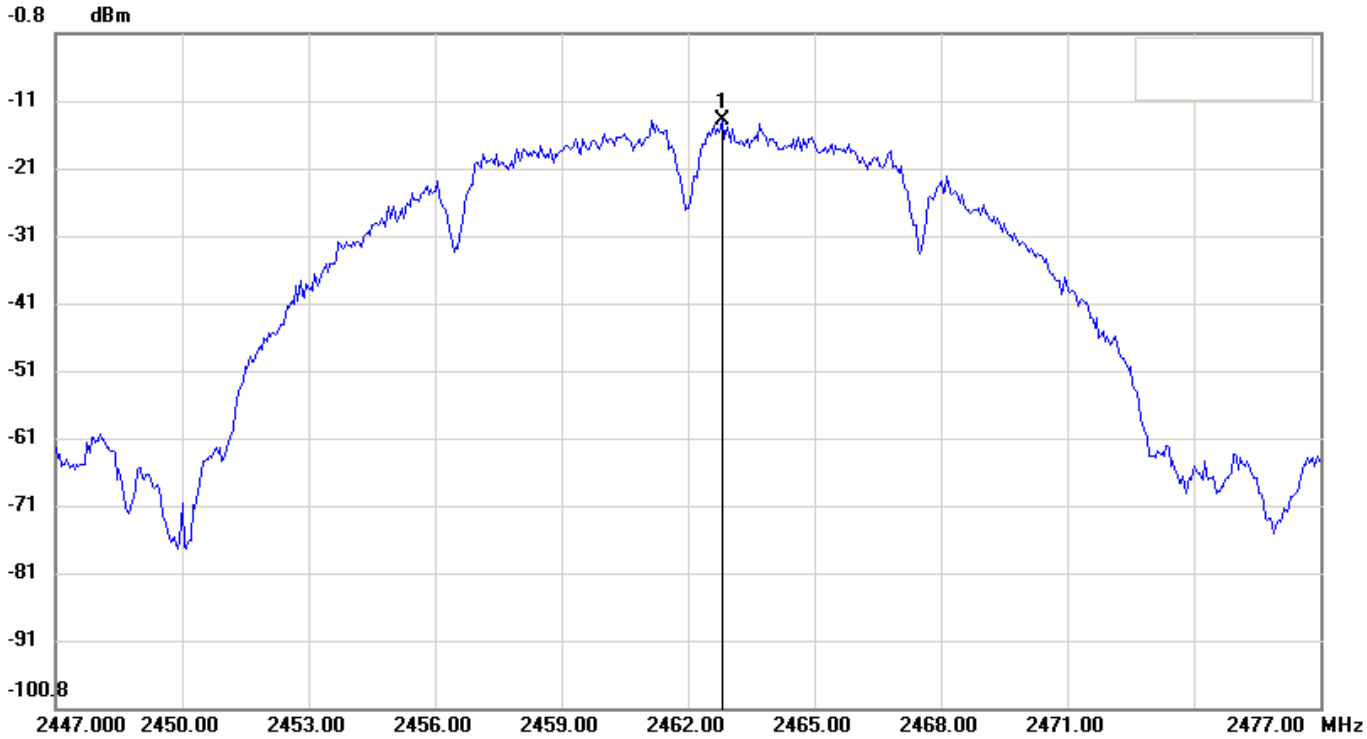
File:	**18-04-MAS-043_B_A1**	**Data**	**#9**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:55:28**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11b Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2436.15000	-14.01

File:	**18-04-MAS-043_B_A1**	**Data**	**#13**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 04:14:44**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11b Channel 11-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2462.80000	-13.71

8.4.2 調變技術: IEEE 802.11g

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-15.87	8	Page 61
M	-15.78	8	Page 62
H	-15.86	8	Page 63

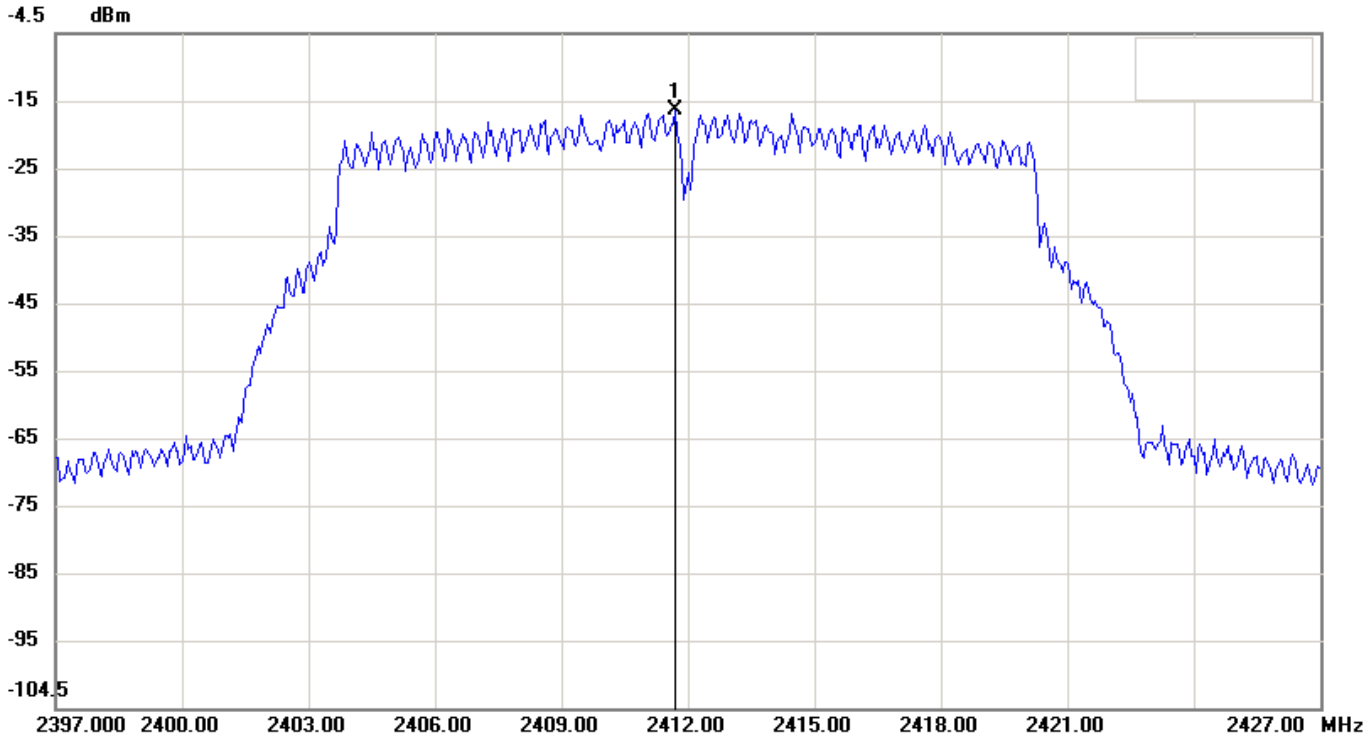
註：1. 繪圖資料請參考第 61-63 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

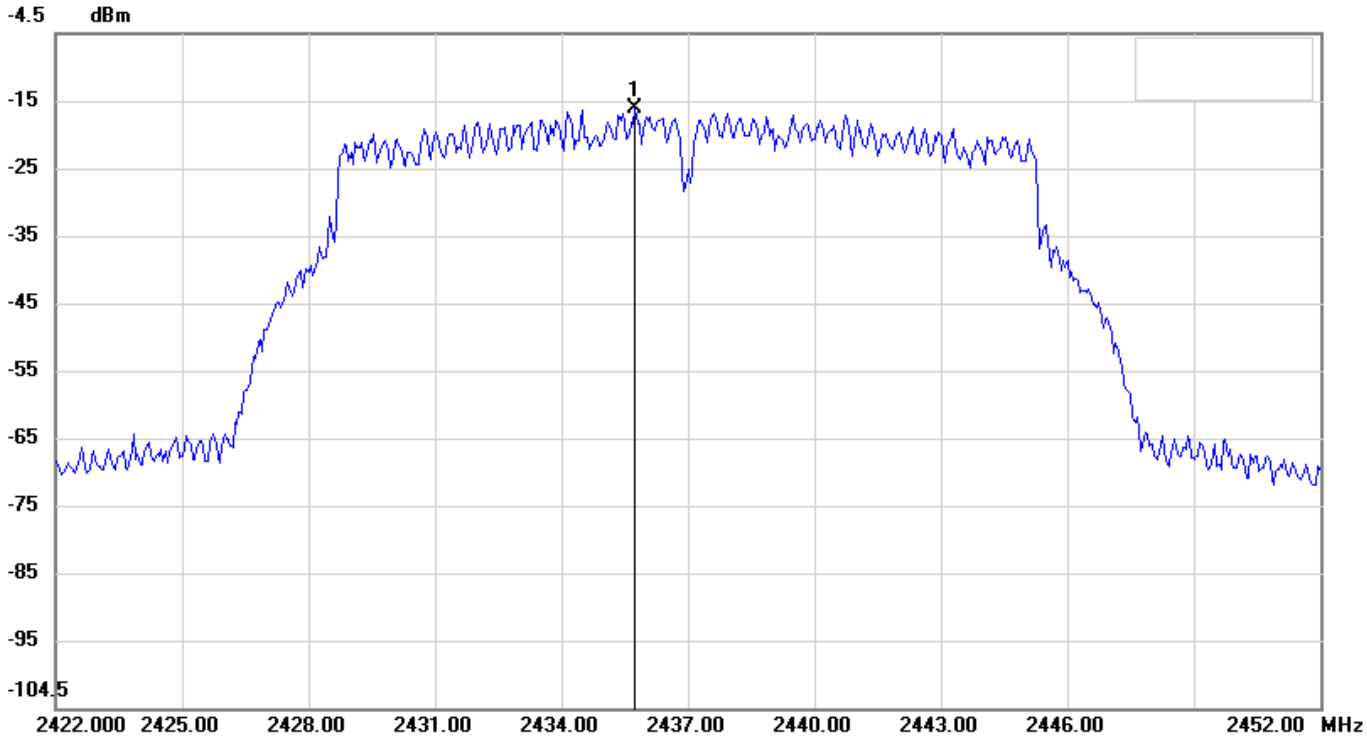
File:	**18-04-MAS-043_G_A1**	**Data**	**#4**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:07:29**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11g Channel 01-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2411.70000	-15.87

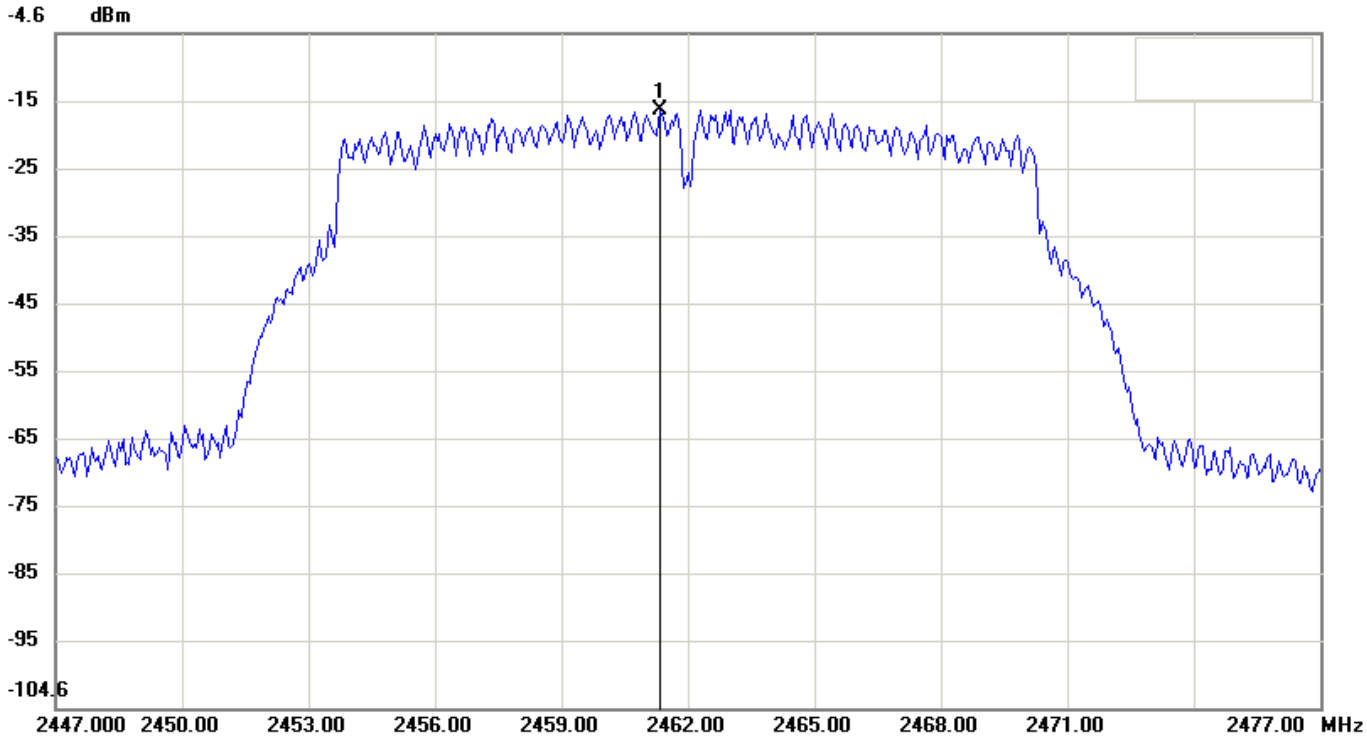
File:	**18-04-MAS-043_G_A1**	**Data**	**#9**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:25:51**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11g Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2435.75000	-15.78

File:	**18-04-MAS-043_G_A1**	**Data**	**#13**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:40:47**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11g Channel 11-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2461.35000	-15.86

8.4.3 調變技術: IEEE 802.11n HT20

8.4.3.1 CHAIN 0

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-15.52	8	Page 65
M	-16.12	8	Page 66
H	-15.62	8	Page 67

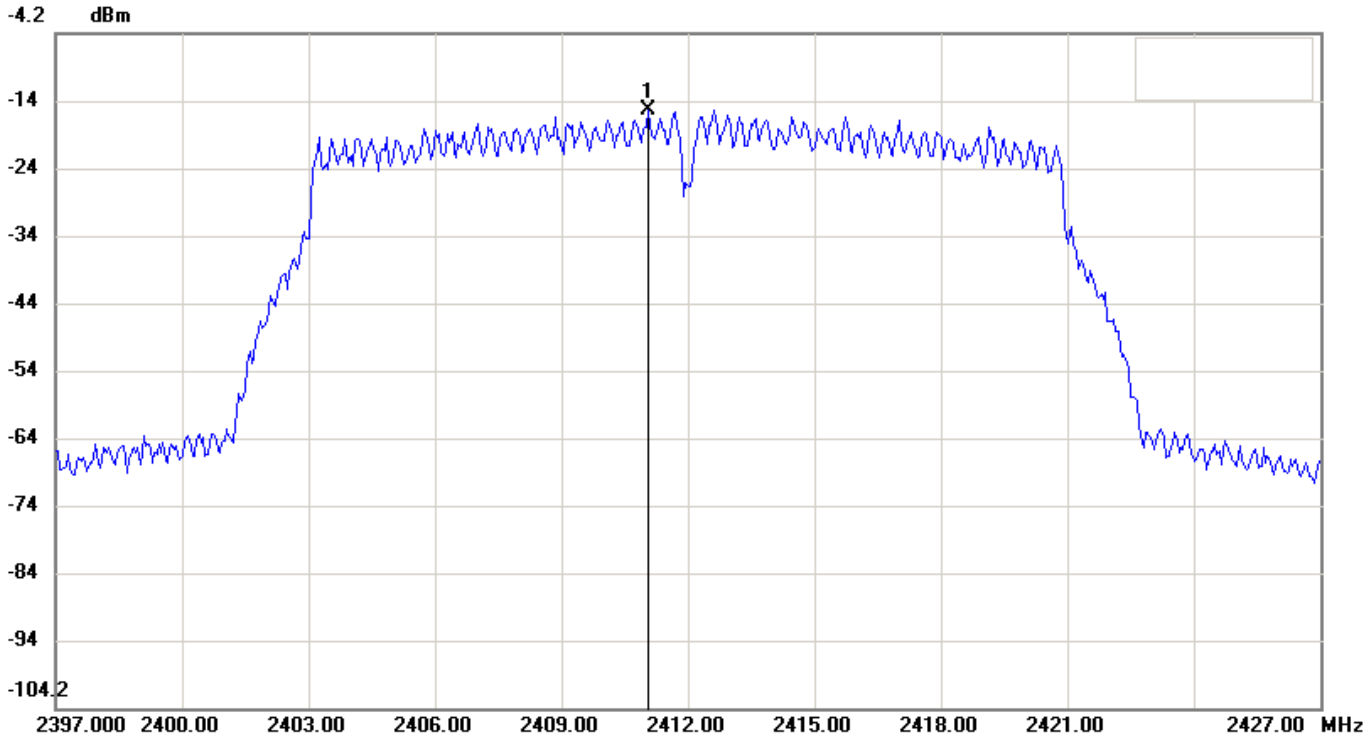
註：1. 繪圖資料請參考第 65-67 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

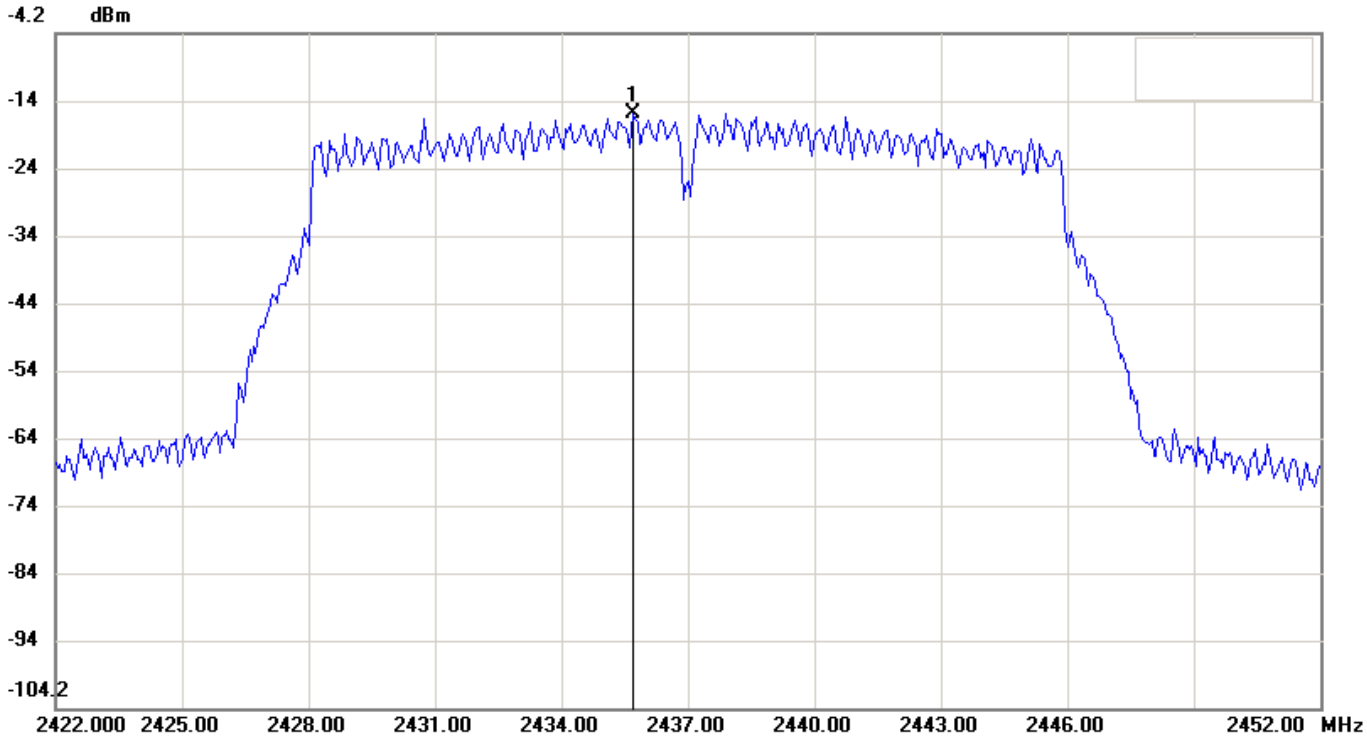
File:	**18-04-MAS-043_HT20_A1**	**Data**	**#4**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:19:25**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2411.05000	-15.52

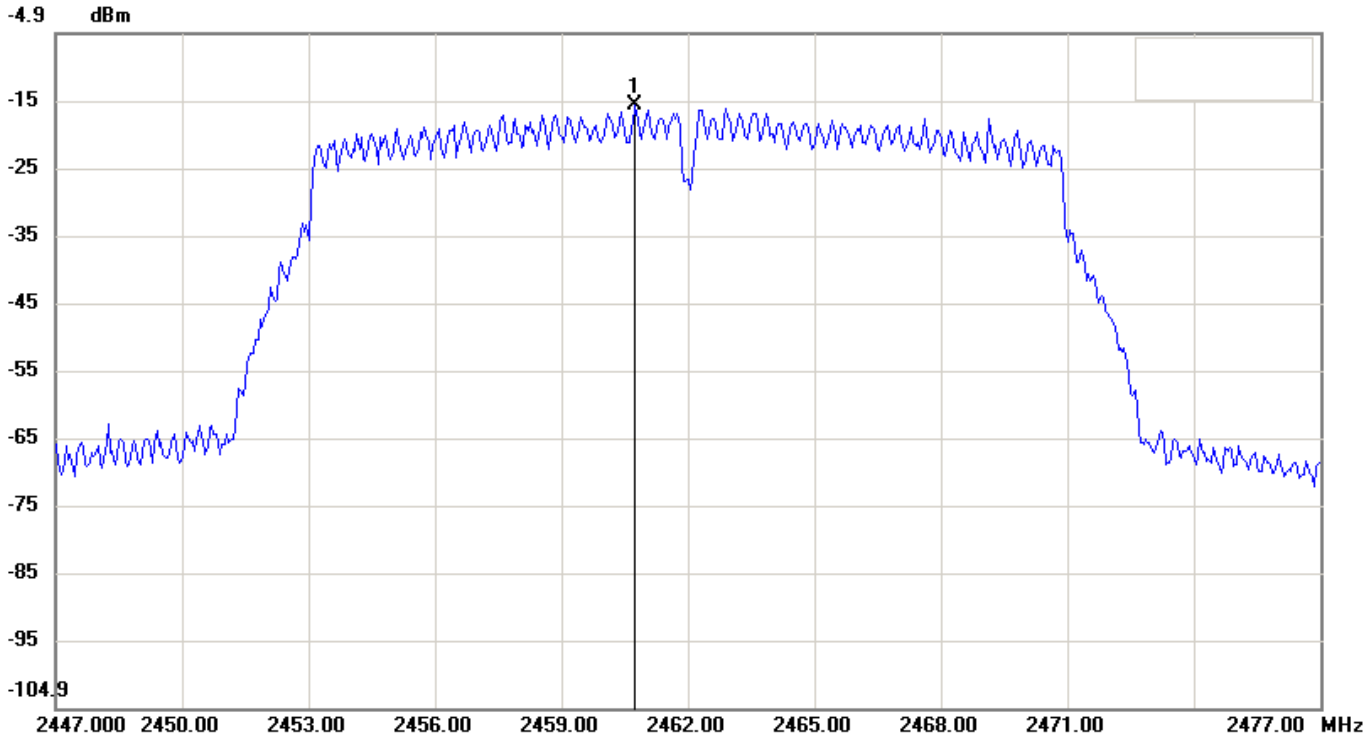
File:	**18-04-MAS-043_HT20_A1**	**Data**	**#9**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:33:35**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2435.70000	-16.12

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#13**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:08:45**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2460.75000	-15.62

8.4.3.2 CHAIN 1

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4.2 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-15.73	8	Page 69
M	-15.20	8	Page 70
H	-15.95	8	Page 71

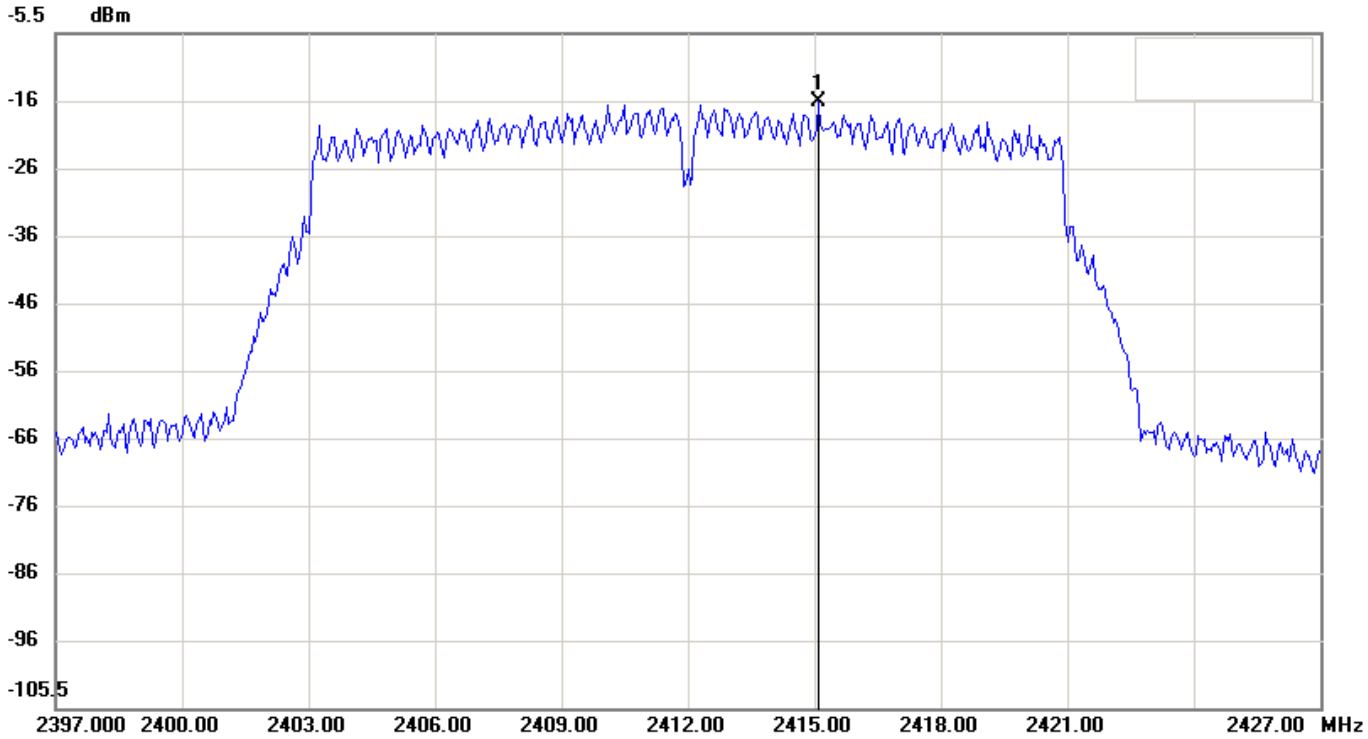
註：1. 繪圖資料請參考第 69-71 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

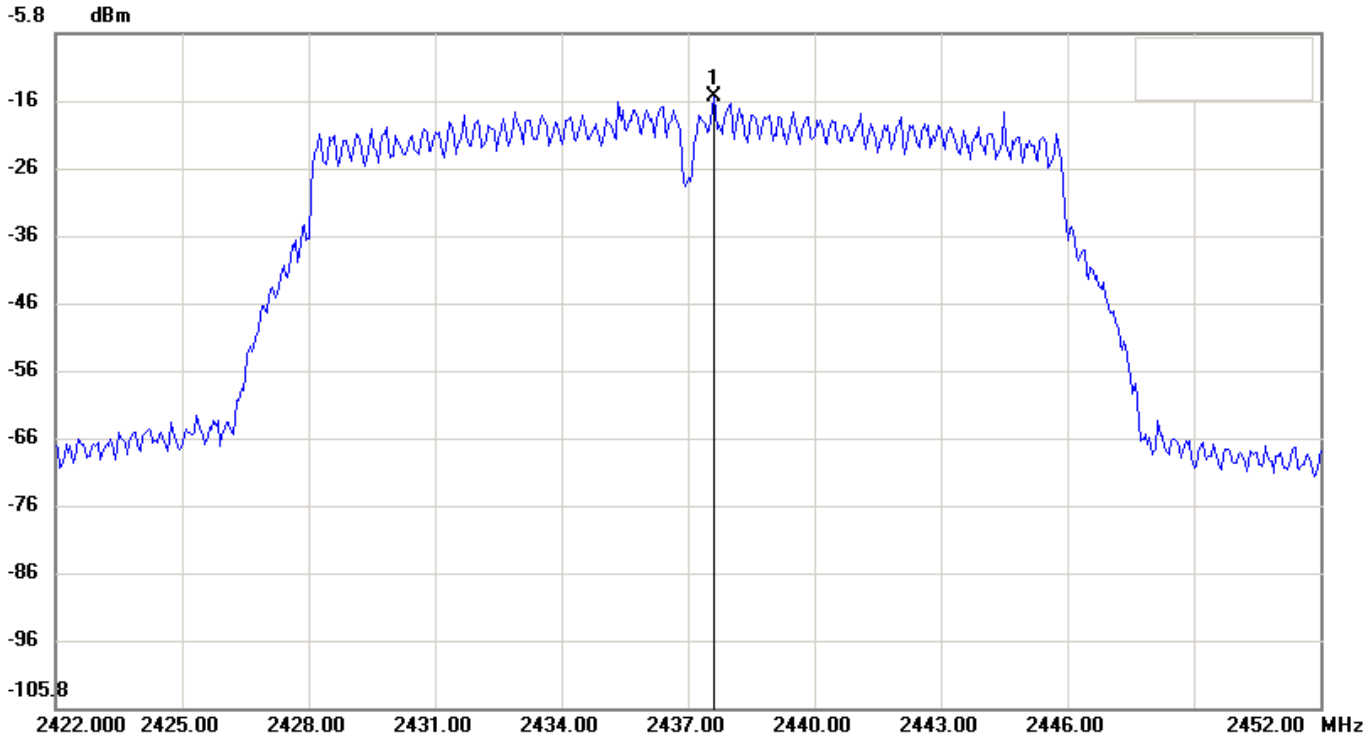
File:	**18-04-MAS-043_HT20_A2**	**Data**	**#4**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 11:45:21**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2415.10000	-15.73

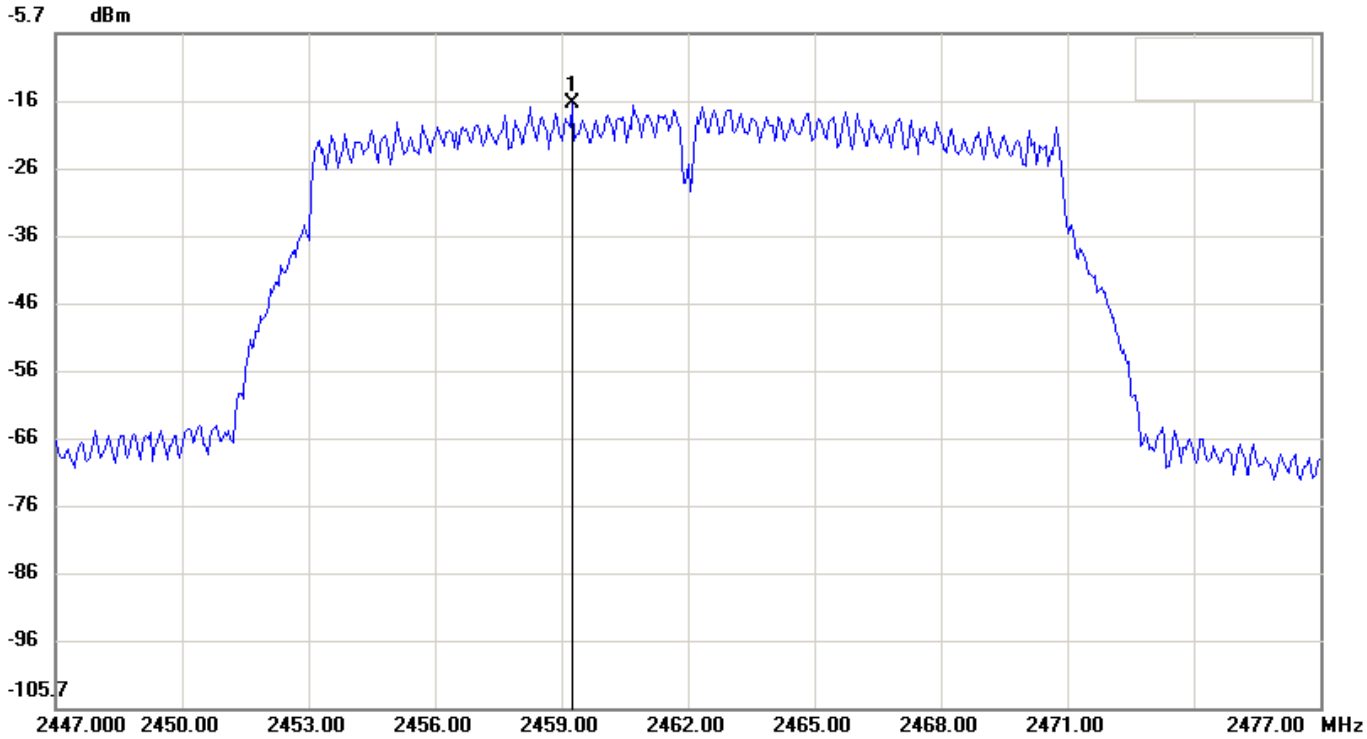
File:	**18-04-MAS-043_HT20_A2**	**Data**	**#9**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 11:56:47**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2437.60000	-15.20

File:	**18-04-MAS-043_HT20_A2**	**Data**	**#13**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:01:01**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 3163.2ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2459.25000	-15.95

8.4.3.3 CHAIN 0 + CHAIN 1

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

Total power density calculation formula:

10 log (10^(Chain 0 PPSD / 10) + 10^(Chain 1 PPSD / 10)

天線增益最大值為 7.11 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)			Total Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
	Chain 0	Chain 1	Chain 2			
L	-15.52	-15.73	n/a	-12.61	6.89	-
M	-16.12	-15.20	n/a	-12.63	6.89	-
H	-15.62	-15.95	n/a	-12.77	6.89	-

註：1. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

2. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

3. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

8.4.4 調變技術: IEEE 802.11n HT40

8.4.4.1 CHAIN 0

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-18.53	8	Page 74
M	-18.51	8	Page 75
H	-18.82	8	Page 76

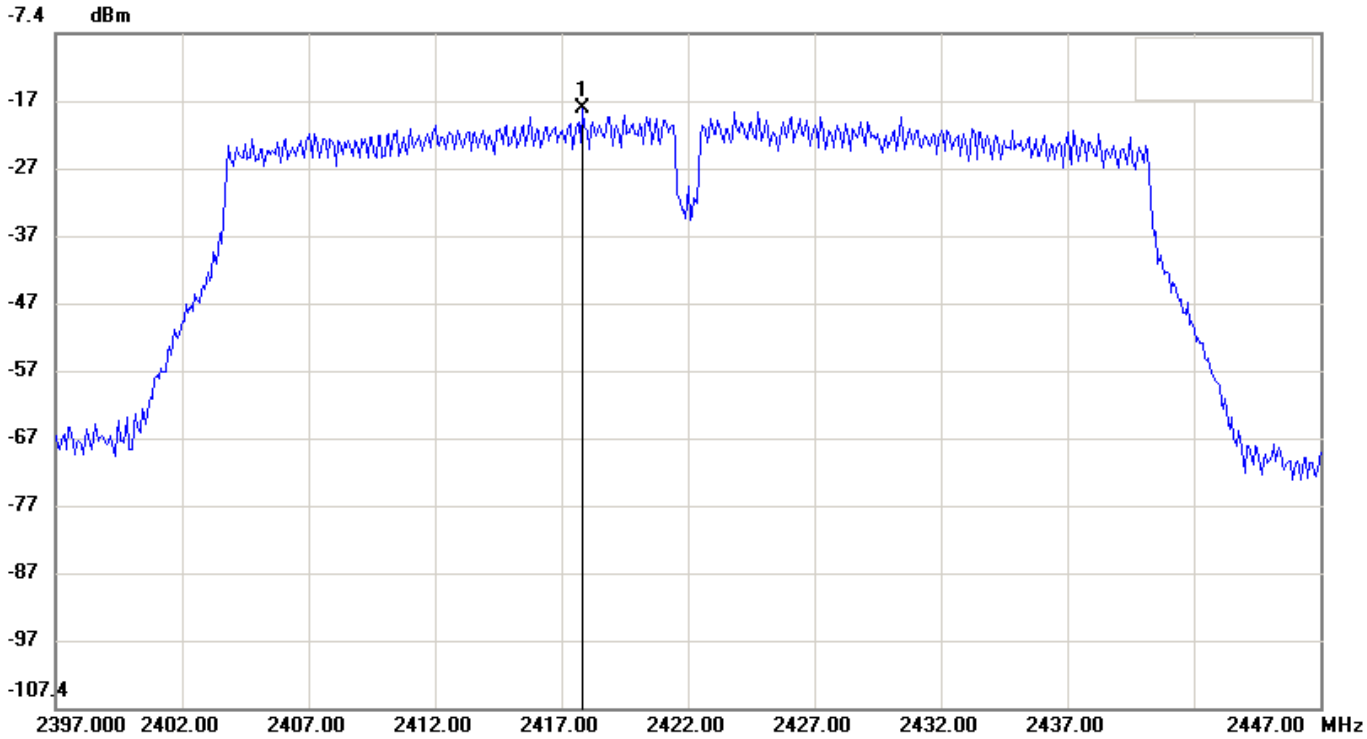
註：1. 繪圖資料請參考第 74-76 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

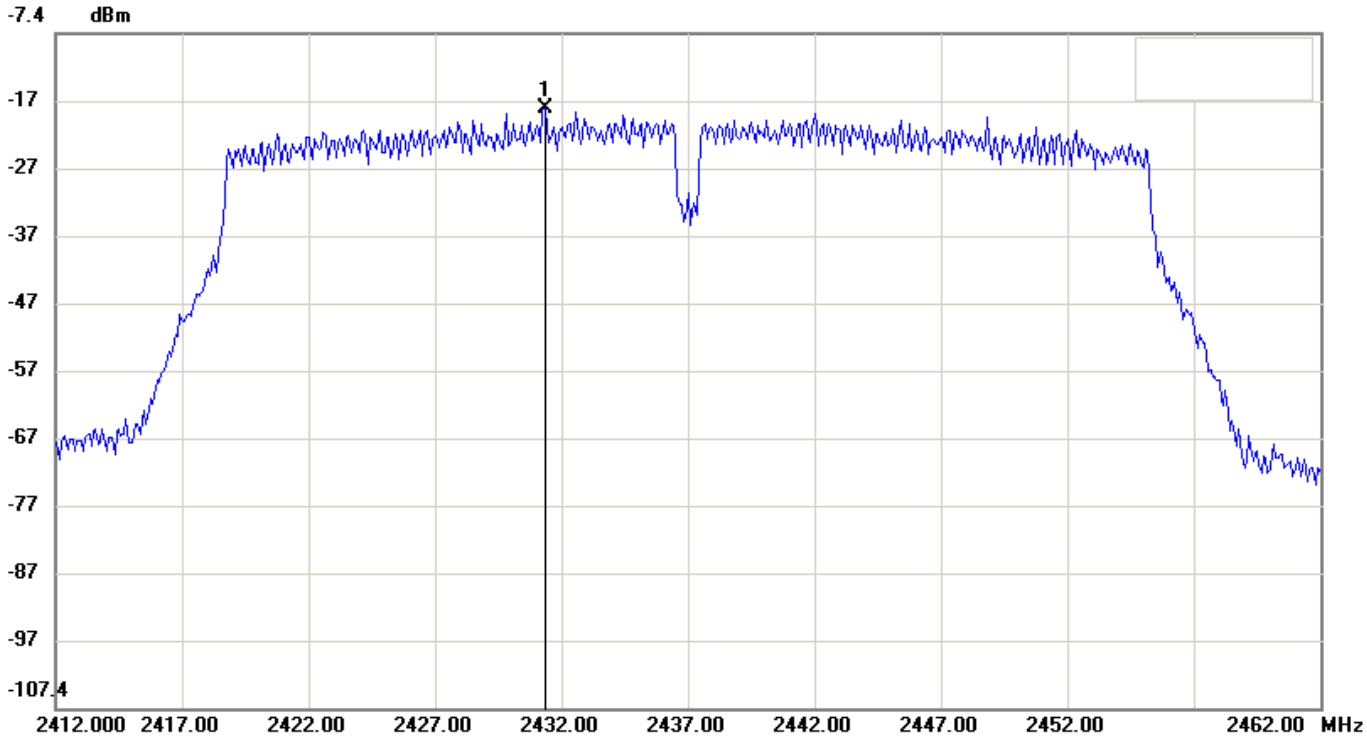
File:	**18-04-MAS-043_HT40_A1**	**Data**	**#4**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:44:54**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2417.83330	-18.53

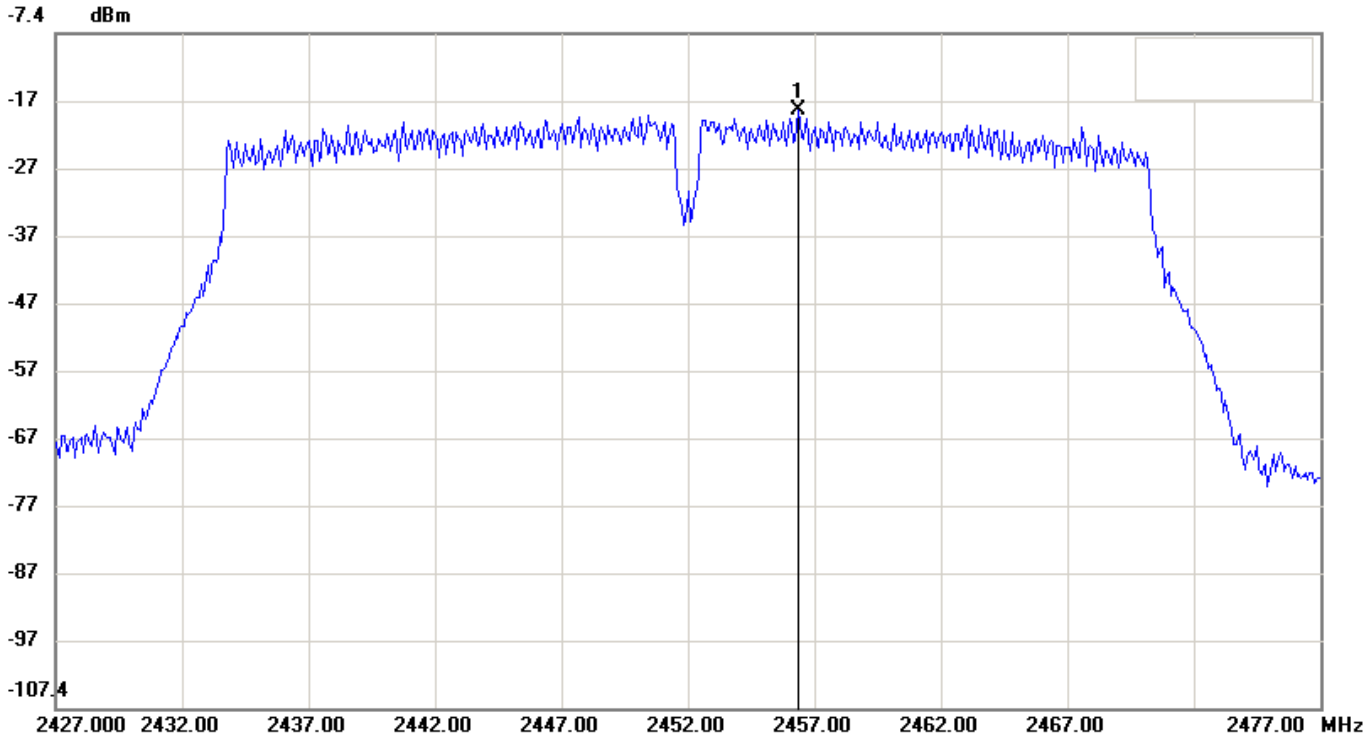
File:	**18-04-MAS-043_HT40_A1**	**Data**	**#9**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:11:49**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2431.33330	-18.51

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#13**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:23:50**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2456.33330	-18.82

8.4.4.2 CHAIN 1

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

天線增益最大值為 4.2 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-19.18	8	Page 78
M	-19.23	8	Page 79
H	-19.15	8	Page 80

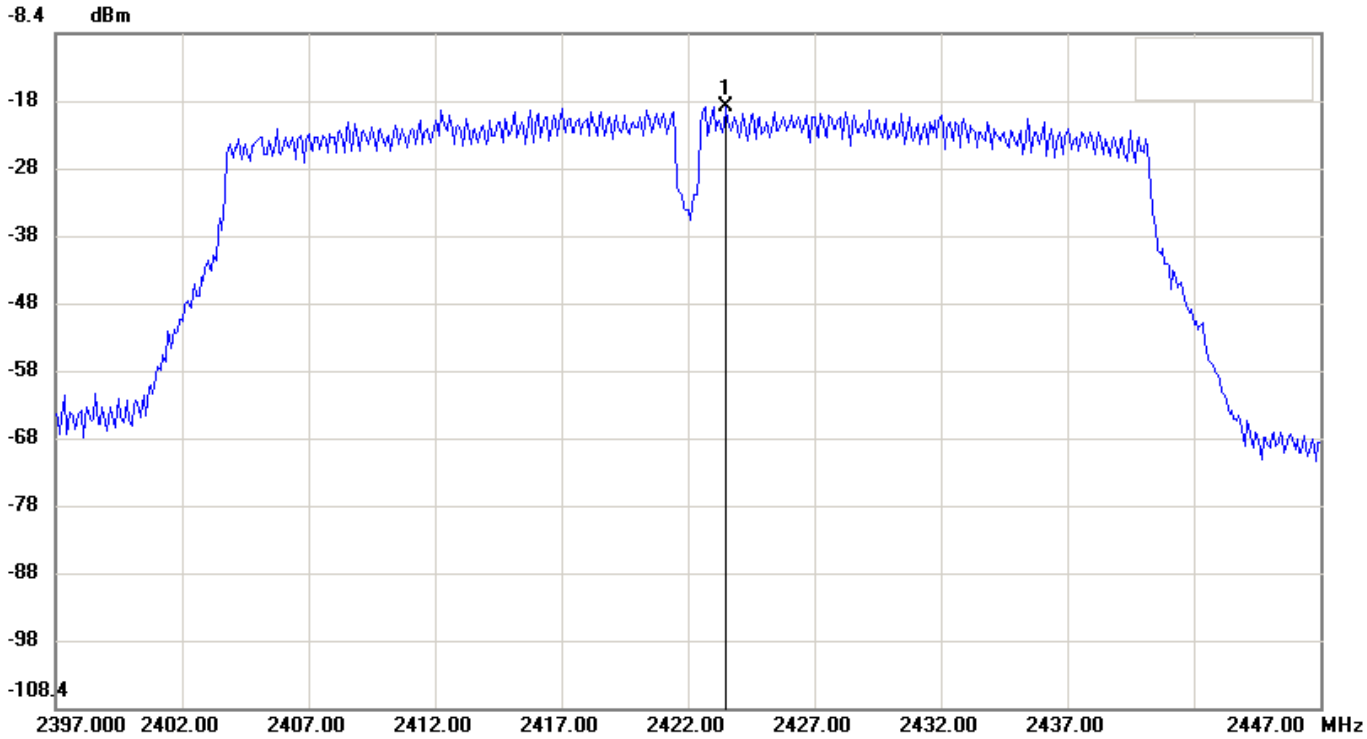
註：1. 繪圖資料請參考第 78-80 頁。

2. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

3. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

4. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

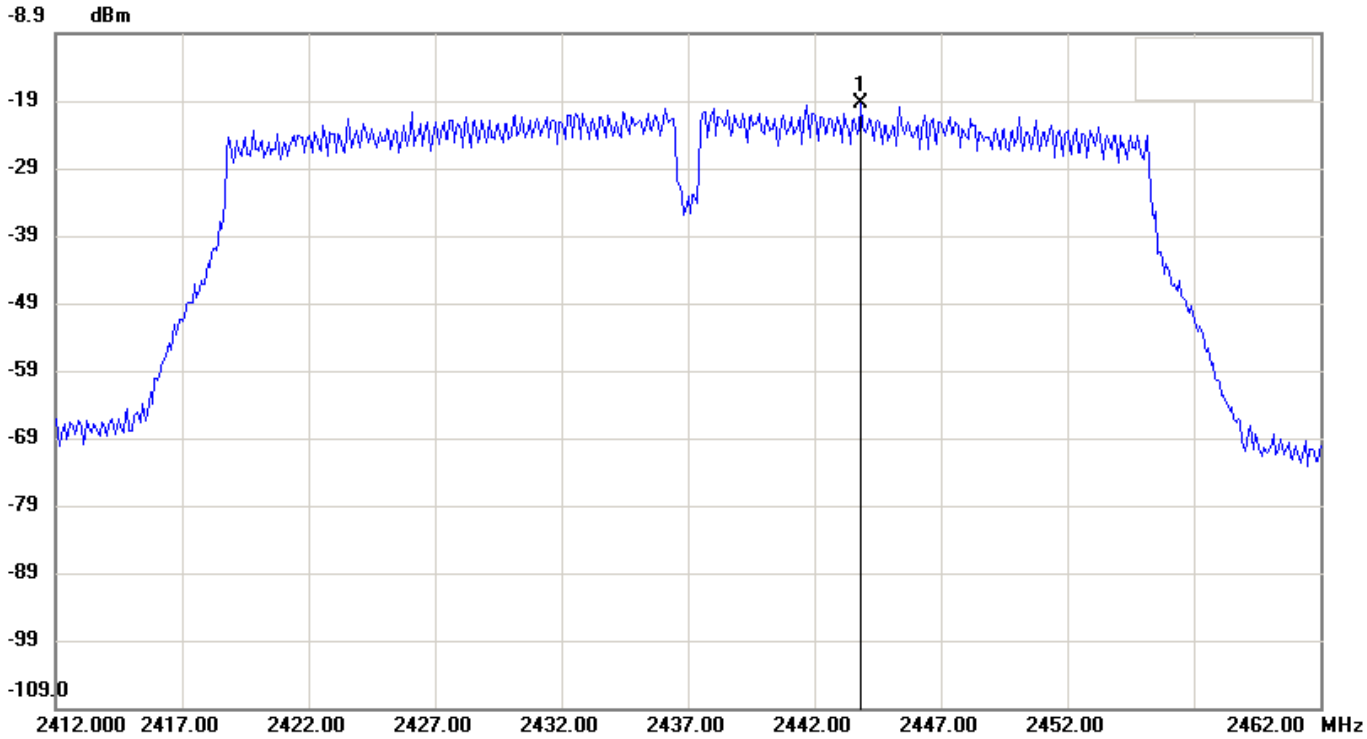
File:	**18-04-MAS-043_HT40_A2**	**Data**	**#4**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:48:18**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2423.50000	-19.18

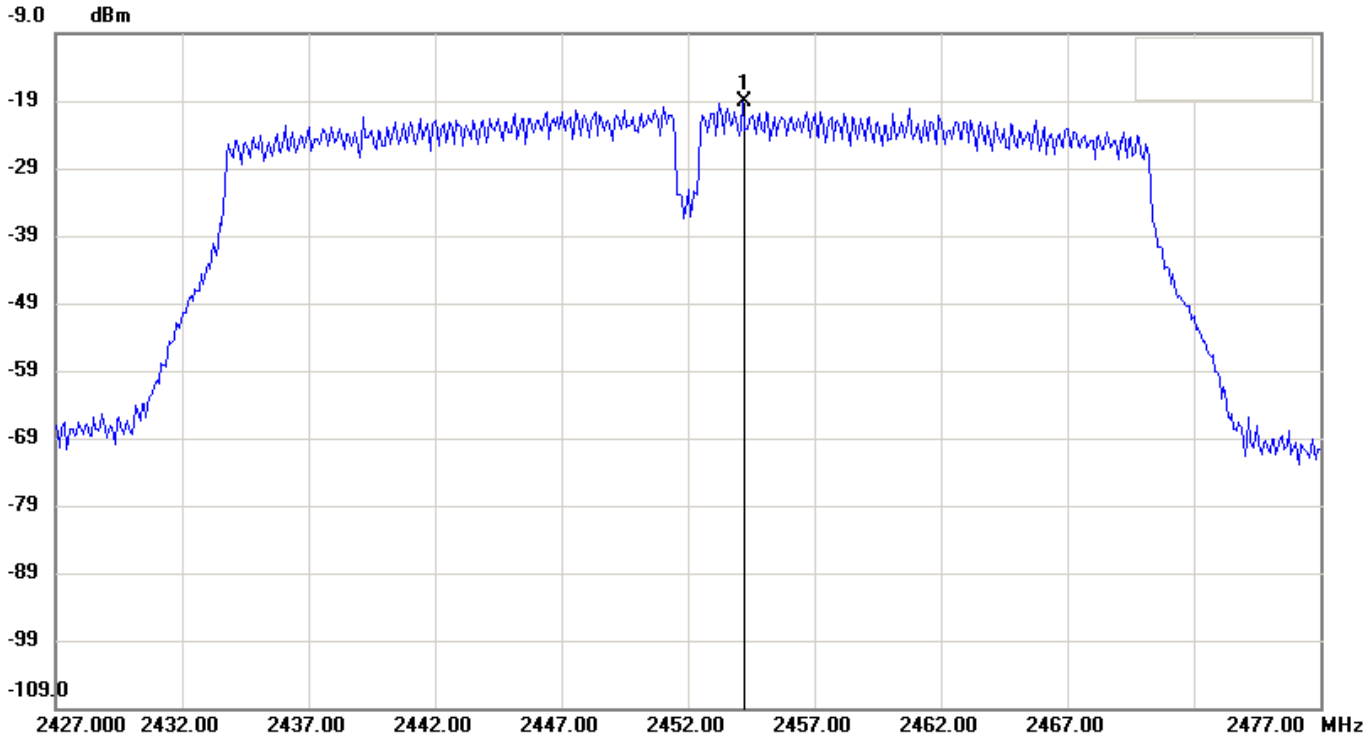
File:	**18-04-MAS-043_HT40_A2**	**Data**	**#9**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 04:04:21**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2443.83330	-19.23

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#13**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 04:14:31**	**Humidity:**	**60 %**



Condition: **RF Conducted**
EUT: **Sweep Time: 5272ms Att.: 10dB**
Model: **RBW: 3 KHz VBW: 10 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Power Density (PK)**

No.	Frequency(MHz)	Level(dBm)
1	2454.16670	-19.15

8.4.4.3 CHAIN 0 + CHAIN 1

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

Total power density calculation formula:

10 log (10^(Chain 0 PPSD / 10) + 10^(Chain 1 PPSD / 10)

天線增益最大值為 7.11 dBi，NCC Limit 如下表所示：

Channel	Peak Power Spectral Density (dBm)		Total Peak Power Spectral Density (dBm)	NCC Limit (dBm)
	Chain 0	Chain 1		
L	-18.53	-19.18	-15.83	6.89
M	-18.51	-19.23	-15.84	6.89
H	-18.82	-19.15	-15.97	6.89

註：1. If antenna gain ≦ 6dBi, NCC Limit = 8 dBm

2. If antenna gain > 6dBi, NCC Limit = 8dBm – (highest antenna gain – 6 dBi)

3. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

8.5 結果判定

高、中、低頻段的3kHz功率密度皆低於限制值，合乎標準規定。

9 混附波發射限制之量測

9.1 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3.10.1.5之規定，操作頻帶範圍外之任意100 kHz內，發射機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 kHz內的射頻功率，其衰減值限制如下：

(1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減20 dB，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，至少須衰減30 dB。

此外，落於國家通訊傳播委員會低功率射頻電機技術規範第2.7節禁用頻段之輻射發射，應符合國家通訊傳播委員會低功率射頻電機技術規範第2.8節之規定。

9.2 混附波發射限制之測試配置

如圖2 所示。

9.3 量測混附波發射限制之儀器

儀器名稱	製造者	型　　號
Spectrum Analyzer	Agilent	E4446A
Attenuator	WEINSCHEL	56-10

9.4 混附波發射限制之量測結果 (傳導方式量測)

測試工程師: 羅世勇

9.4.1 調變技術: IEEE 802.11b

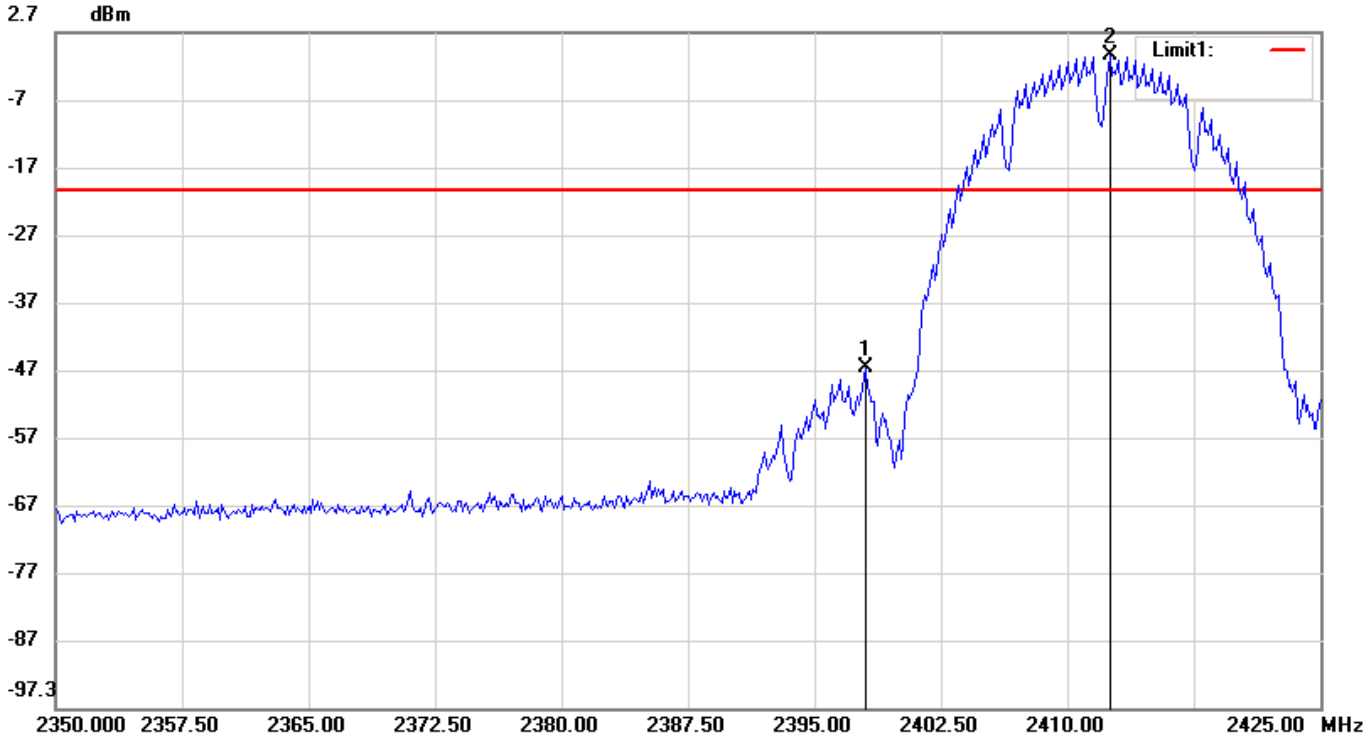
測試日期: May 04, 2018　　環境溫度: 25℃　　環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2398.000 MHz，比主波低 20dB以上，合乎標準規定。

b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2487.1233 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 83-87 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_B_A1**	**Data**	**#5**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:31:19**	**Humidity:**	**60 %**

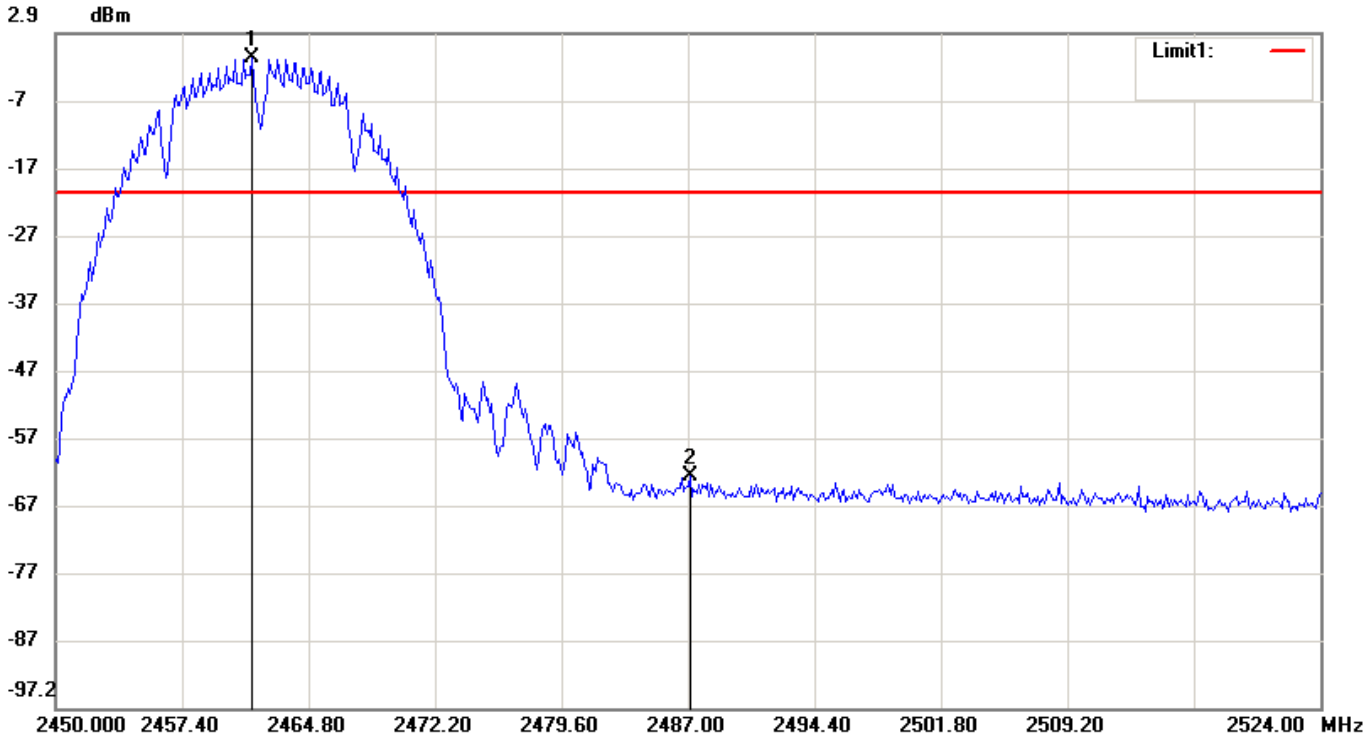


Condition: **-20.68dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11b Channel 01-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2398.00000	-47.00
2	2412.50000	-0.68

File:	**18-04-MAS-043_B_A1**	**Data**	**#14**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 04:15:35**	**Humidity:**	**60 %**

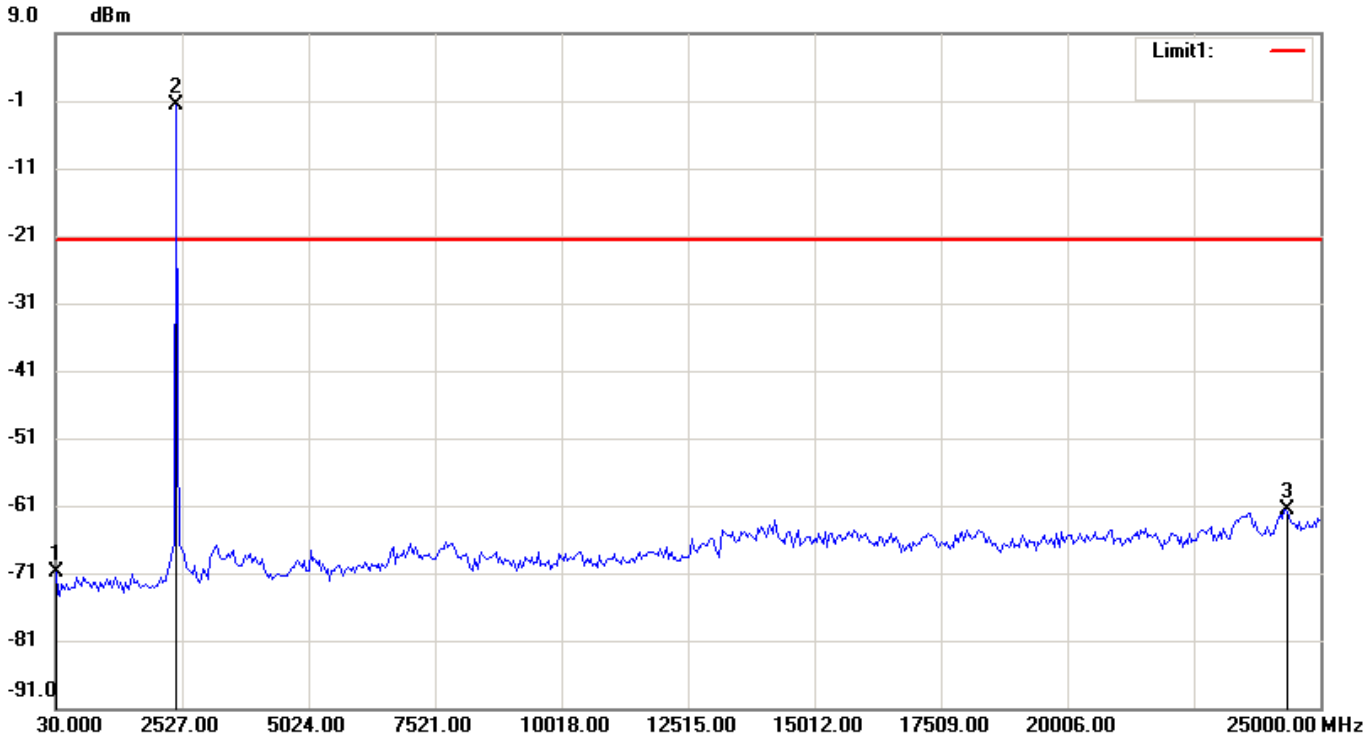


Condition: **-20.71dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11b Channel 11-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2461.47000	-0.71
2	2487.12330	-62.82

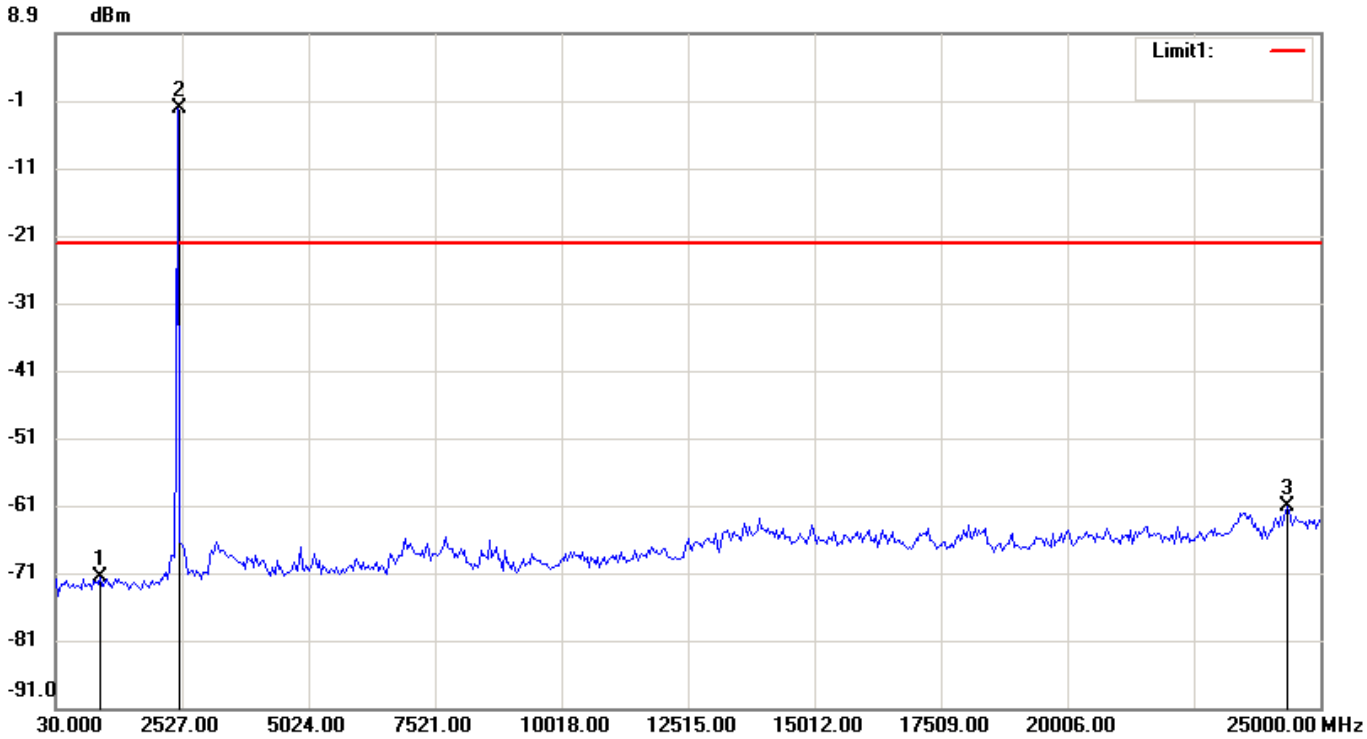
File:	**18-04-MAS-043_B_A1**	**Data #2**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
			Time:	**下午 03:25:49**	**Humidity:**	**60 %**



Condition: **-21.64dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11b Channel 01-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	30.0000	-70.92
2	2402.15000	-1.64
3	24292.51670	-61.52

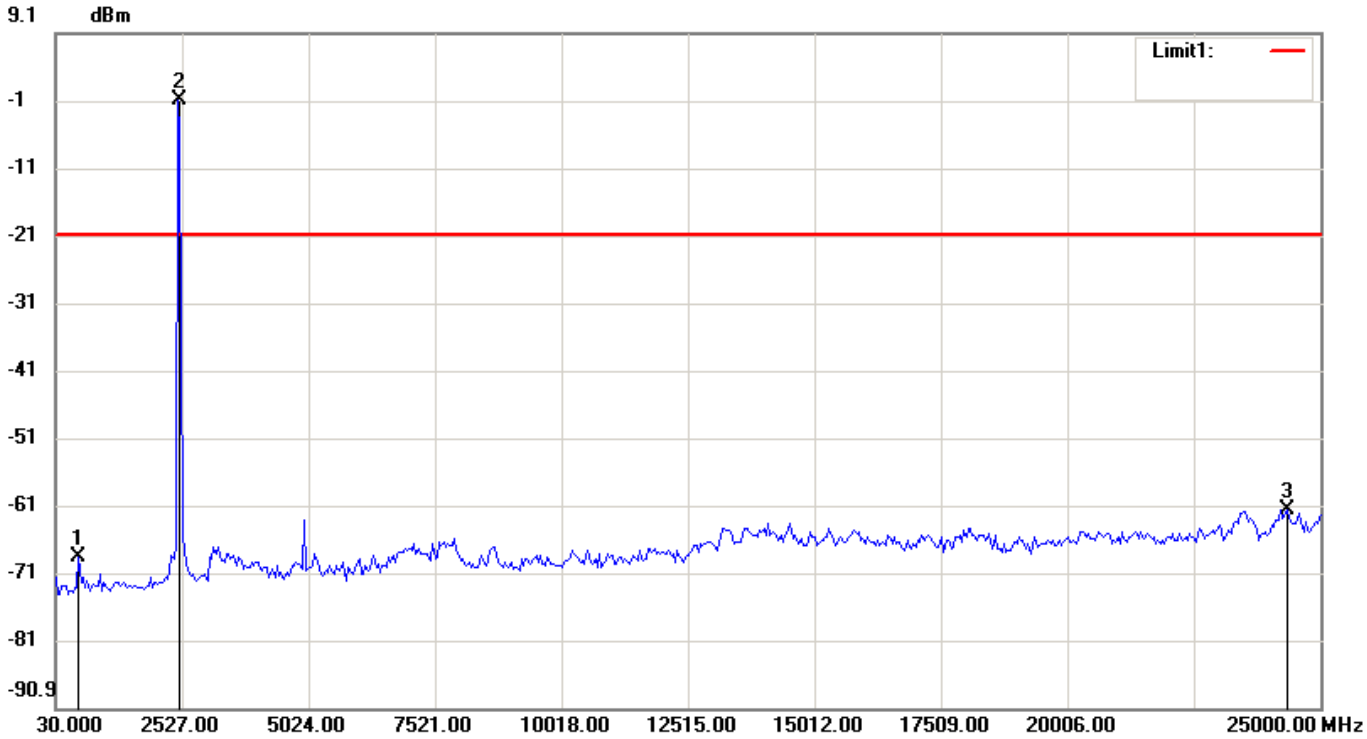
File:	**18-04-MAS-043_B_A1**	**Data**	**#7**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 03:50:52**	**Humidity:**	**60 %**



Condition: **-22.1dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11b Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	903.9500	-71.57
2	2443.76670	-2.10
3	24334.13330	-61.13

File:	**18-04-MAS-043_B_A1**	**Data**	**#11**	**Date:**	**2018/5/4**	**Temperature:**	**25 ℃**
				Time:	**下午 04:10:08**	**Humidity:**	**60 %**



Condition: **-20.8dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11b channel 11-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	487.7833	-68.51
2	2443.76670	-0.80
3	24334.13330	-61.42

9.4.2 調變技術: IEEE 802.11g

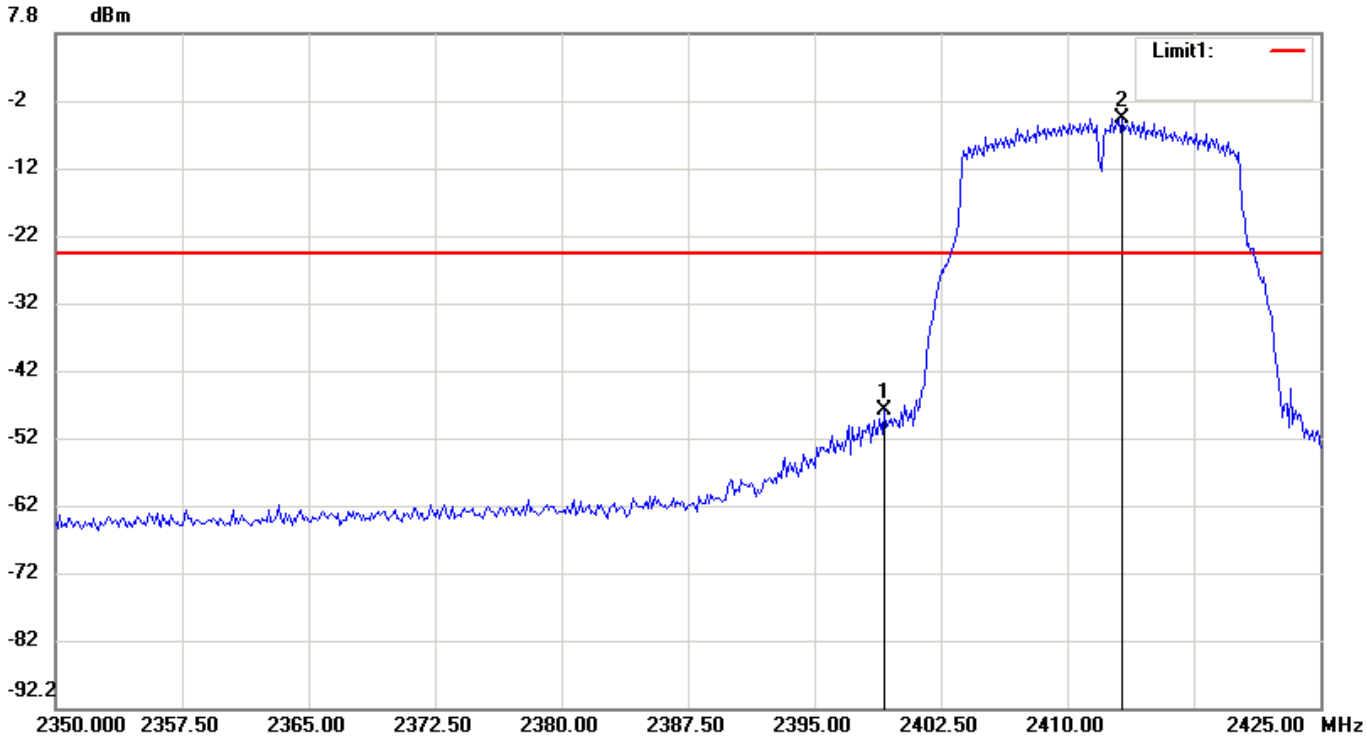
測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2399.125 MHz，比主波低 20dB以上，合乎標準規定。

b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2483.670 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 89-93 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_G_A1**	**Data #5**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 10:08:20**	**Humidity:**	**60 %**

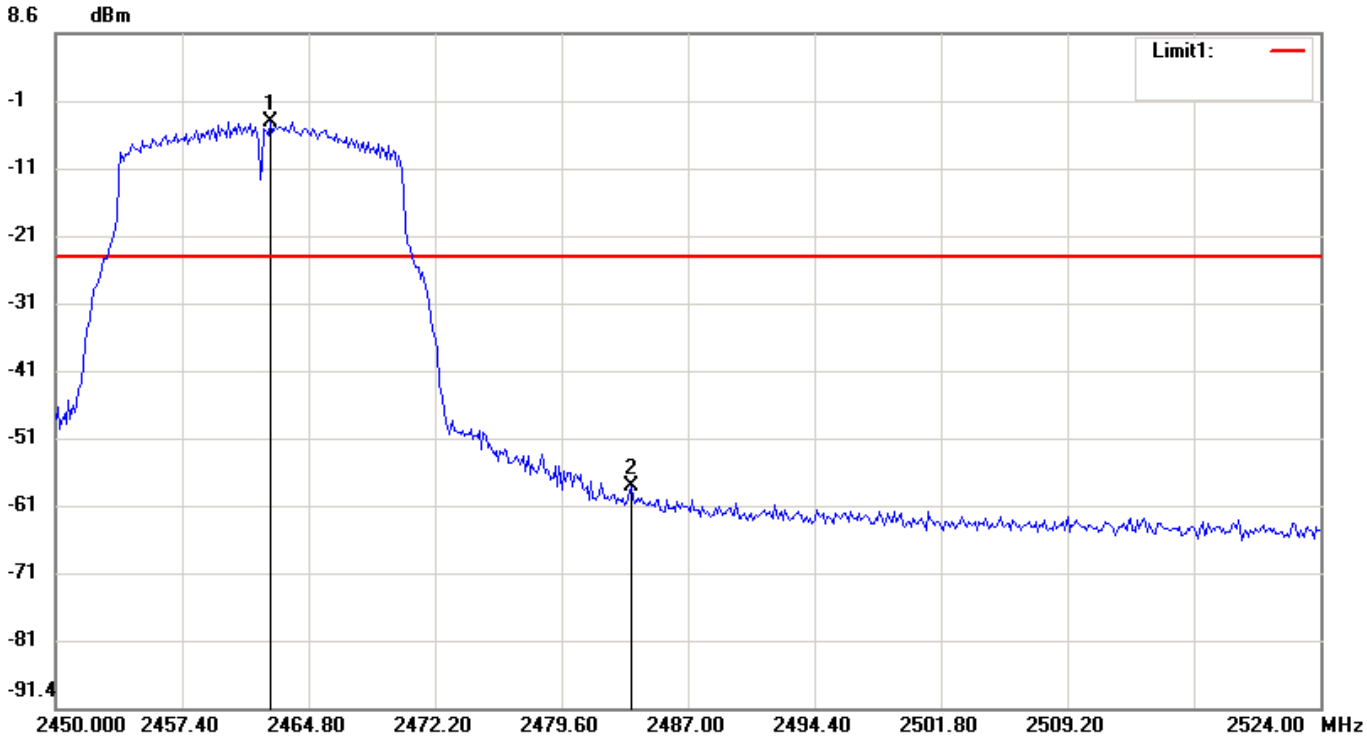


Condition: **-24.7dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 01-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2399.12500	-47.95
2	2413.25000	-4.70

File:	**18-04-MAS-043_G_A1**	**Data**	**#14**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:41:40**	**Humidity:**	**60 %**

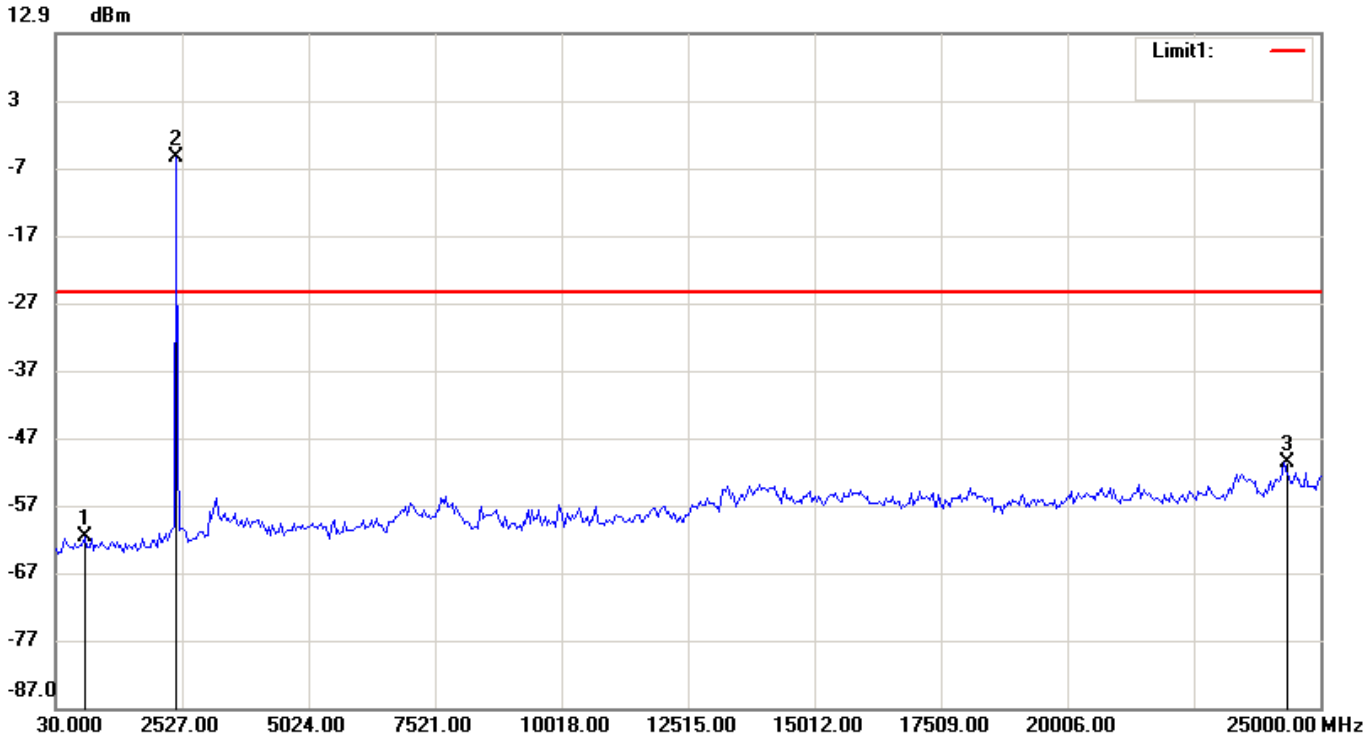


Condition: **-24.57dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 11-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2462.58000	-4.57
2	2483.67000	-58.60

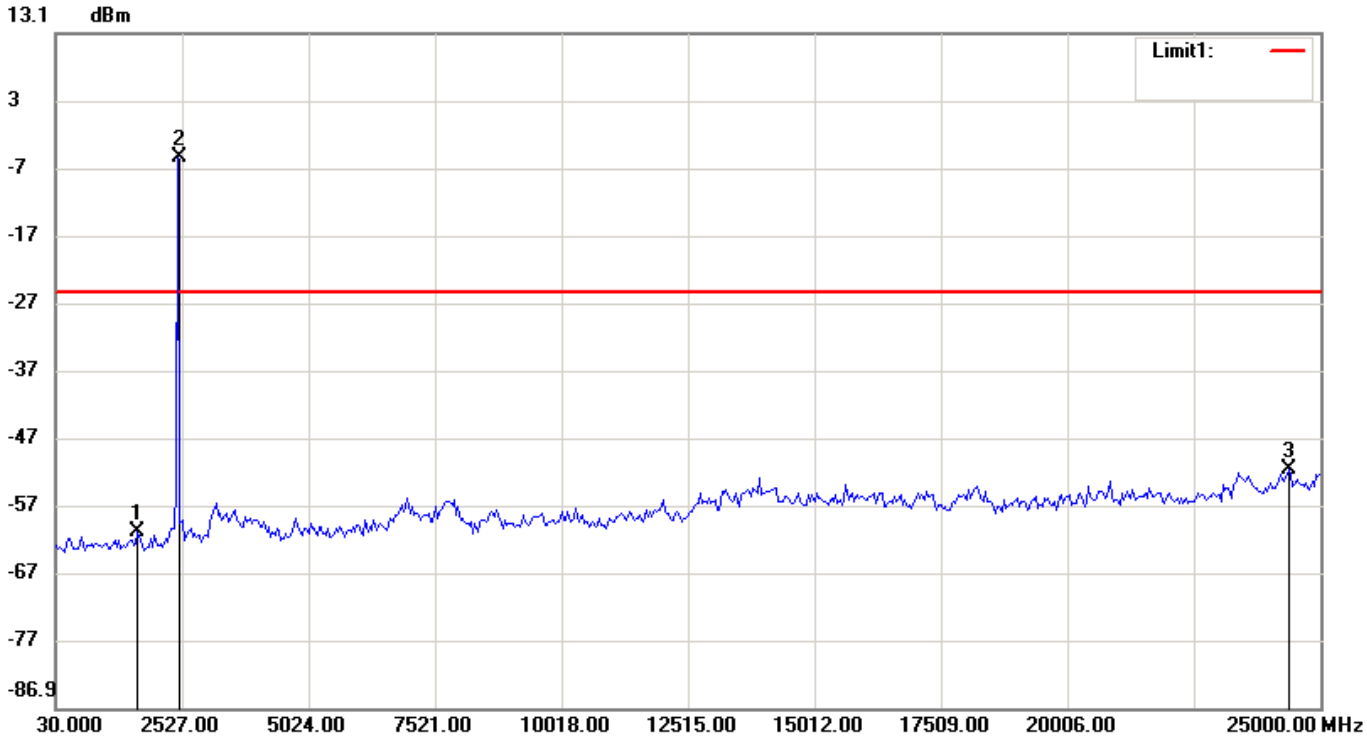
File:	**18-04-MAS-043_G_A1**	**Data #2**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 10:02:48**	**Humidity:**	**60 %**



Condition: **-25.41dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11g Channel 01-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	612.6333	-61.72
2	2402.15000	-5.41
3	24292.51670	-50.77

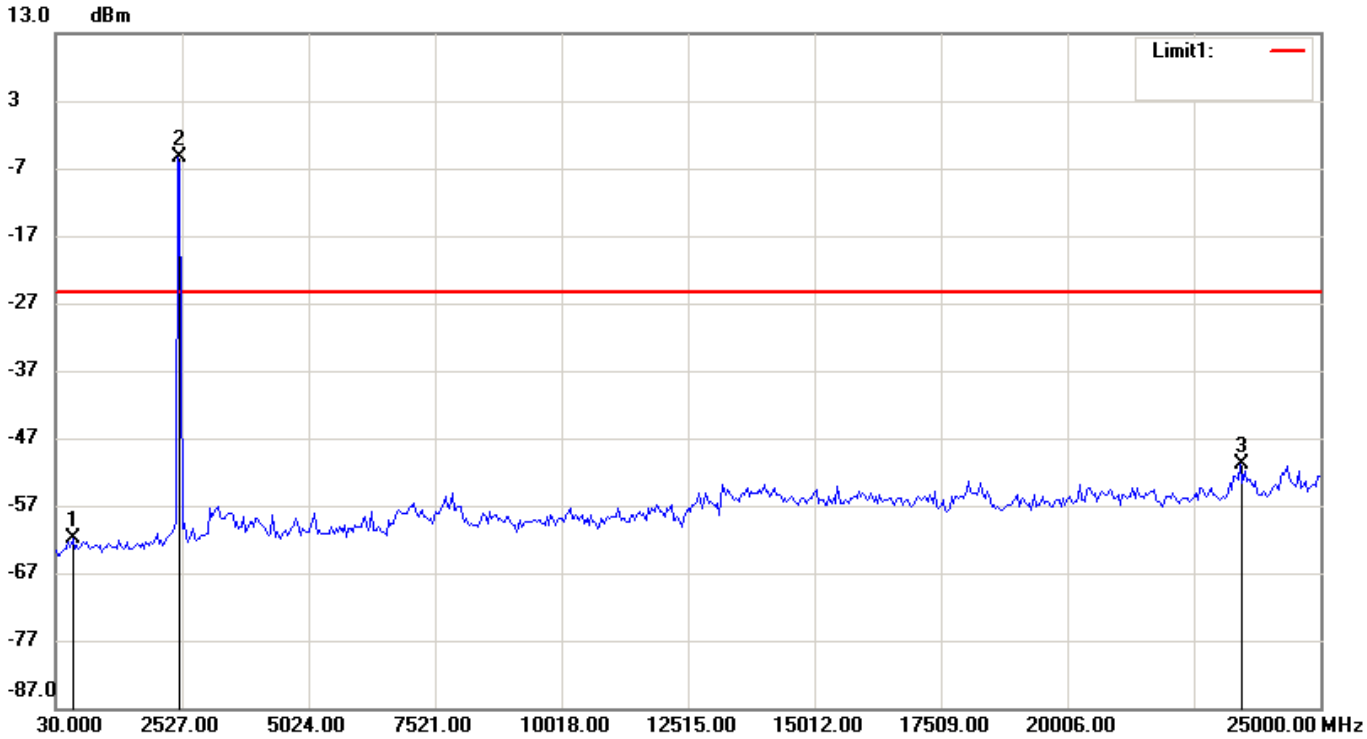
File:	**18-04-MAS-043_G_A1**	**Data #7**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
			Time:	**上午 10:21:15**	**Humidity:**	**60 %**



Condition: **-25.19dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11g Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1653.05000	-60.79
2	2443.76670	-5.19
3	24375.75000	-51.55

File:	**18-04-MAS-043_G_A1**	**Data**	**#11**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 10:36:11**	**Humidity:**	**60 %**



Condition: **-25.35dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11g Channel 11-Conducted Spurious**

RF Conducted
Sweep Time: 2386.4ms Att.: 20dB
RBW: 100 KHz VBW: 300 KHz

No.	Frequency(MHz)	Level(dBm)
1	362.9333	-61.78
2	2443.76670	-5.35
3	23418.56670	-50.80

9.4.3 調變技術: IEEE 802.11n HT20

9.4.3.1 CHAIN 0

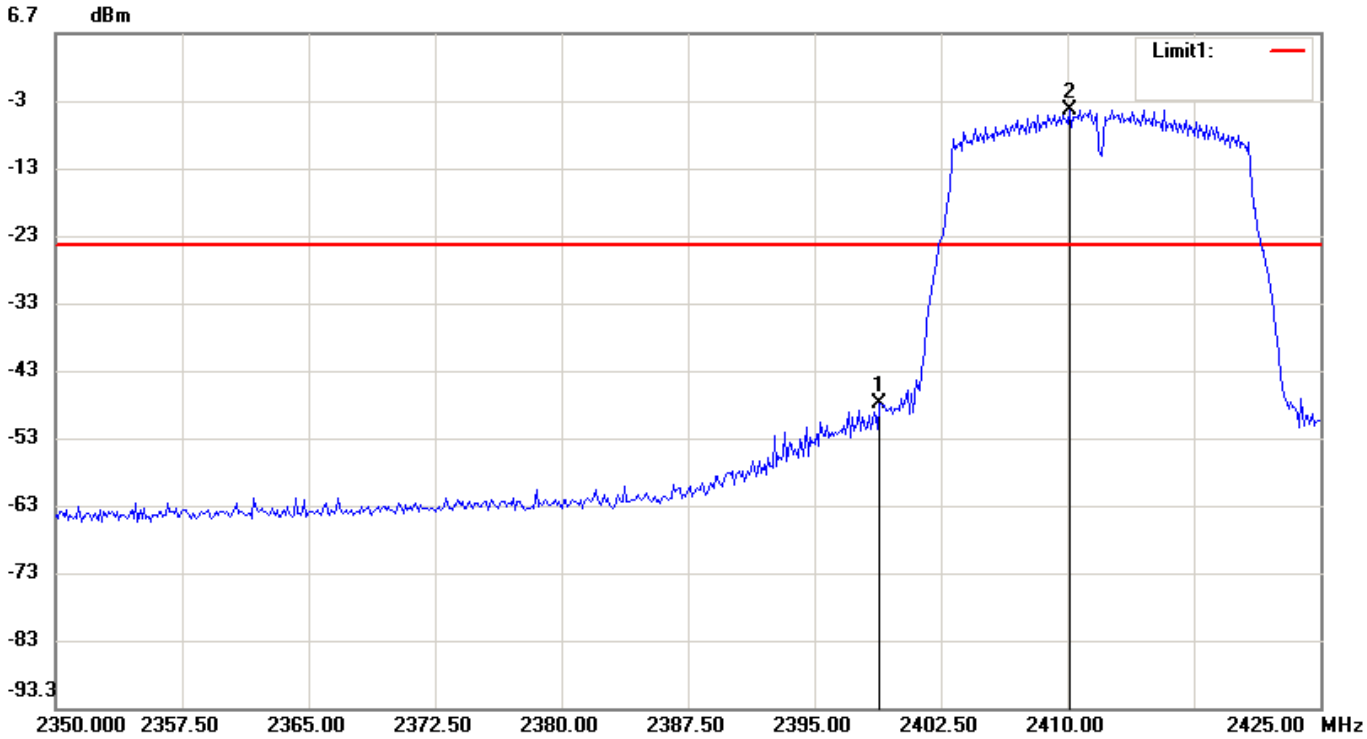
測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2398.875 MHz，比主波低 20dB以上，合乎標準規定。

b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2484.78 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 95-99 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#5**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:20:21**	**Humidity:**	**60 %**

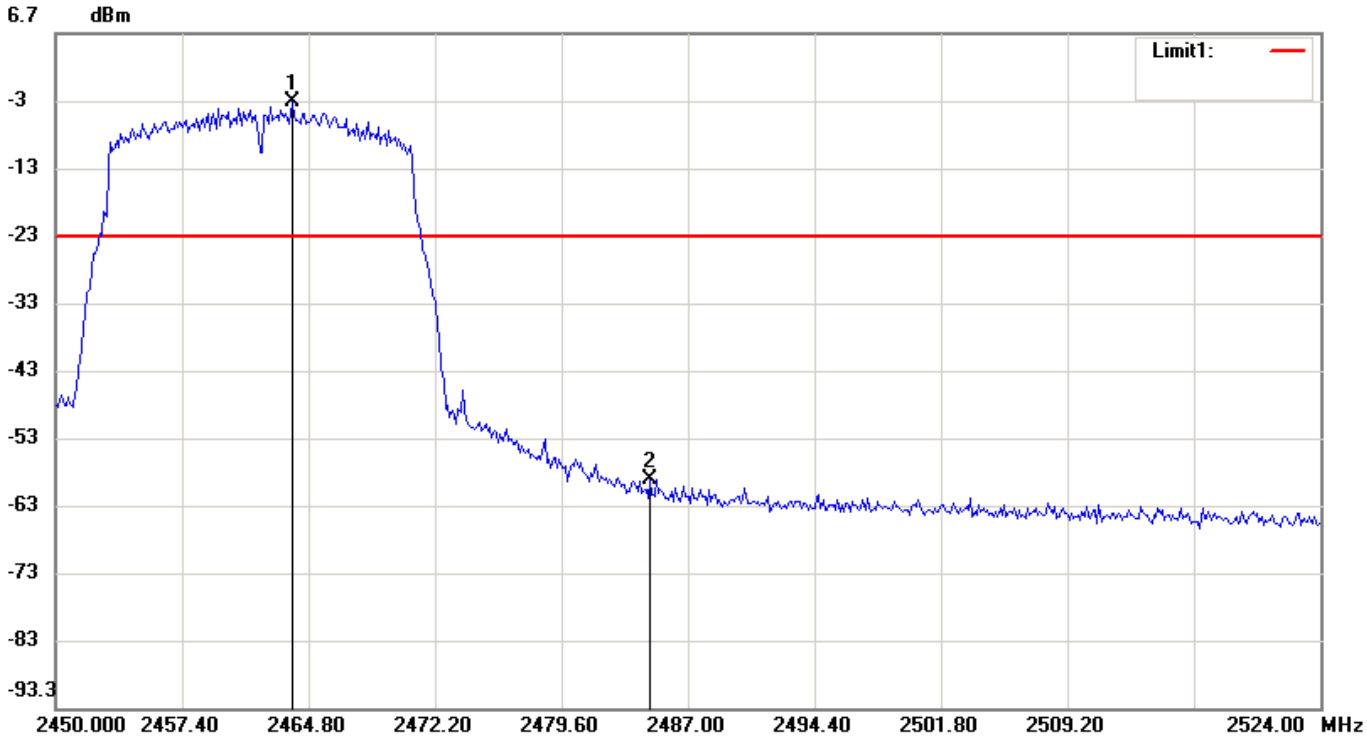


Condition: **-24.69dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2398.87500	-48.26
2	2410.12500	-4.69

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#14**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:09:36**	**Humidity:**	**60 %**

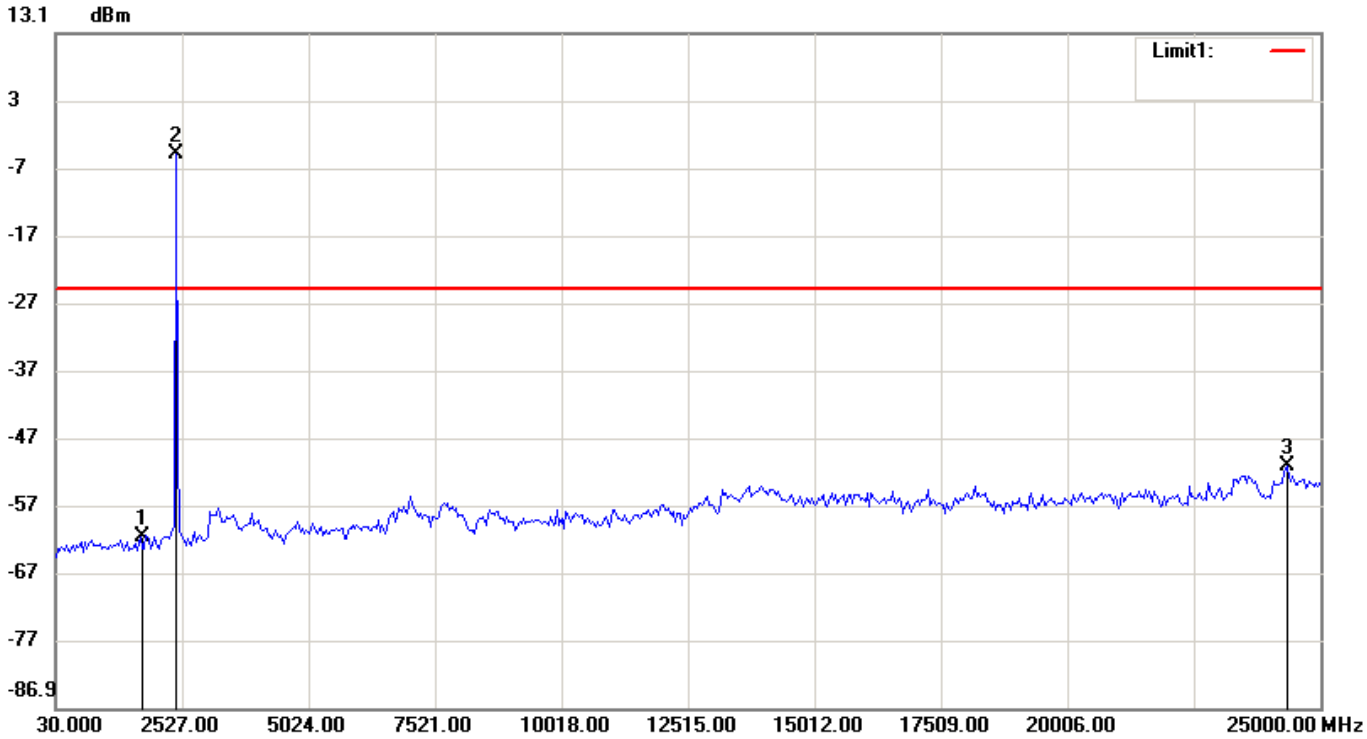


Condition: **-23.45dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2463.81330	-3.45
2	2484.78000	-59.34

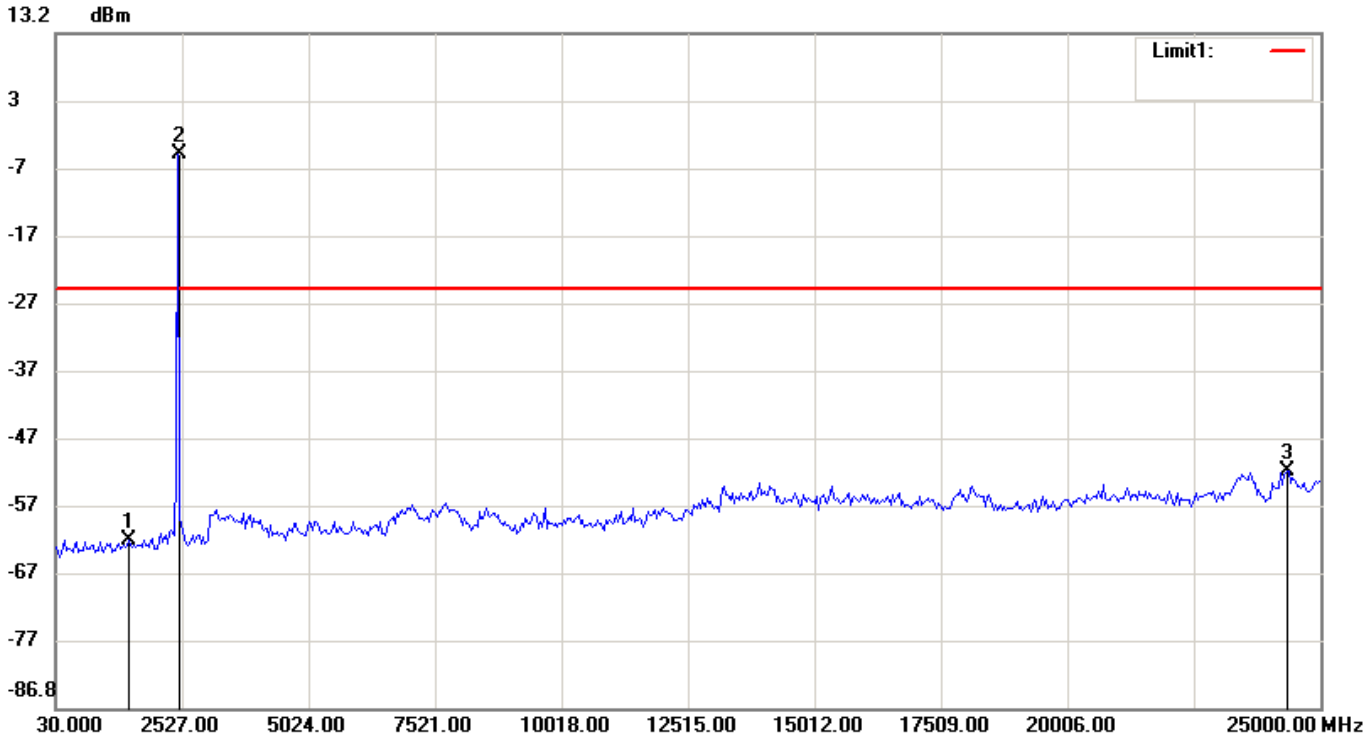
File:	**18-04-MAS-043_HT20_A1**	**Data**	**#2**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:14:50**	**Humidity:**	**60 %**



Condition: **-24.77dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1694.66670	-61.59
2	2402.15000	-4.77
3	24334.13330	-50.95

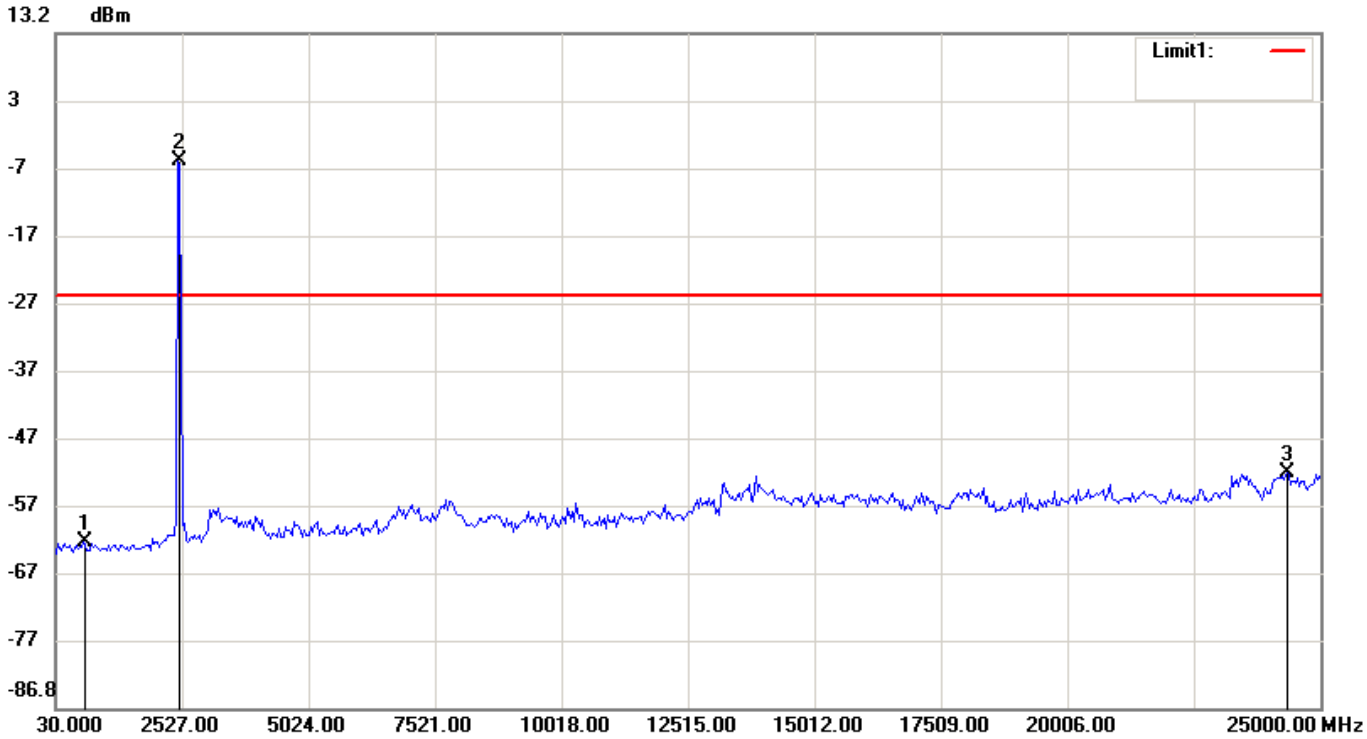
File:	**18-04-MAS-043_HT20_A1**	**Data**	**#7**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:29:00**	**Humidity:**	**60 %**



Condition: **-24.7dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1486.58330	-61.88
2	2443.76670	-4.70
3	24334.13330	-51.66

File:	**18-04-MAS-043_HT20_A1**	**Data**	**#11**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:04:11**	**Humidity:**	**60 %**



Condition: **-25.79dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	571.0167	-62.18
2	2443.76670	-5.79
3	24334.13330	-51.94

9.4.3.2 CHAIN 1

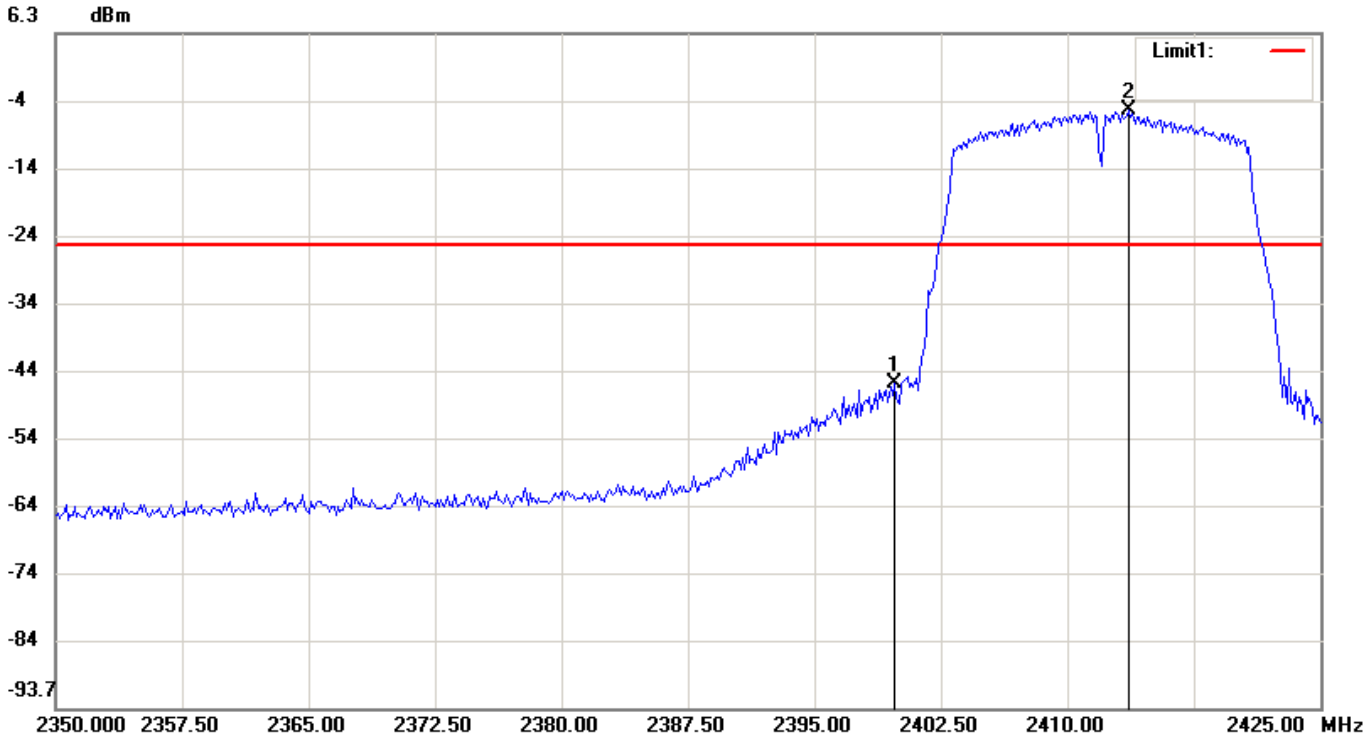
測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2399.75 MHz，比主波低 20dB以上，合乎標準規定。

b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2483.7933 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 101-105 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT20_A2**	**Data**	**#5**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 11:46:13**	**Humidity:**	**60 %**

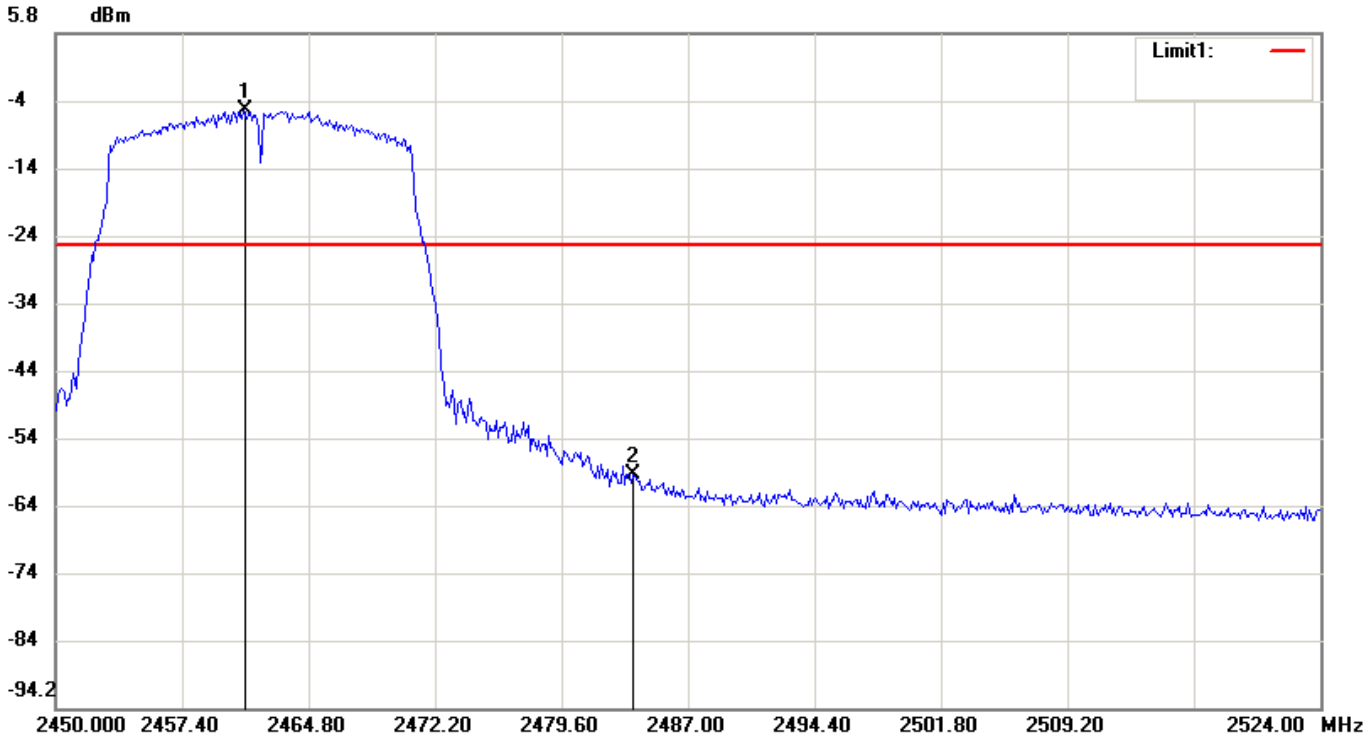


Condition: **-25.18dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2399.75000	-45.70
2	2413.62500	-5.18

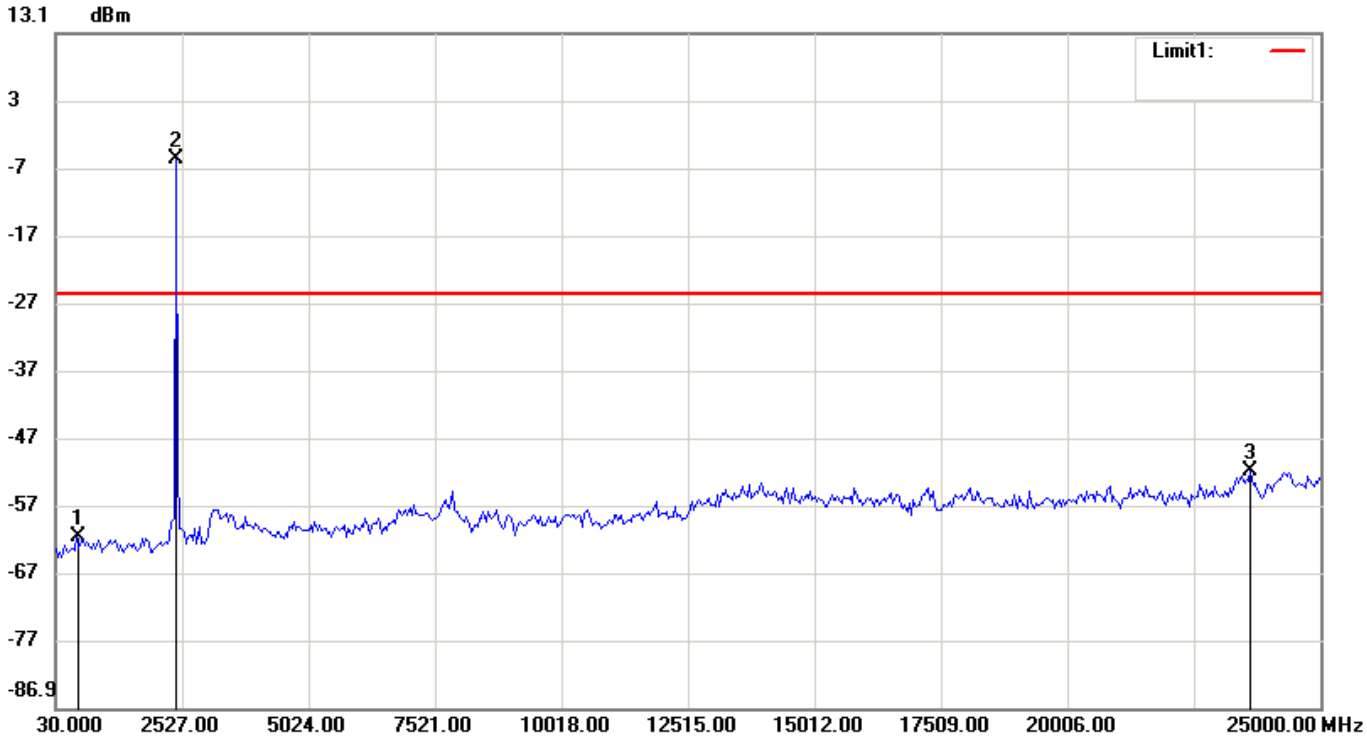
File:	**18-04-MAS-043_HT20_A2**	**Data**	**#14**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 01:01:53**	**Humidity:**	**60 %**



Condition: **-25.49dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Bandedge**

No.	Frequency(MHz)	Level(dBm)
1	2460.97670	-5.49
2	2483.79330	-59.63

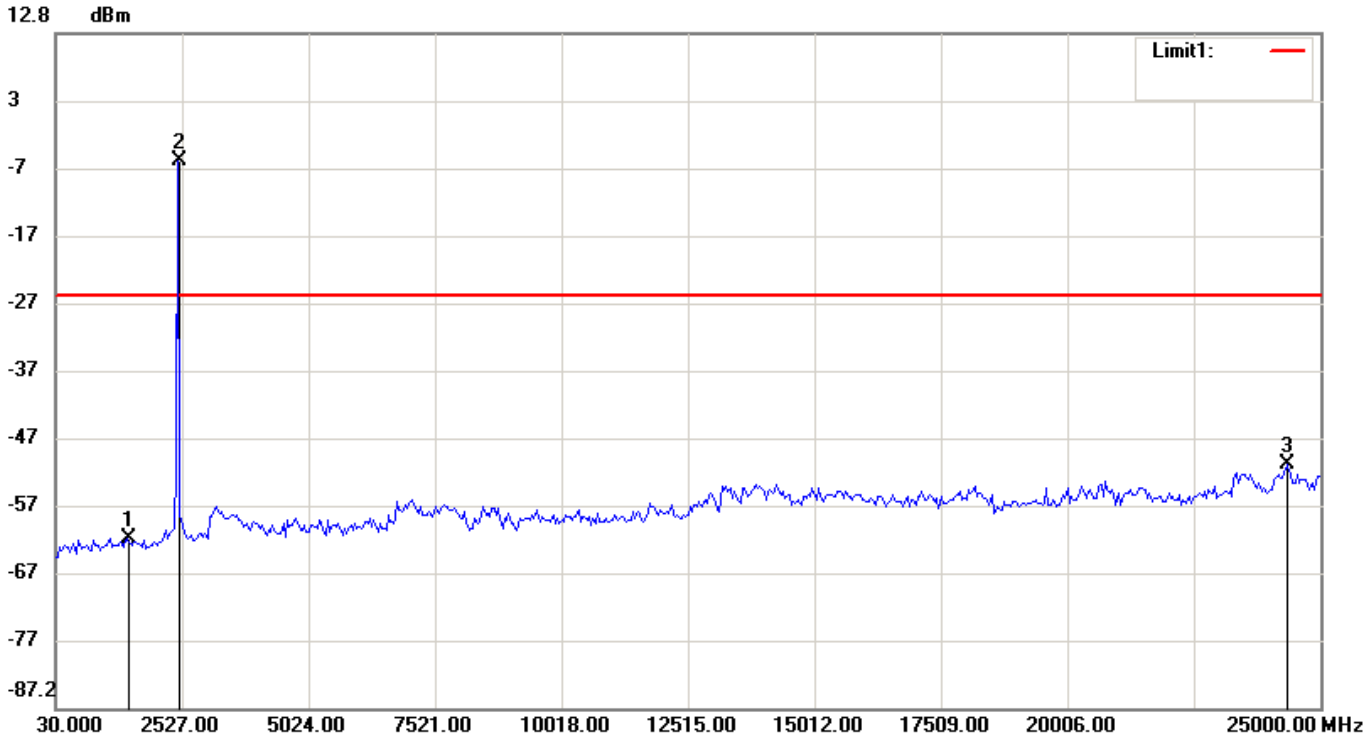
File:	**18-04-MAS-043_HT20_A2**	**Data**	**#2**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 11:40:46**	**Humidity:**	**60 %**



Condition: **-25.63dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 01-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	446.1667	-61.55
2	2402.15000	-5.63
3	23626.65000	-51.71

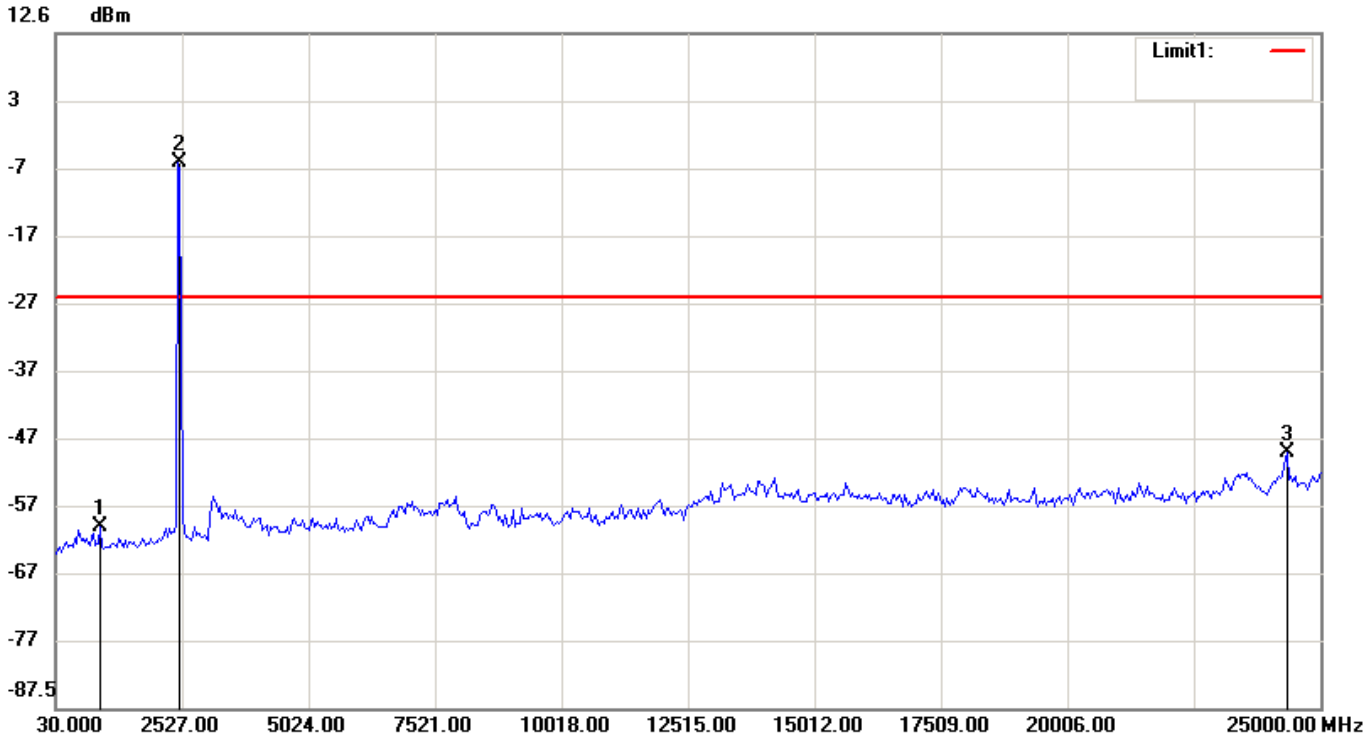
File:	**18-04-MAS-043_HT20_A2**	**Data**	**#7**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**上午 11:52:13**	**Humidity:**	**60 %**



Condition: **-25.94dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1444.96670	-62.06
2	2443.76670	-5.94
3	24334.13330	-51.04

File:	**18-04-MAS-043_HT20_A2**	**Data**	**#11**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 12:56:27**	**Humidity:**	**60 %**



Condition: **-26.46dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT20 Channel 11-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	903.9500	-60.49
2	2443.76670	-6.46
3	24334.13330	-49.66

9.4.4 調變技術: IEEE 802.11n HT40

9.4.4.1 CHAIN 0

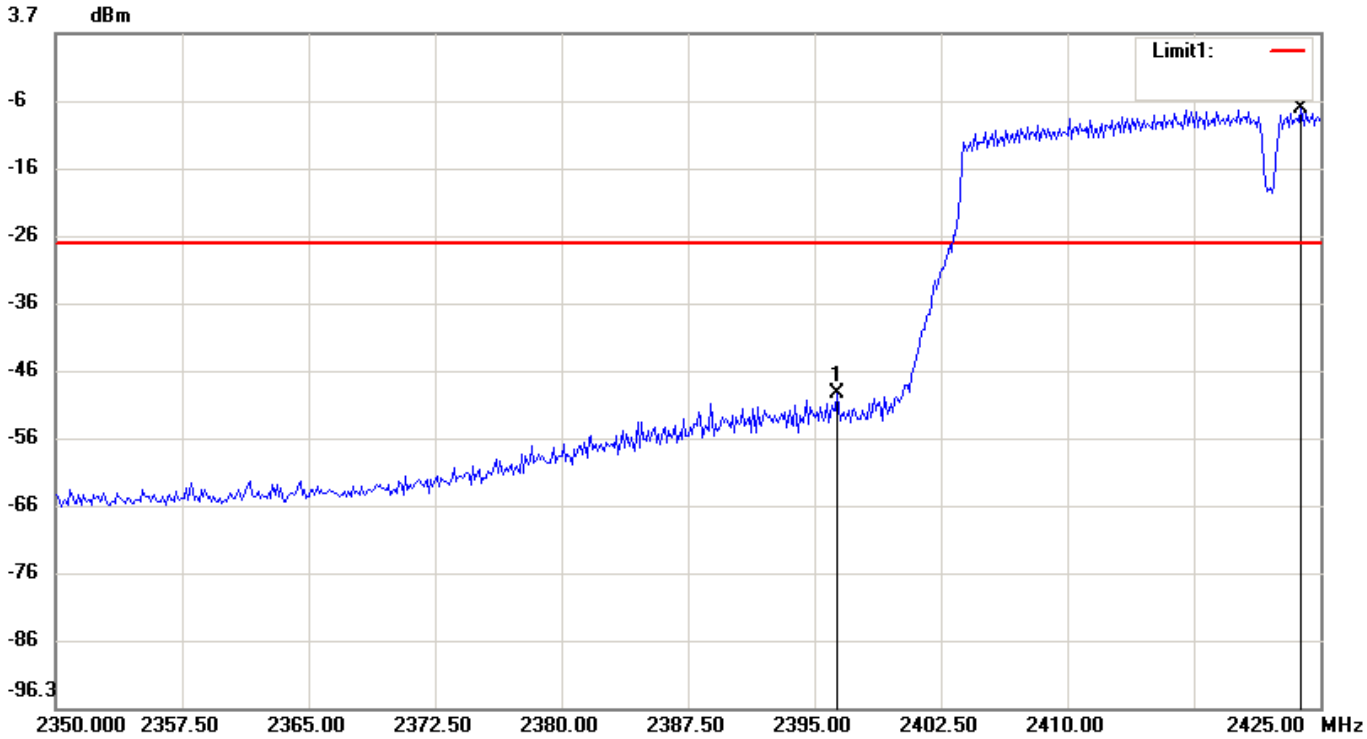
測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2396.375 MHz，比主波低 20dB以上，合乎標準規定。

b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2488.7267 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 107-111 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#5**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:45:47**	**Humidity:**	**60 %**

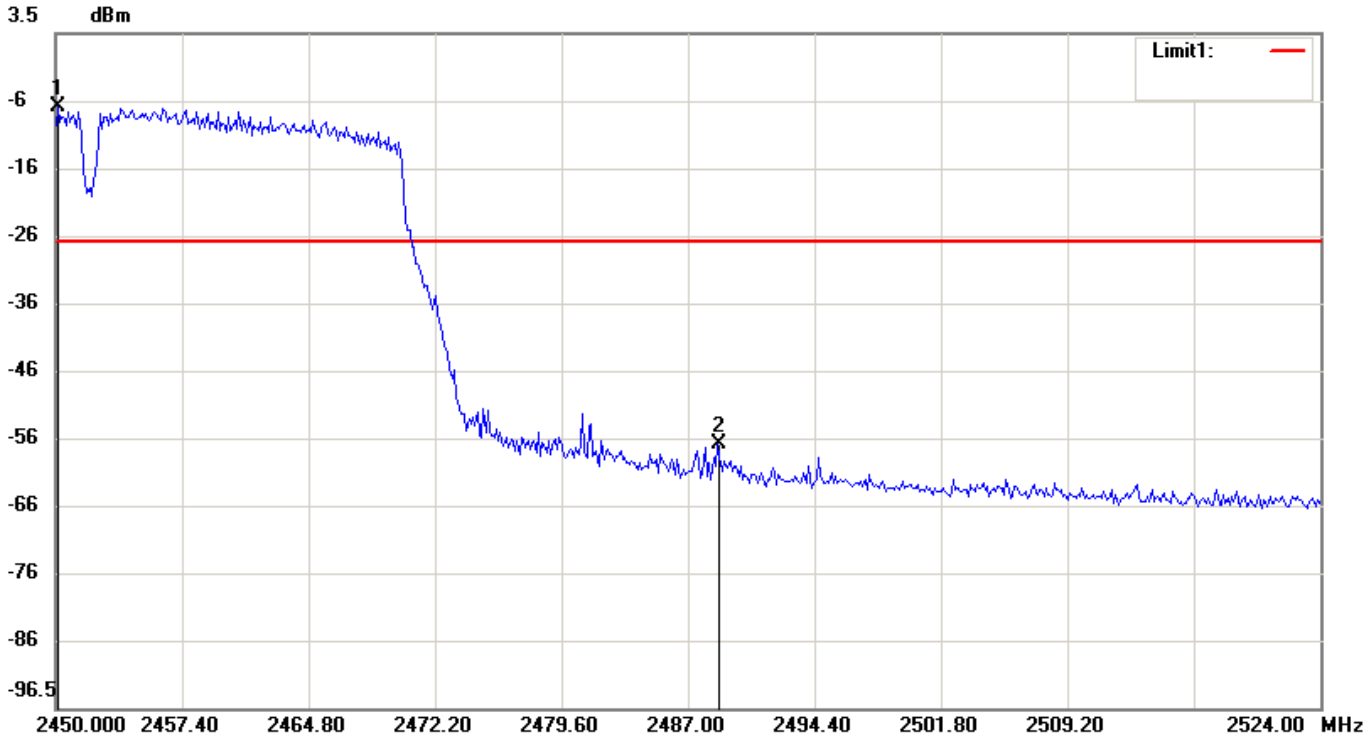


Condition: **-27.35dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2396.37500	-49.68
2	2423.87500	-7.35

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#14**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:24:42**	**Humidity:**	**60 %**

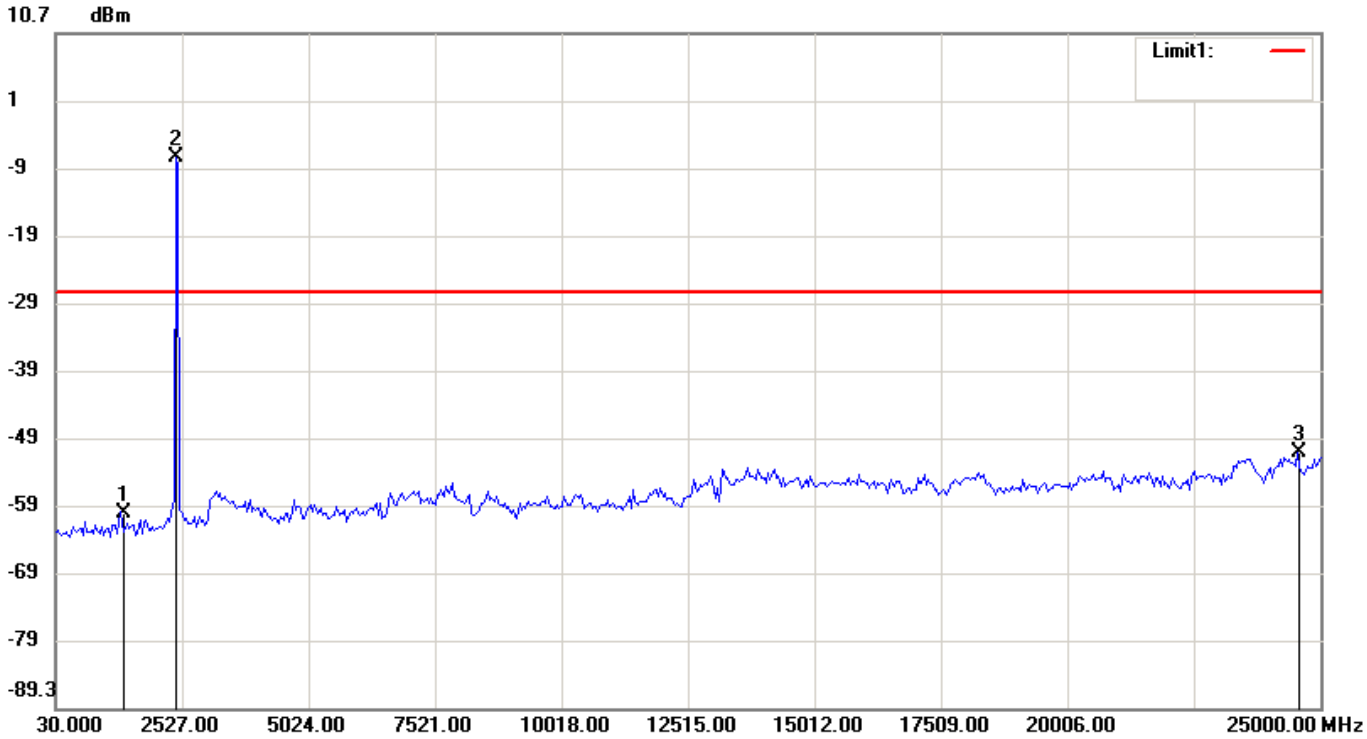


Condition: **-27.25dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2450.12330	-7.25
2	2488.72670	-57.31

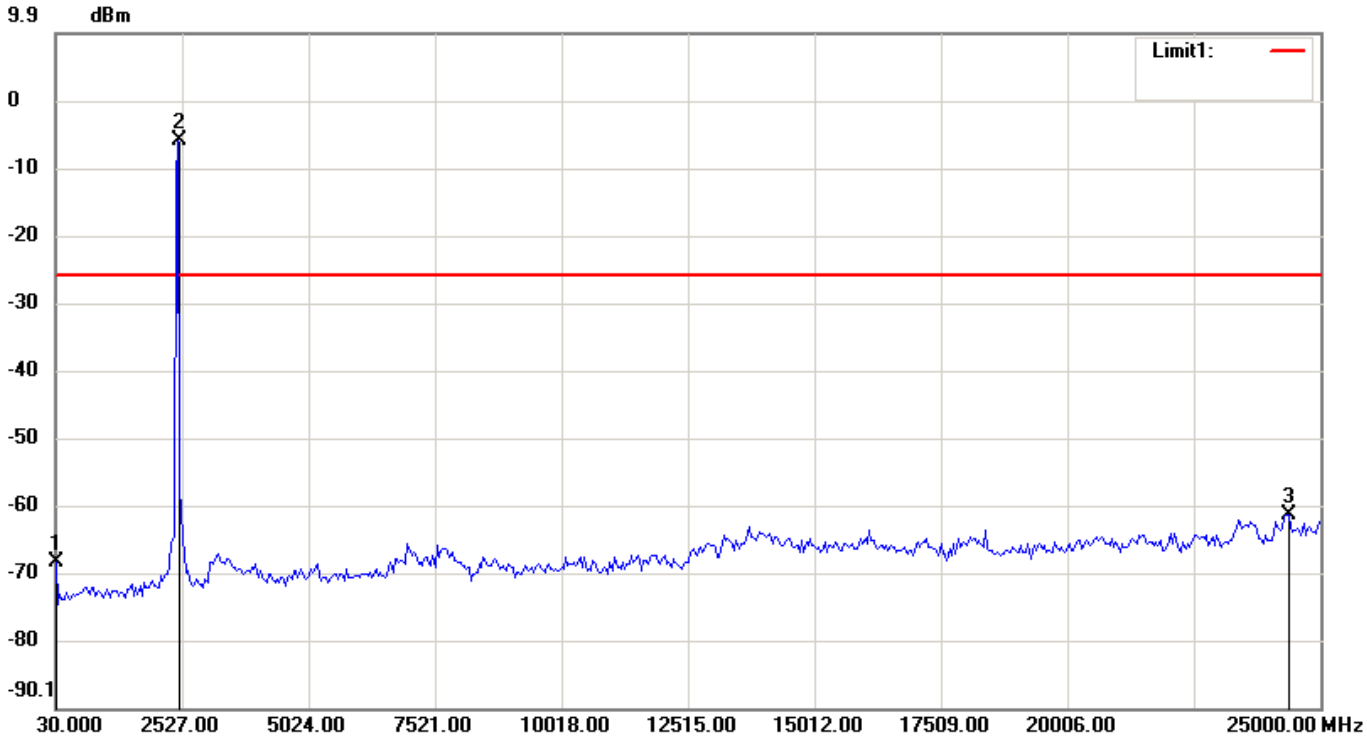
File:	**18-04-MAS-043_HT40_A1**	**Data**	**#2**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 02:40:20**	**Humidity:**	**60 %**



Condition: **-27.81dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 20dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1320.11670	-60.33
2	2402.15000	-7.81
3	24542.21670	-51.50

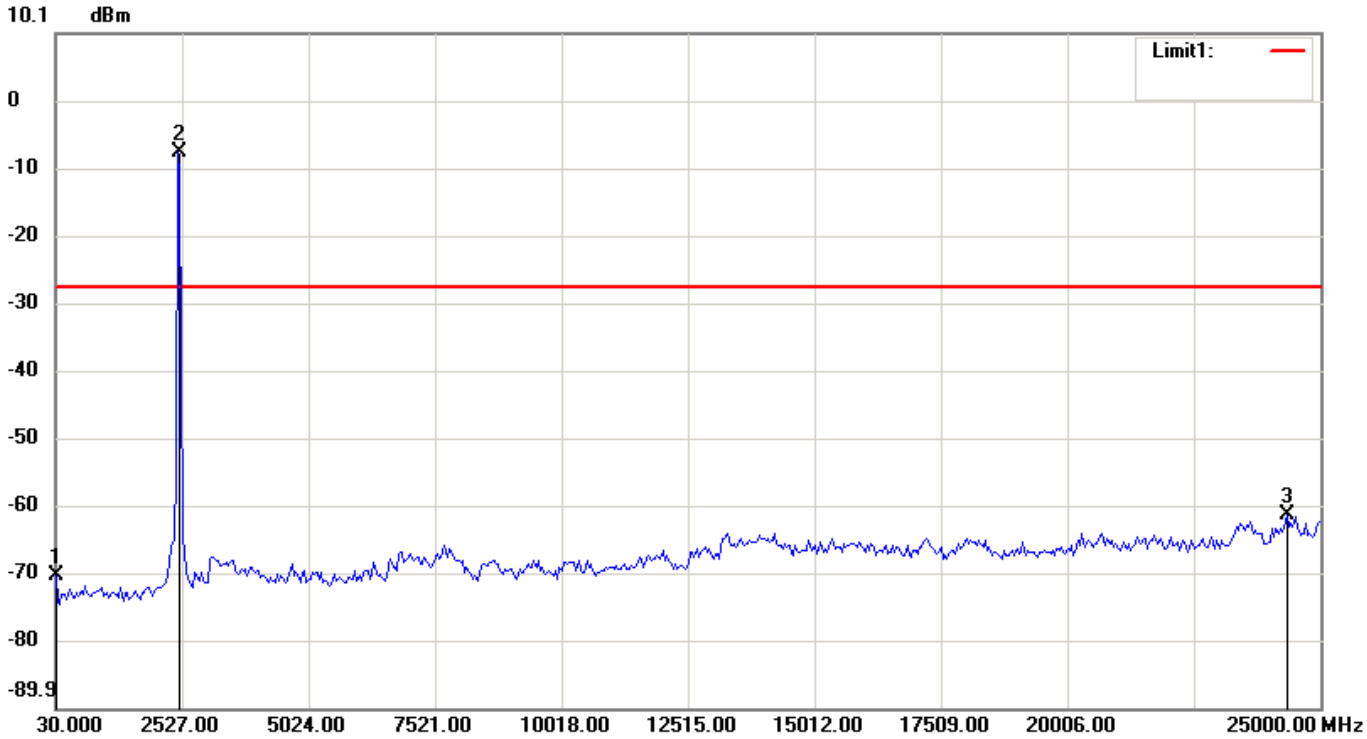
File:	**18-04-MAS-043_HT40_A1**	**Data**	**#7**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:07:14**	**Humidity:**	**60 %**



Condition: **-26.1dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	30.0000	-68.49
2	2443.76670	-6.10
3	24375.75000	-61.50

File:	**18-04-MAS-043_HT40_A1**	**Data**	**#11**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:19:15**	**Humidity:**	**60 %**



Condition: **-27.56dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	30.0000	-70.28
2	2443.76670	-7.56
3	24334.13330	-61.23

9.4.4.2 CHAIN 1

測試日期: May 07, 2018 環境溫度: 25℃ 環境濕度: 60%

a. 下邊緣頻帶： 距下頻帶邊緣40MHz內最大混附波產生於 2395.375 MHz，比主波低 20dB以上，合乎標準規定。

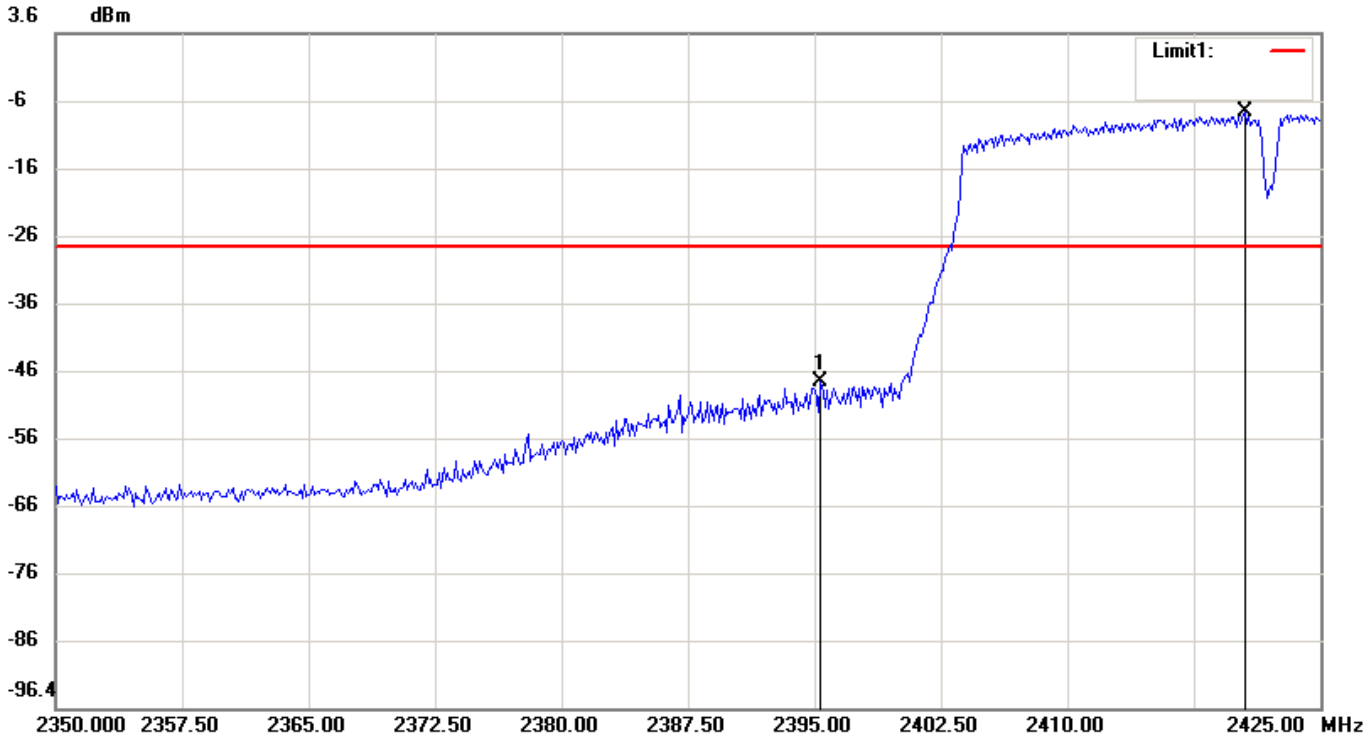
b. 上邊緣頻帶：距上頻帶邊緣40MHz內最大混附波產生於 2485.0267 MHz，比主波低 20dB以上，合乎標準規定。

註：1. 繪圖資料請參考第 113-117 頁。
2. 量測不準確度:±1.5dB(1GHz≦f≦18GHz)

9.5 結果判定

混附波之發射皆低於使用頻帶內最高的射頻功率20dB以上，符合標準規定。

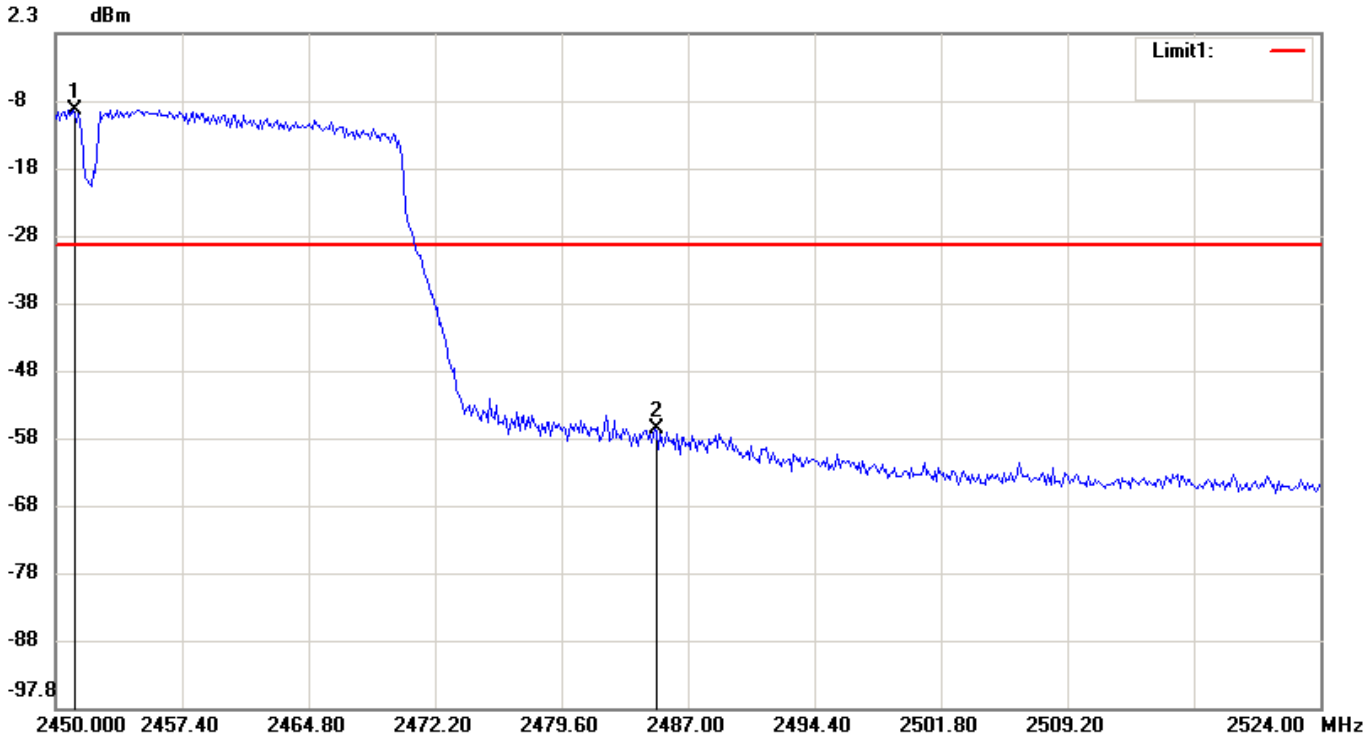
File:	**18-04-MAS-043_HT40_A2**	**Data**	**#5**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:49:10**	**Humidity:**	**60 %**



Condition: **-27.97dBm** **RF Conducted**
EUT: **Sweep Time: 500ms** **Att.: 10dB**
Model: **RBW: 100 KHz** **VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Bandedge**

No.	Frequency(MHz)	Level(dBm)
1	2395.37500	-47.97
2	2420.50000	-7.97

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#14**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 04:15:23**	**Humidity:**	**60 %**

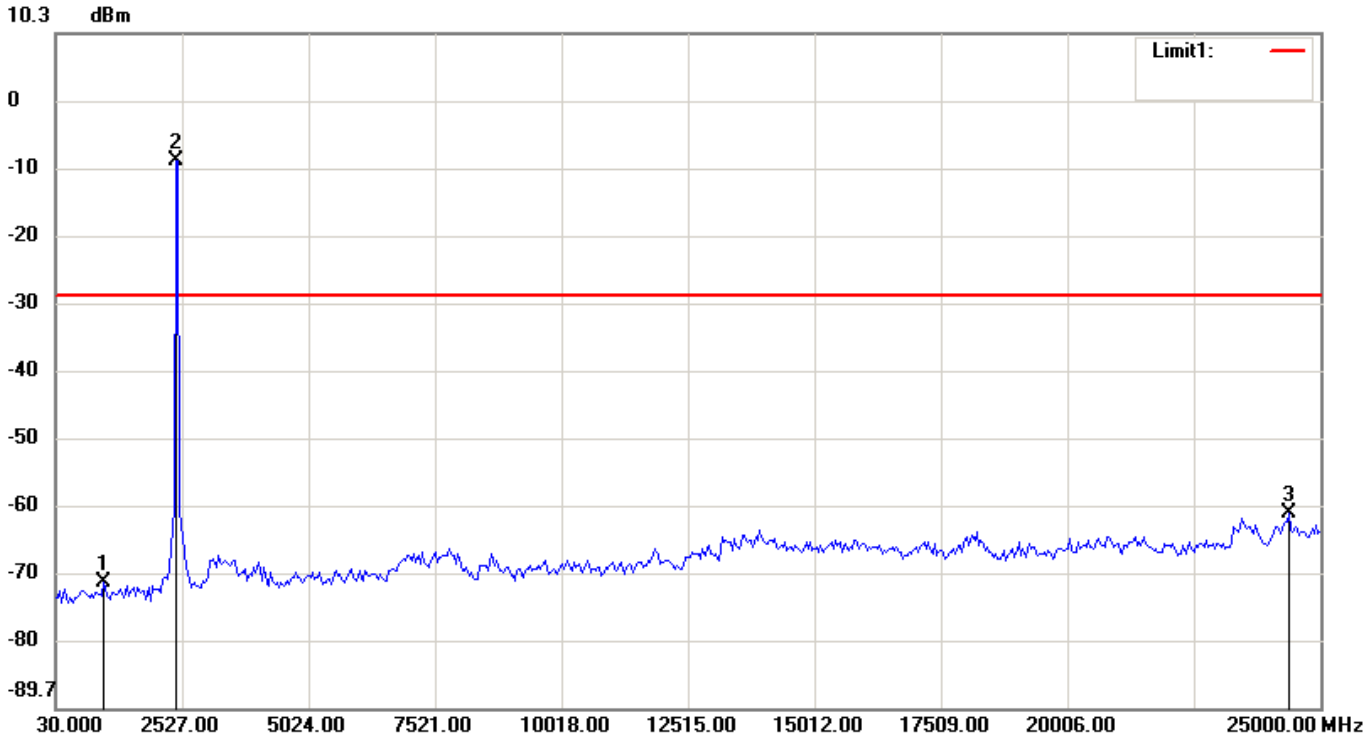


Condition: **-29dBm**
EUT:
Model:
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Bandedge**

RF Conducted
Sweep Time: 500ms **Att.: 10dB**
RBW: 100 KHz **VBW: 300 KHz**

No.	Frequency(MHz)	Level(dBm)
1	2450.98670	-9.00
2	2485.02670	-56.36

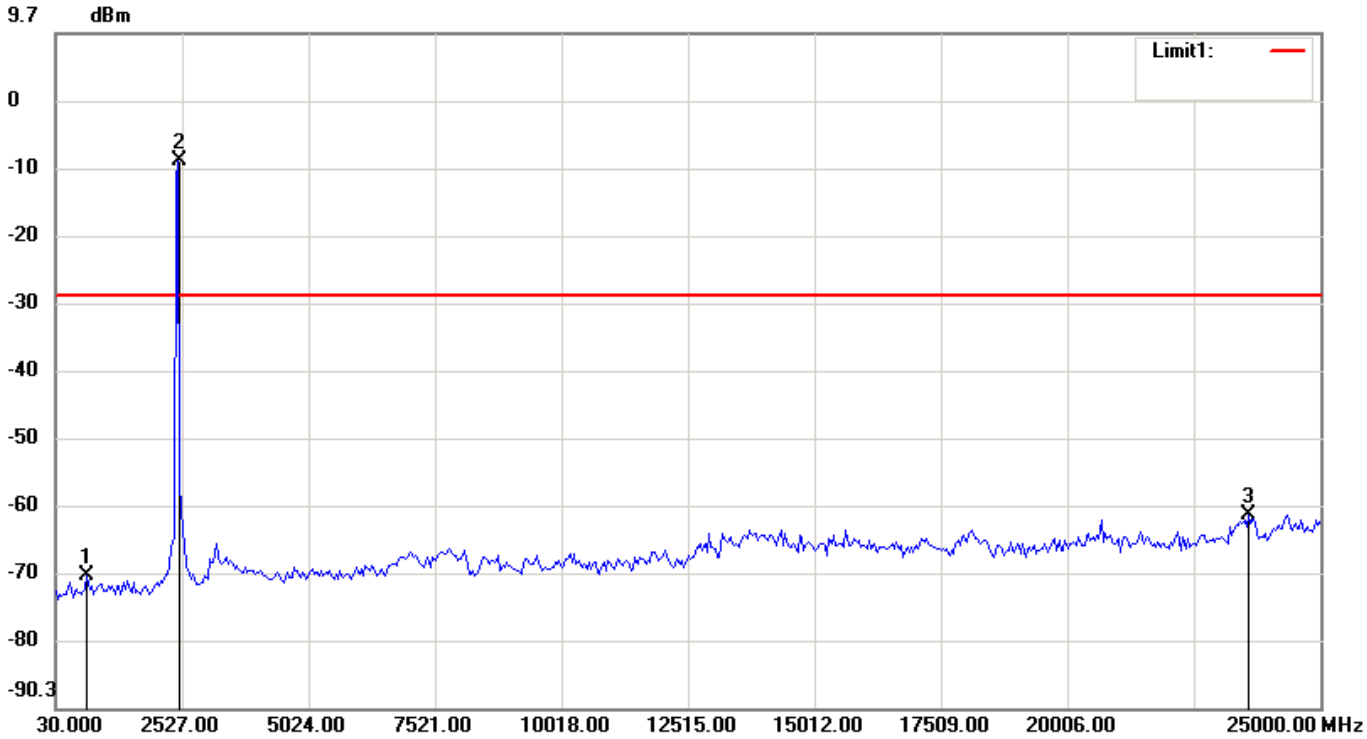
File:	**18-04-MAS-043_HT40_A2**	**Data**	**#2**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:43:43**	**Humidity:**	**60 %**



Condition: **-28.49dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 03-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	987.1833	-71.17
2	2402.15000	-8.49
3	24375.75000	-60.91

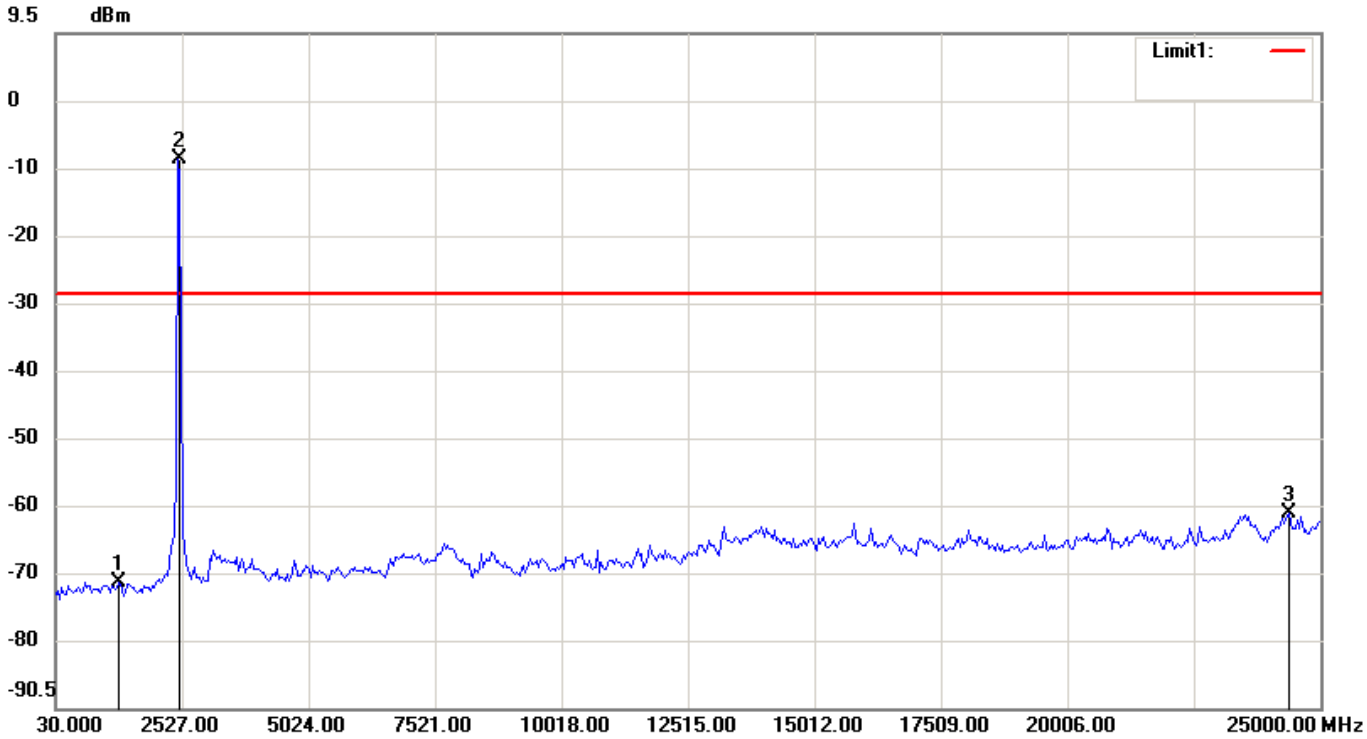
File:	**18-04-MAS-043_HT40_A2**	**Data**	**#7**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 03:59:46**	**Humidity:**	**60 %**



Condition: **-29.26dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 06-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	654.2500	-70.65
2	2443.76670	-9.26
3	23585.03330	-61.71

File:	**18-04-MAS-043_HT40_A2**	**Data**	**#11**	**Date:**	**2018/5/7**	**Temperature:**	**25 ℃**
				Time:	**下午 04:09:57**	**Humidity:**	**60 %**



Condition: **-29.13dBm** **RF Conducted**
EUT: **Sweep Time: 2386.4ms Att.: 10dB**
Model: **RBW: 100 KHz VBW: 300 KHz**
Test Mode:
Note: **NCC-802.11gn_HT40 Channel 09-Conducted Spurious**

No.	Frequency(MHz)	Level(dBm)
1	1278.50000	-71.73
2	2443.76670	-9.13
3	24375.75000	-61.56

10 場強輻射之量測

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3.10.1.5之要求，落於2.7節禁用頻段之輻射干擾需符合2.8節之一般限制要求。

10.2 量測方法

將待測物置於非金屬桌面，使其在測試模式狀態，且設定為高、中、低各頻道產生最高峰值輸出功率的傳輸速率，接收天線置於3米外，且桌面要360度旋轉，另外接收天線也要從1米至4米升降變化，接收天線置於水平、垂直極向各執行測試一次。待測物若為手持式則分別要以三軸相放置，並分別測試以找出最大輻射電場強度。

10.3 量測場強輻射之儀器

(1)量測儀器

儀器名稱	製　造　者	型　　號
EMI Receiver	R&S	ESCI
Spectrum Analyzer	R&S	FSU46
Horn Antenna	EMCO	3115
Horn Antenna	EMCO	3116
PRE-Amplifier	Agilent	8449B
PRE-Amplifier	Agilent	8447D
BiLog Antenna	ETC	MCTD 2786B

(2)儀器設定

Frequency Band (MHz)	Instrument	Function	Resolution Bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi-Peak	120 kHz	300 kHz
	RF Test Receiver	Peak	120 kHz	300 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
	Spectrum Analyzer	Average	1 MHz	10 Hz

10.4 場強度之計算

場強之計算公式如下

結果值 = 讀值 + 校正因子

其中校正因子為：

天線因子+ 饋線損失 + 濾波器損失（若有使用）- 放大器增益（若有使用）

量測結果請見下頁。

10.5 場強輻射之量測結果

10.5.1 諧波發射

測試工程師: 羅世勇

10.5.1.1 調變技術: IEEE 802.11b

a. Channel Low
操作模式 : 發射接收
基本波頻率 : 2412 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4824.0000	H	---	---	-0.24	---	---	74.0	54.0	---
4824.0000	V	---	---	-0.24	---	---	74.0	54.0	---
7236.0000	H	---	---	3.22	---	---	74.0	54.0	---
7236.0000	V	---	---	3.22	---	---	74.0	54.0	---
9648.0000	H	---	---	5.36	---	---	74.0	54.0	---
9648.0000	V	---	---	5.36	---	---	74.0	54.0	---
12060.0000	H	---	---	8.35	---	---	74.0	54.0	---
12060.0000	V	---	---	8.35	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

b. Channel Mid

操作模式 ：發射接收
基本波頻率 ：2437 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4874.0000	H	---	---	-0.13	---	---	74.0	54.0	---
4874.0000	V	---	---	-0.13	---	---	74.0	54.0	---
7311.0000	H	---	---	3.41	---	---	74.0	54.0	---
7311.0000	V	---	---	3.41	---	---	74.0	54.0	---
9748.0000	H	---	---	5.45	---	---	74.0	54.0	---
9748.0000	V	---	---	5.45	---	---	74.0	54.0	---
12185.0000	H	---	---	8.51	---	---	74.0	54.0	---
12185.0000	V	---	---	8.51	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

c. Channel High

操作模式 ：發射接收
基本波頻率 ：2462 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4924.0000	H	---	---	-0.01	---	---	74.0	54.0	---
4924.0000	V	---	---	-0.01	---	---	74.0	54.0	---
7386.0000	H	---	---	3.61	---	---	74.0	54.0	---
7386.0000	V	---	---	3.61	---	---	74.0	54.0	---
9848.0000	H	---	---	5.53	---	---	74.0	54.0	---
9848.0000	V	---	---	5.53	---	---	74.0	54.0	---
12310.0000	H	---	---	8.68	---	---	74.0	54.0	---
12310.0000	V	---	---	8.68	---	---	74.0	54.0	---
14772.0000	H	---	---	11.68	---	---	74.0	54.0	---
14772.0000	V	---	---	11.68	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

10.5.1.2 調變技術: IEEE 802.11g

a. Channel Low

操作模式 ：發射接收
基本波頻率 ：2412 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4824.0000	H	---	---	-0.24	---	---	74.0	54.0	---
4824.0000	V	---	---	-0.24	---	---	74.0	54.0	---
7236.0000	H	---	---	3.22	---	---	74.0	54.0	---
7236.0000	V	---	---	3.22	---	---	74.0	54.0	---
9648.0000	H	---	---	5.36	---	---	74.0	54.0	---
9648.0000	V	---	---	5.36	---	---	74.0	54.0	---
12060.0000	H	---	---	8.35	---	---	74.0	54.0	---
12060.0000	V	---	---	8.35	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

b. Channel Mid

操作模式 ：發射接收
基本波頻率 ：2437 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4874.0000	H	---	---	-0.13	---	---	74.0	54.0	---
4874.0000	V	---	---	-0.13	---	---	74.0	54.0	---
7311.0000	H	---	---	3.41	---	---	74.0	54.0	---
7311.0000	V	---	---	3.41	---	---	74.0	54.0	---
9748.0000	H	---	---	5.45	---	---	74.0	54.0	---
9748.0000	V	---	---	5.45	---	---	74.0	54.0	---
12185.0000	H	---	---	8.51	---	---	74.0	54.0	---
12185.0000	V	---	---	8.51	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

c. Channel High

操作模式 ：發射接收
基本波頻率 ：2462 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4924.0000	H	---	---	-0.01	---	---	74.0	54.0	---
4924.0000	V	---	---	-0.01	---	---	74.0	54.0	---
7386.0000	H	---	---	3.61	---	---	74.0	54.0	---
7386.0000	V	---	---	3.61	---	---	74.0	54.0	---
9848.0000	H	---	---	5.53	---	---	74.0	54.0	---
9848.0000	V	---	---	5.53	---	---	74.0	54.0	---
12310.0000	H	---	---	8.68	---	---	74.0	54.0	---
12310.0000	V	---	---	8.68	---	---	74.0	54.0	---
14772.0000	H	---	---	11.68	---	---	74.0	54.0	---
14772.0000	V	---	---	11.68	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

10.5.1.3 調變技術: IEEE 802.11n HT20

a. Channel Low

操作模式 ：發射接收
基本波頻率 ：2412 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4824.0000	H	---	---	-0.24	---	---	74.0	54.0	---
4824.0000	V	---	---	-0.24	---	---	74.0	54.0	---
7236.0000	H	---	---	3.22	---	---	74.0	54.0	---
7236.0000	V	---	---	3.22	---	---	74.0	54.0	---
9648.0000	H	---	---	5.36	---	---	74.0	54.0	---
9648.0000	V	---	---	5.36	---	---	74.0	54.0	---
12060.0000	H	---	---	8.35	---	---	74.0	54.0	---
12060.0000	V	---	---	8.35	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

b. Channel Mid

操作模式 ：發射接收
基本波頻率 ：2437 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4874.0000	H	---	---	-0.13	---	---	74.0	54.0	---
4874.0000	V	---	---	-0.13	---	---	74.0	54.0	---
7311.0000	H	---	---	3.41	---	---	74.0	54.0	---
7311.0000	V	---	---	3.41	---	---	74.0	54.0	---
9748.0000	H	---	---	5.45	---	---	74.0	54.0	---
9748.0000	V	---	---	5.45	---	---	74.0	54.0	---
12185.0000	H	---	---	8.51	---	---	74.0	54.0	---
12185.0000	V	---	---	8.51	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

c. Channel High

操作模式 ：發射接收
基本波頻率 ：2462 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4924.0000	H	---	---	-0.01	---	---	74.0	54.0	---
4924.0000	V	---	---	-0.01	---	---	74.0	54.0	---
7386.0000	H	---	---	3.61	---	---	74.0	54.0	---
7386.0000	V	---	---	3.61	---	---	74.0	54.0	---
9848.0000	H	---	---	5.53	---	---	74.0	54.0	---
9848.0000	V	---	---	5.53	---	---	74.0	54.0	---
12310.0000	H	---	---	8.68	---	---	74.0	54.0	---
12310.0000	V	---	---	8.68	---	---	74.0	54.0	---
14772.0000	H	---	---	11.68	---	---	74.0	54.0	---
14772.0000	V	---	---	11.68	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

10.5.1.4 調變技術: IEEE 802.11n HT40

a. Channel Low

操作模式 ：發射接收
基本波頻率 ：2422 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4844.0000	H	---	---	-0.20	---	---	74.0	54.0	---
4844.0000	V	---	---	-0.20	---	---	74.0	54.0	---
7266.0000	H	---	---	3.29	---	---	74.0	54.0	---
7266.0000	V	---	---	3.29	---	---	74.0	54.0	---
9688.0000	H	---	---	5.40	---	---	74.0	54.0	---
9688.0000	V	---	---	5.40	---	---	74.0	54.0	---
12110.0000	H	---	---	8.41	---	---	74.0	54.0	---
12110.0000	V	---	---	8.41	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

b. Channel Mid

操作模式 ：發射接收
基本波頻率 ：2437 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4874.0000	H	---	---	-0.13	---	---	74.0	54.0	---
4874.0000	V	---	---	-0.13	---	---	74.0	54.0	---
7311.0000	H	---	---	3.41	---	---	74.0	54.0	---
7311.0000	V	---	---	3.41	---	---	74.0	54.0	---
9748.0000	H	---	---	5.45	---	---	74.0	54.0	---
9748.0000	V	---	---	5.45	---	---	74.0	54.0	---
12185.0000	H	---	---	8.51	---	---	74.0	54.0	---
12185.0000	V	---	---	8.51	---	---	74.0	54.0	---

註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

c. Channel High

操作模式 ：發射接收
基本波頻率 ：2452 MHz
測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
4904.0000	H	---	---	-0.06	---	---	74.0	54.0	---
4904.0000	V	---	---	-0.06	---	---	74.0	54.0	---
7356.0000	H	---	---	3.52	---	---	74.0	54.0	---
7356.0000	V	---	---	3.52	---	---	74.0	54.0	---
9808.0000	H	---	---	5.49	---	---	74.0	54.0	---
9808.0000	V	---	---	5.49	---	---	74.0	54.0	---
12260.0000	H	---	---	8.61	---	---	74.0	54.0	---
12260.0000	V	---	---	8.61	---	---	74.0	54.0	---

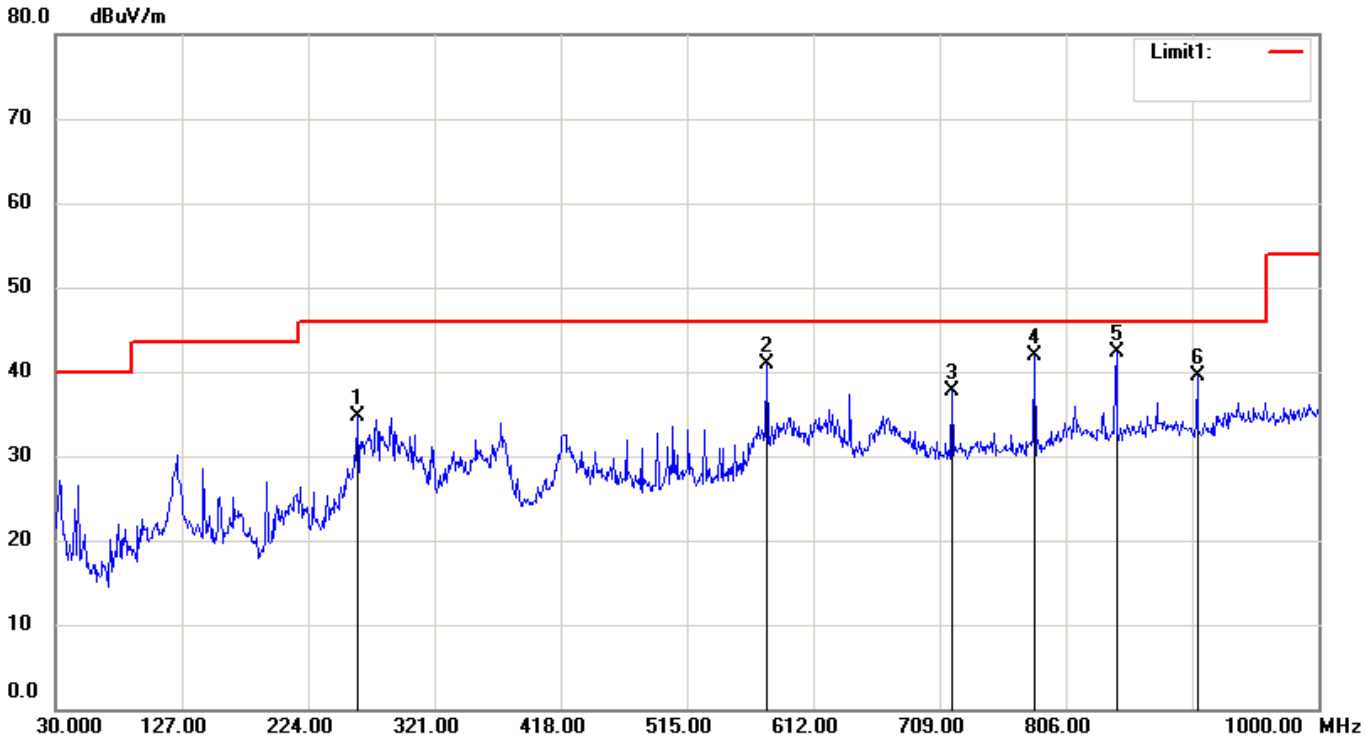
註：

1. 標記“---”表發射之訊號太弱而儀器無法量測。
2. 若以峰值檢測功能測量之值符合平均值限制值，則可視同以平均值功能測量之值亦符合平均值限制值，在此以標記“#”表之。
3. 標記“*”表示為本地震盪頻率及其諧波
4. 量測不準確度: ±4.1dB(1GHz≦f<18GHz)
   ±4.4dB(18GHz≦f≦40GHz)

10.5.2 其它不必要之訊號

10.5.2.1 1GHz以下

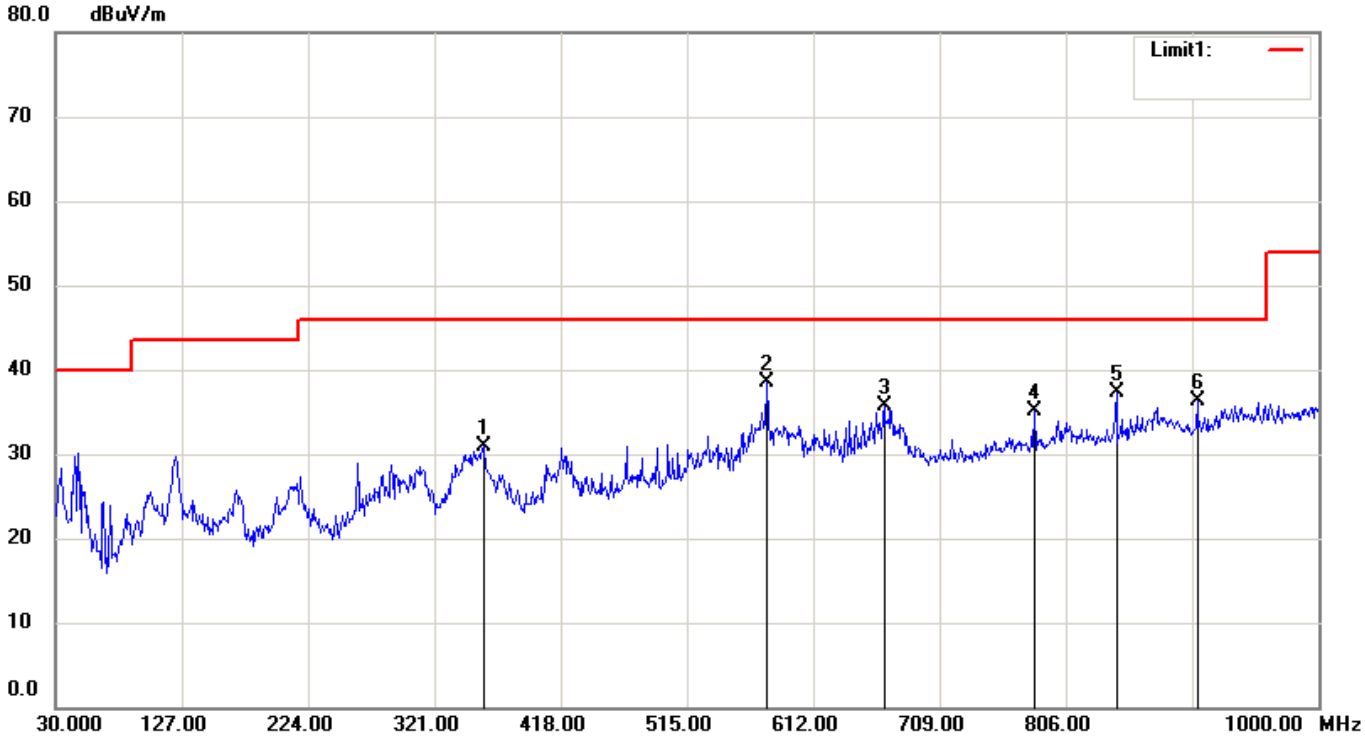
File: 18-04-MAS-043 Data #5 **Date:** 2018/5/3 **Temperature:** 21 ℃
Time: 下午 04:59:26 **Humidity:** 63 %



Condition: NCC_LP0002_30-1000MHz **Polarization:** Horizontal
EUT: **Distance:** 3m
Model:
Test Mode: WIFI
Note:

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	261.8300	40.74	peak	-6.04	34.70	46.00	-11.30
2	576.1100	40.80	peak	0.04	40.84	46.00	-5.16
3	718.7000	35.22	peak	2.50	37.72	46.00	-8.28
4	781.7500	38.09	peak	3.72	41.81	46.00	-4.19
5	844.8000	37.12	peak	5.09	42.21	46.00	-3.79
6	906.8800	33.44	peak	6.05	39.49	46.00	-6.51

File: 18-04-MAS-043 Data #6 **Date:** 2018/5/3 **Temperature:** 21 ℃
Time: 下午 05:04:03 **Humidity:** 63 %



Condition: NCC_LP0002_30-1000MHz **Polarization:** Vertical
EUT: **Distance:** 3m
Model: 1500003
Test Mode: WIFI
Note:

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected Factor(dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	358.8300	34.46	peak	-3.56	30.90	46.00	-15.10
2	576.1100	38.52	peak	0.04	38.56	46.00	-7.44
3	666.3200	34.09	peak	1.60	35.69	46.00	-10.31
4	781.7500	31.43	peak	3.72	35.15	46.00	-10.85
5	844.8000	32.27	peak	5.09	37.36	46.00	-8.64
6	906.8800	30.19	peak	6.05	36.24	46.00	-9.76

10.5.2.2 1GHz以上

10.5.2.2.1 調變技術: IEEE 802.11b

10.5.2.2.1.1 操作頻率 : 2412 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1069.5513	V	55.7	---	-12.90	42.8	---	74	54	-11.2
1091.9672	V	55.8	---	-12.80	43.0	---	74	54	-11.0
1172.7563	H	54.9	---	-12.40	42.5	---	74	54	-11.5
1177.2436	V	54.5	---	-12.40	42.1	---	74	54	-11.9
1224.3590	H	55.4	---	-12.10	43.3	---	74	54	-10.7
1350.0000	H	53.6	---	-11.50	42.1	---	74	54	-11.9
1375.1666	V	53.2	---	-11.40	41.8	---	74	54	-12.2
1401.6025	V	54.4	---	-11.20	43.2	---	74	54	-10.8
1435.2563	H	54.5	---	-11.10	43.4	---	74	54	-10.6
1581.0896	H	53.7	---	-10.20	43.5	---	74	54	-10.5
1839.1025	H	51.0	---	-8.60	42.4	---	74	54	-11.6
2931.0913	H	51.3	---	-4.60	46.7	---	74	54	-7.3
4074.9358	V	57.1	34.6	-0.90	56.2	33.7	74	54	-17.8

10.5.2.2.1.2 操作頻率 : 2437 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1076.2820	H	54.0	---	-12.90	41.1	---	74	54	-12.9
1091.9872	V	54.5	---	-12.80	41.7	---	74	54	-12.3
1163.7620	V	53.7	---	-12.50	41.2	---	74	54	-12.8
1170.5127	H	54.2	---	-12.40	41.8	---	74	54	-12.2
1233.3333	H	53.6	---	-12.10	41.5	---	74	54	-12.5
1233.3333	V	52.3	---	-12.10	40.2	---	74	54	-13.8
1401.6025	V	54.5	---	-11.20	43.3	---	74	54	-10.7
1437.5000	H	53.5	---	-11.00	42.5	---	74	54	-11.5
1437.5000	V	53.4	---	-11.00	42.4	---	74	54	-11.6
1551.9230	H	54.4	---	-10.40	44.0	---	74	54	-10.0
3154.8870	H	50.9	---	-3.90	47.0	---	74	54	-7.0
4099.8020	V	58.5	34.6	-0.90	57.6	33.7	74	54	-16.4

10.5.2.2.1.3 操作頻率 ：2462 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1065.0641	V	55.0	---	-13.00	42.0	---	74	54	-12.0
1125.6410	V	53.4	---	-12.60	40.8	---	74	54	-13.2
1170.5127	H	54.9	---	-12.40	42.5	---	74	54	-11.5
1179.4872	V	53.8	---	-12.40	41.4	---	74	54	-12.6
1219.8717	H	54.3	---	-12.20	42.1	---	74	54	-11.9
1358.8974	V	53.8	---	-11.50	42.3	---	74	54	-11.7
1435.2563	H	54.3	---	-11.10	43.2	---	74	54	-10.8
1500.3205	V	52.4	---	-10.70	41.7	---	74	54	-12.3
1540.7050	H	52.5	---	-10.50	42.0	---	74	54	-12.0
1594.5513	H	52.4	---	-10.10	42.3	---	74	54	-11.7
2856.4927	H	50.1	---	-4.90	45.2	---	74	54	-8.8
4099.8020	H	50.7	---	-0.90	49.8	---	74	54	-4.2
4099.8020	V	58.2	35.0	-0.90	57.3	34.1	74	54	-16.7

註：1. 繪圖資料請參考第 142-159 頁。
2. 〝#〞，表示干擾值很低，記錄其峰值。
3. 標記”---“表發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB (30MHz≦f<1GHz)
+4.10dB/ -4.10 dB (1GHz≦f<18GHz)
+4.40dB/ -4.42 dB (18GHz≦f≦40GHz)

10.5.2.2.2 調變技術: IEEE 802.11g

10.5.2.2.2.1 操作頻率 : 2412 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1011.2178	V	54.5	---	-13.20	41.3	---	74	54	-12.7
1042.6282	V	54.5	---	-13.10	41.4	---	74	54	-12.6
1069.5513	V	54.9	---	-12.90	42.0	---	74	54	-12.0
1074.0385	H	53.7	---	-12.90	40.8	---	74	54	-13.2
1172.7563	V	54.2	---	-12.40	41.8	---	74	54	-12.2
1177.2436	H	54.0	---	-12.40	41.6	---	74	54	-12.4
1226.6025	H	53.8	---	-12.10	41.7	---	74	54	-12.3
1273.7180	H	53.3	---	-11.90	41.4	---	74	54	-12.6
1394.8717	V	53.9	---	-11.30	42.6	---	74	54	-11.4
1484.6153	H	53.7	---	-10.80	42.9	---	74	54	-11.1
3179.7532	H	51.5	---	-3.80	47.7	---	74	54	-6.3
4074.9358	V	57.5	35.2	-0.90	56.6	34.3	74	54	-17.4

10.5.2.2.2.2 操作頻率 : 2437 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1069.5513	H	53.5	---	-12.90	40.6	---	74	54	-13.4
1076.2820	V	54.6	---	-12.90	41.7	---	74	54	-12.3
1170.5127	H	54.8	---	-12.40	42.4	---	74	54	-11.6
1179.2820	V	54.0	---	-12.40	41.6	---	74	54	-12.4
1222.1153	V	53.1	---	-12.10	41.0	---	74	54	-13.0
1372.4358	V	53.2	---	-11.40	41.8	---	74	54	-12.2
1392.6282	V	54.0	---	-11.30	42.7	---	74	54	-11.3
1439.7436	H	53.3	---	-11.00	42.3	---	74	54	-11.7
1475.6410	H	52.7	---	-10.80	41.9	---	74	54	-12.1
1583.3333	H	52.4	---	-10.20	42.2	---	74	54	-11.8
3229.4855	H	50.5	---	-3.70	46.8	---	74	54	-7.2
4099.8020	H	51.1	---	-0.90	50.2	---	74	54	-3.8
4099.8020	V	60.5	36.2	-0.90	59.6	35.3	74	54	-14.4

10.5.2.2.2.3 操作頻率 ：2462 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1089.7436	V	55.8	---	-12.80	43.0	---	74	54	-11.0
1175.0000	H	53.6	---	-12.40	41.2	---	74	54	-12.8
1181.7308	V	53.9	---	-12.40	41.5	---	74	54	-12.5
1208.6538	V	53.4	---	-12.20	41.2	---	74	54	-12.8
1381.4103	H	53.2	---	-11.30	41.9	---	74	54	-12.1
1383.6538	V	53.3	---	-11.30	42.0	---	74	54	-12.0
1437.5000	H	53.1	---	-11.00	42.1	---	74	54	-11.9
1489.1025	H	53.1	---	-10.80	42.3	---	74	54	-11.7
1599.0385	V	51.3	---	-10.10	41.2	---	74	54	-12.8
1917.6282	H	51.0	---	-8.10	42.9	---	74	54	-11.1
3154.8870	H	50.1	---	-3.90	46.2	---	74	54	-7.8
4099.8020	V	56.6	34.2	-0.90	55.7	33.3	74	54	-18.3

註：1. 繪圖資料請參考第 160-177 頁。
2. 〝#〞，表示干擾值很低，記錄其峰值。
3. 標記”---“表發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB (30MHz≦f<1GHz)
+4.10dB/ -4.10 dB (1GHz≦f<18GHz)
+4.40dB/ -4.42 dB (18GHz≦f≦40GHz)

10.5.2.2.3 調變技術: IEEE 802.11n HT20

10.5.2.2.3.1 操作頻率 : 2412 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1044.8717	V	54.9	---	-13.10	41.8	---	74	54	-12.2
1089.7436	H	53.7	---	-12.80	40.9	---	74	54	-13.1
1098.7180	V	55.0	---	-12.80	42.2	---	74	54	-11.8
1152.5641	H	54.3	---	-12.50	41.8	---	74	54	-12.2
1170.5127	H	54.9	---	-12.40	42.5	---	74	54	-11.5
1181.7308	V	53.8	---	-12.40	41.4	---	74	54	-12.6
1394.8717	V	52.2	---	-11.30	40.9	---	74	54	-13.1
1435.2563	H	53.4	---	-11.10	42.3	---	74	54	-11.7
1446.4744	V	52.8	---	-11.00	41.8	---	74	54	-12.2
2056.7307	H	50.3	---	-7.40	42.9	---	74	54	-11.1
2906.2251	H	50.8	---	-4.70	46.1	---	74	54	-7.9
4099.8020	V	57.7	34.5	-0.90	56.8	33.6	74	54	-17.2

10.5.2.2.3.2 操作頻率 : 2437 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1053.8461	V	55.1	---	-13.00	42.1	---	74	54	-11.9
1089.7436	H	53.4	---	-12.80	40.6	---	74	54	-13.4
1091.9872	V	56.6	---	-12.80	43.8	---	74	54	-10.2
1175.0000	H	54.4	---	-12.40	42.0	---	74	54	-12.0
1175.0000	V	54.0	---	-12.40	41.6	---	74	54	-12.4
1228.8461	H	52.8	---	-12.10	40.7	---	74	54	-13.3
1437.5000	H	53.0	---	-11.00	42.0	---	74	54	-12.0
1444.2308	V	53.2	---	-11.00	42.2	---	74	54	-11.8
1486.8590	H	52.4	---	-10.80	41.6	---	74	54	-12.4
1493.5896	V	52.1	---	-10.80	41.3	---	74	54	-12.7
2757.0280	H	50.2	---	-5.30	44.9	---	74	54	-9.1
4099.8020	V	57.6	34.2	-0.90	56.7	33.3	74	54	-17.3

10.5.2.2.3.3 操作頻率 ：2462 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1069.5513	V	55.5	---	-12.90	42.6	---	74	54	-11.4
1094.2308	V	55.3	---	-12.80	42.5	---	74	54	-11.5
1166.0255	H	53.8	---	-12.40	41.4	---	74	54	-12.6
1172.7563	V	53.2	---	-12.40	40.8	---	74	54	-13.2
1226.6025	H	53.1	---	-12.10	41.0	---	74	54	-13.0
1428.5255	H	52.3	---	-11.10	41.2	---	74	54	-12.8
1435.2563	V	53.1	---	-11.10	42.0	---	74	54	-12.0
1493.5896	H	52.3	---	-10.80	41.5	---	74	54	-12.5
1493.5896	V	51.9	---	-10.80	41.1	---	74	54	-12.9
1531.7308	H	52.3	---	-10.50	41.8	---	74	54	-12.2
2856.4927	H	49.1	---	-4.90	44.2	---	74	54	-9.8
2856.4927	V	52.3	---	-4.90	47.4	---	74	54	-6.6
4124.6683	V	56.7	34.1	-0.90	55.8	33.2	74	54	-18.2

註：1. 繪圖資料請參考第 178-195 頁。
2. 〝#〞，表示干擾值很低，記錄其峰值。
3. 標記”---“表發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB (30MHz≦f<1GHz)
+4.10dB/ -4.10 dB (1GHz≦f<18GHz)
+4.40dB/ -4.42 dB (18GHz≦f≦40GHz)

10.5.2.2.4 調變技術: IEEE 802.11n HT40

10.5.2.2.4.1 操作頻率 : 2422 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1038.1410	V	54.9	---	-13.10	41.8	---	74	54	-12.2
1076.2820	V	54.9	---	-12.90	42.0	---	74	54	-12.0
1094.2308	V	54.5	---	-12.80	41.7	---	74	54	-12.3
1096.4744	H	53.5	---	-12.80	40.7	---	74	54	-13.3
1172.7563	V	54.3	---	-12.40	41.9	---	74	54	-12.1
1177.2436	H	54.0	---	-12.40	41.6	---	74	54	-12.4
1228.0461	H	53.1	---	-12.10	41.0	---	74	54	-13.0
1430.7691	H	53.2	---	-11.10	42.1	---	74	54	-11.9
1433.0127	V	52.7	---	-11.10	41.6	---	74	54	-12.4
1477.8846	H	53.8	---	-10.80	43.0	---	74	54	-11.0
4099.8020	V	53.9	33.0	-0.90	53.0	32.1	74	54	-21.0

10.5.2.2.4.2 操作頻率 : 2437 MHz

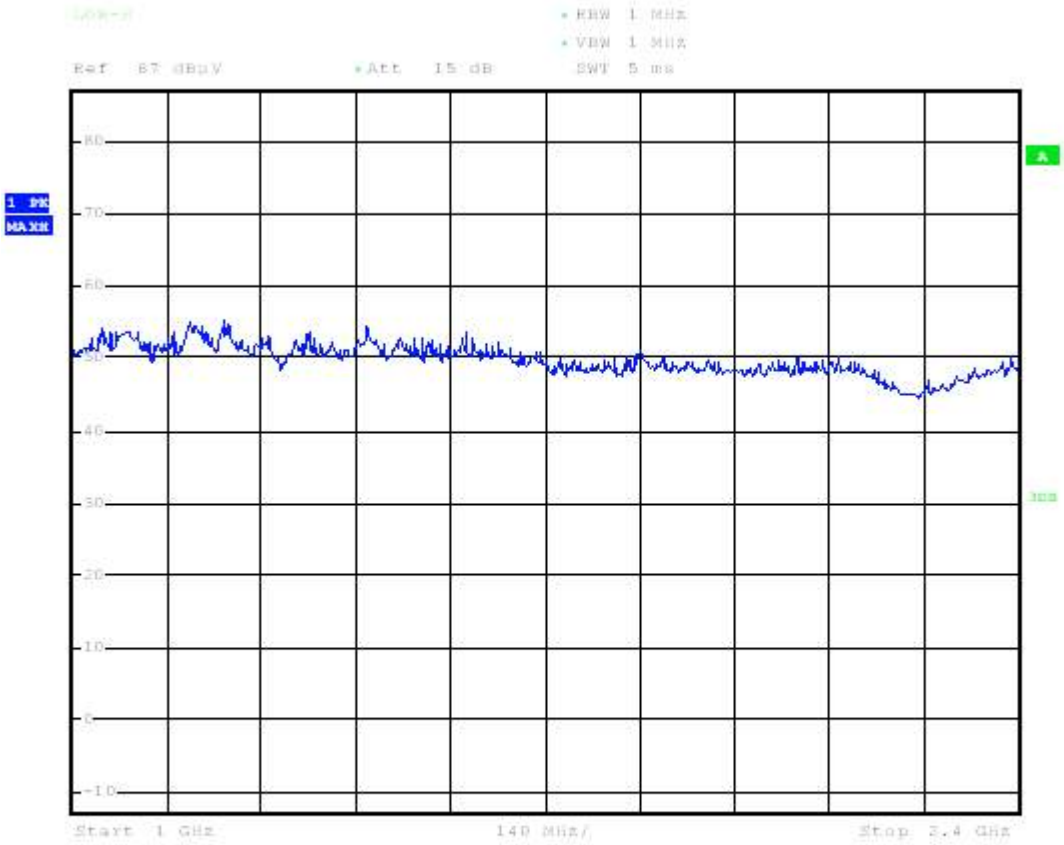
輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1042.6282	V	55.1	---	-13.10	42.0	---	74	54	-12.0
1047.1153	H	52.4	---	-13.10	39.3	---	74	54	-14.7
1071.7950	H	53.5	---	-12.90	40.6	---	74	54	-13.4
1085.2563	V	55.4	---	-12.90	42.5	---	74	54	-11.5
1168.2691	V	54.1	---	-12.40	41.7	---	74	54	-12.3
1181.7309	H	53.4	---	-12.40	41.0	---	74	54	-13.0
1284.9358	H	51.9	---	-11.80	40.1	---	74	54	-13.9
1390.3846	V	52.3	---	-11.30	41.0	---	74	54	-13.0
1439.7436	H	52.8	---	-11.00	41.8	---	74	54	-12.2
1444.2308	V	53.0	---	-11.00	42.0	---	74	54	-12.0
1475.6410	H	52.3	---	-10.80	41.5	---	74	54	-12.5
1489.1025	V	52.0	---	-10.80	41.2	---	74	54	-12.8
4099.8020	V	55.0	33.2	-0.90	54.1	32.3	74	54	-19.9

10.5.2.2.4.3 操作頻率 ：2452 MHz

輻射頻率	天線極性	機器讀值 (dBuV/m)@3m		校正因子	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse)
(MHz)	H/V	Peak	AVG	(dB)	Peak	AVG	Peak	AVG	(dB)
1074.0385	V	55.2	---	-12.90	42.3	---	74	54	-11.7
1087.5000	H	52.9	---	-12.80	40.1	---	74	54	-13.9
1172.7563	H	53.6	---	-12.40	41.2	---	74	54	-12.8
1175.0000	V	54.7	---	-12.40	42.3	---	74	54	-11.7
1226.6025	H	52.8	---	-12.10	40.7	---	74	54	-13.3
1390.3846	V	51.8	---	-11.30	40.5	---	74	54	-13.5
1428.5255	H	52.3	---	-11.10	41.2	---	74	54	-12.8
1437.5000	V	53.6	---	-11.00	42.6	---	74	54	-11.4
1493.5896	H	52.4	---	-10.80	41.6	---	74	54	-12.4
1843.5896	H	51.2	---	-8.50	42.7	---	74	54	-11.3
1845.8333	V	50.1	---	-8.50	41.6	---	74	54	-12.4
2931.0913	V	50.9	---	-4.60	46.3	---	74	54	-7.7
4099.8020	V	57.5	34.3	-0.90	56.6	33.4	74	54	-17.4

註：1. 繪圖資料請參考第 196-213 頁。
2. 〝#〞，表示干擾值很低，記錄其峰值。
3. 標記”---“表發射之訊號太弱而儀器無法量測。
4. 量測不準確度: +4.20dB/ -4.24 dB (30MHz≦f<1GHz)
+4.10dB/ -4.10 dB (1GHz≦f<18GHz)
+4.40dB/ -4.42 dB (18GHz≦f≦40GHz)

調變技術: IEEE 802.11b



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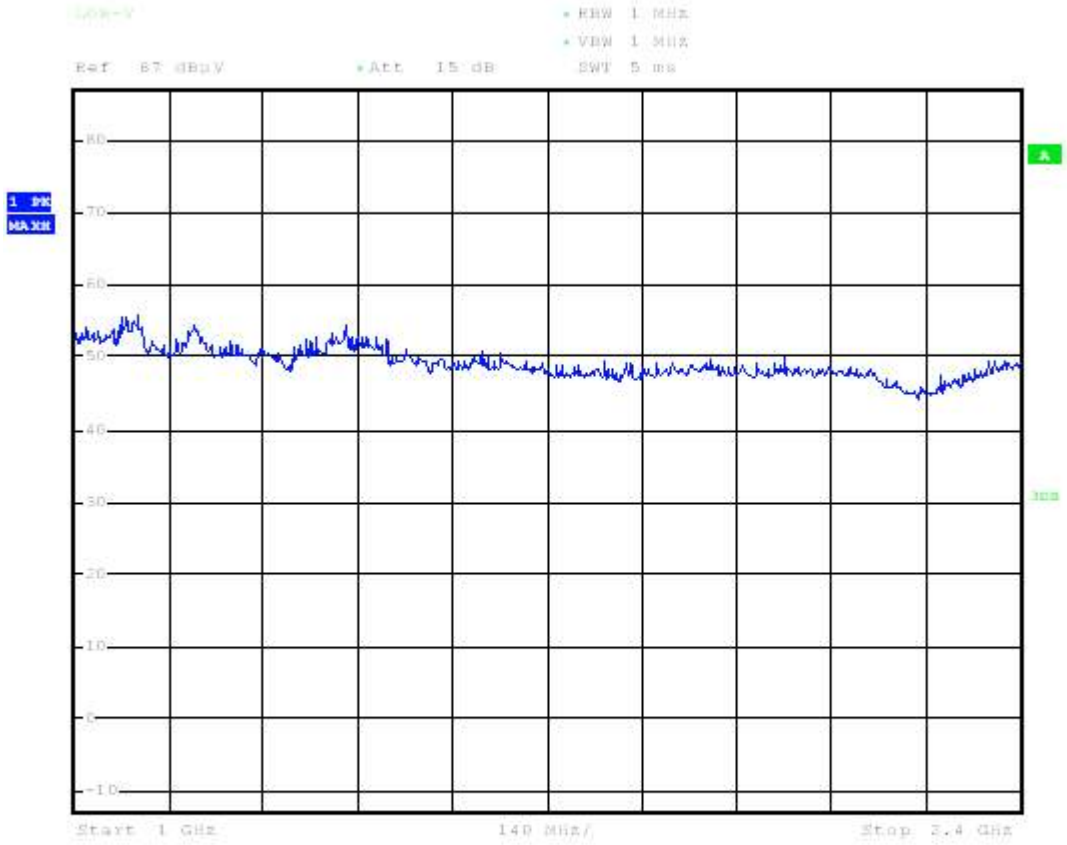

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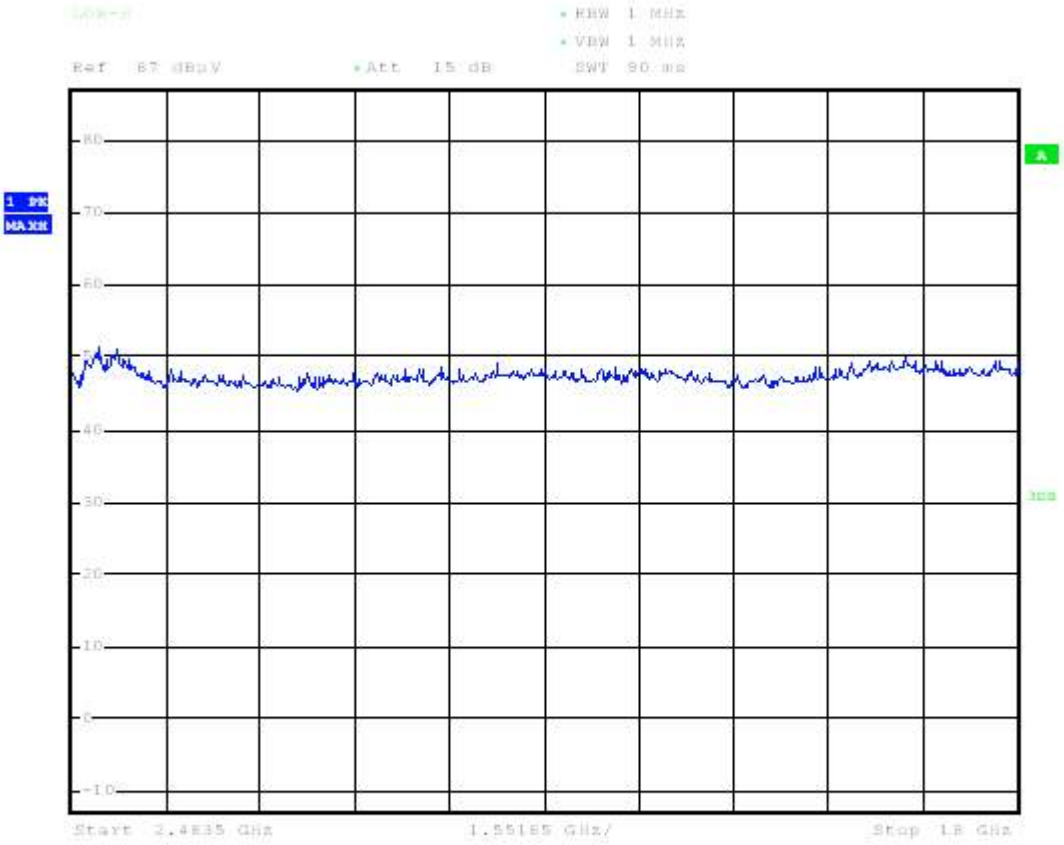

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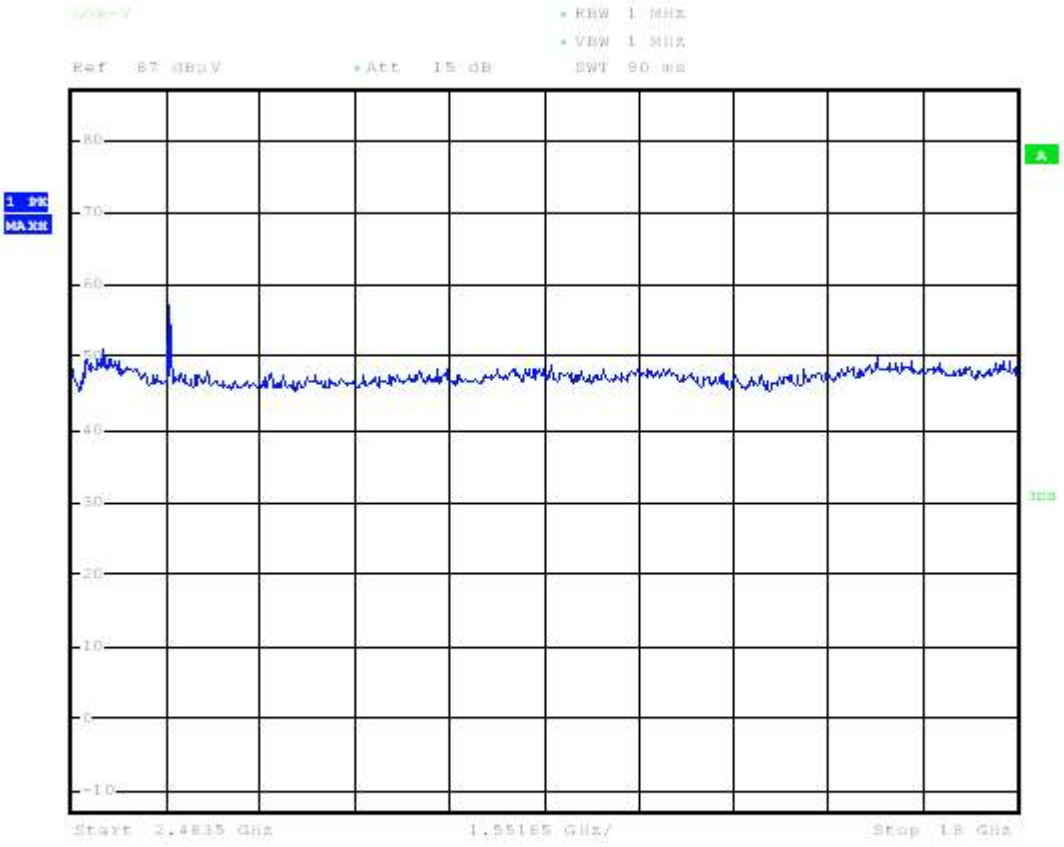

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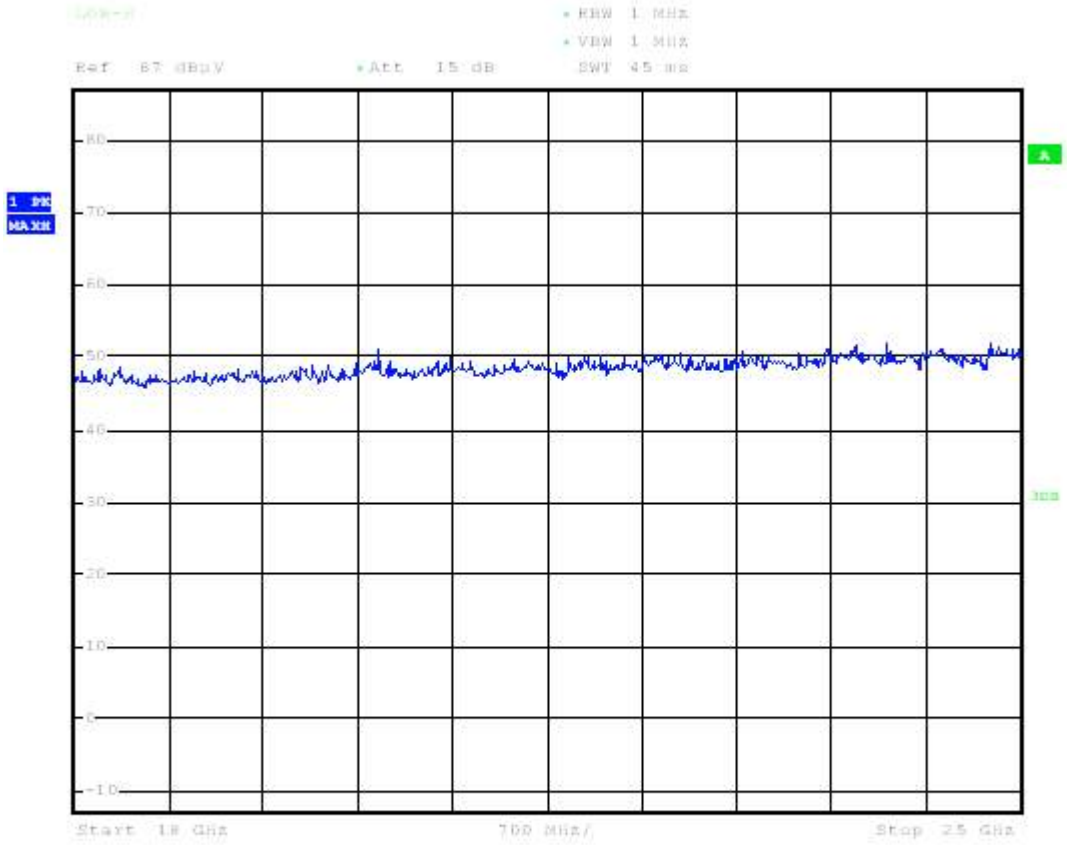

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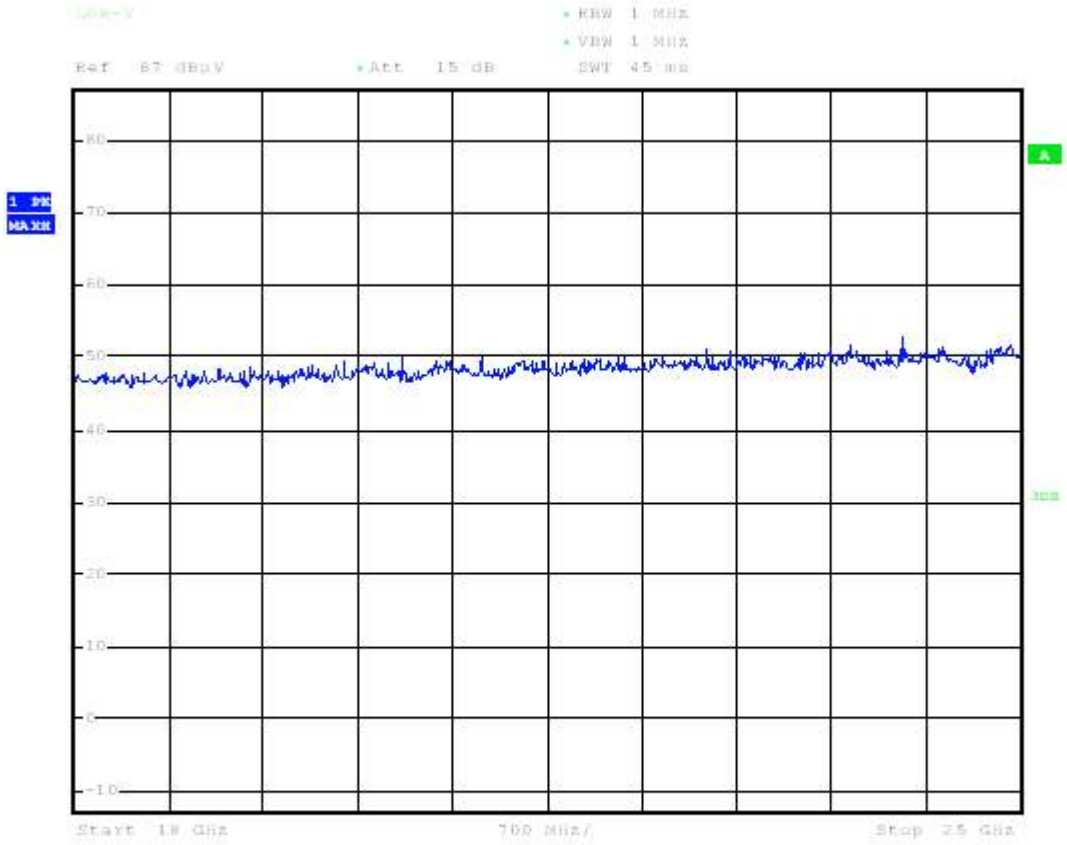

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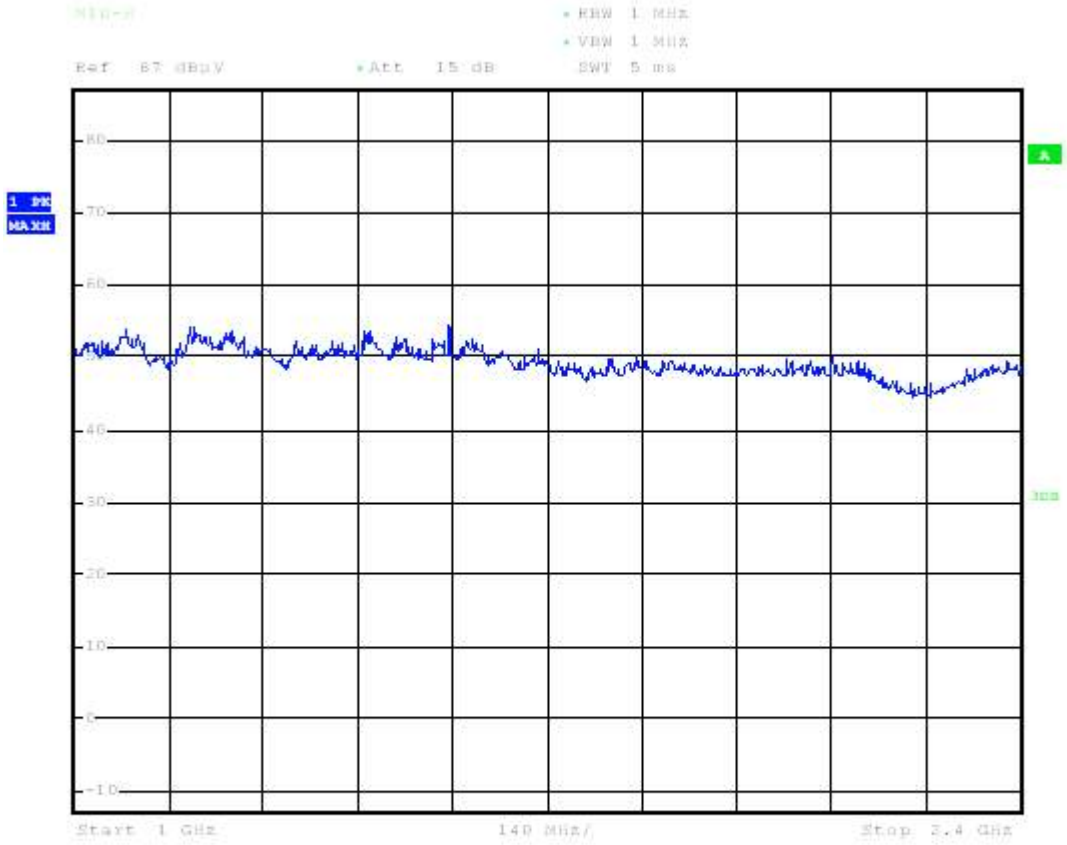

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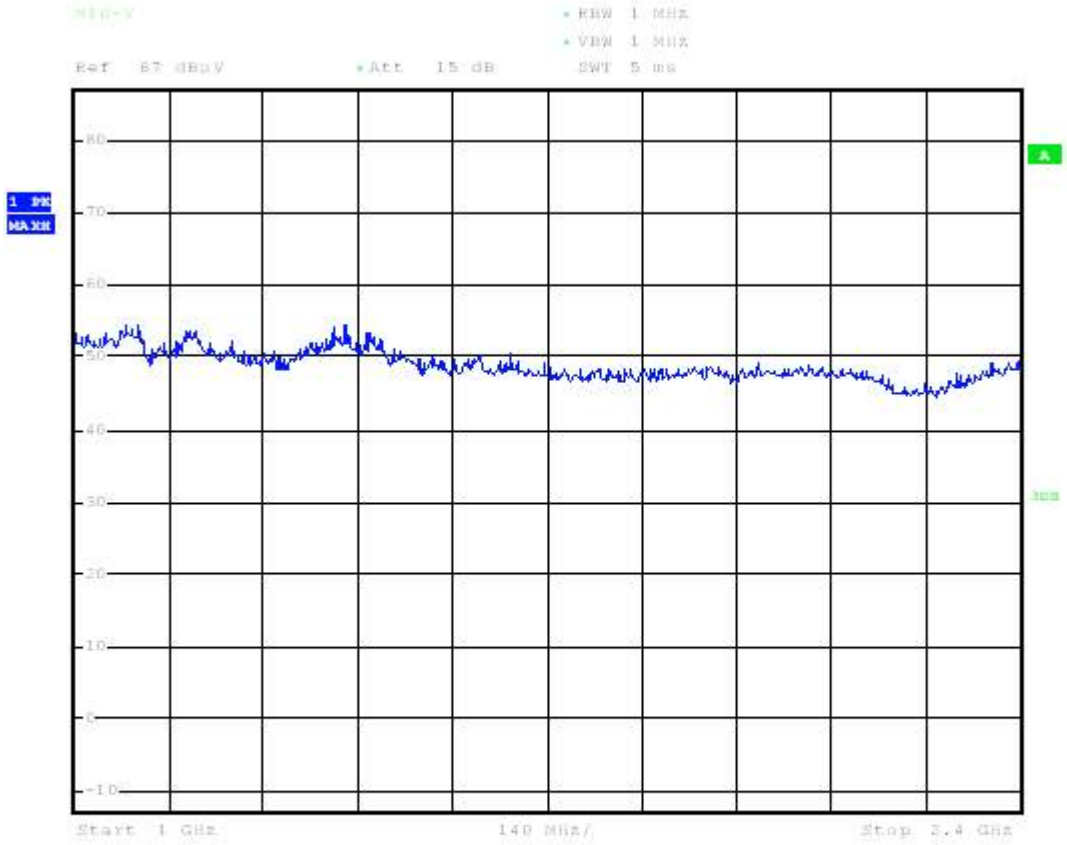

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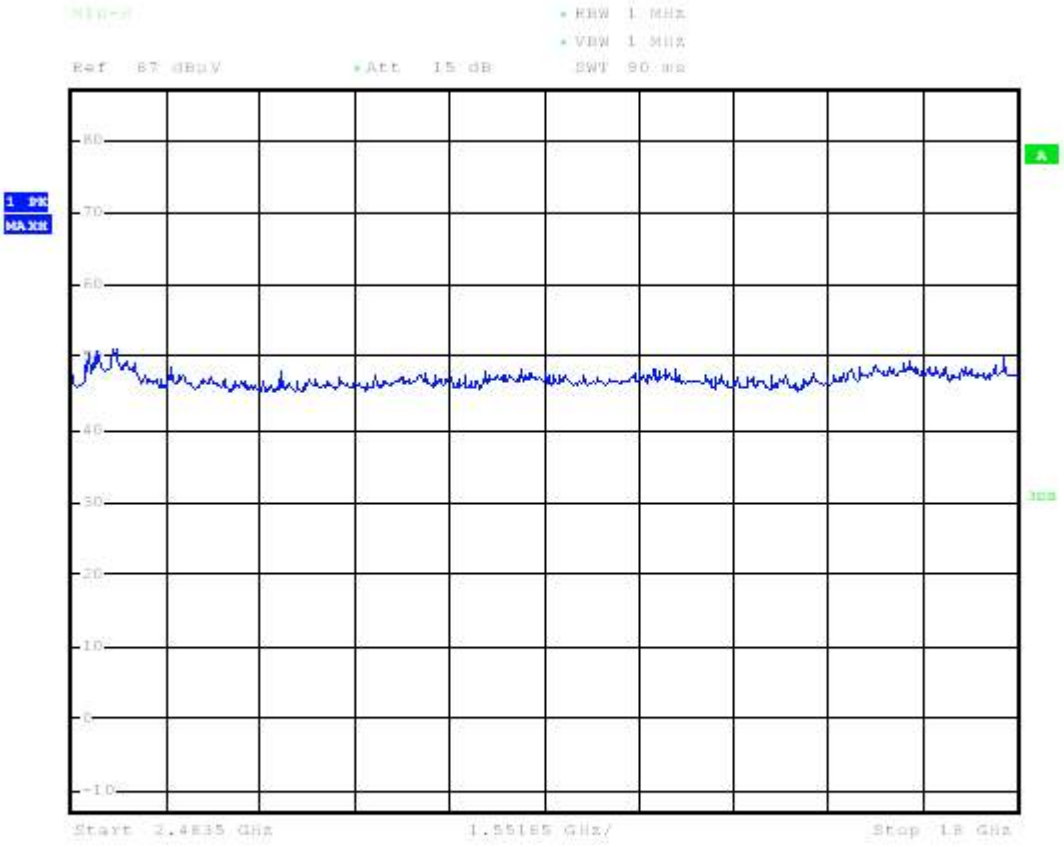

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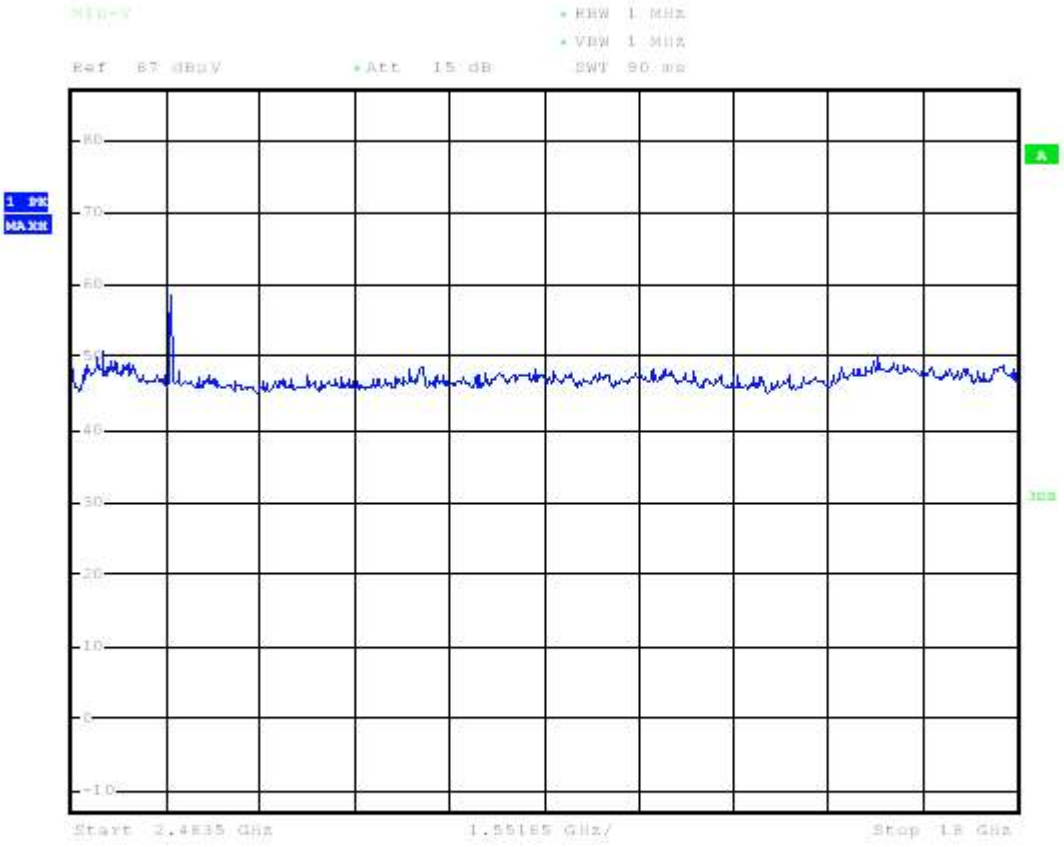

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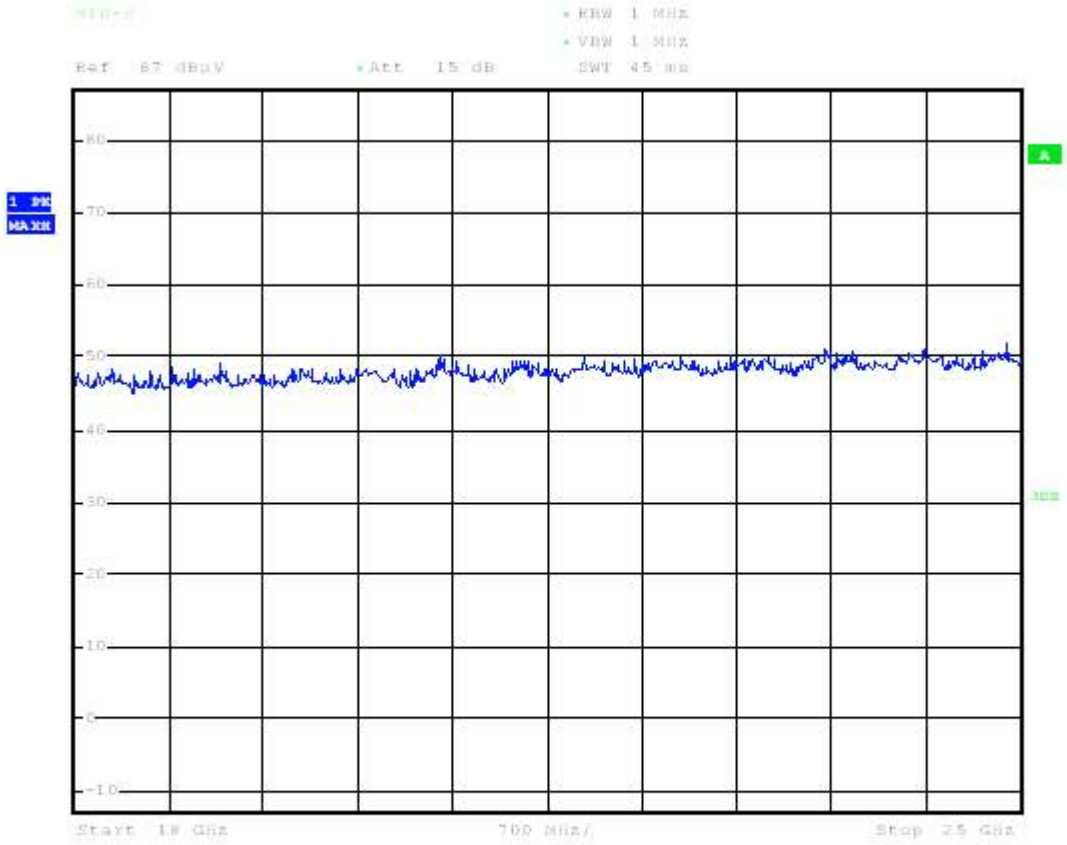

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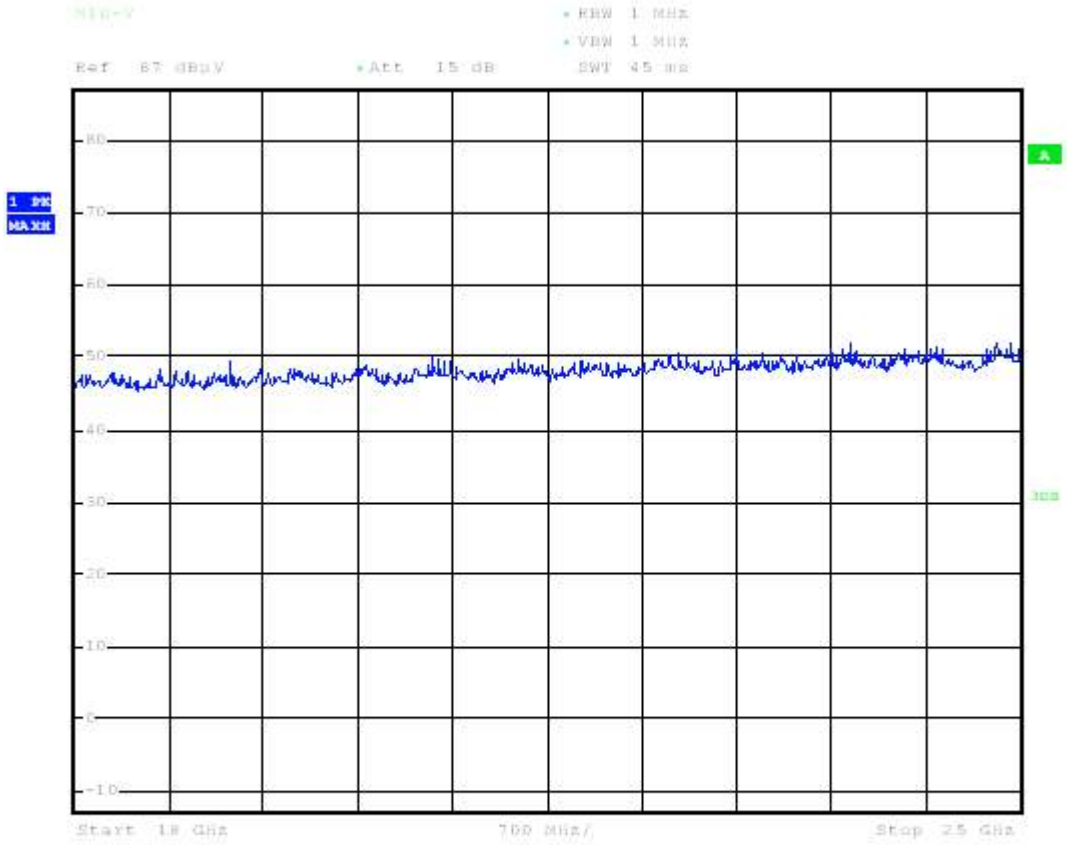

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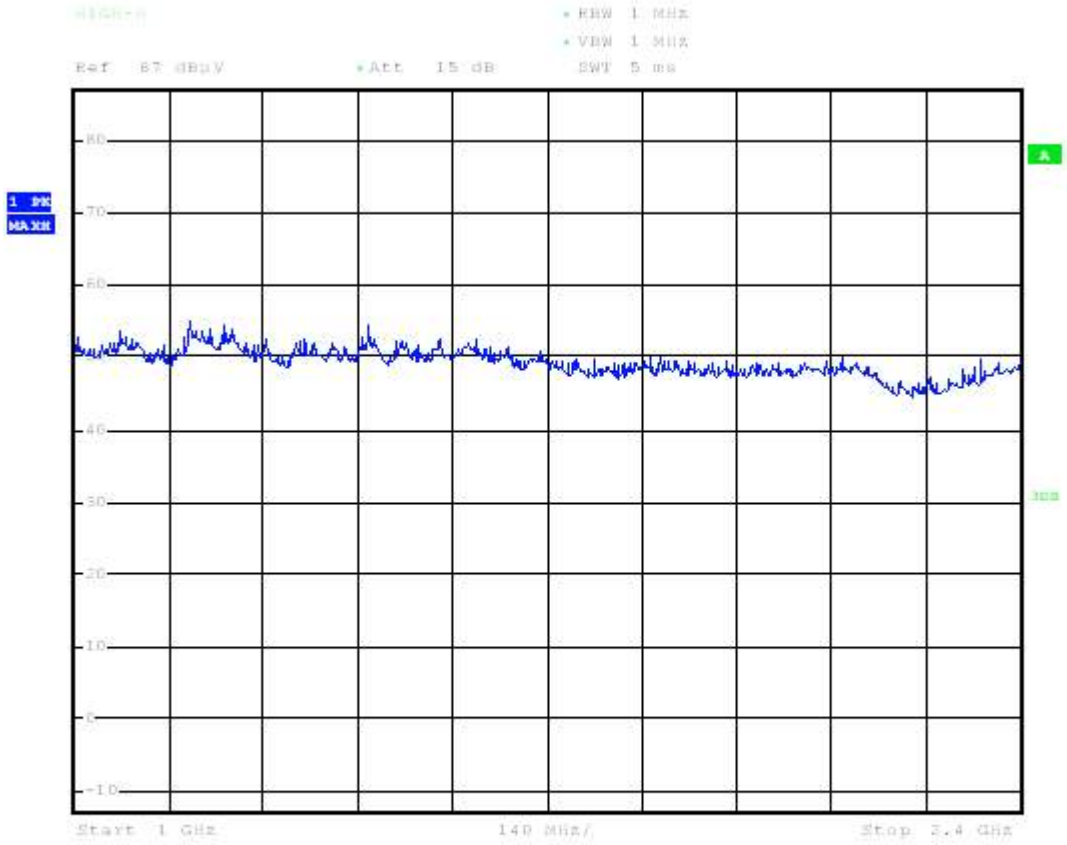

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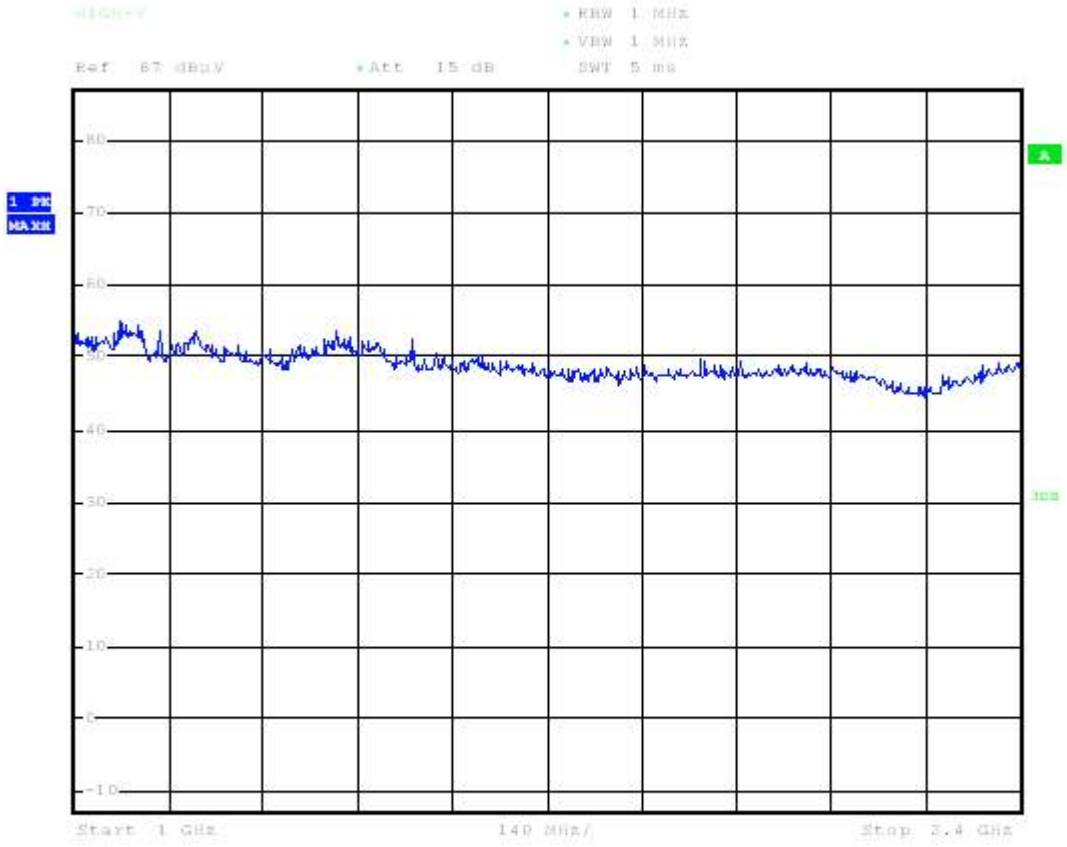

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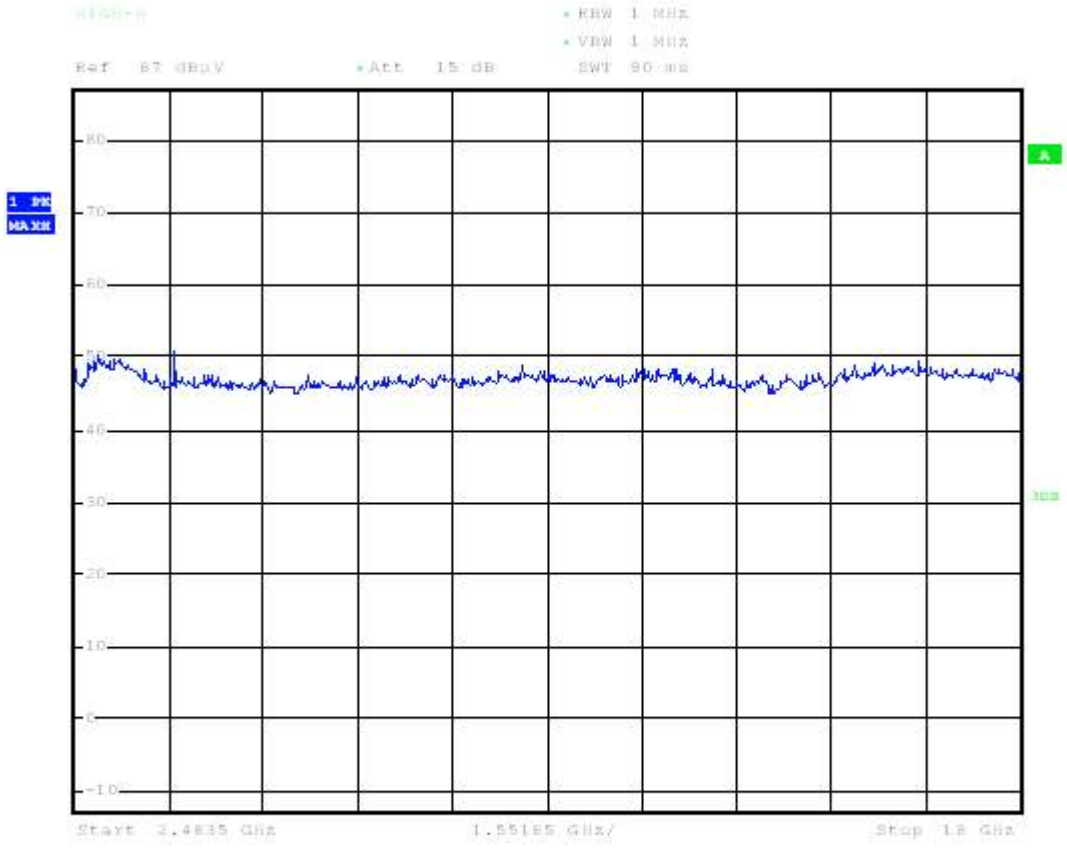
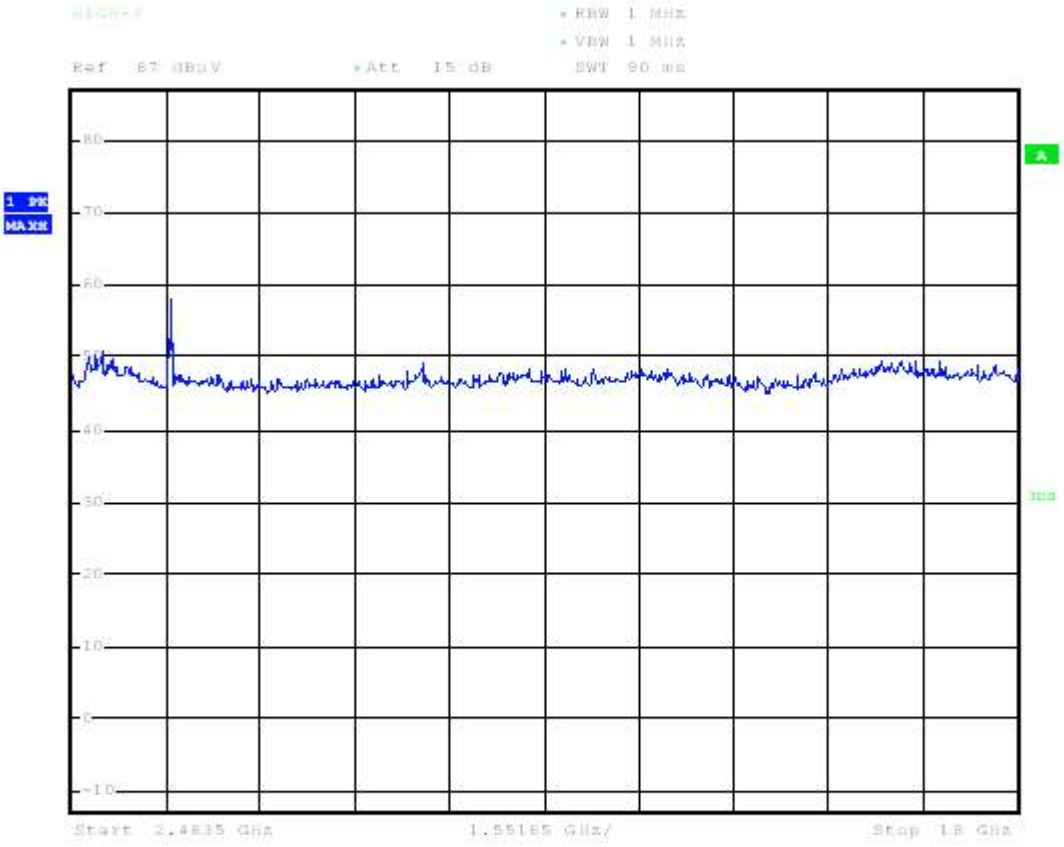
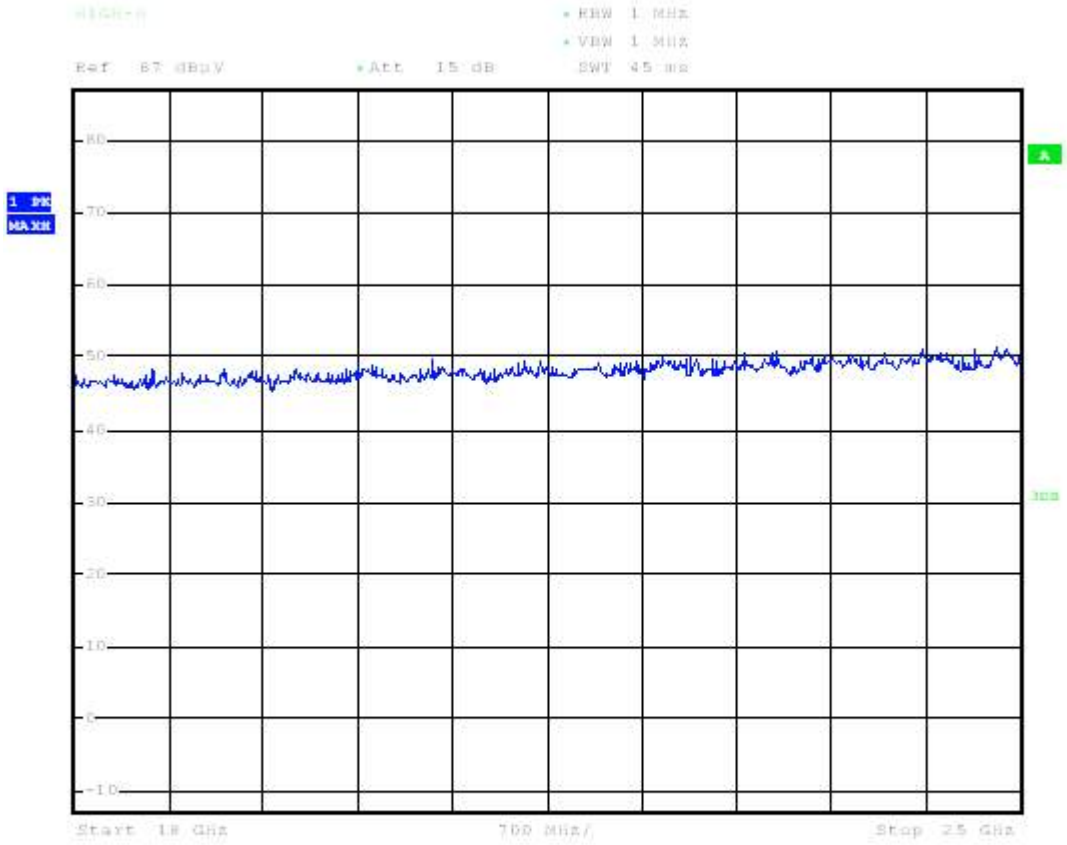


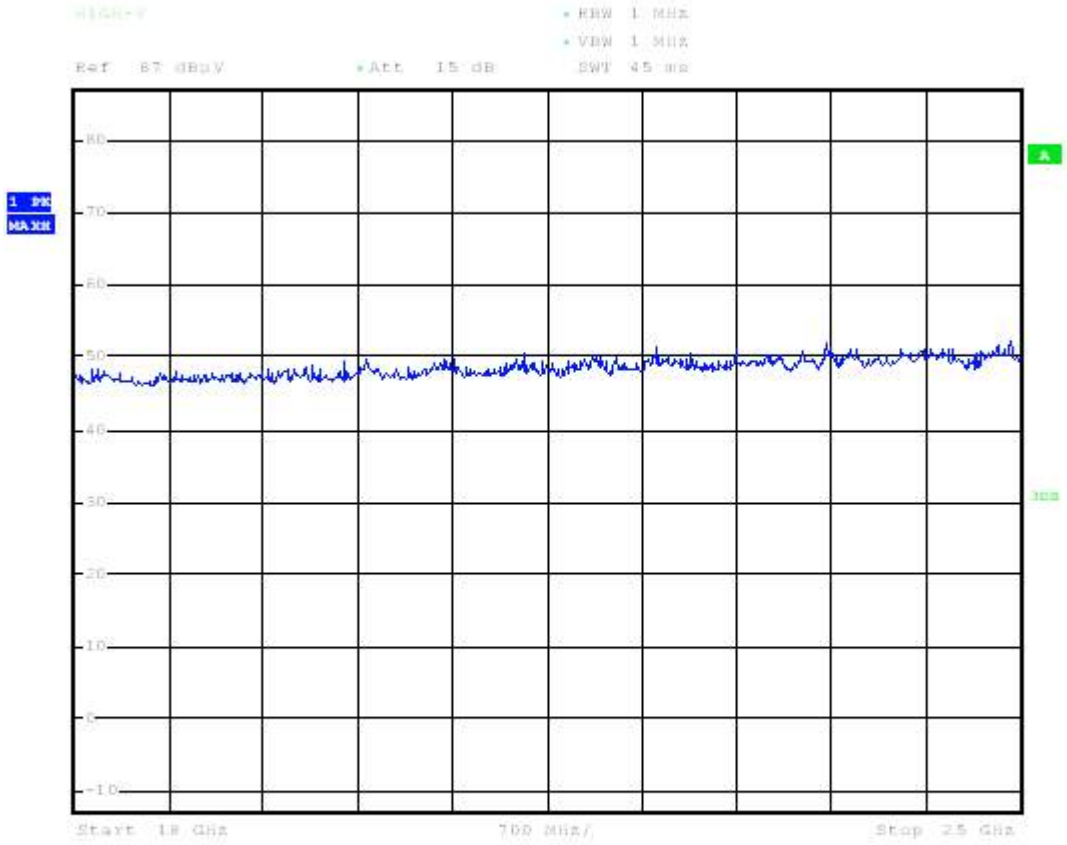
Date: 8.MAY.2018 13:15:02



Date: 8.MAY.2018 13:17:45

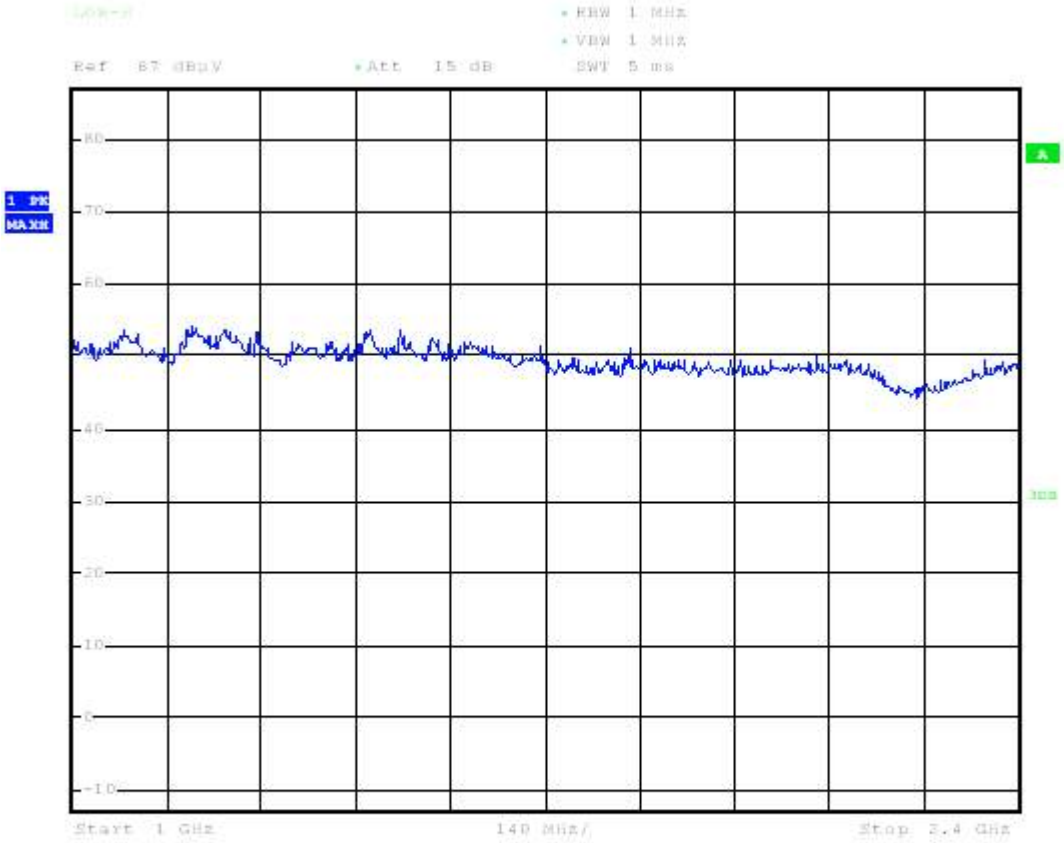


Date: 8.MAY.2018 13:15:22

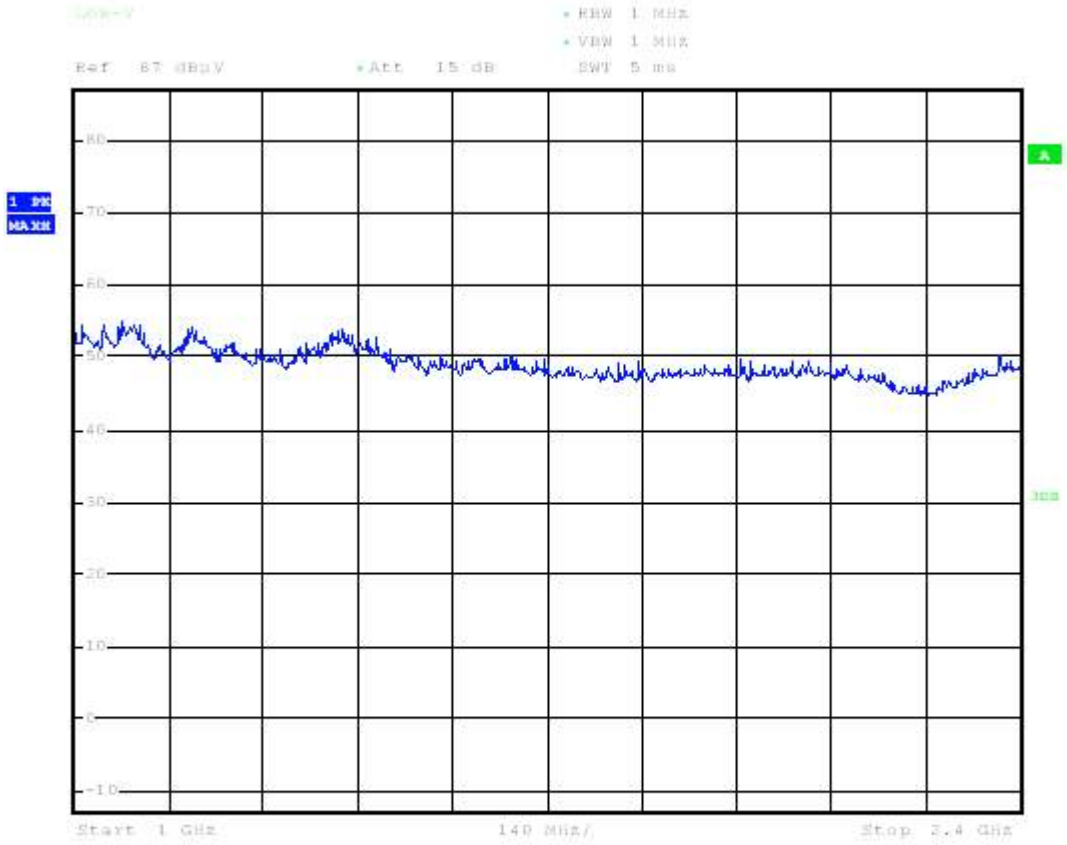


Date: 8.MAY.2018 13:18:12

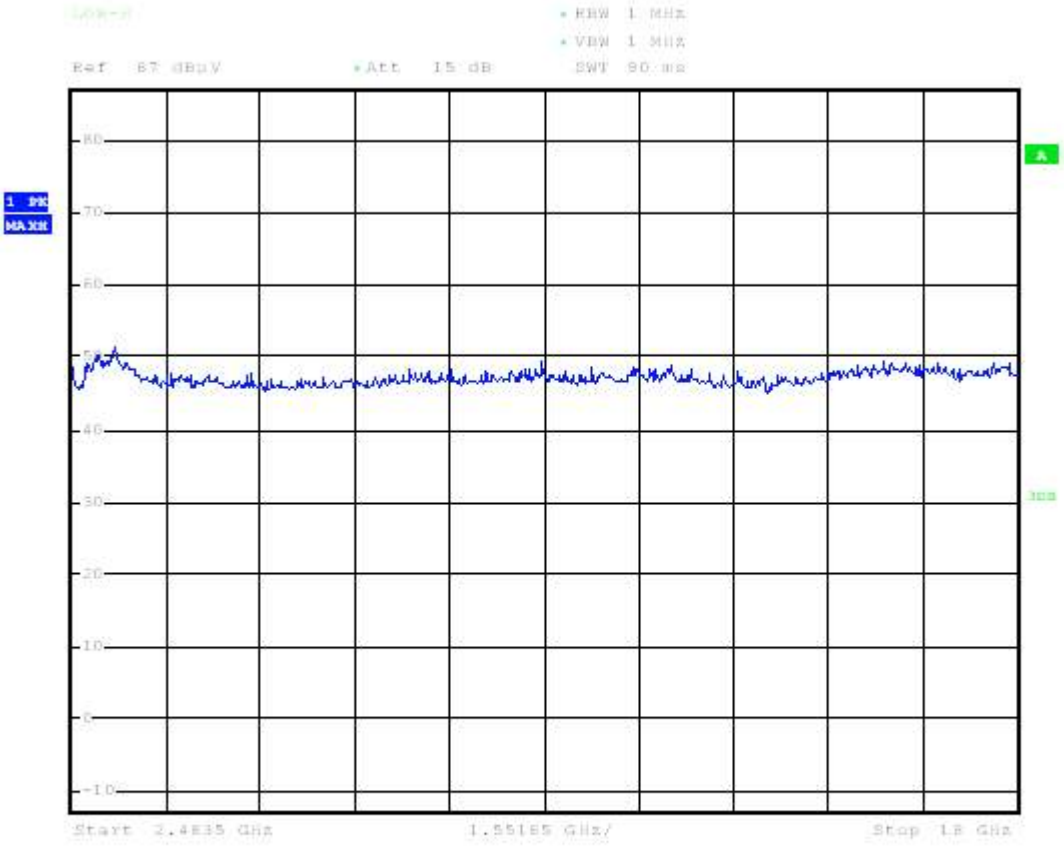
調變技術: IEEE 802.11g



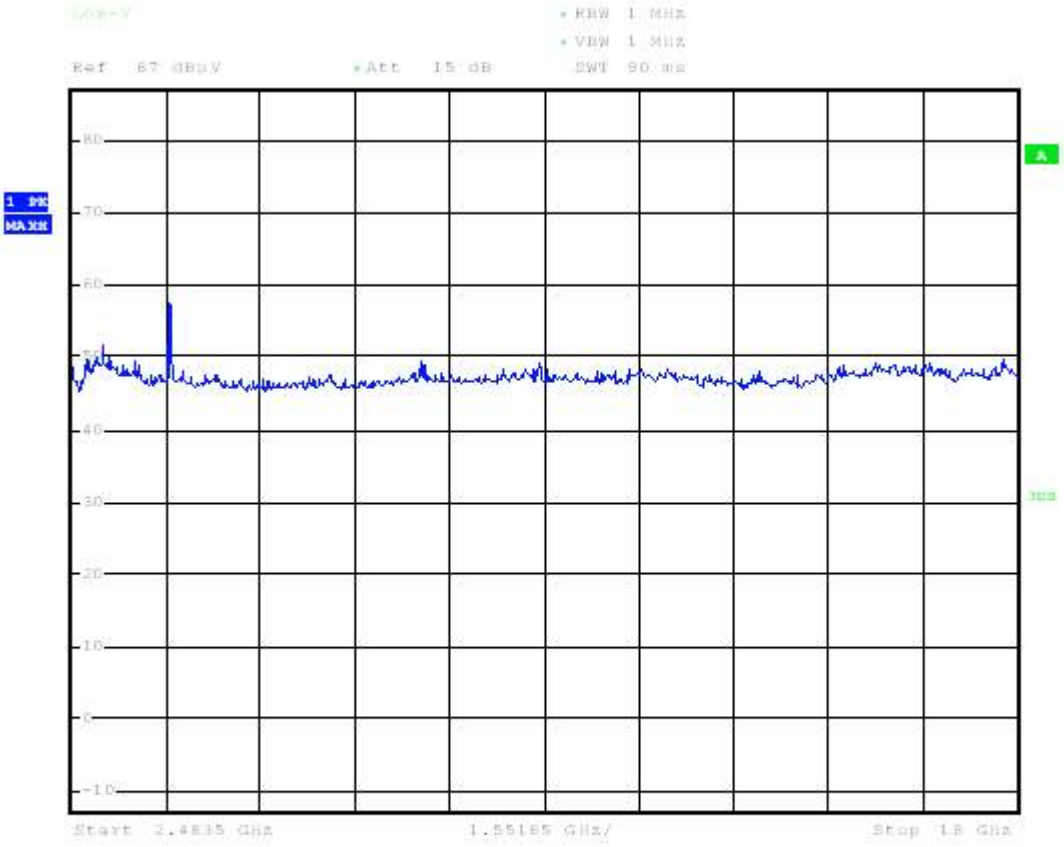
Date: 8.MAY.2018 13:44:49



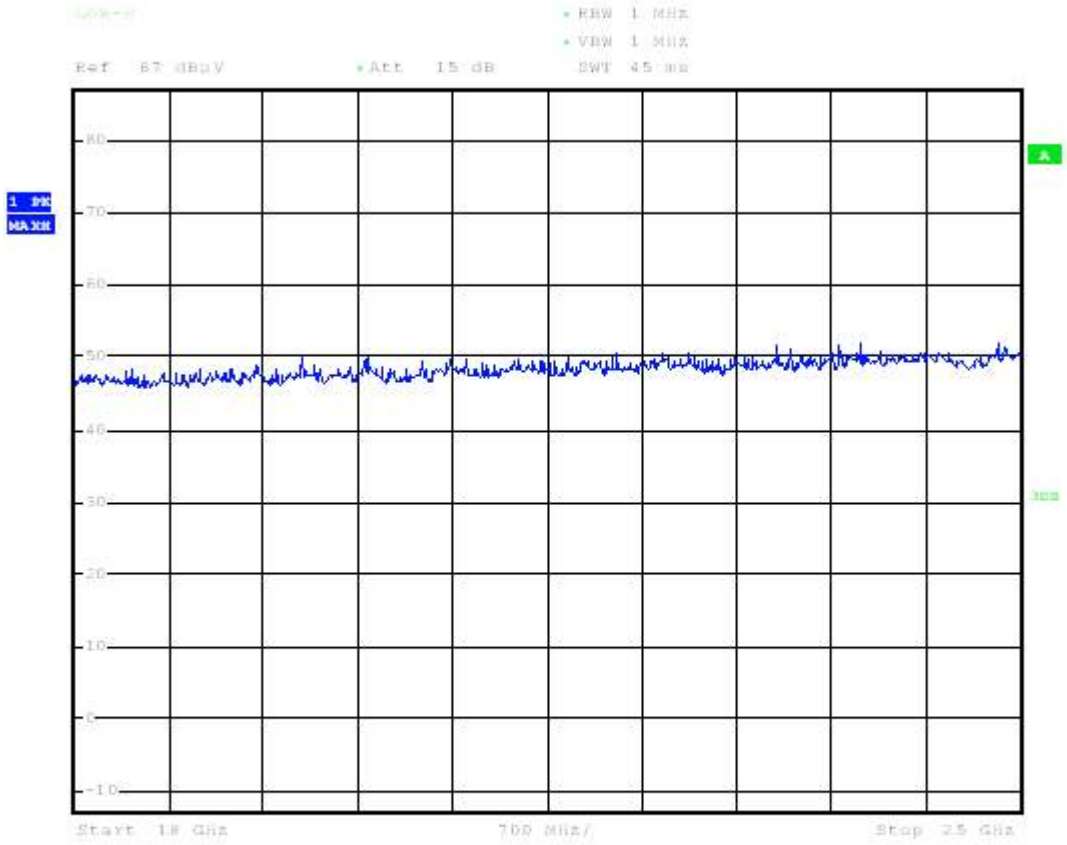
Date: 8.MAY.2018 13:47:30



Date: 8.MAY.2018 13:46:00



Date: 8.MAY.2018 13:48:42



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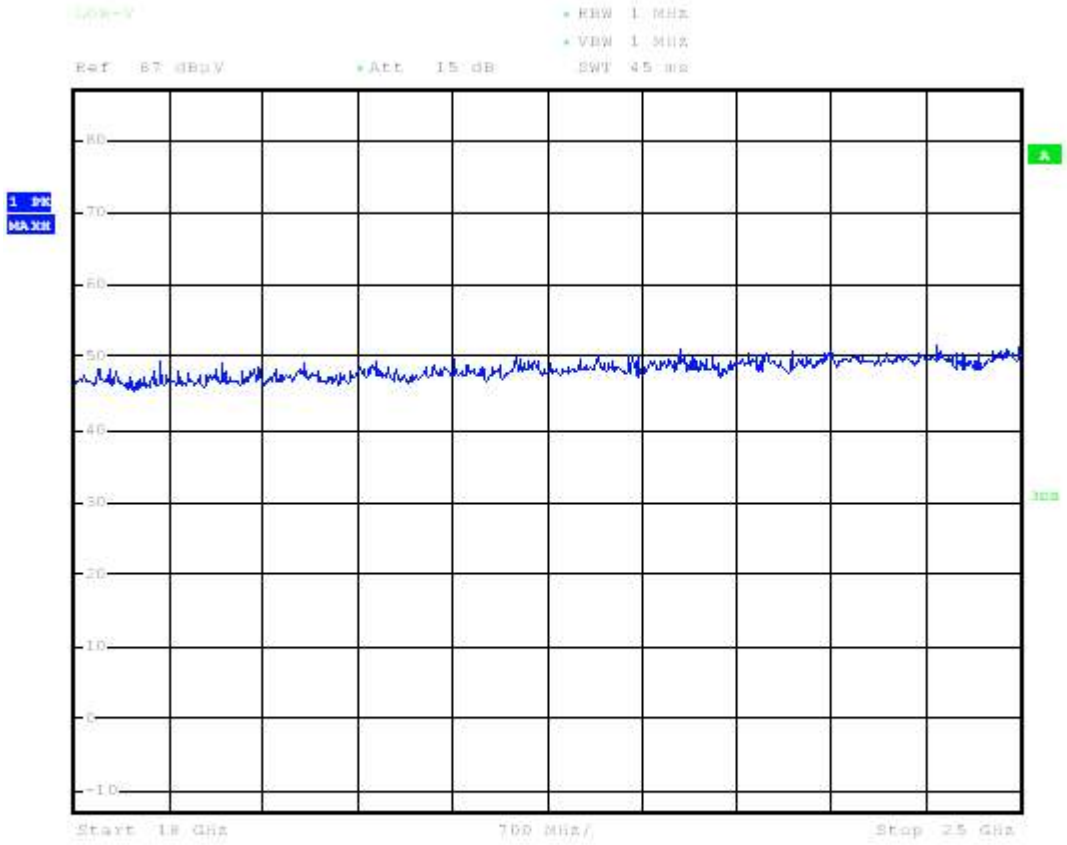

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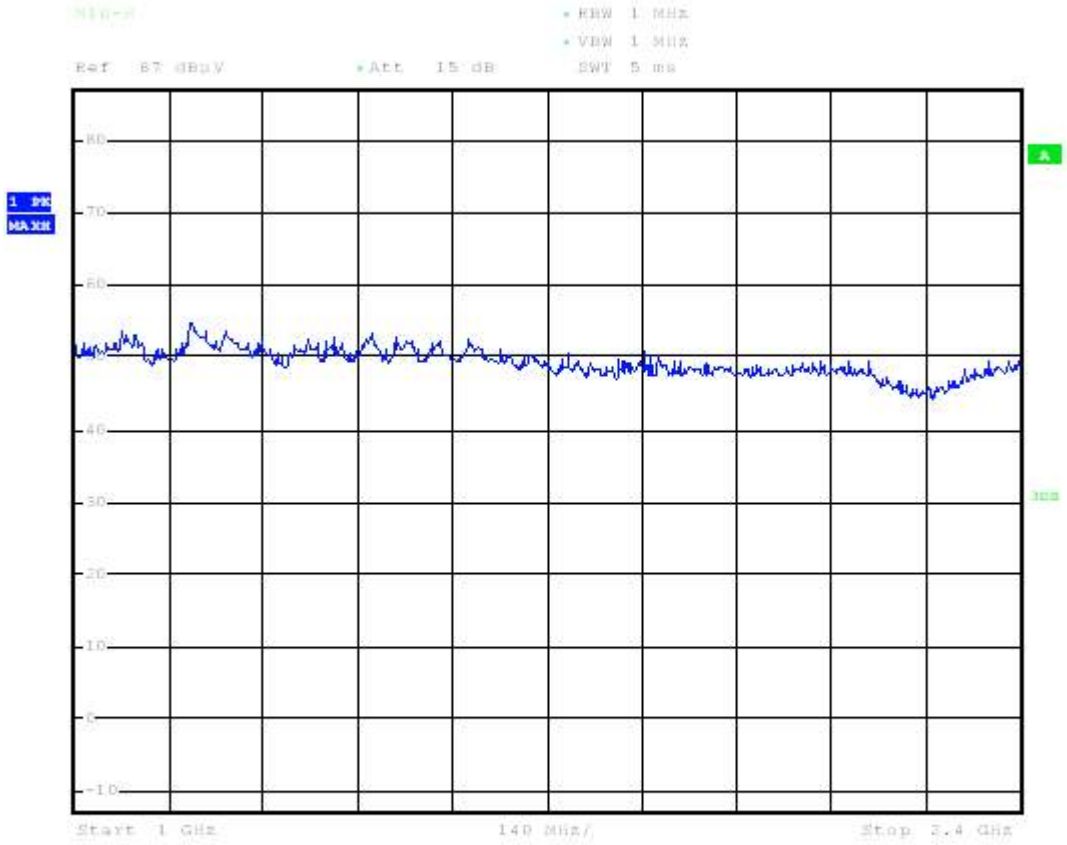

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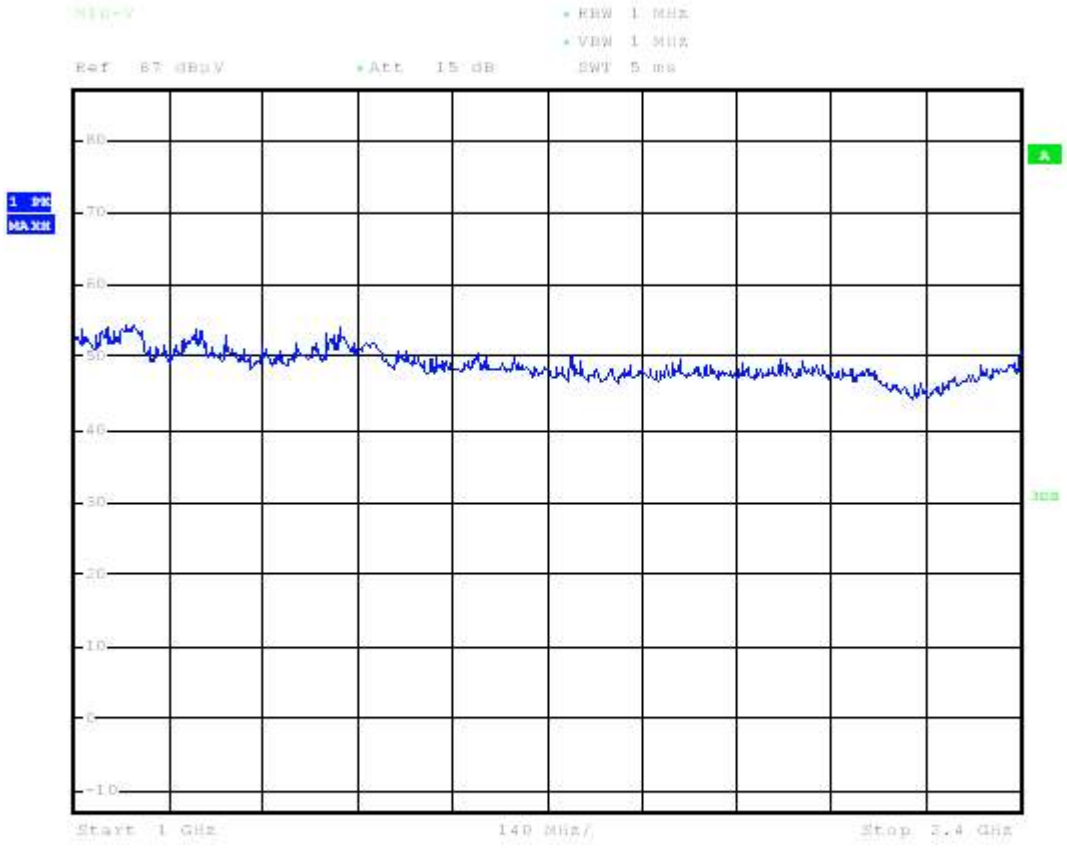

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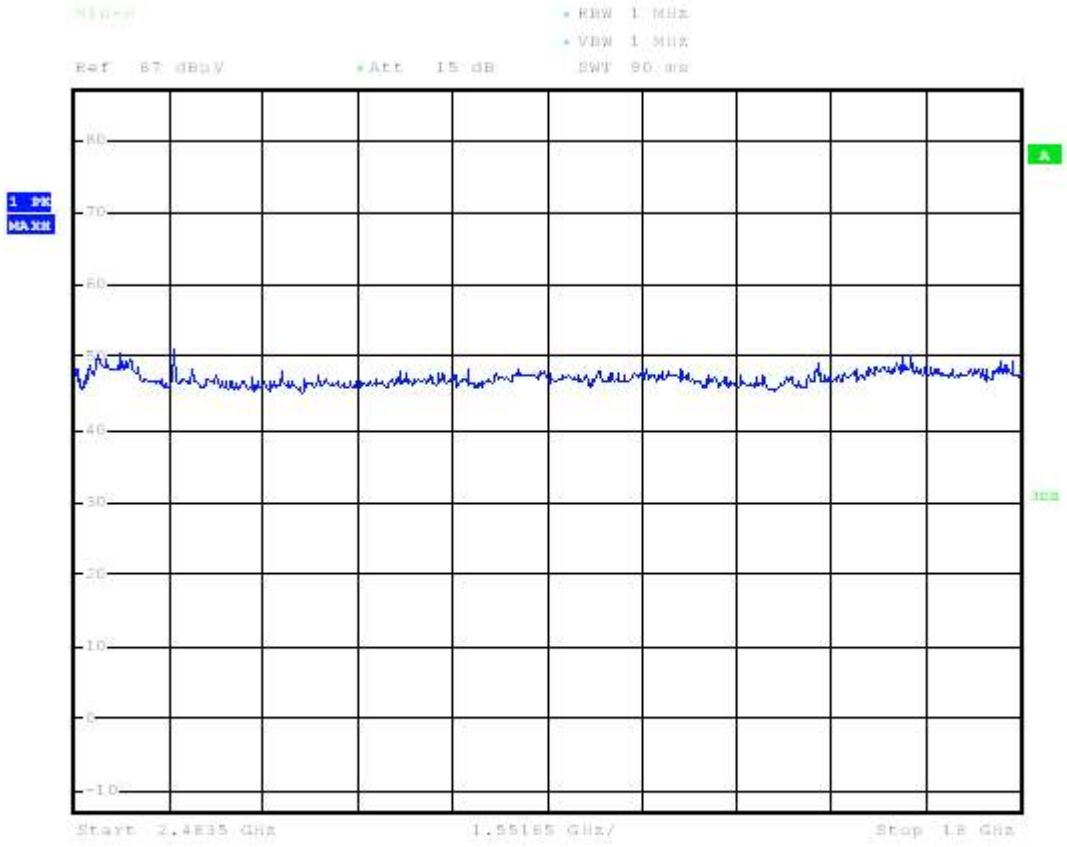

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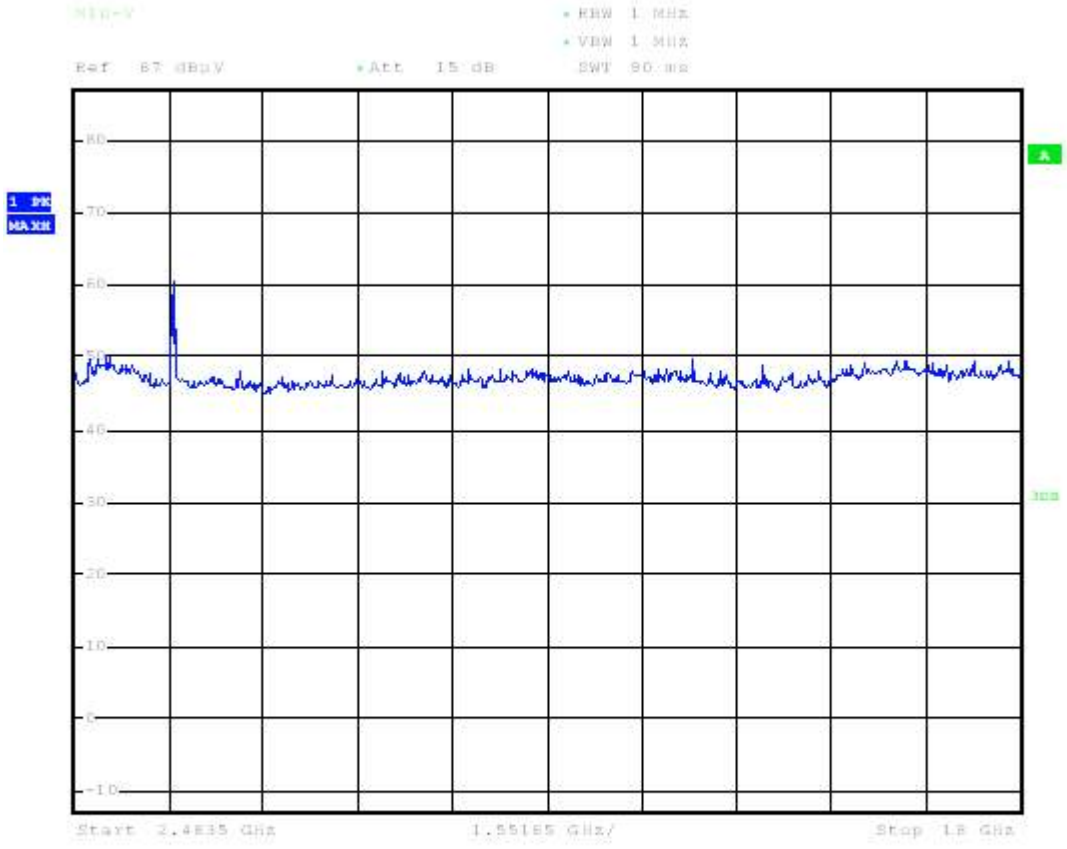

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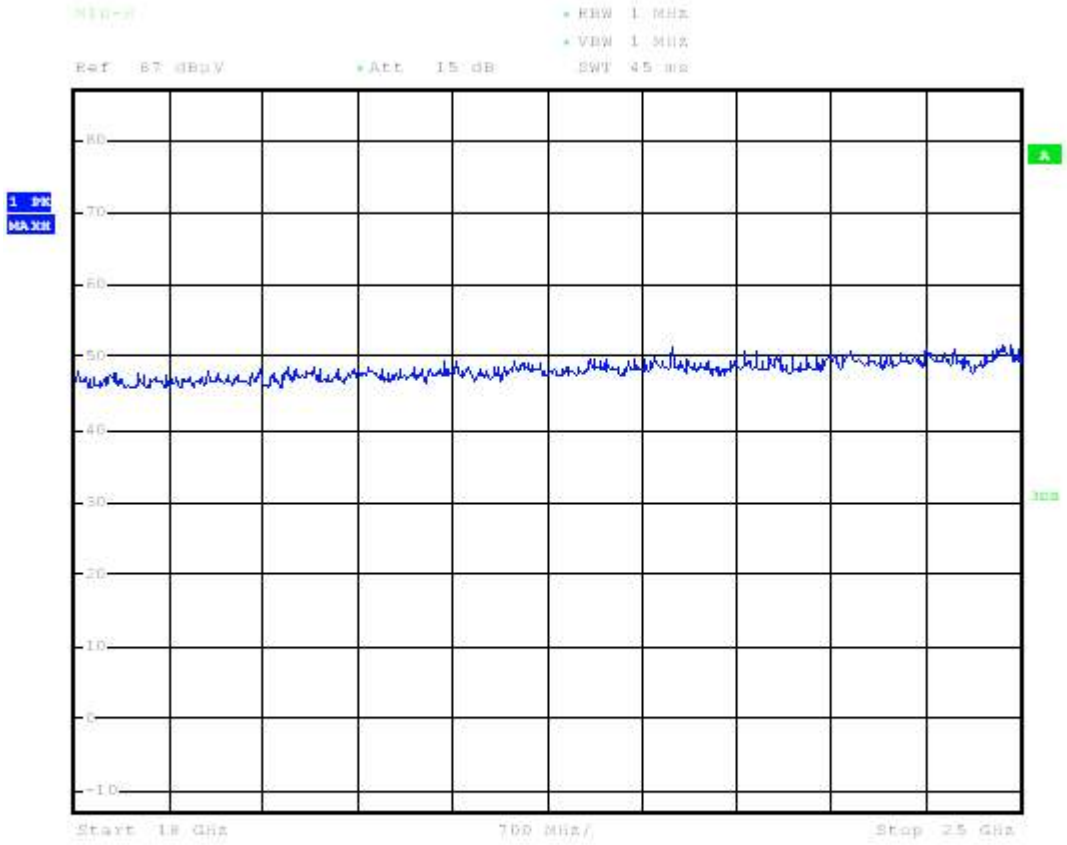

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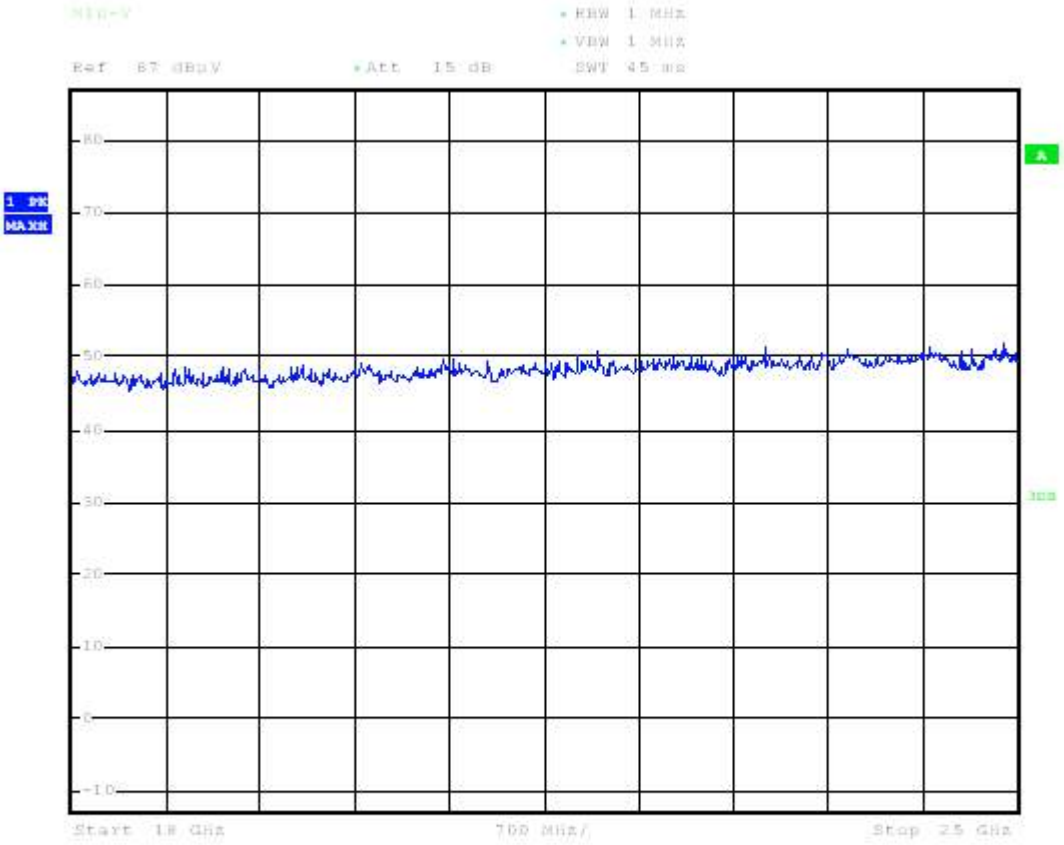

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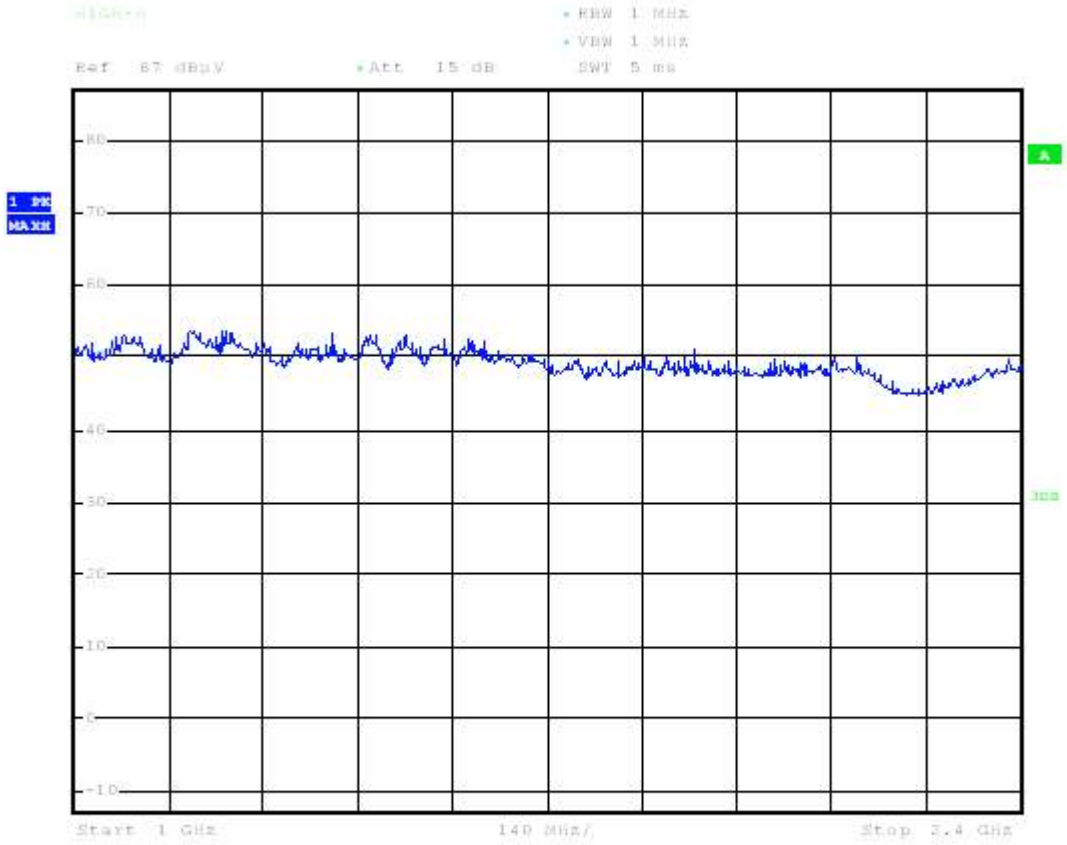

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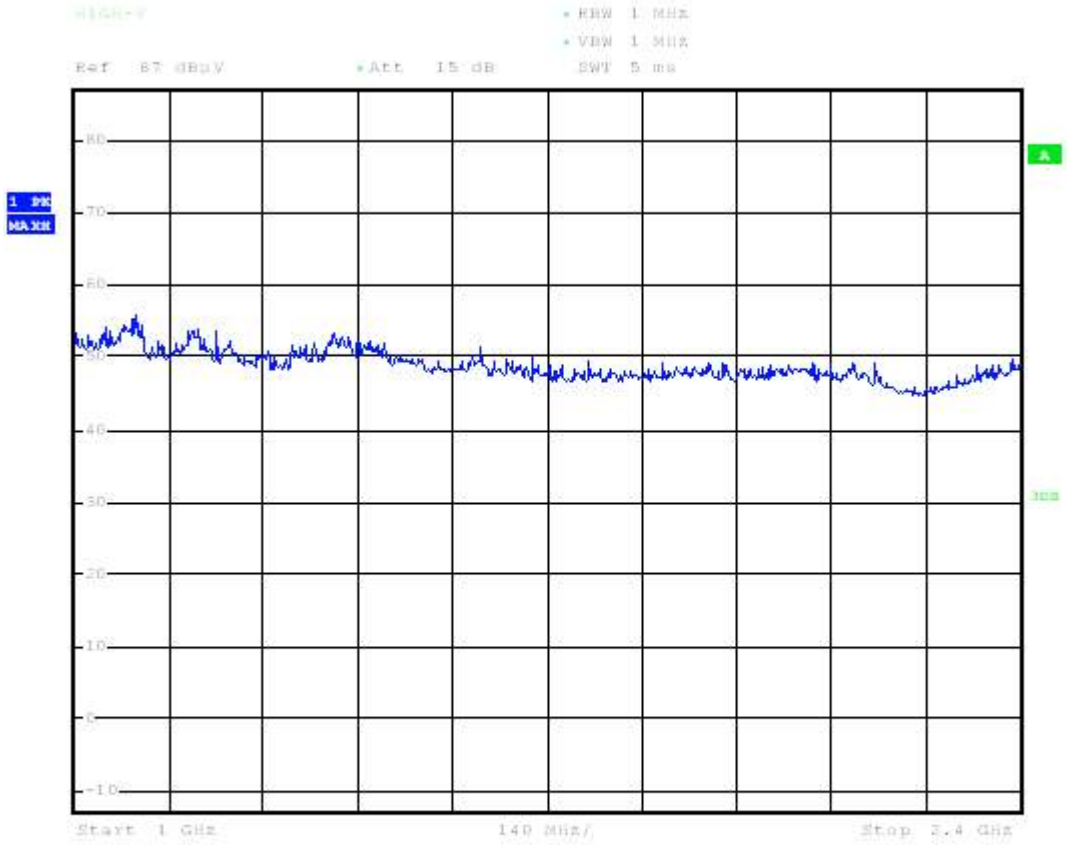

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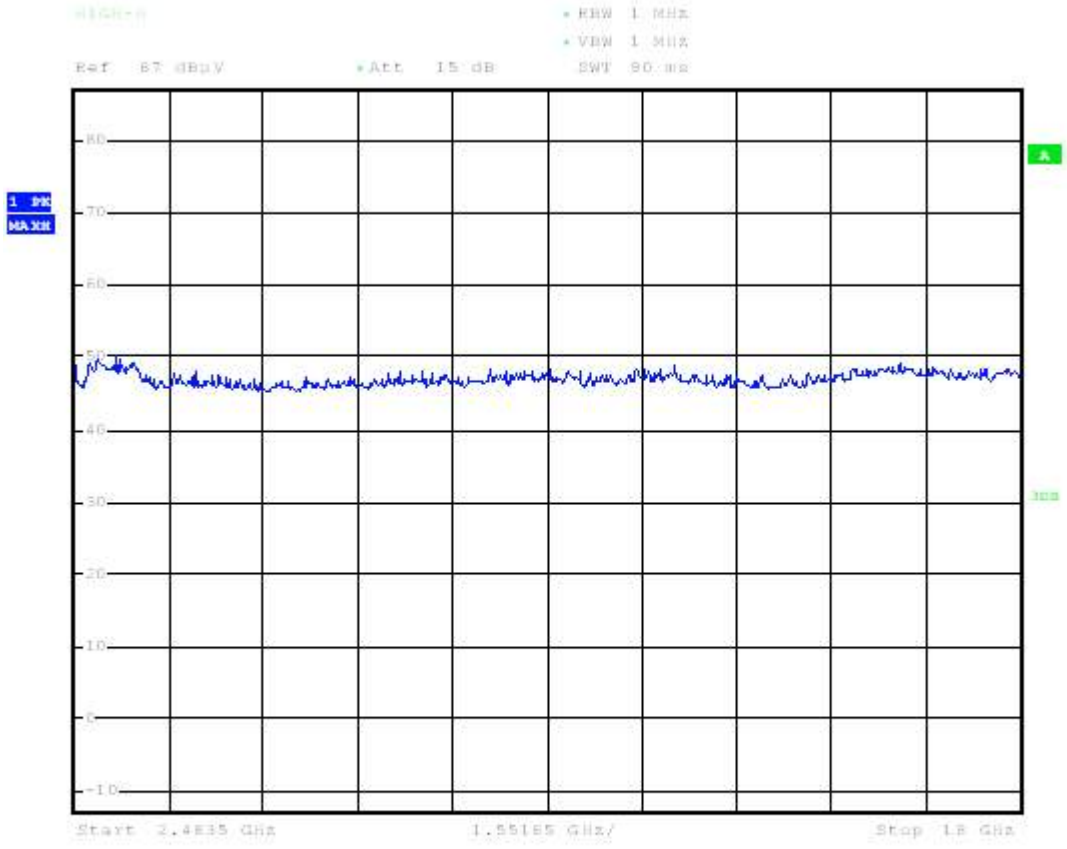

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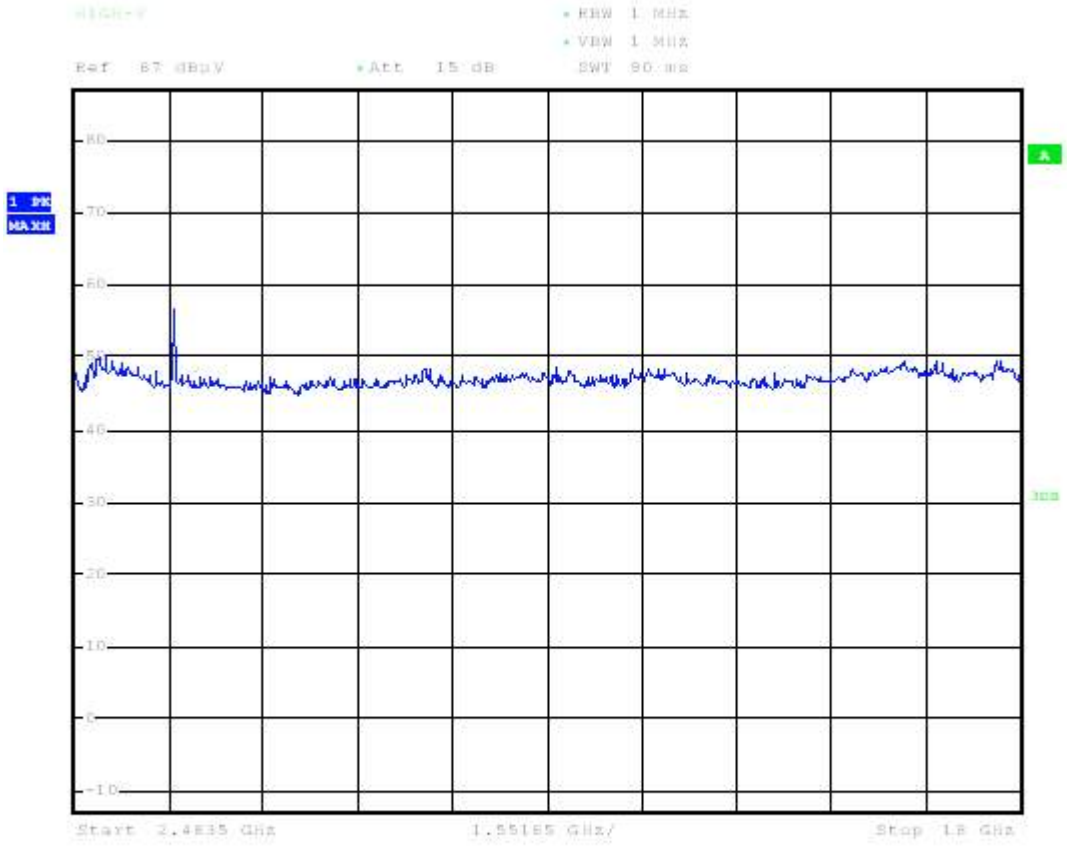

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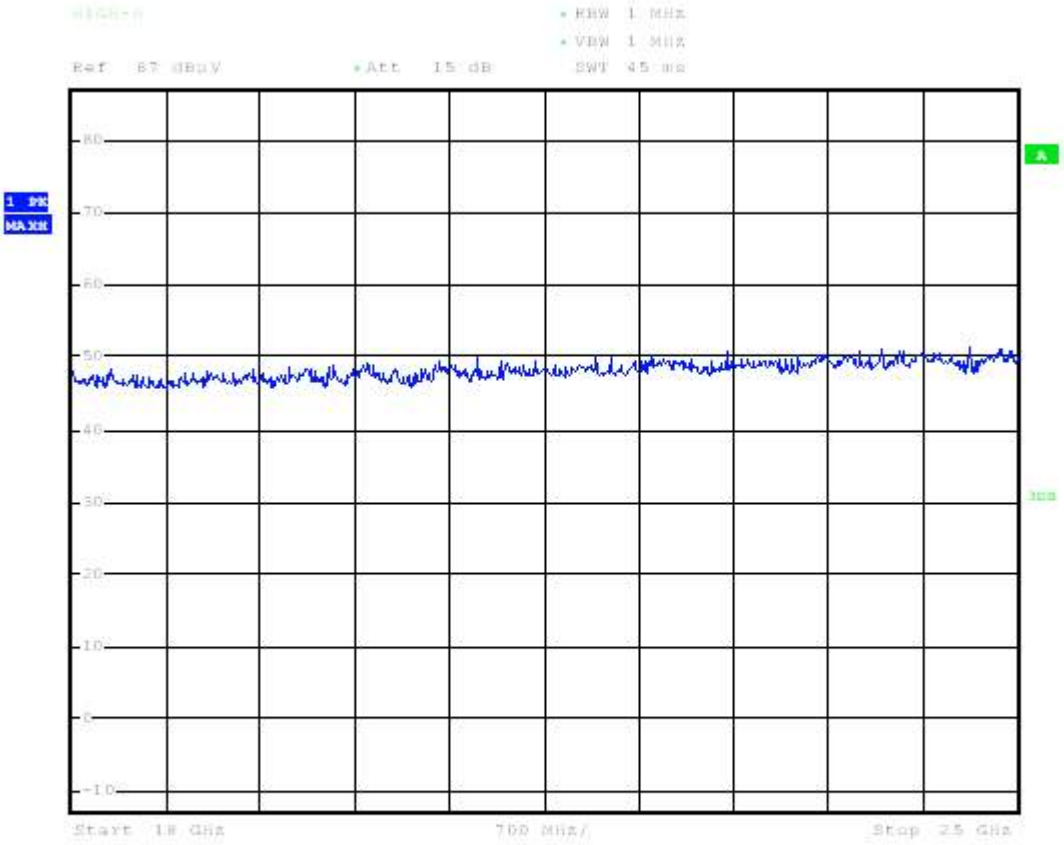

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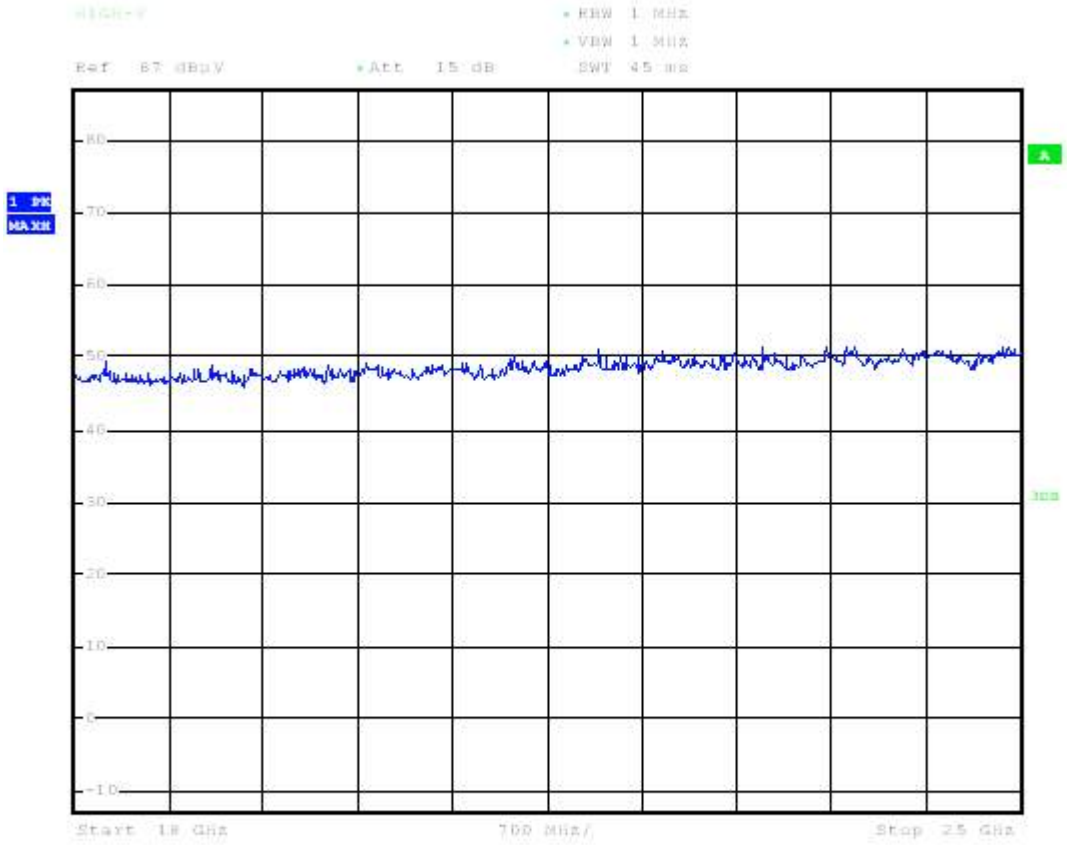

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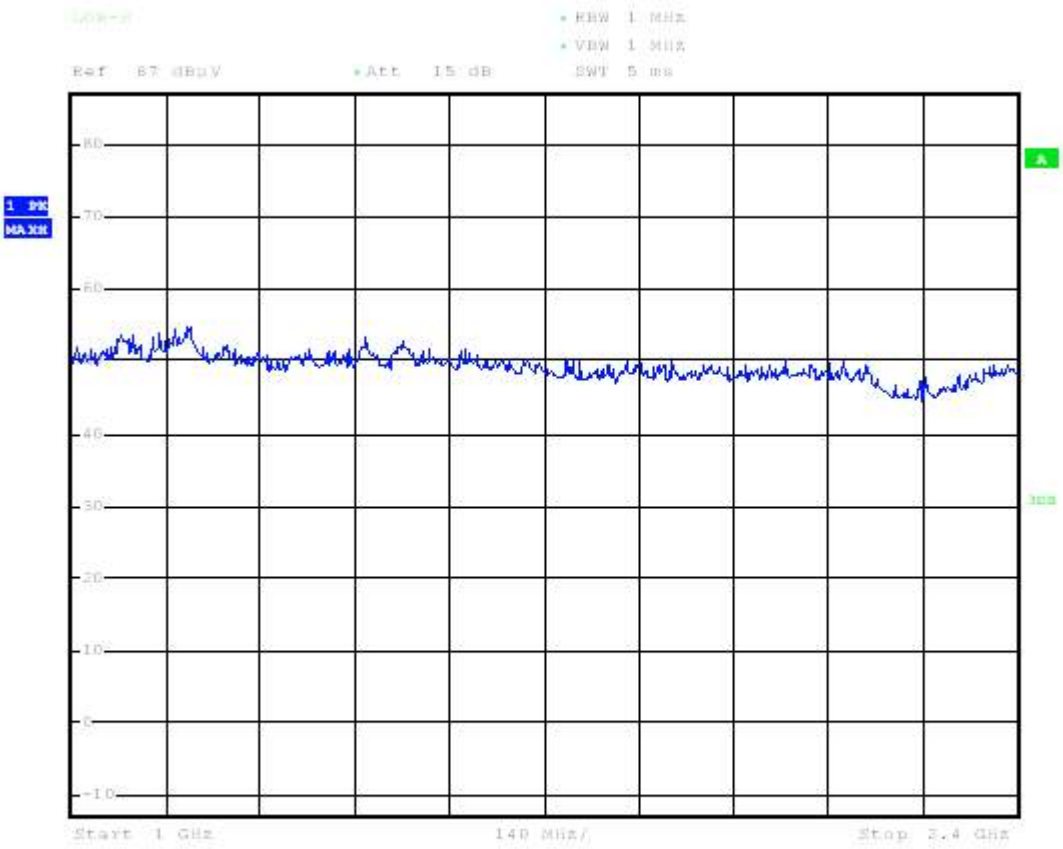
調變技術: IEEE 802.11n HT20



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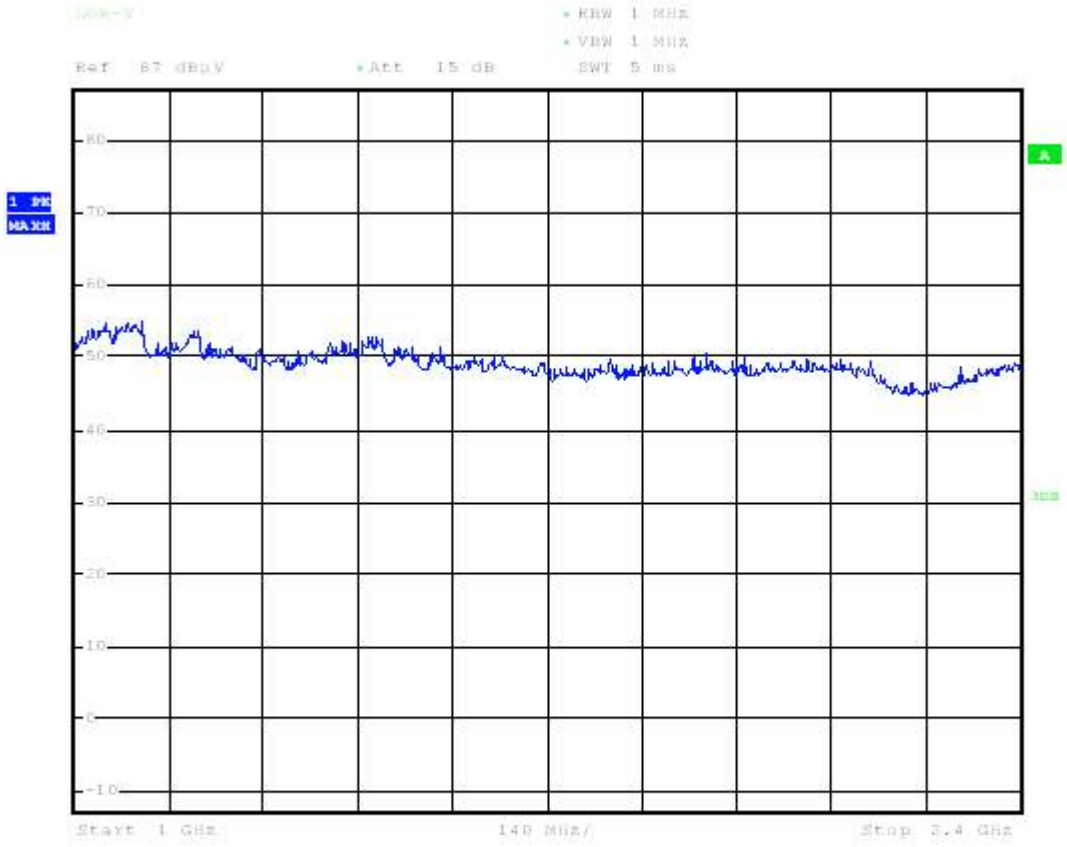

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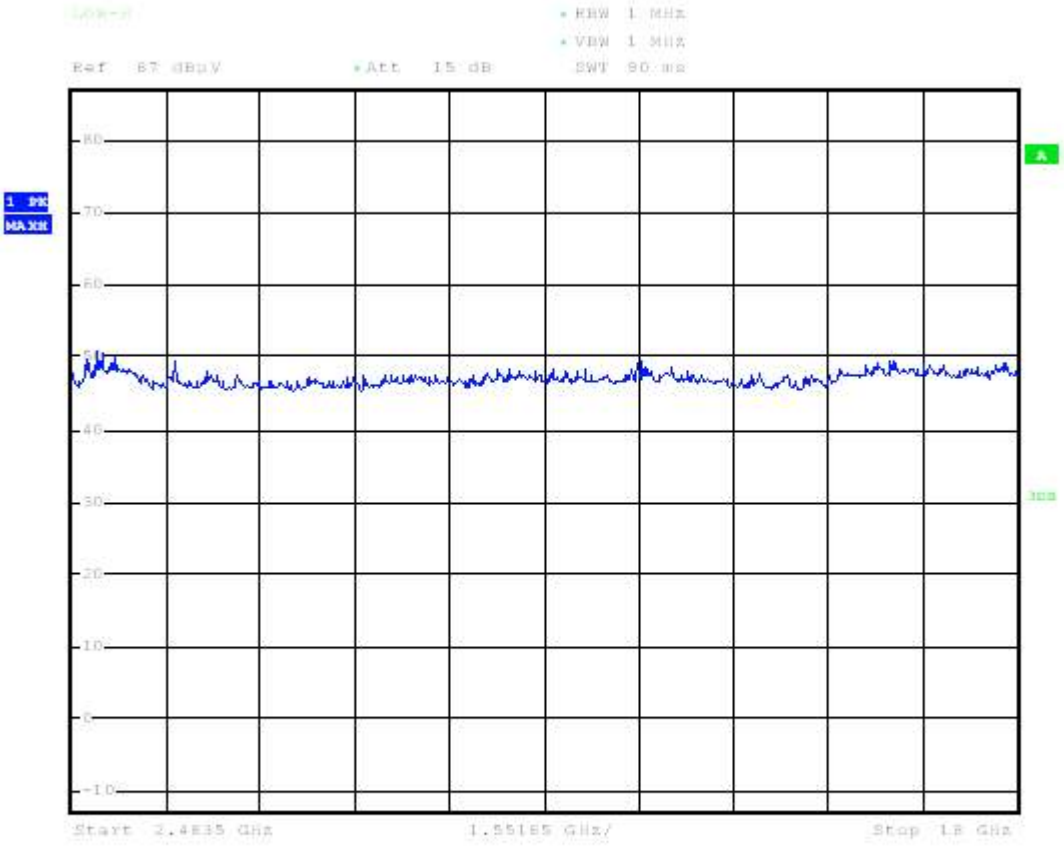

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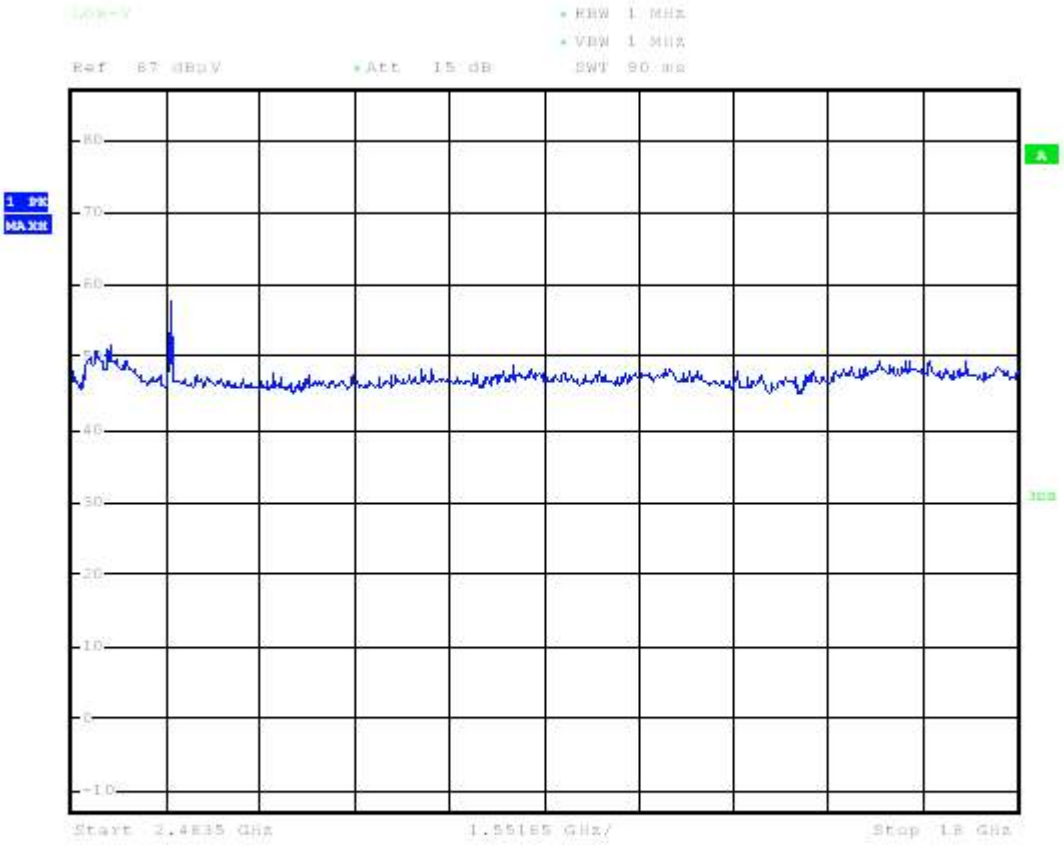

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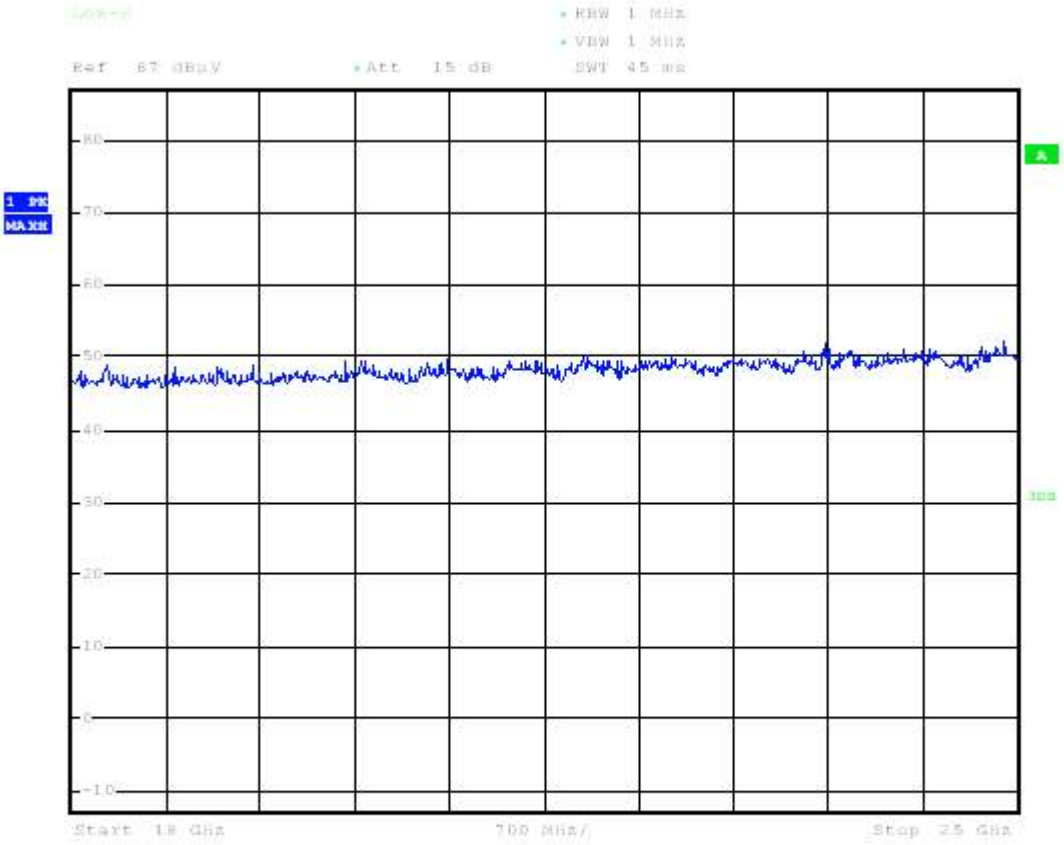

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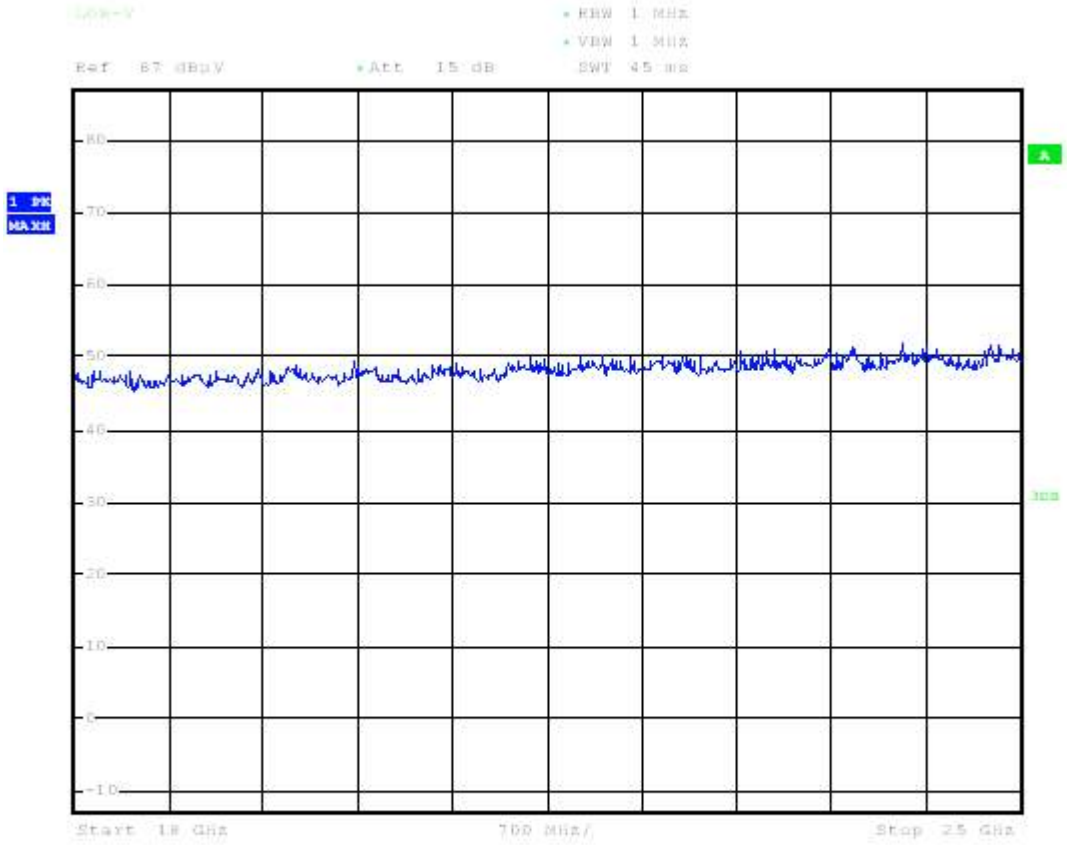

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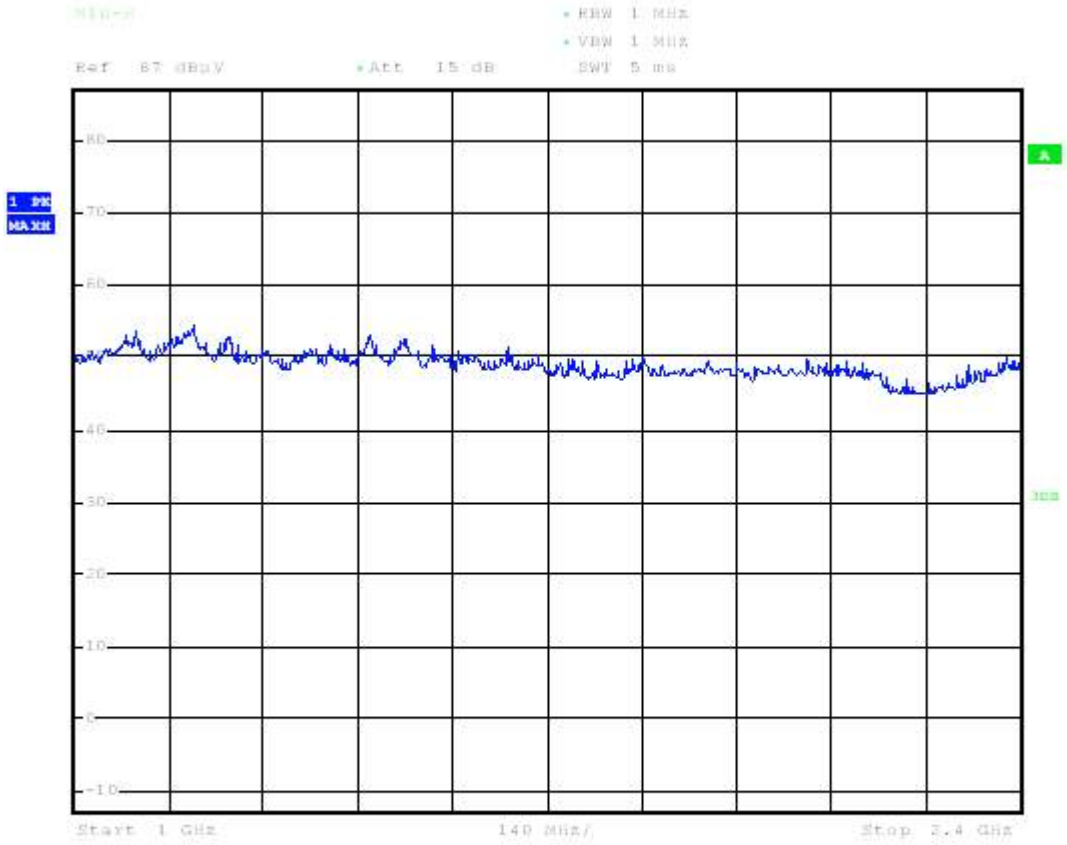

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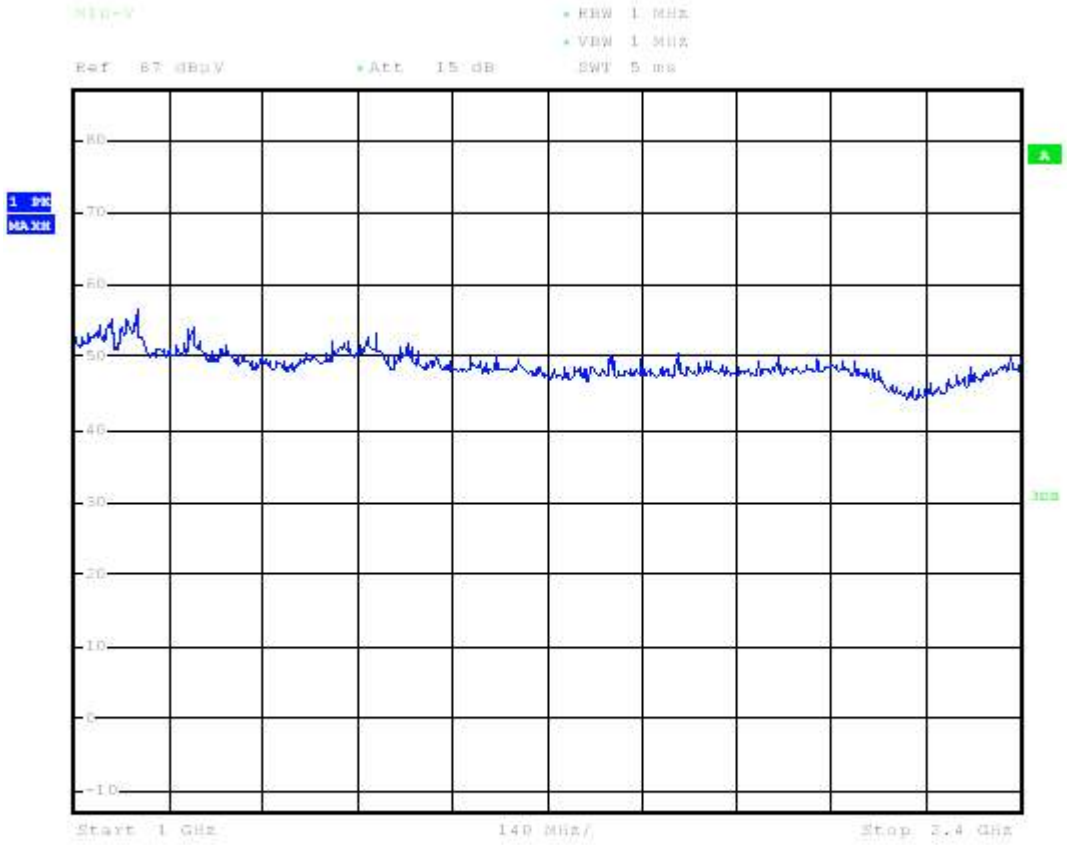

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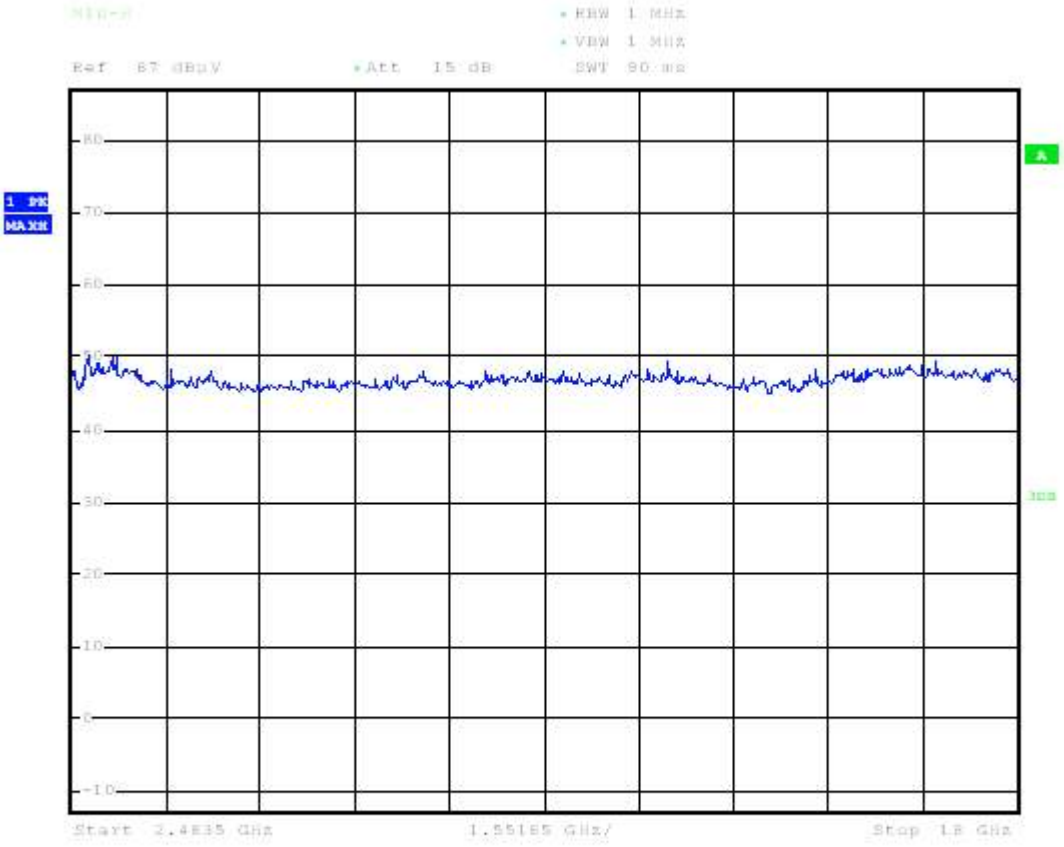

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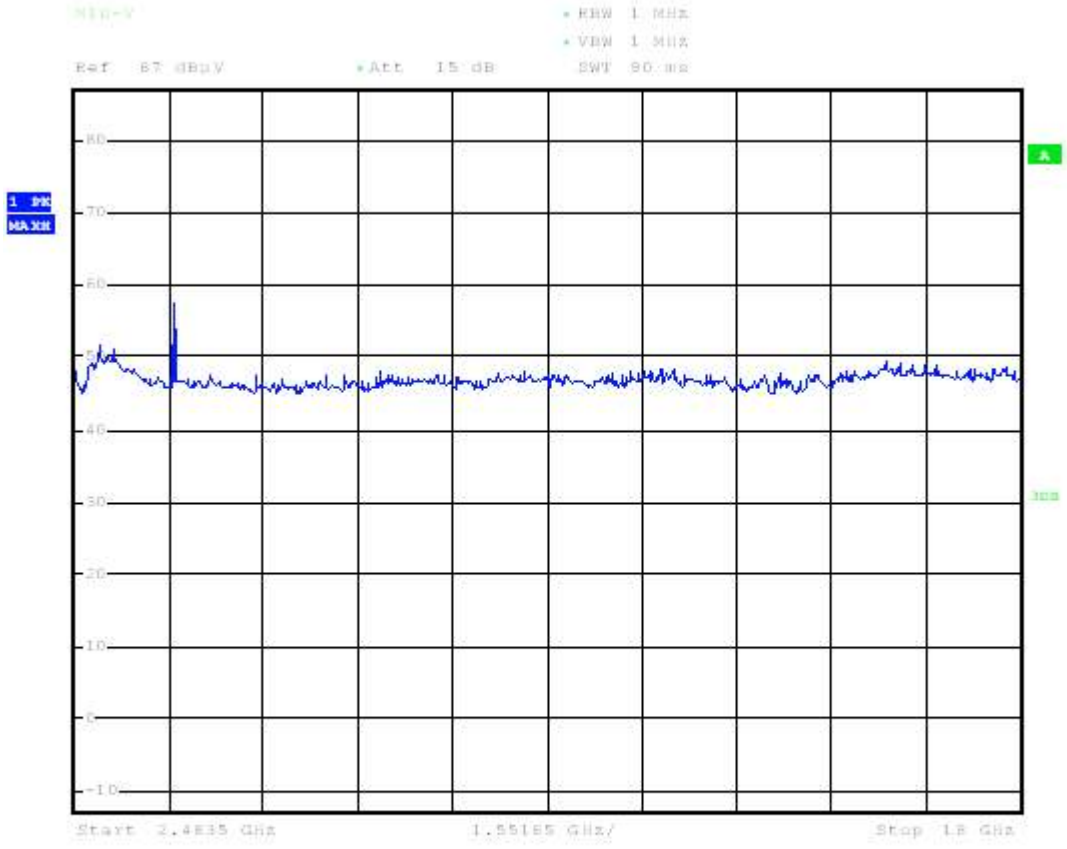

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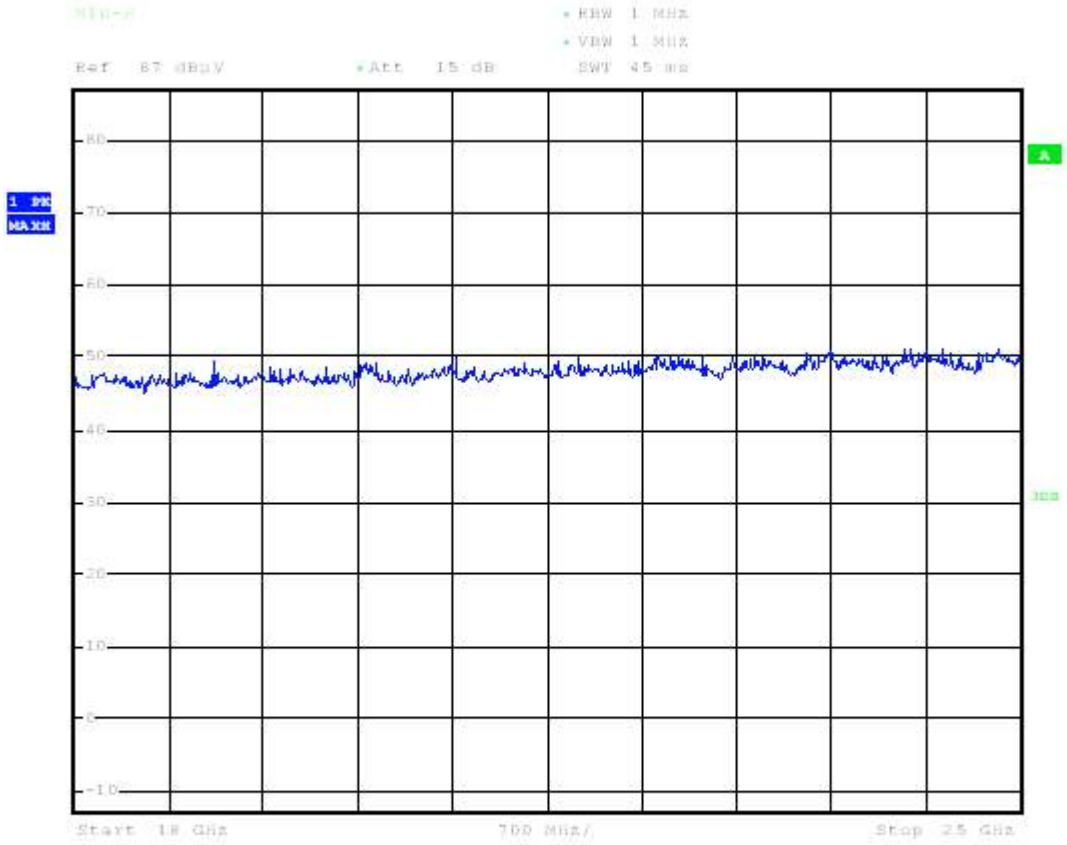

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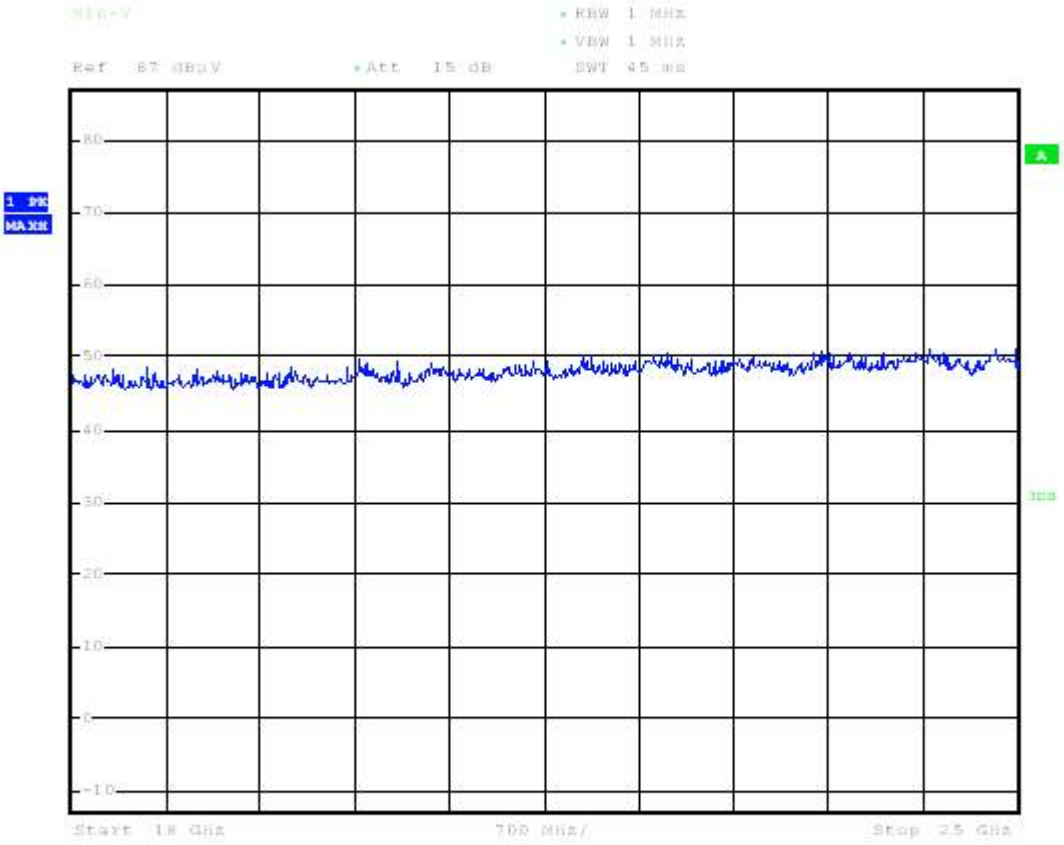

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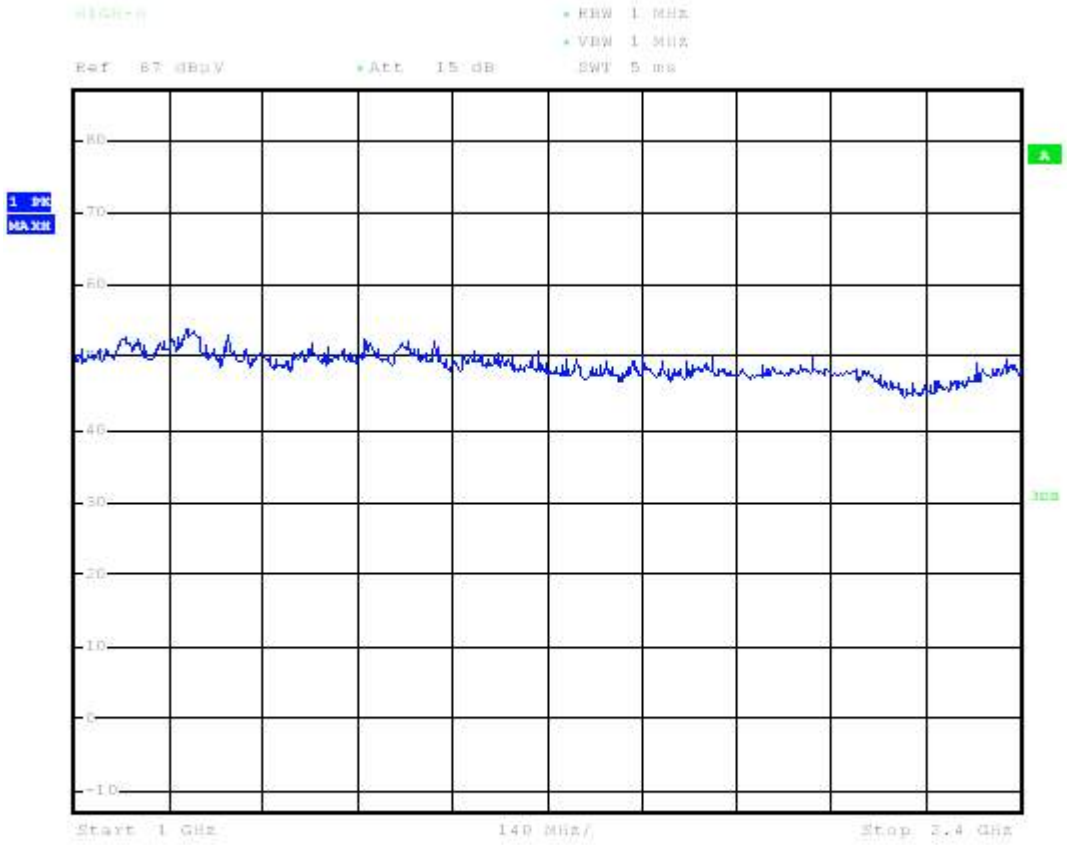

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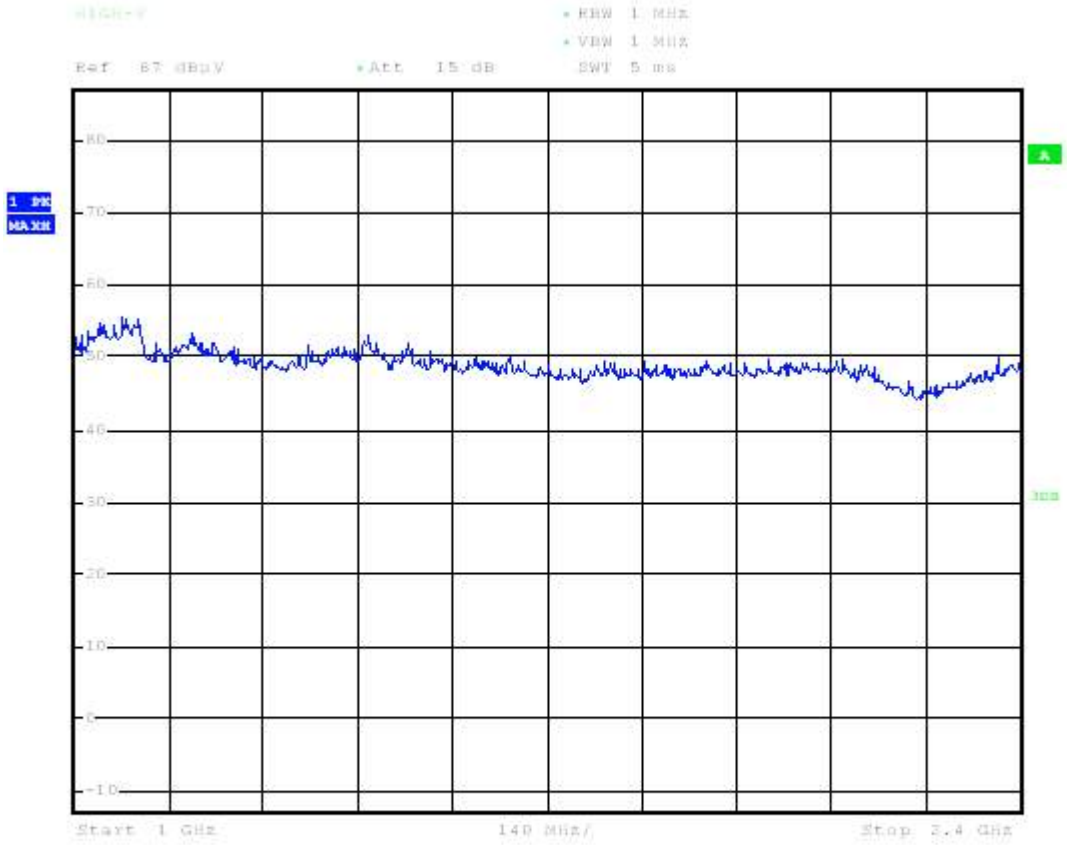

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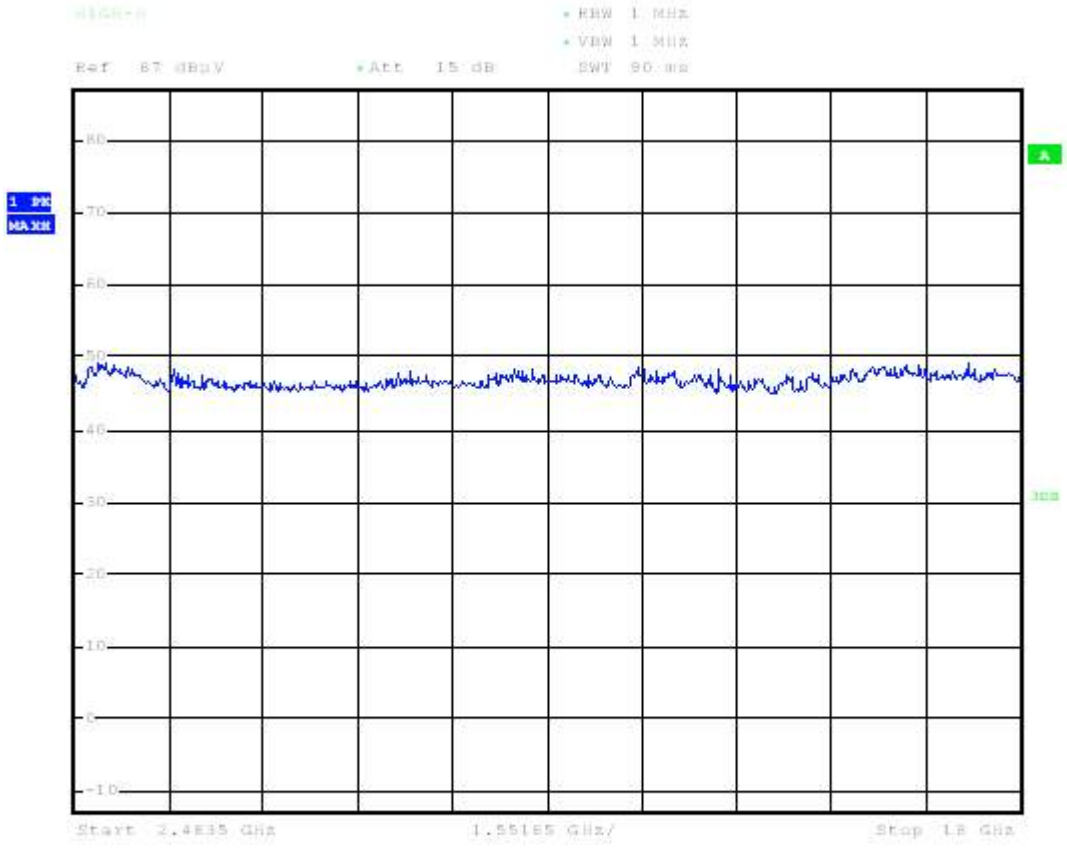

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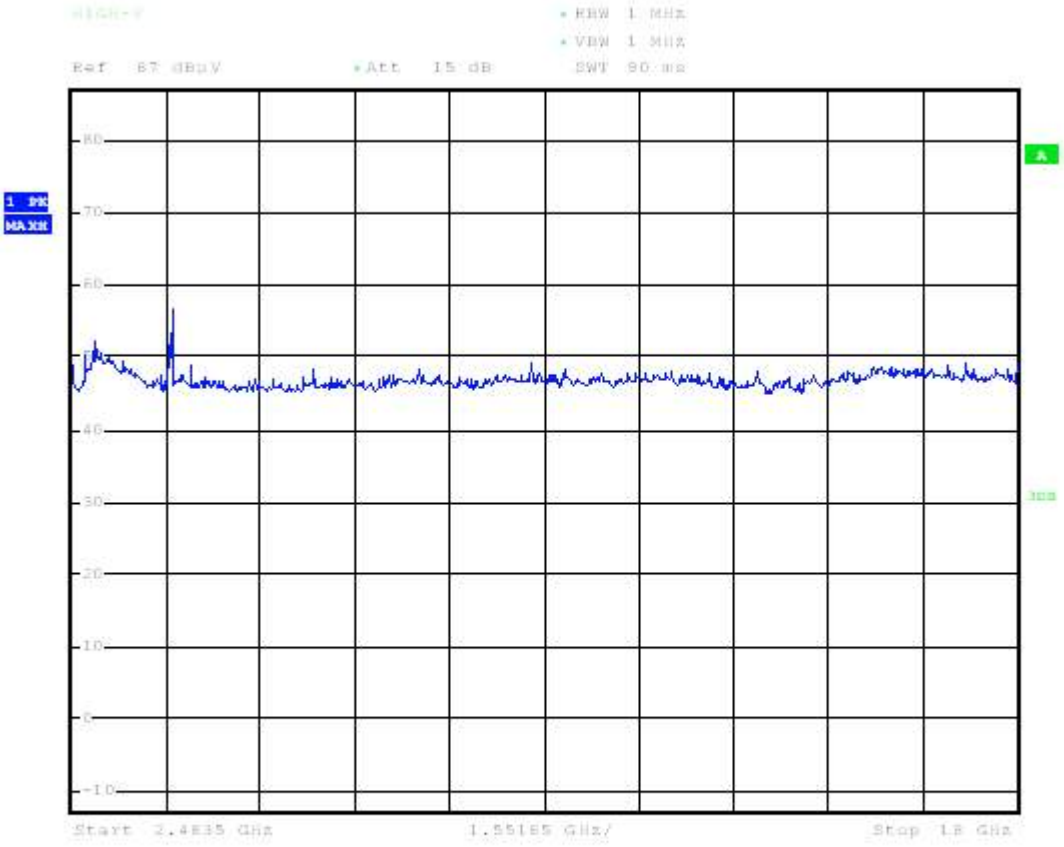

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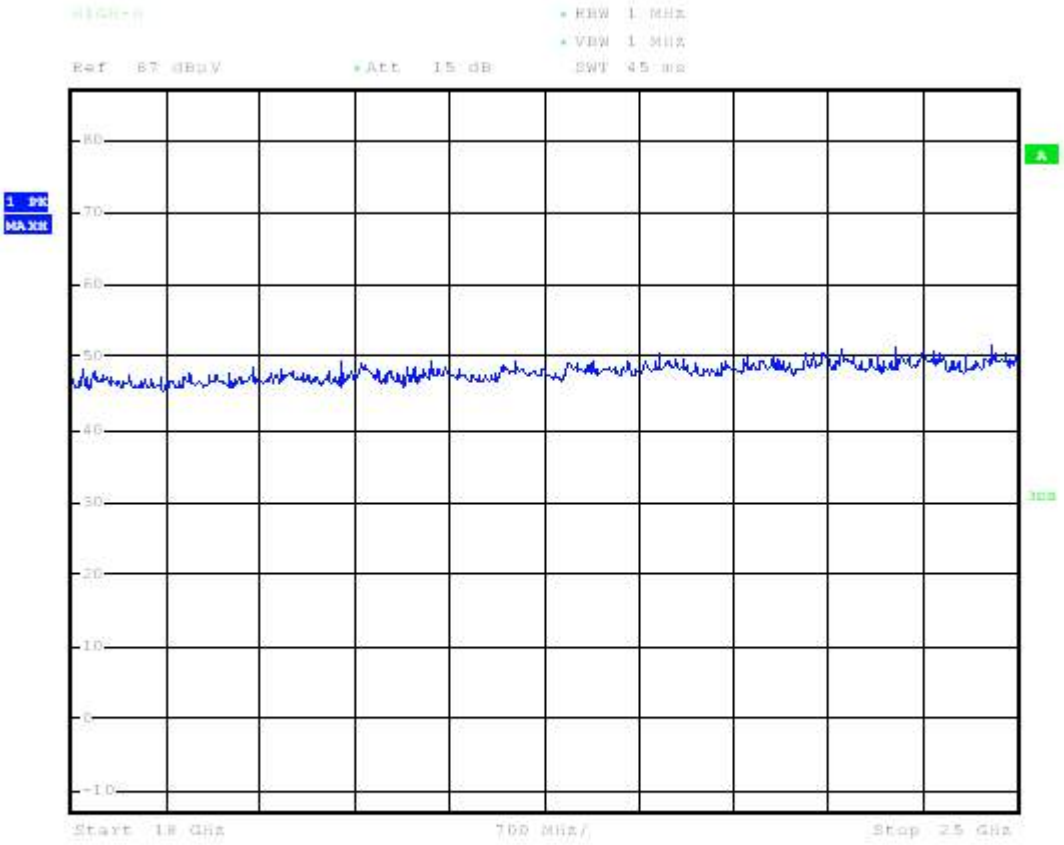

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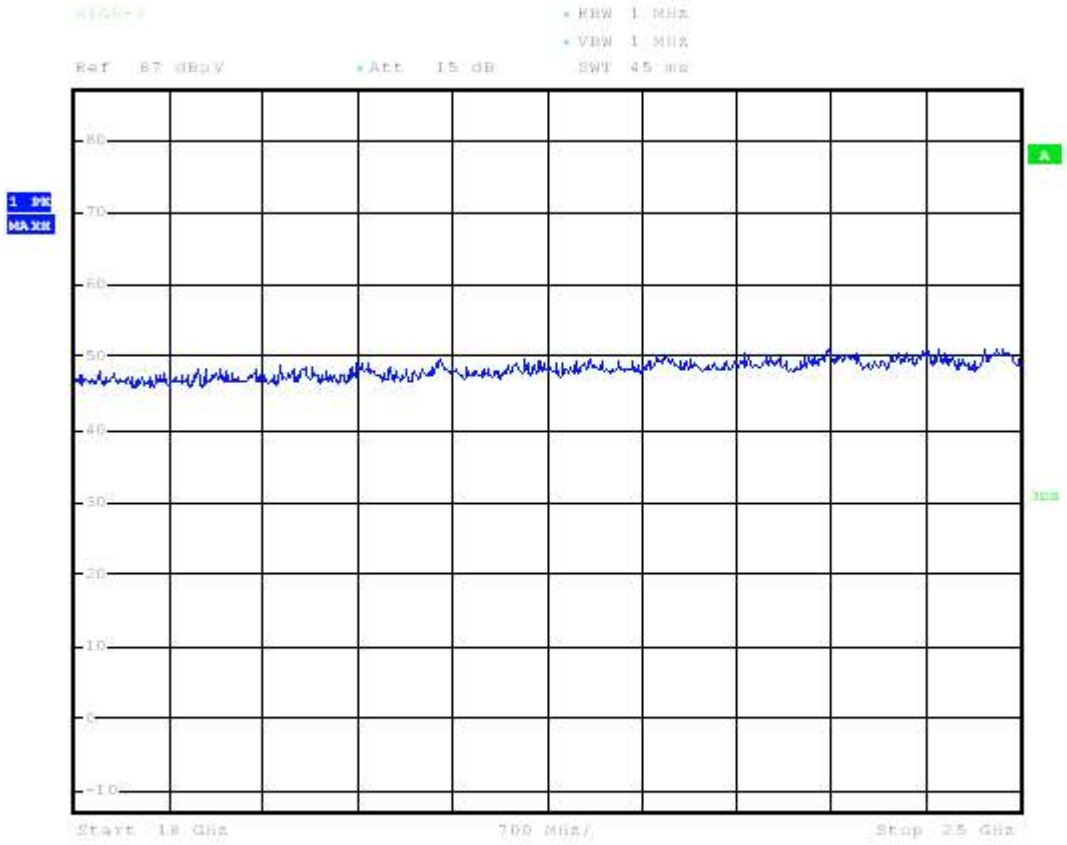

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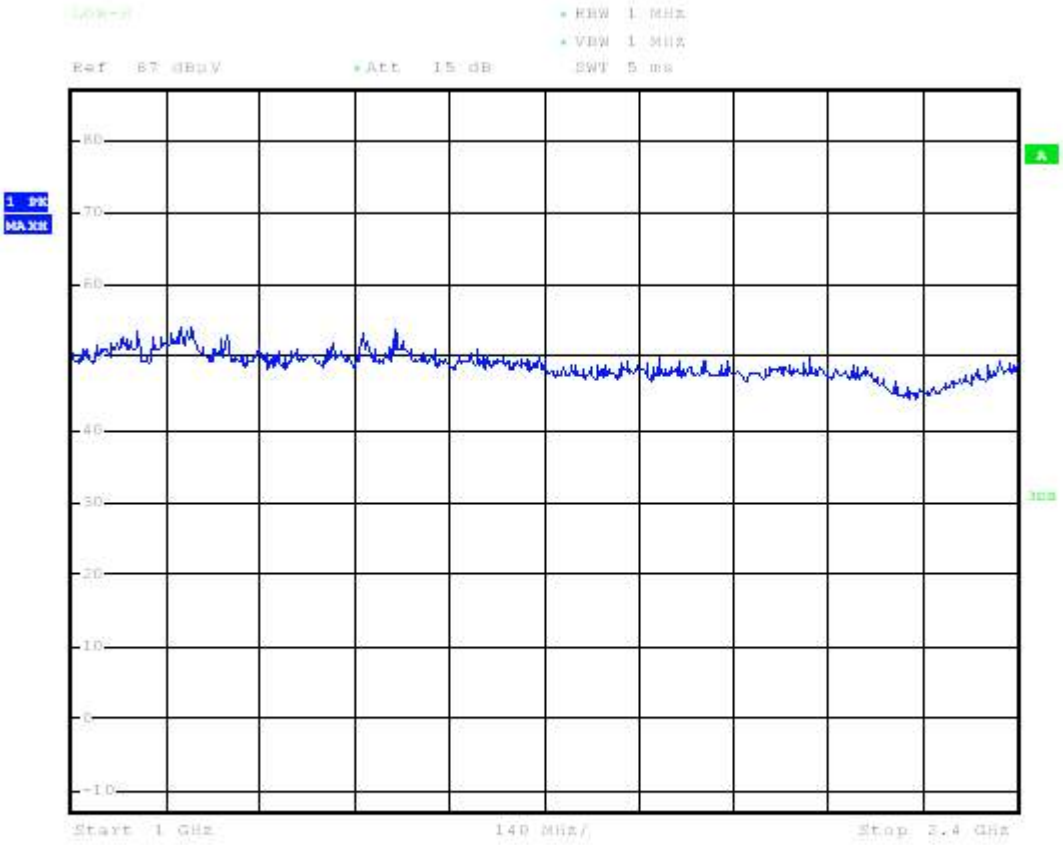
調變技術: IEEE 802.11n HT40



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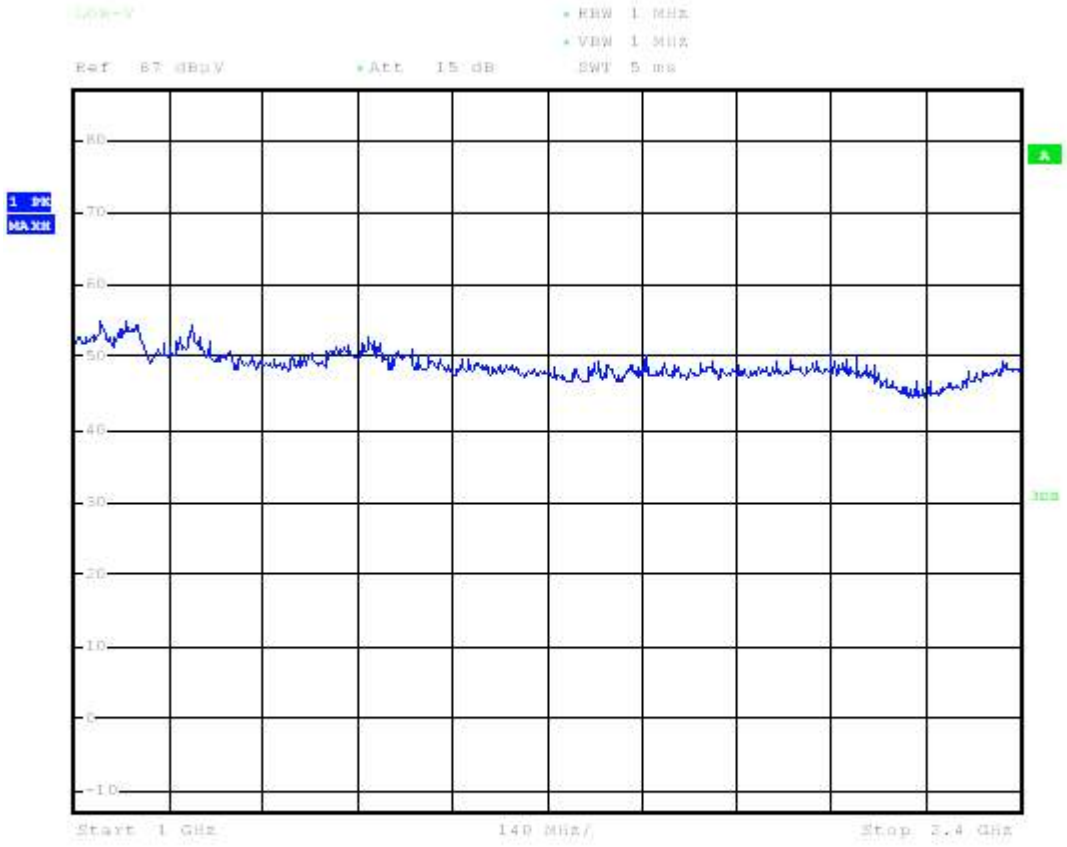

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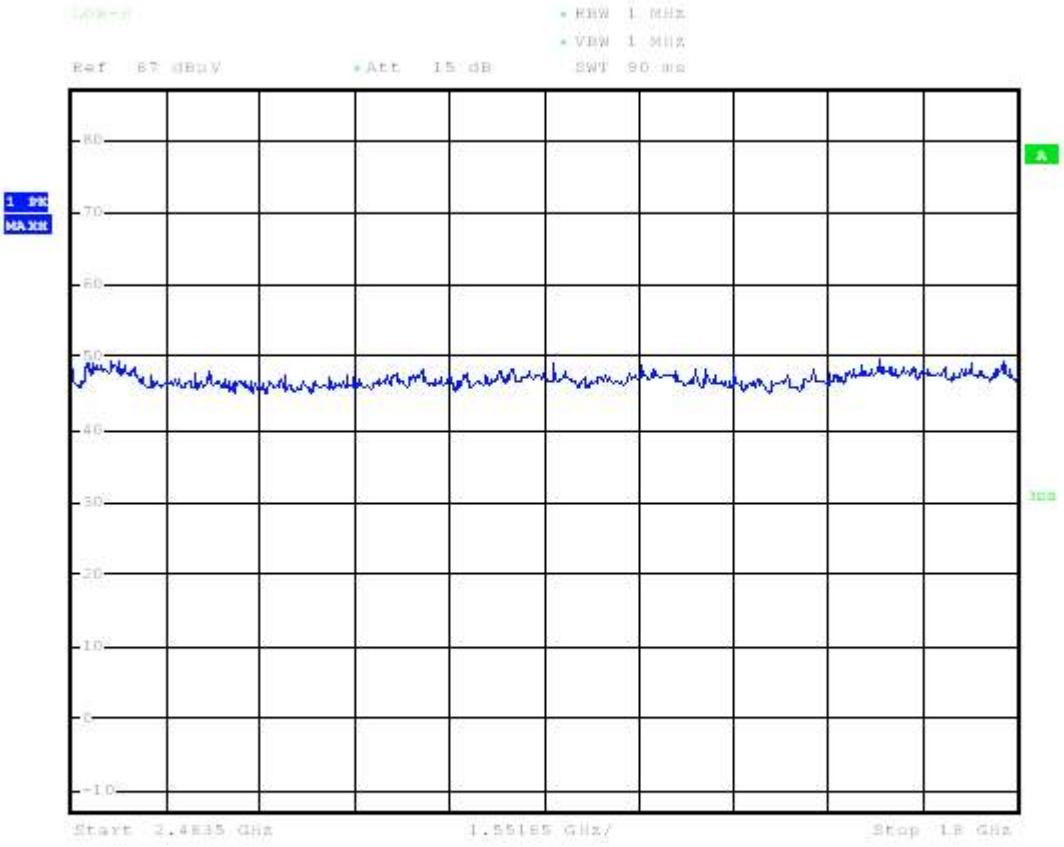

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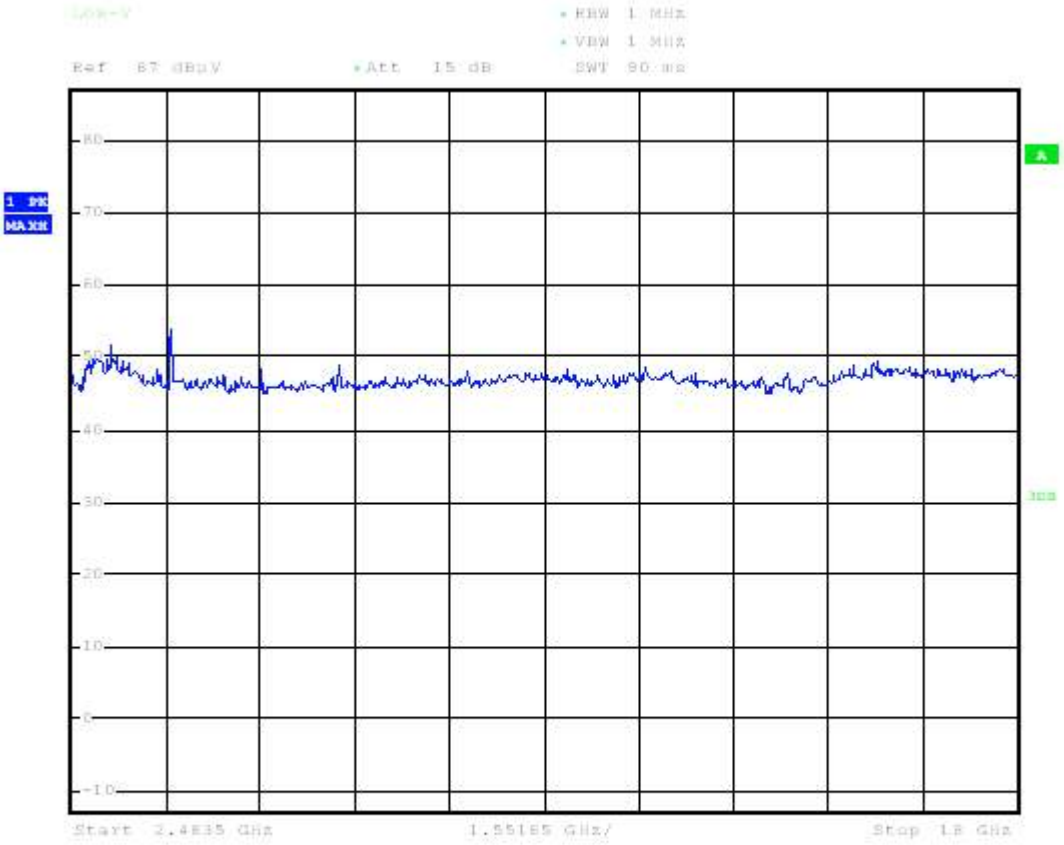

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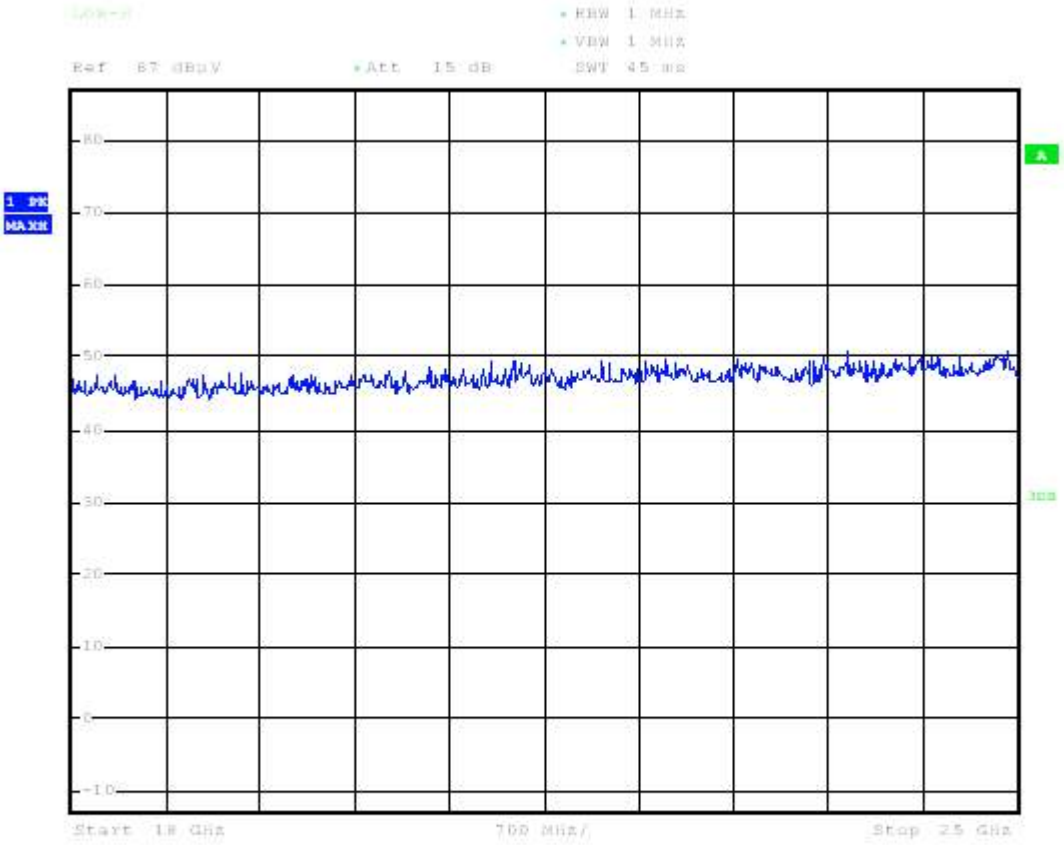

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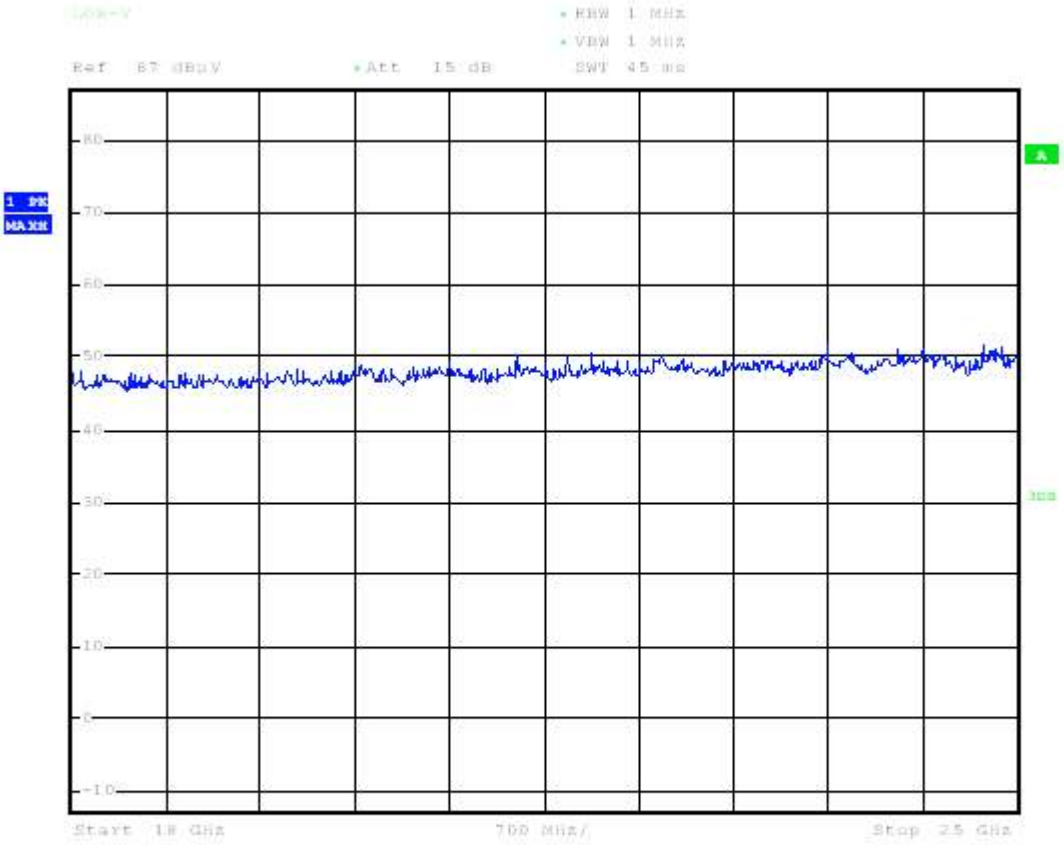

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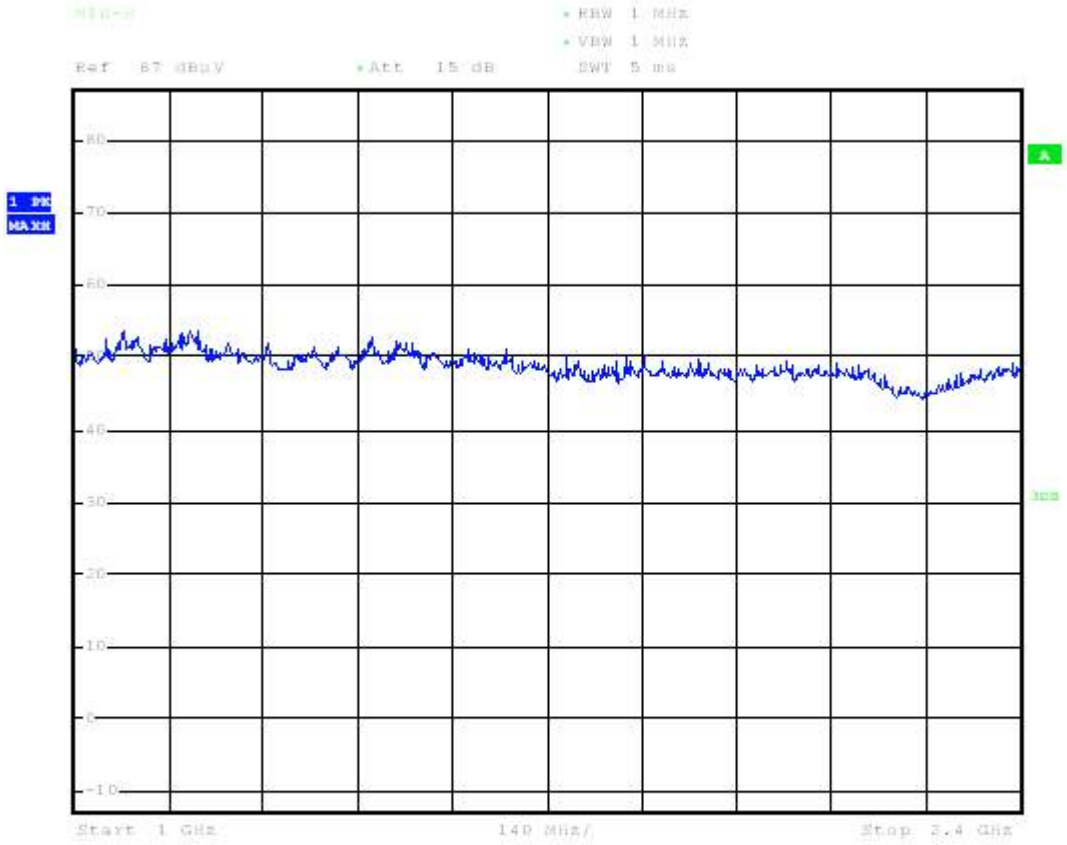

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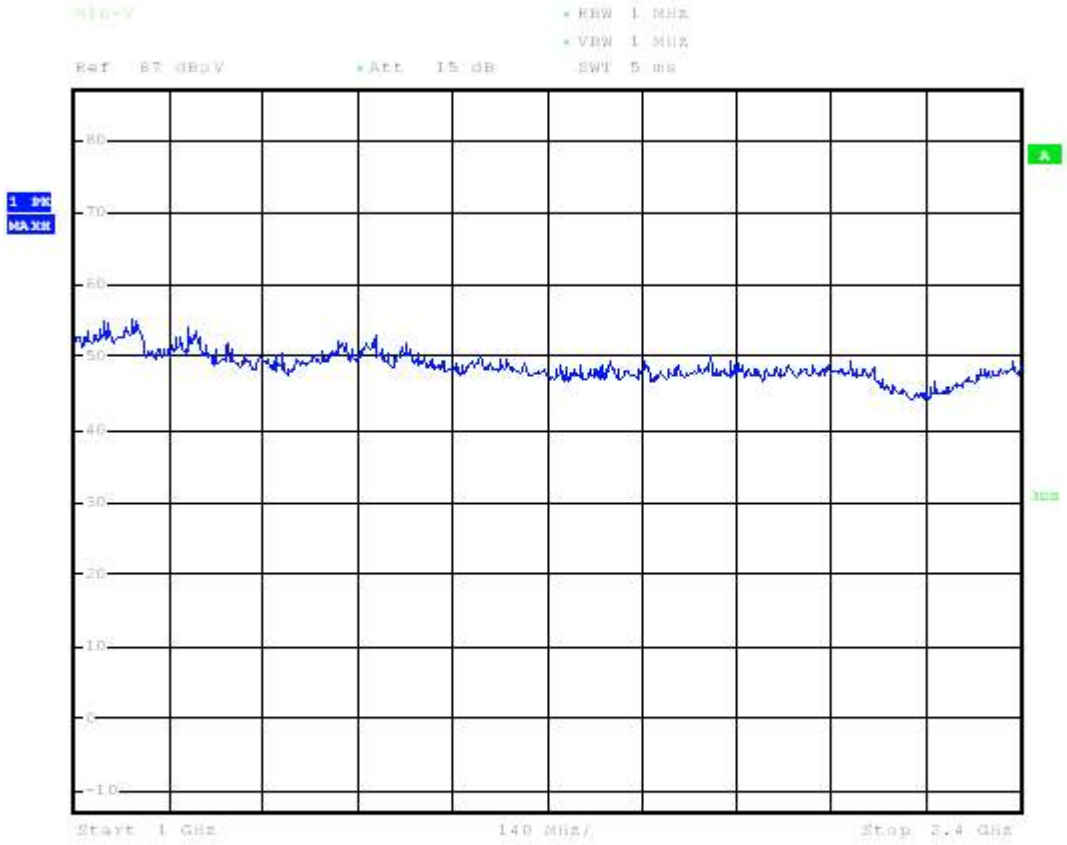

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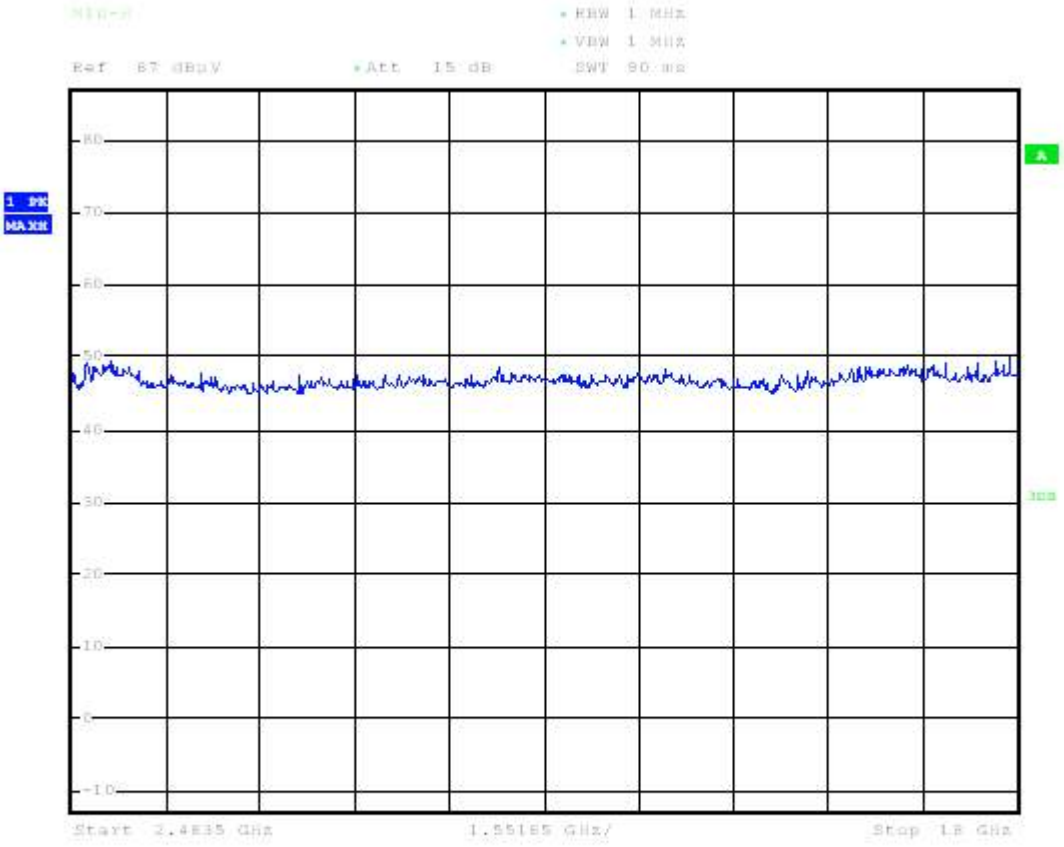

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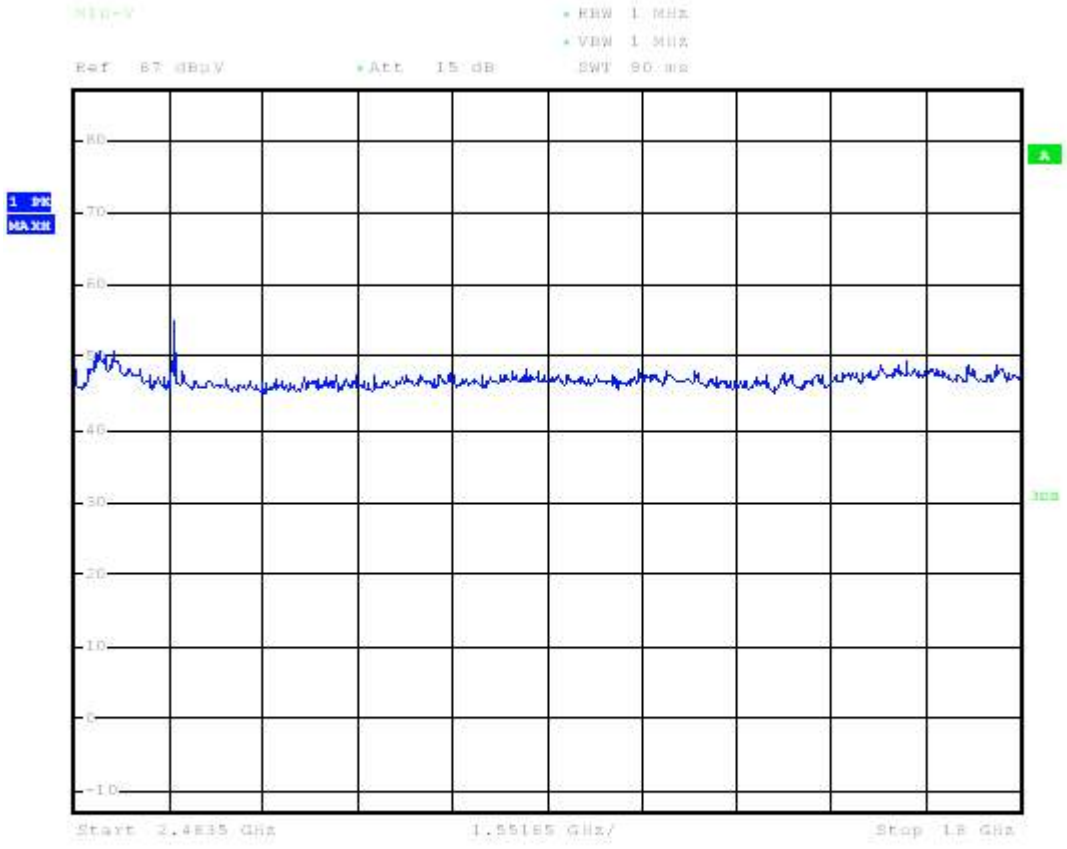

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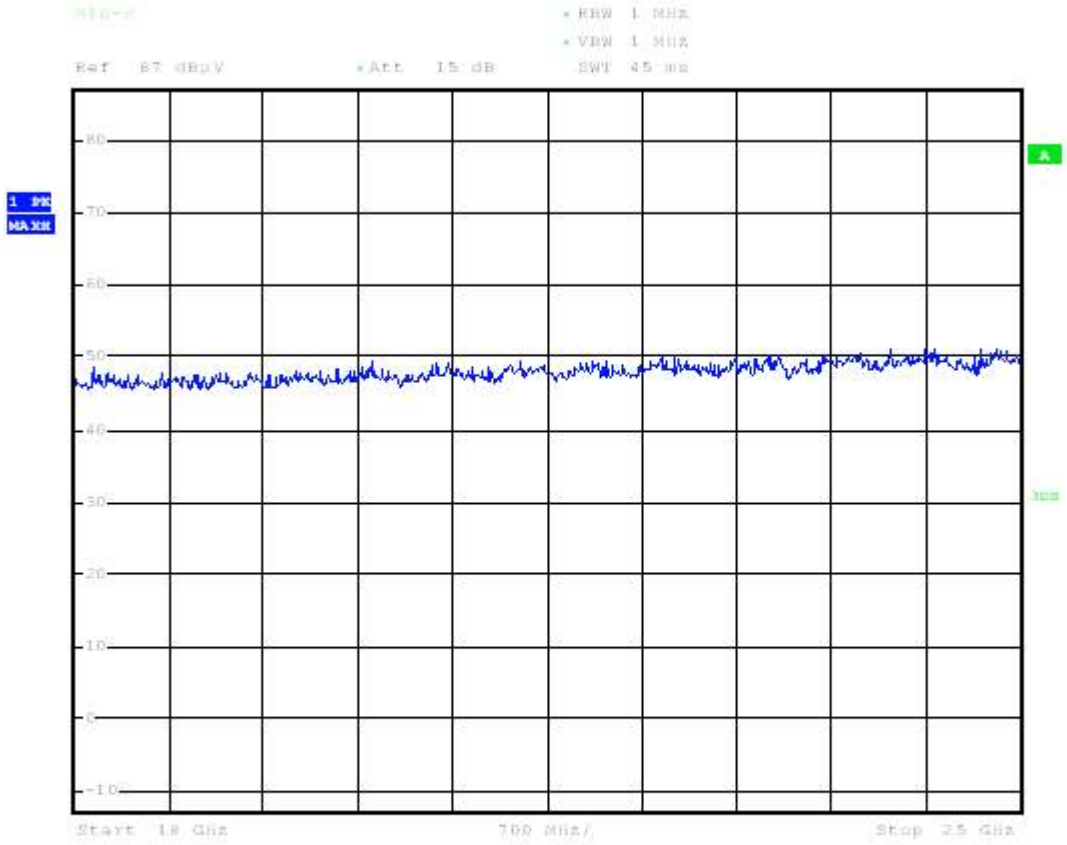

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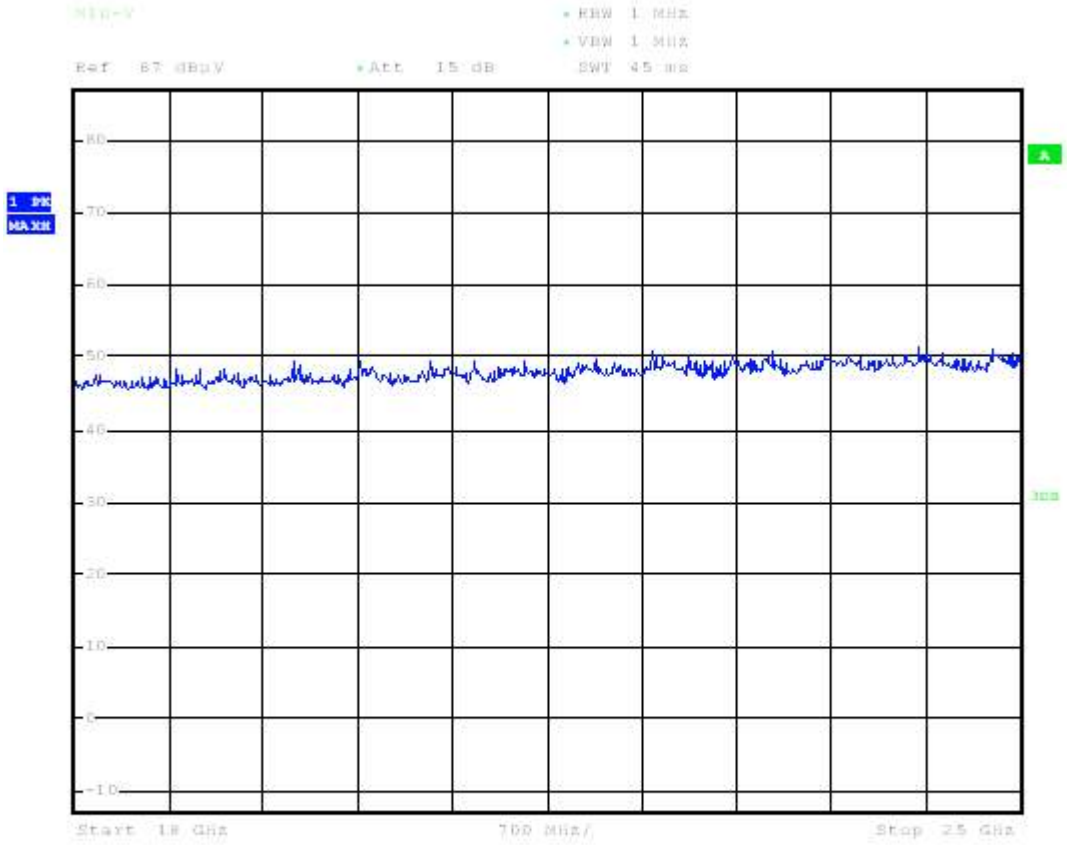

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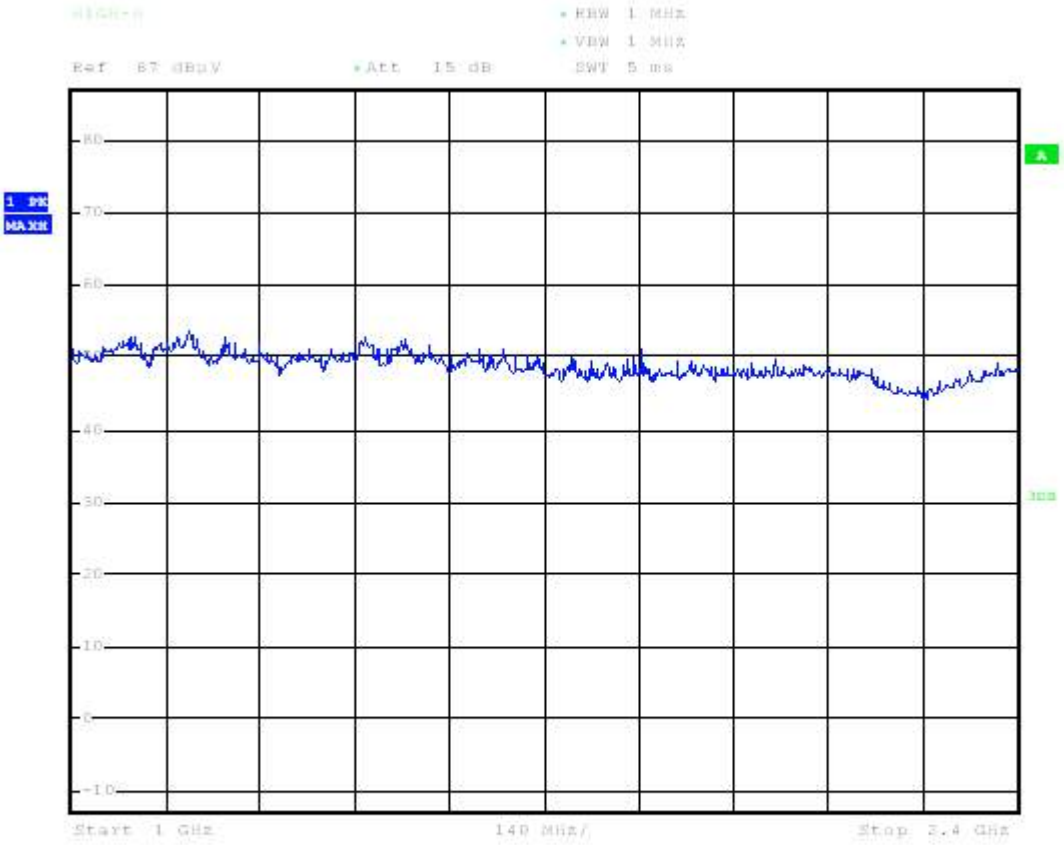

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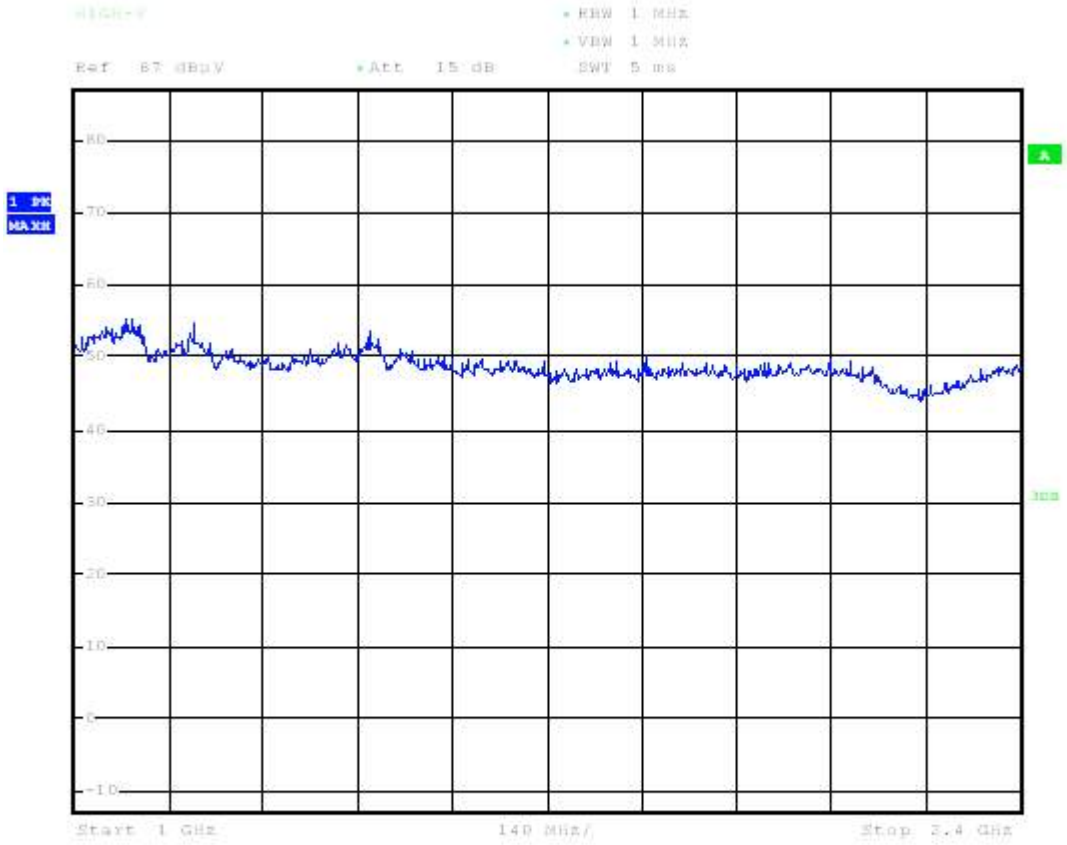

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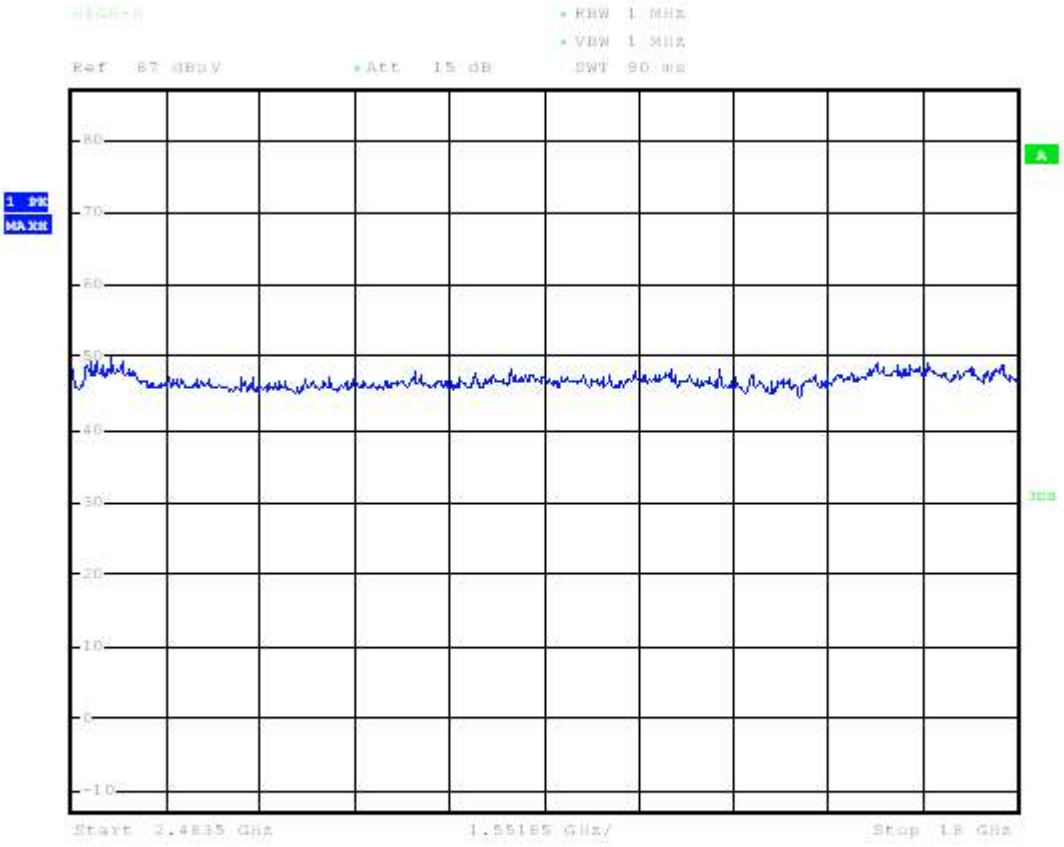

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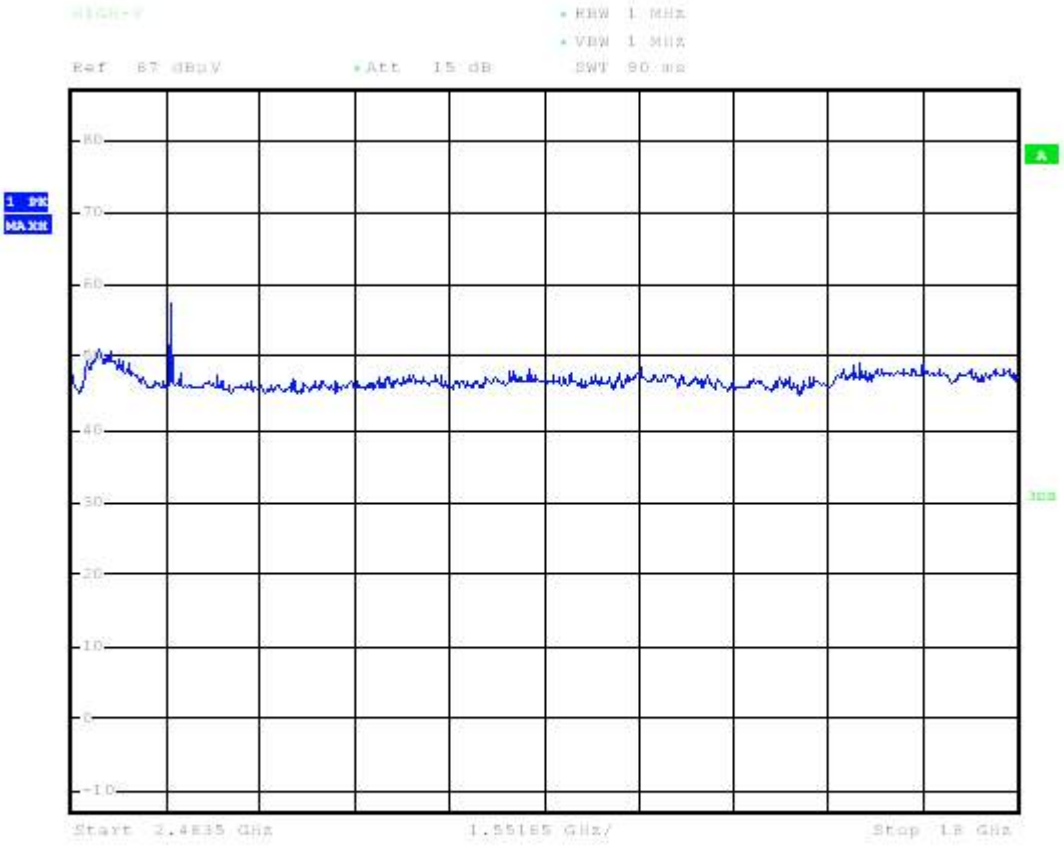

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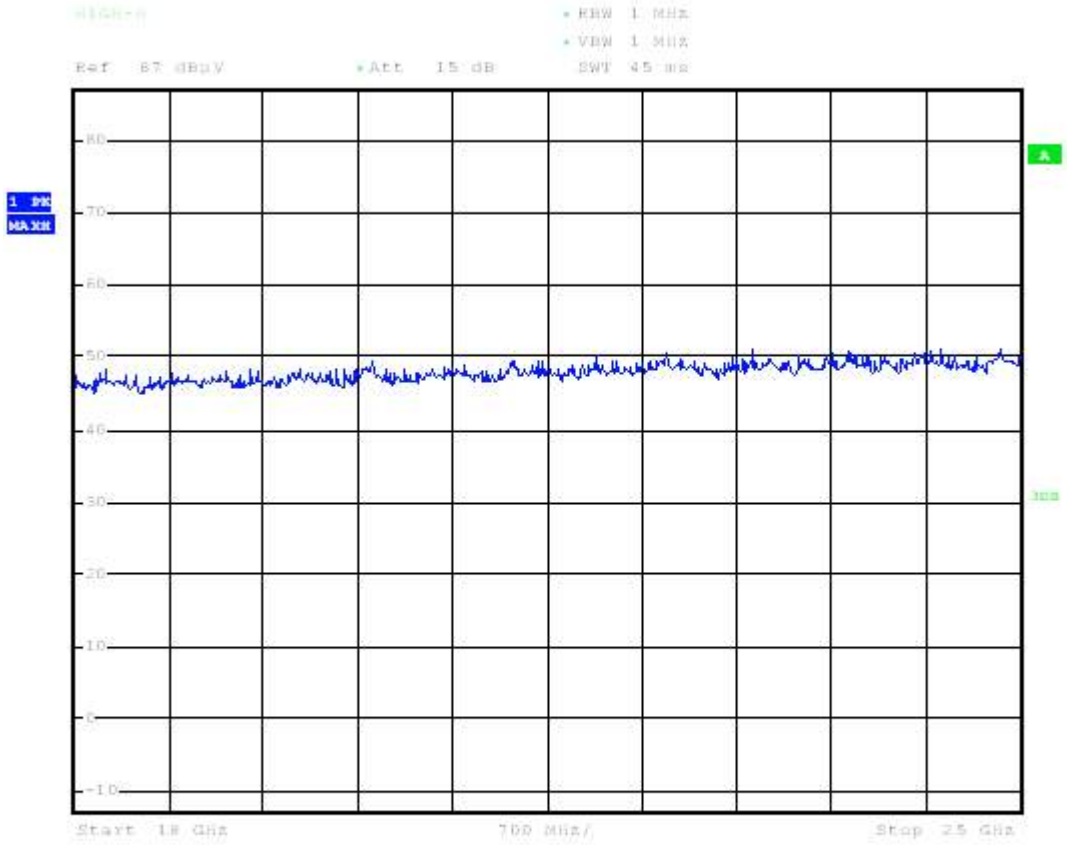

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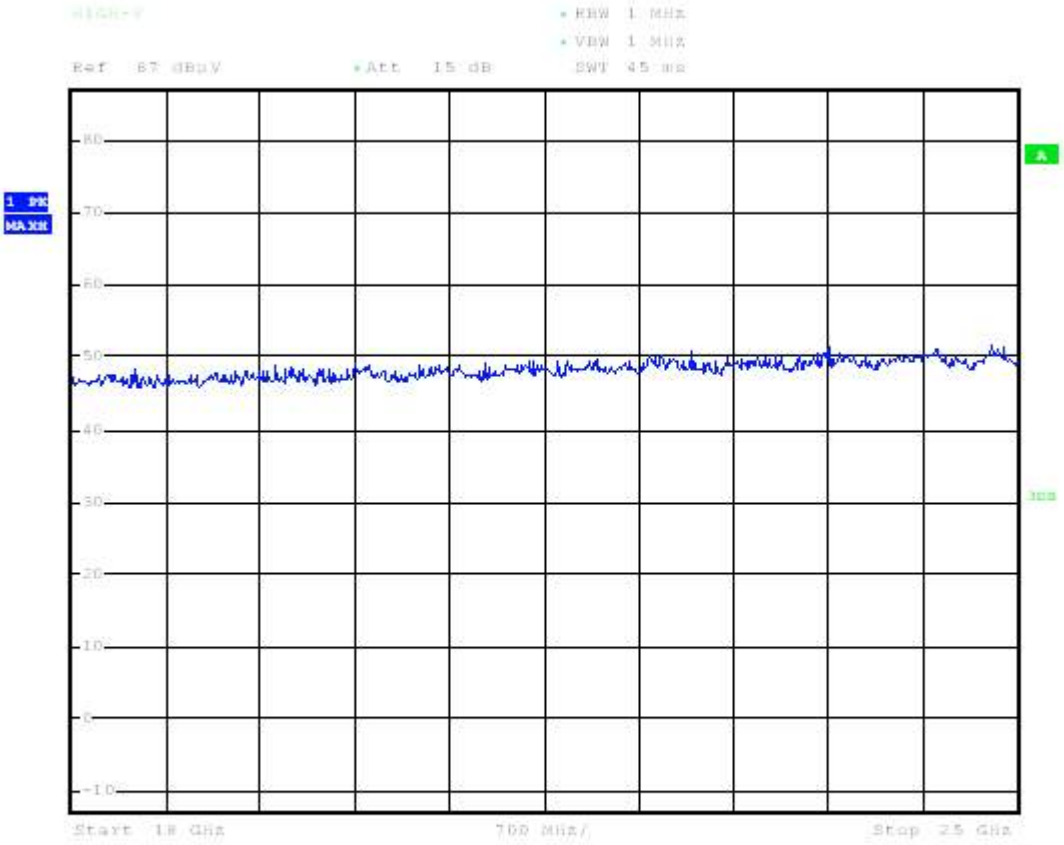


Date: 9.MAY.2018 04:39:10

10.6 禁用頻段邊緣輻射場強之量測結果

10.6.1 調變技術: IEEE 802.11b

操作模式: 發射接收

測試日期: May 03, 2018 環境溫度: 21℃ 環境濕度: 63%

主波頻道	輻射頻率	儀器讀值@3m (dBuV/m)				校正因子	結果值		限制值@3m		餘裕值 (worse)	
		水平		垂直			(dBuV/m)		(dBuV/m)		(dB)	
	(MHz)	峰值	平均值	峰值	平均值	(dB)	峰值	平均值	峰值	平均值	峰值	平均值
CH Low	2390.000	28.1	14.4	28.1	14.1	30.8	58.9	45.2	74	54	-15.1	-8.8
CH High	2483.500	28.2	14.2	28.0	14.2	31.0	59.2	45.2	74	54	-14.8	-8.8

10.6.2 調變技術: IEEE 802.11g

主波頻道	輻射頻率	儀器讀值@3m (dBuV/m)				校正因子	結果值		限制值@3m		餘裕值 (worse)	
		水平		垂直			(dBuV/m)		(dBuV/m)		(dB)	
	(MHz)	峰值	平均值	峰值	平均值	(dB)	峰值	平均值	峰值	平均值	峰值	平均值
CH Low	2390.000	28.1	15.0	28.1	14.1	30.8	58.9	45.8	74	54	-15.1	-8.2
CH High	2483.500	28.2	14.7	28.0	14.3	31.0	59.2	45.7	74	54	-14.8	-8.3

10.6.3 調變技術: IEEE 802.11n HT20

主波頻道	輻射頻率	儀器讀值@3m (dBuV/m)				校正因子	結果值		限制值@3m		餘裕值 (worse)	
		水平		垂直			(dBuV/m)		(dBuV/m)		(dB)	
	(MHz)	峰值	平均值	峰值	平均值	(dB)	峰值	平均值	峰值	平均值	峰值	平均值
CH Low	2390.000	29.4	16.3	27.5	14.3	30.8	60.2	47.1	74	54	-13.8	-6.9
CH High	2483.500	28.3	15.1	28.4	14.3	31.0	59.4	46.1	74	54	-14.6	-7.9

10.6.4 調變技術: IEEE 802.11n HT40

主波頻道	輻射頻率	儀器讀值@3m (dBuV/m)				校正因子	結果值		限制值@3m		餘裕值 (worse)	
		水平		垂直			(dBuV/m)		(dBuV/m)		(dB)	
	(MHz)	峰值	平均值	峰值	平均值	(dB)	峰值	平均值	峰值	平均值	峰值	平均值
CH Low	2390.000	29.4	16.3	27.3	14.3	30.8	60.2	47.1	74	54	-13.8	-6.9
CH High	2483.500	28.3	15.1	28.4	14.3	31.0	59.4	46.1	74	54	-14.6	-7.9

註:1. “----“表示干擾值太小而儀器無法量得。
2. “#“表示干擾值太小，直接量取其峰值。
3. 標記“***”表示為本地震盪頻率及其諧波。
4. 量測不準確度: ±4.1dB(1GHz≦f≦18GHz)
5. 量測頻率範圍為 2310 ~ 2390 MHz及 2483.5 ~ 2500 MHz,並記錄兩頻率範圍中之最大讀值。

10.7 結果判定

以上之場強輻射測試結果皆低於限制值，合乎標準規定。

10.8 輻射之測試配置

圖 4: 量測頻率低於1GHz之測試配置

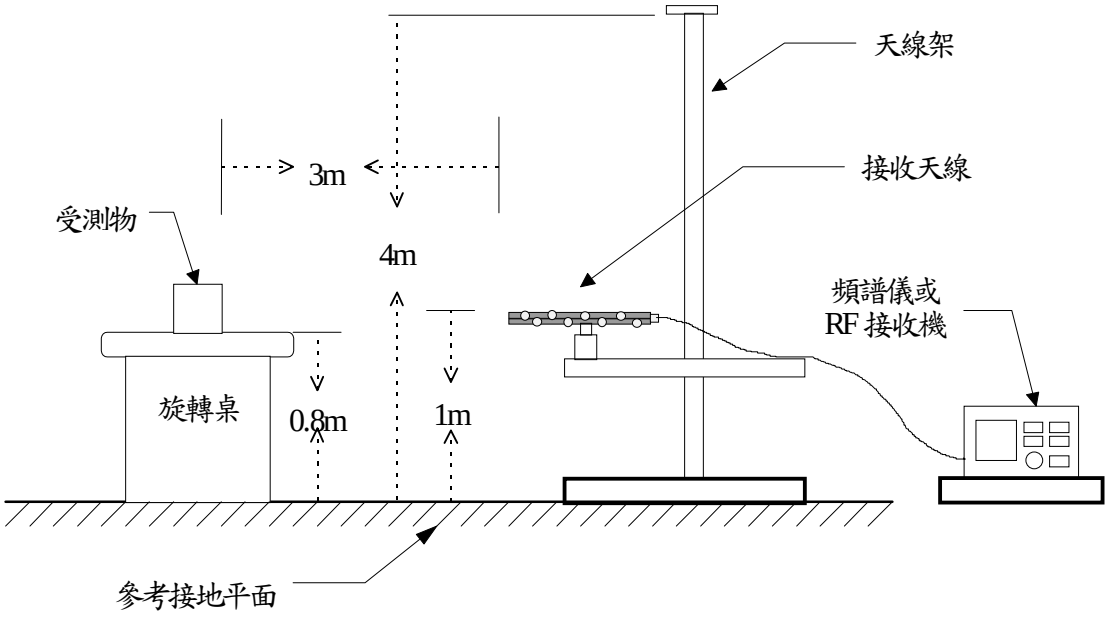
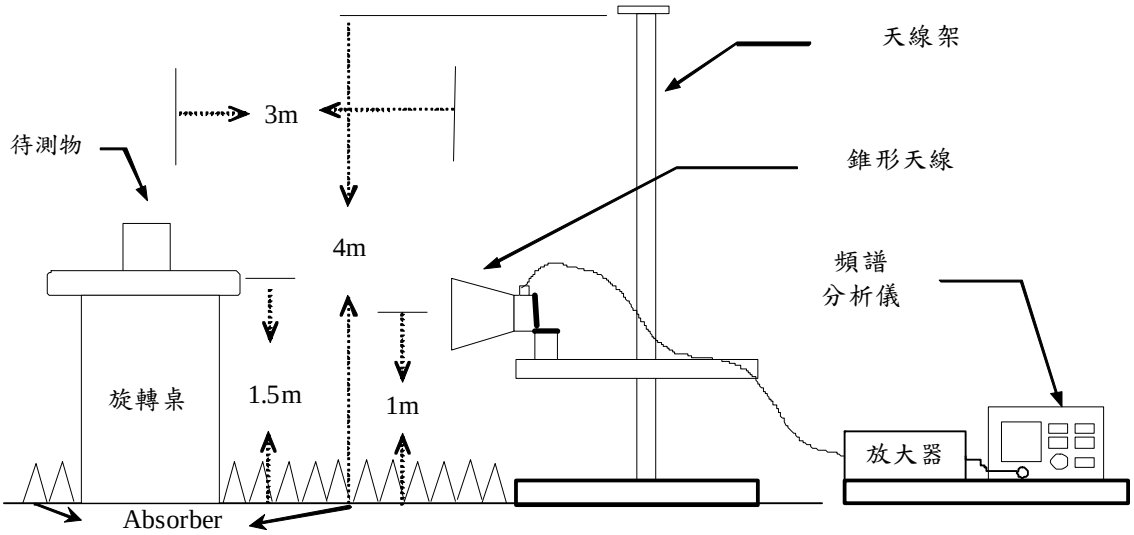


圖 5: 量測頻率高於1GHz之測試配置



10.9 輻射量測之配置照片

請參考產品照片

11 量測之儀器

儀器名稱	製 造 者	型 號	財產編號/序號	校驗日期	下次校驗日期
Spectrum Analyzer	Agilent	E4446A	13052013-001	12/27/2017	12/26/2018
Attenuator	WEINSCHEL	56-10	58772	04/27/2018	04/26/2019
Power Meter	Agilent	N1912A	13050625-001	10/16/2017	10/15/2018
Power Sensor	Agilent	N1922A	13053523-001	10/16/2017	10/15/2018
EMI Receiver	R&S	ESCI	13054423-001	01/19/2018	01/18/2019
Spectrum Analyzer	R&S	FSU46	13040904-001	01/08/2018	01/07/2019
Horn Antenna	EMCO	3115	13059201-001	11/29/2017	11/28/2018
Horn Antenna	EMCO	3116	13059202-001	11/04/2017	11/03/2018
PRE-Amplifier	Agilent	8449B	13040709-001	01/04/2018	01/03/2019
PRE-Amplifier	Agilent	8447D	13040715-002	04/23/2018	04/22/2019
BiLog Antenna	ETC	MCTD 2786B	BLB17F04016	08/17/2017	08/16/2018