

低功率射頻電機 檢驗報告

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製造廠商

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受檢設備名稱

Car Audio System

廠牌

Hyundai Mobis

型號

VN251ASGG

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
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符合

財團法人台灣商品檢測驗證中心

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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: 110年10月31日



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測試報告記錄

申請廠商：亞曷科技有限公司
 製造廠商：Hyundai Mobis Co., LTD
 廠牌：Hyundai Mobis
 品名：Car Audio System
 型號：VN251ASGG
 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109年07月01日
 發射功率(電場強度)：6.12 dBm (發射功率)
 工作頻率及調變方式：5500 ~ 5700 MHz / DSSS + OFDM
 天線規格：內置固定式天線

- 備註：1. 本試驗報告中是描述本實驗室以最佳的知識和能力進行試驗，我們的責任僅限於合理與謹慎的試驗，並非確保賣方之法律和/或合同的義務。
 2. 本符合性試驗係依據適當的標準及試驗樣品進行測試，其中量測不確定度可符合標準 CISPR16-4-2 及 ETSI TR 100 028 要求，則不列入測試結果考量。本試驗報告的結果僅與測試項目有關，且僅針對受試驗之樣品負責，無法確保產品生產過程中的品質與性能要求。
 3. 非經本中心同意，檢驗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	低功率射頻器材技術規範 3.3節	----	----	因使用直流電源故無需測試
2	天線增益之要求	低功率射頻器材技術規範 5.7.8節	----	請參閱5.2節	----
3	發射頻寬之量測	低功率射頻器材技術規範 5.7.2節(1)(2)	請參閱6.3節	請參閱6.4節	----
4	最大傳導輸出功率之要求	低功率射頻器材技術規範 5.7.2節(1)(2)	請參閱7.3節	請參閱7.4節	符合
5	功率密度之要求	低功率射頻器材技術規範 5.7.2節(1)(2)	請參閱8.3節	請參閱8.4節	符合
6	混附波發射限制之要求	低功率射頻器材技術規範 5.7.3節(1)(2)(3)	請參閱9.3節	請參閱9.4節	符合
7	場強輻射之要求	低功率射頻器材技術規範 5.7.3節(4)(5)	請參閱10.3節	請參閱10.5節	符合
8	DFS之要求	低功率射頻器材技術規範 5.7.7.2節	請參閱12.3節	請參閱12.5節	符合

報告簽署人：鄭晏文
110.10.27

直接主管：黃啟瑞
110.10.27

量測員：郭世坤
110/10/27

1 一般資料

1.1 產品描述

- a) 產品型態 : Car Audio System
 b) 商 標 : Hyundai Mobis
 c) 產品型號 : VN251ASGG
 d) 供應電源 : DC 12V

備註：1. 本產品內含 Bluetooth 及 WLAN 無線技術，WLAN 部份包含 DTS 與 UNII 頻帶。本報告僅記錄 Bluetooth 部份，DTS 部份請見 ETC 報告編號: 21-08-MAW-005-02，UNII Band 1 (5180 MHz 至 5240 MHz) 部份請見 ETC 報告編號: 21-08-MAW-005-03，UNII Band 2 (5260 至 5320 MHz) 部份請見 ETC 報告編號: 21-08-MAW-005-04，UNII Band 3 (5500 至 5700 MHz) 部份請見 ETC 報告編號: 21-08-MAW-005-05，UNII Band 4 (5725 至 5850 MHz) 部份請見 ETC 報告編號: 21-08-MAW-005-06。

2. 本案經申請者切結器材不提供隨貨配件，配件由實驗室(或申請者)提供併同檢驗。

3. 本器材不具備主控運作模式動態頻率選擇與Ad-hoc功能。

1.2 產品特性

此裝置為 Car Audio System，其發射頻率落於5500 至 5700 MHz頻段，採用 IEEE 802.11a/n/ac 直接序列展頻調變技術。其應用為區域網路無線傳輸。主波發射功率為 6.12 dBm，即為 4.09 mW，其無線特性列表如下：

RF chain	1T1R	
Operating Frequency	IEEE802.11a/n 20/ac20MHz: 5.5GHz~5.7GHz, 8ch (5500、5520、5540、5560、5580、5660、5680、5700 MHz) IEEE 802.11n 40MHz/ac 40MHz: 5.51GHz~5.67GHz,3ch (5510、5550、5670 MHz) IEEE 802.11ac 80MHz:5.53GHz~5.61GHz,1ch (5530 MHz)	
Modulation	IEEE 802.11a(OFDM/DSSS) 48/54 Mbps (QAM-64) 24/36 Mbps (QAM-64) 12/18 Mbps (QPSK) 6/19 Mbps (BPSK)	IEEE 802.11n(OFDM/DSSS) QAM-64 QAM-16 QPSK BPSK
	IEEE 802.11ac(20MHz,40MHz,80MHz)(OFDM/DSSS) QAM-256, QAM-64, QAM-16, QPSK,BPSK	

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：

- ❶ ISO/IEC 17025 : TAF(0371), NVLAP(Lab code: 200133-0), CBTL([TÜ V SÜ D](#))
- ❷ Recognized : BSMI, NCC, FCC(TW0371, TW1112), ISED(Industry Canada Site # 2949A-2)
- ❸ Filing : VCCI (C-13518, R-13177, G-10098, T-11682)
- ❹ MRA : Australia, New Zealand, Singapore

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器材技術規範之3.3節，電源傳導干擾之限制要求如下：

頻率範圍 MHz	傳導限制值(dB μ V)	
	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

國家通訊傳播委員會低功率射頻器材技術規範5.7.8節規定，天線之規格不受3.2 規定之限制。若使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

(3) 頻寬之量測

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.3.2節(1)之規定，5.470 GHz～5.725 GHz 頻帶，最大傳導輸出功率應小於或等於250 mW或11dBm+10log B (B 是26 dB 發射頻寬，單位MHz)之較小者。

(4) 最大傳導輸出功率與功率密度之要求

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.3.2節之規定：

- (1) 5.470 GHz～5.725 GHz 頻帶，最大傳導輸出功率應小於或等於250 mW 或 11dBm+10log B (B 是26 dB發射頻寬，單位MHz)之較小者。
- (2) 最大功率頻譜密度在任何 1 MHz 頻帶中應小於或等於 11 dBm。
- (3) 使用超過 6 dBi 方向增益之發射天線時，應依超過 6 dBi 天線方向增益的 dBi 總量，等量減少最大傳導輸出力率及最大功率頻譜密度。

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.3.4節之規定：

- (1) 最大傳導輸出功率必須使用依據均方根等效電壓校準之儀器測量於任何連傳輸之時段，測量結果須依儀器限制(如偵測器反應時間、相較於發射頻寬有限之解析頻寬能力，靈敏度等)調整得出正確之峰值測量，以符合本段落所提之發射定義。
- (2) 最大功率頻譜密度檢驗規定：
 - (A) 應將測試儀器直接連接待測物，以傳導方式執行。
 - (B) 5.15 GHz～5.25 GHz、5.25 GHz～5.35 GHz 及5.47 GHz～5.725 GHz頻段，測試儀器之頻寬應設定為 1 MHz 頻寬或待測物之 26 dB 發射頻寬，兩者取較小者。
 - (C) 5.725 GHz～5.850 GHz頻段，測試儀器之頻寬應設定為 500 kHz 或待測物之 26 dB 發射頻寬，兩者取較小者。
 - (D) 解析頻寬小於 (B)或 (C)時，應以補償方式計算總功率頻譜密度。

(5) 發射限制之要求

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.1節之規定，在 5.15 GHz~5.35 GHz 及 5.470 GHz~5.725 GHz 頻帶操作的發射器：帶外發射之有效等向輻射功率 (EIRP) 不應超過 -27 dBm/MHz。

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.3節之規定，測量不必要發射時，應使用之最低解析頻寬為 1 MHz。必要時，於頻帶邊緣附近可使用小於 1 MHz 之解析頻寬，並以補償方式計算其總值。

(6) 輻射之規定

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.5節之規定，在 1GHz 以下的非必要之發射，應符合第 3.6節之規定，任何使用交流市電為供應電之設備亦須符合第 3.3 節之電源線傳導限制值。

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.6節之規定，不必要發射頻率屬 3.5節規定頻段者，應符合 3.6節之規定。

落於3.5節禁用頻段之輻射干擾需符合3.6節之一般限制要求：

頻率(f) MHz	電場強度 (微伏特/公尺， $\mu\text{V/m}$)	測距 (公尺)
$0.009 \leq f \leq 0.490$	$2400/f(\text{kHz})$	300
$0.490 < f \leq 1.705$	$24000/f(\text{kHz})$	30
$1.705 < f < 30$	30	30
$30 \leq f \leq 88$	100	3
$88 < f \leq 216$	150	3
$216 < f \leq 960$	200	3
$960 < f$	500	3

(7) 發射功率控制(TPC)及動態頻率選擇(DFS)之規定

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.6節之規定:

(1) 無線資訊傳輸設備應在”無資料傳輸”或”操作失效”時自動中斷傳輸，此規定並不預先排除傳送控制或信號(signaling)資訊或使用運用數位技術完成碼框或資料突發(burst)區間的重複碼(repetitive codes)，申請人應在申請型式認證文件中提供如何符合本規範之說明。

(2) 發射功率控制(TPC)及動態頻率選擇(DFS):

(2.1) 發射功率控制(TPC)：操作於5.25 GHz~5.35 GHz 與5.470 GHz~5.725GHz 頻段的設備，應具備發射功率控制功能。設備必須至少具有6 dB 低於平均EIRP 30 dBm 的能力。EIRP 低於500 mW 之系統不須具備TPC功能。

(2.2) 動態頻率選擇(DFS)之雷達偵測功能: 動態頻率選擇(DFS)：操作於5.25 GHz~5.35 GHz 與5.470 GHz~5.725GHz 频段之設備應具備動態頻率選擇雷達偵測功能並啟動之，以完整偵測使用頻帶內之雷達訊號，避免與雷達系統同頻道操作。相關規定如下：

(1)最低動態頻率選擇的偵測門檻

(A)最大EIRP 為200 mW~1 W 之設備，其最低動態頻率選擇的偵測門檻值為-64 dBm。

(B)最大EIRP 低於200 mW，且功率頻譜密度小於10 dBm/MHz 之設備，其最低動態頻率選擇的偵測門檻值為-62 dBm。

(C)最大EIRP 低於200 mW，且功率頻譜密度大於或等於10 dBm/MHz之設備，其最低動態頻率選擇的偵測門檻值為-64 dBm。

(D)此偵測門檻值為1 微秒內之平均接收功率，並以0 dBi 天線為參考基準。頻道初始設定得由系統隨機選取或使用者手動選取。

(2)操作模式：動態頻率選擇之規定適用於以下之操作模式：

(A)頻道可用性檢查時間之規定，適用於主控運作模式。

(B)頻道移動時間之規定，適用於主控及受控運作模式。

(3)頻道可用性檢查時間：設備必須檢查其可在某一頻道上起始傳送之前是否有雷達系統已經操作在該頻道上，以及何時其必須移動到另一新的頻道，在60 秒內若沒有偵測到功率位準大過上述之干擾門檻值的雷達訊號時，設備才可開始使用該頻道。

(4)頻道移動時間：在偵測到雷達的存在後，所有在該操作頻道上的所有傳輸須在10 秒內停止，在偵測到雷達訊號後，該期間內的傳輸應維持最多200 毫秒的正常通訊。另外，間歇性的管理與控制訊號可在剩餘的時間中傳送，以便撤離該操作頻道。

(5)不可占用期間：某一頻道已被頻道可用性檢查或「服務中」監視顯示含有雷達系統，至少須有30 分鐘的不可占用期間。不可占用期間起始於偵測到雷達系統的當時。

2.2 限制使用之頻帶

頻率(MHz)	頻率(MHz)
0.090~0.110	1660.0~1785.0
0.490~0.510	1805.0~1880.0
2.172~2.198	1885.0~1900.0
3.013~3.033	1905.0~1985.0
4.115~4.198	2010.0~2025.0
5.670~5.690	2110.0~2170.0
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	

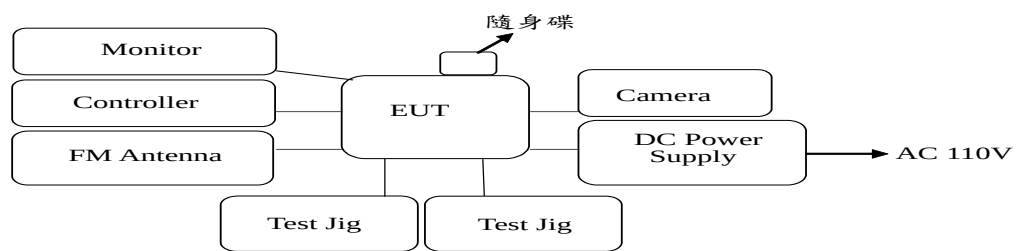
3 受測裝置之系統說明

3.1 受測裝置

裝置名稱	廠 牌	型 號	纜線說明
* Car Audio System	Hyundai Mobis	VN251ASGG	----
Controller	MOBIS	96540-CV000	非隔離信號線 0.7m * 1
隨身碟	Kingston	100G3	非隔離信號線 0.55m * 1
FM Antenna	HYUNDAI	96210-CV000B4U	非隔離信號線 2.4m * 1
Test Jig	MOBIS	N/A	非隔離信號線 1.9m * 1
Test Jig	MOBIS	N/A	非隔離信號線 1.9m * 1
Monitor	MOBIS	96525-L8000	非隔離信號線 1.9m * 1
Camera	MOBIS	95760J5000	非隔離信號線 2.1m * 1
DC Power Supply	GW Instek	GPS-1830	非隔離電源線 1.8m * 1 非隔離電源線 3.5m * 1

註: 1.標記“*”表欲申請之受測物及配件。

2.測試配置：



3 測試模式:

3.1 IEEE 802.11a, 802.11n HT20, IEEE 802.11ac (20MHz) mode:

測試頻道如下:

Channel	Frequency (MHz)
Low = 100	5500
Middle = 116	5580
High = 140	5700

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

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

IEEE 802.11ac (20MHz) mode: MCS0 data rate is the worse case for full testing.

3.2 IEEE 802.11n HT40, IEEE 802.11ac (40MHz) mode:

測試頻道如下:

Channel	Frequency (MHz)
Low = 102	5510
Middle = 110	5550
High = 134	5670

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

IEEE 802.11ac (40MHz) mode: MCS0 data rate is the worse case for full testing.

3.3 IEEE 802.11ac (80MHz) mode:

測試頻道如下:

Channel	Frequency (MHz)
106	5530

IEEE 802.11ac (80MHz) mode: MCS0 data rate is the worse case for full testing.

4. 軟體設定：待測物內建測試程式

	Power Setting
IEEE 802.11a	N/A
	N/A
	N/A
IEEE 802.11n HT20	N/A
	N/A
	N/A
IEEE 802.11n HT40	N/A
	N/A
	N/A
IEEE 802.11ac (20MHz)	N/A
	N/A
	N/A
IEEE 802.11ac (40MHz)	N/A
	N/A
	N/A
IEEE 802.11ac (80MHz)	N/A

3.2 測試模式說明

3.2.1 調變方式及模式

Test Mode	Modulation	Note
A	IEEE 802.11a	-
B	IEEE 802.11n HT20	-
C	IEEE 802.11n HT40	-
D	IEEE 802.11ac (20MHz)	-
E	IEEE 802.11ac (40MHz)	-
F	IEEE 802.11ac (80MHz)	-

Normal Mode:

Test Mode	Note
G	LINK BT
H	LINK WIFI
I	USB

Mode	IEEE 802.11a/n20/ac (20MHz)	IEEE 802.11n40/ac (40MHz)	IEEE 802.11ac (80MHz)
Test Channel	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)
Channel Low (L)	5500	5510	5530
Channel Mid (M)	5580	5590	-
Channel High (H)	5700	5670	-

3.2.2 測試項目及模式

Item	測試項目	測試模式	測試頻率(MHz)
1	電源線傳導干擾之量測	-	M
2	發射頻寬之量測	A, D, E, F	L, M, H
3	最大傳導輸出功率之量測	A, B, C, D, E, F	L, M, H
4	功率密度之量測	A, D, E, F	L, M, H
5	混附波發射限制之量測	A, D, E, F	L, M, H
6	場強輻射之量測(主諧波)	A, D, E, F	L, M, H
6.1	場強輻射之量測(1GHz以下)	A, G, H, I	M
6.2	場強輻射之量測(1GHz以上)	A, D, E, F, G, H, I	L, M, H
7	DFS之量測	F (註5)	5500-5700 MHz

註: 1. 以上調變方式預掃時無差異，擇一作最終測試並記錄之。

2. 高，中，低頻道預掃時無差異，擇中間頻道作最終測試並記錄之。

3. Test Mode B 與 Test Mode D / Test Mode C 與 Test Mode E 使用相同調變技術及頻寬，故以最大傳導輸出功率較大者 Test Mode D 及 Test Mode E 為 Worse case，作最終測試並記錄之。

4. 進行 DFS 測試時，產品操作於 Normal mode，並對所有的調變及頻道進行測試，確認所有調變及頻道均符合後，擇一做最終測試並記錄之。

5. 量測場強輻射時，若為手持式或穿戴式之裝置，應對其三個正交軸 (X、Y、Z) 的方位評估測試，並分別測試以找出最大輻射電場強度軸向，以最差軸模式測試，並記錄其值與軸向放置。

6. 依 NCC 74 次一致性會議：審驗時不具一般正常使用模式者，得不包括一般正常使用模式。

3.2.3 測試場地

項次	測 試 場 地
1	☒ RE02 — EMC B1 — N2 第一大樓地下二樓 3m 半電波暗室(N2)
2	☐ CE04 — 10M 2F 第三大樓二樓傳導測試室(10m 大樓)
3	☒ RF — Cond01 第一大樓地下一樓直量測試區
4	☐ RF — Cond02 第一大樓地下二樓直量測試區

3.2.4 Duty cycle

IEEE 802.11a

File: 21-08-MAW-005_5-2a

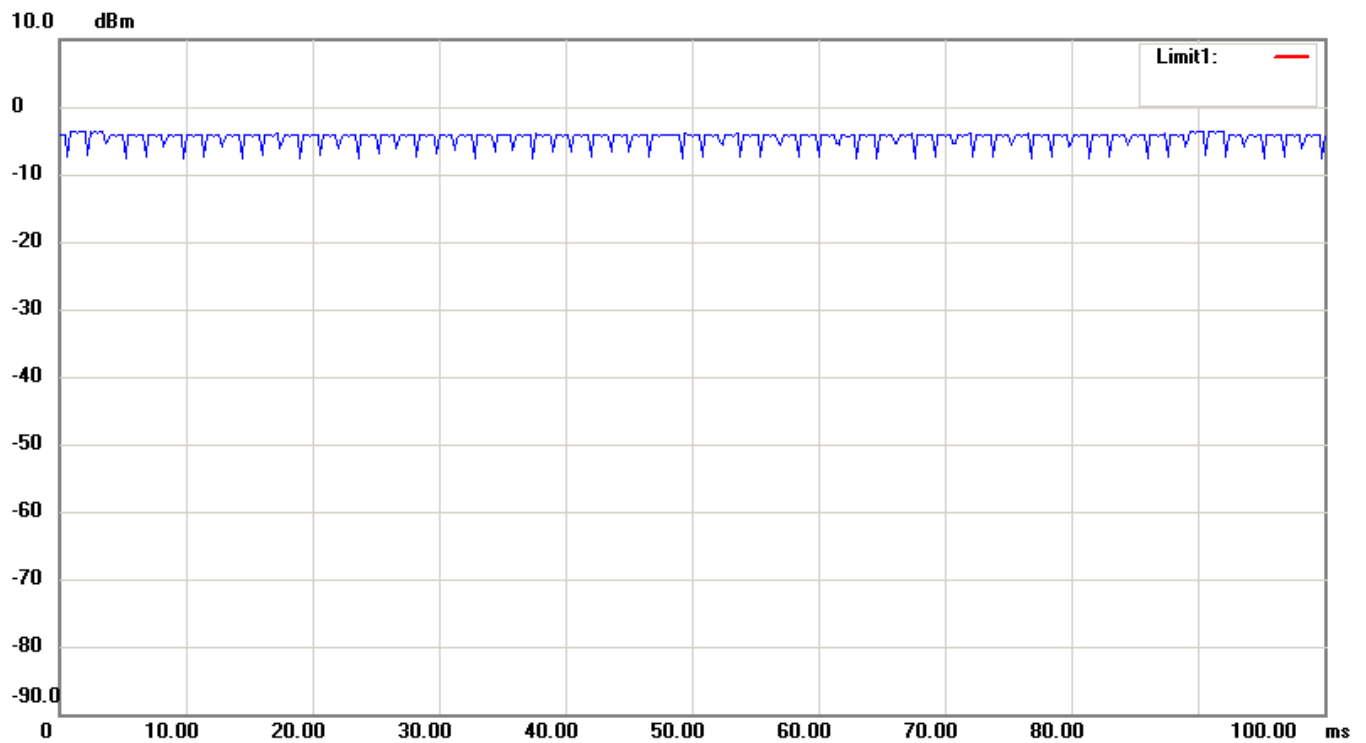
#21

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 100ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11a Duty-1

File: 21-08-MAW-005_5-2a

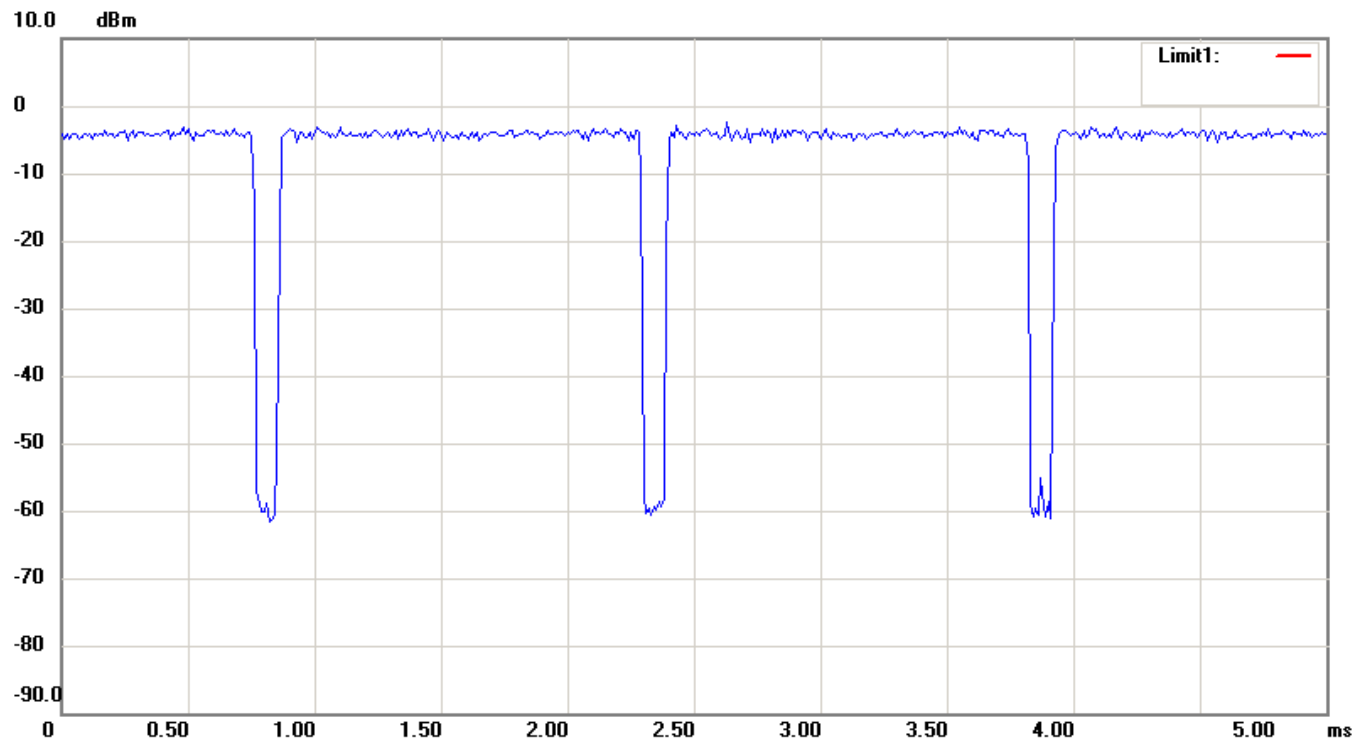
#22

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 5ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11a Duty-2 (Duty=92.8%)

IEEE 802.11ac (20MHz)

File: 21-08-MAW-005_5-2ac20

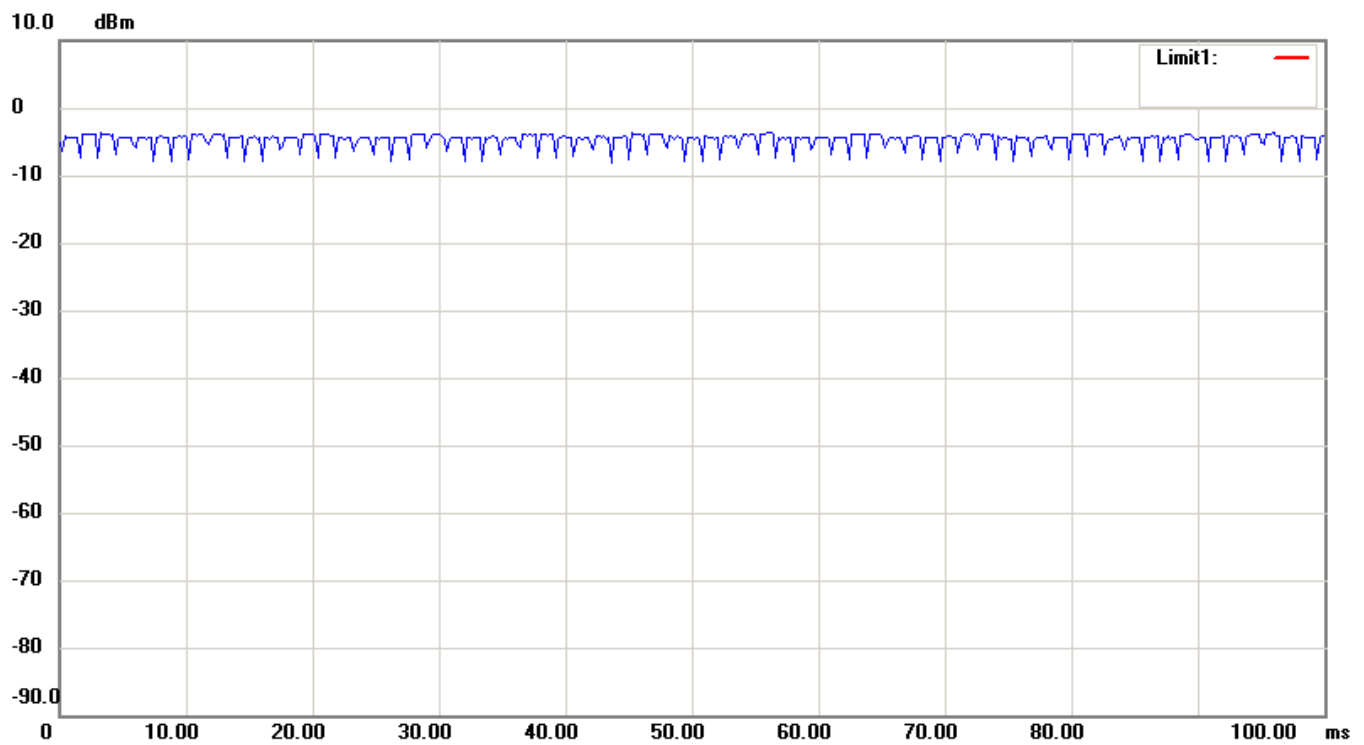
#21

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 100ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac20 Duty-1

File: 21-08-MAW-005_5-2ac20

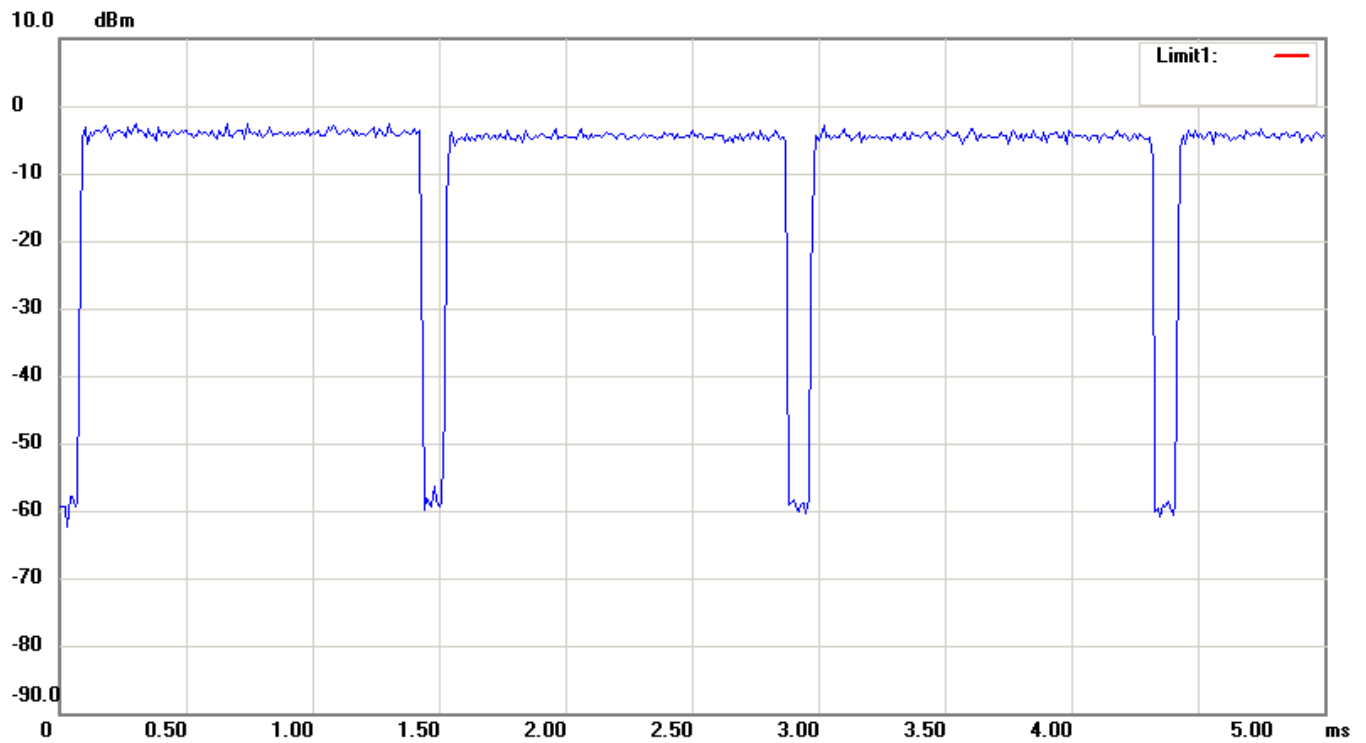
#22

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 5ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac20 Duty-2 (Duty=92.4%)

IEEE 802.11ac (40MHz)

File: 21-08-MAW-005_5-2ac40

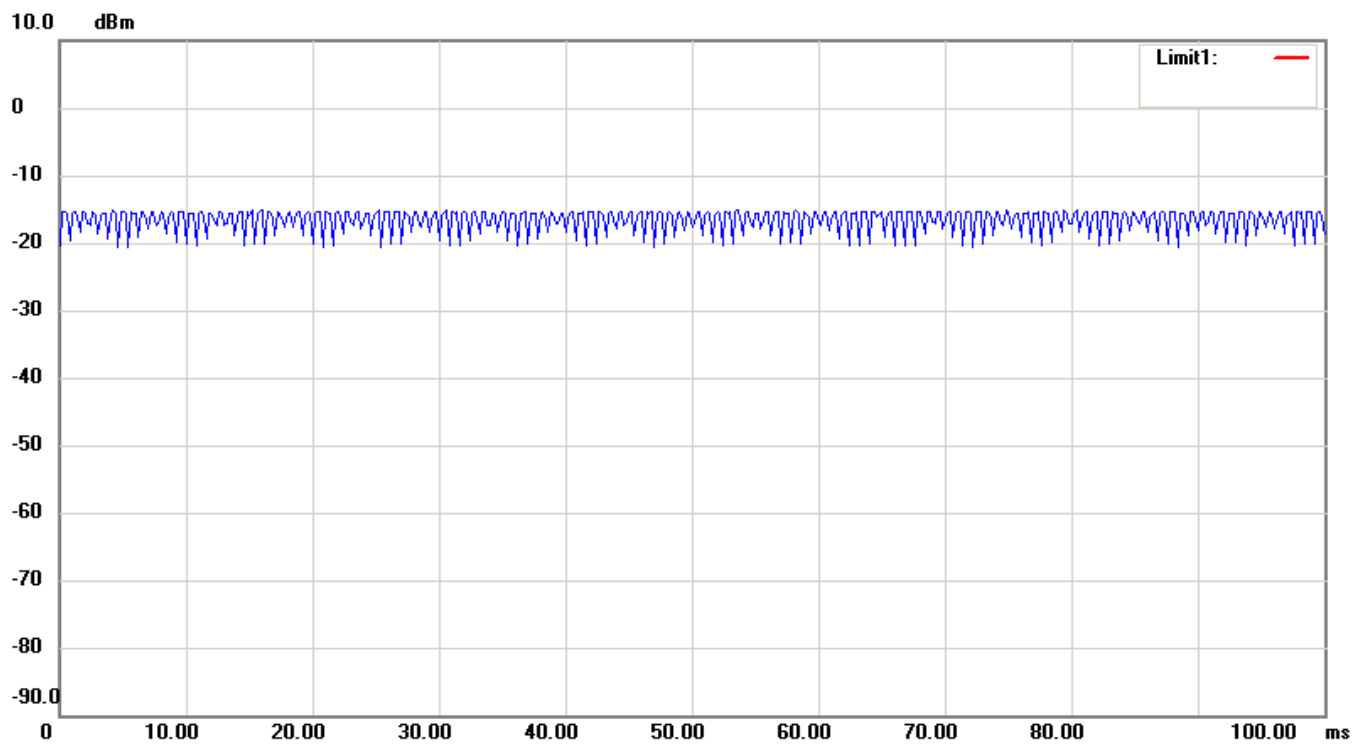
#15

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 100ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40 Duty-1

File: 21-08-MAW-005_5-2ac40

#16

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 2ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40 Duty-2 (Duty=82.4%)

IEEE 802.11ac (80MHz)

File: 21-08-MAW-005_5-2ac80

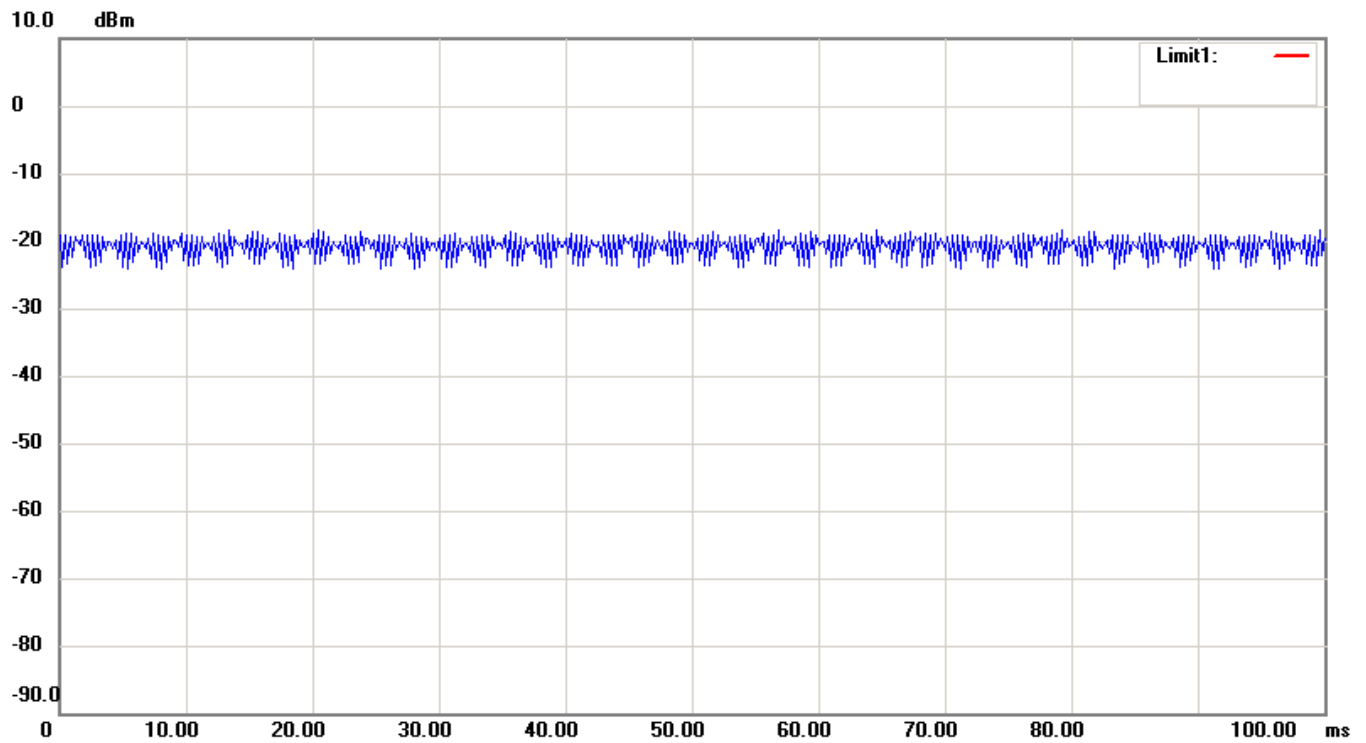
#9

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 100ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac80 Duty-1

File: 21-08-MAW-005_5-2ac80

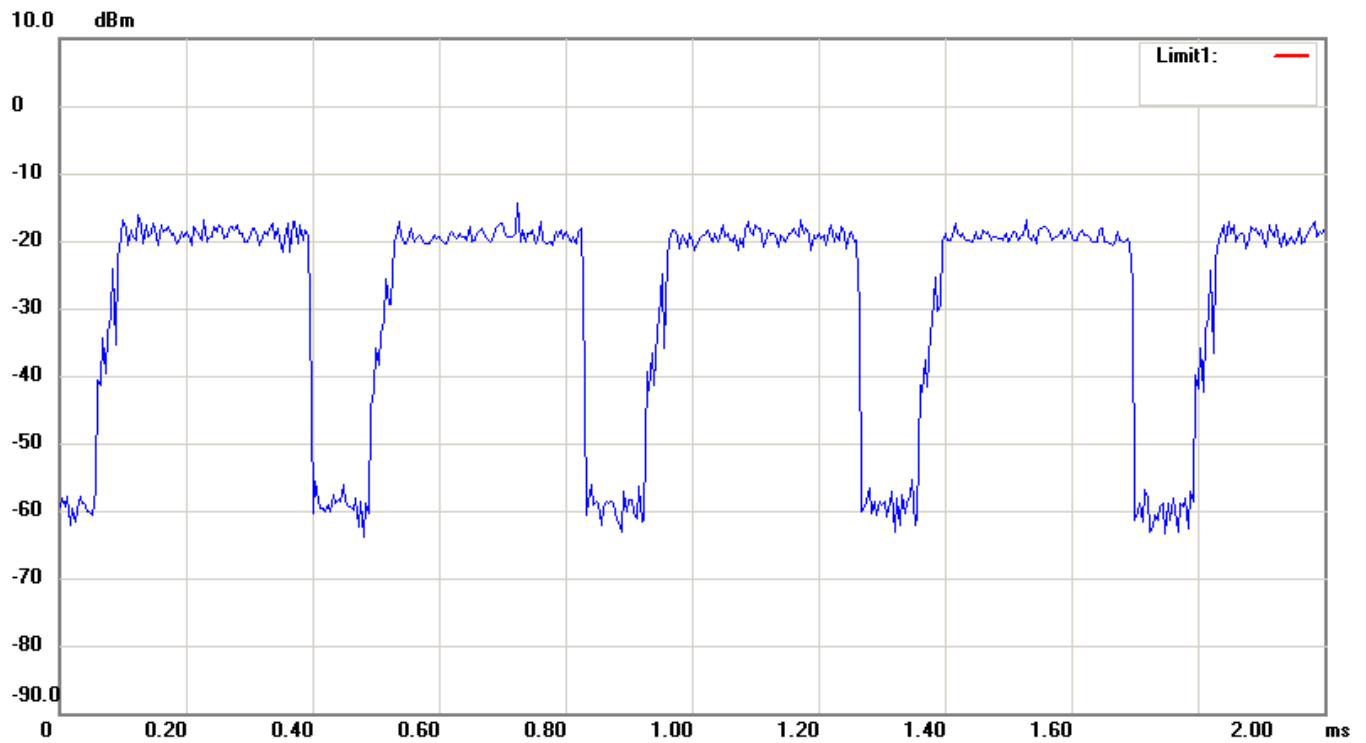
#10

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band1-2-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 2ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac80 Duty-2 (Duty=68.5%)

4 電源線傳導干擾之量測

本產品僅使用電池供電，使用電源為直流電源，故無須對其電源傳導干擾部份進行測試。

5 天線增益之要求

5.1 適用標準

國家通訊傳播委員會低功率射頻器材技術規範5.7.8節規定，天線之規格不受3.2 規定之限制。若使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

5.2 天線增益

此裝置使用內接固定式天線連接於主體內 PCB 板上，天線增益 4.58 dBi，未超過 6 dBi，不須降低峰值輸出功率。

註：此天線規格資料係由廠商提供，僅作數據引用。基於相信原則，本實驗室相信此資料為真實，若有不實而導致之任何損失或損害，其相關責任應由廠商承擔，本公司概不承擔任何有關責任。

5.3 結果判定

天線之方向性增益未超過6dBi，不須降低最大傳導輸出功率及功率密度之限制值。

6 發射頻寬之量測

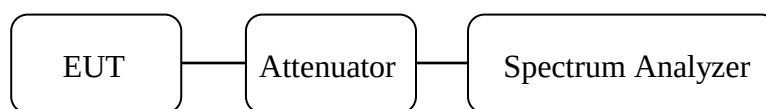
6.1 適用標準

使用頻率於5.25 GHz～5.35 GHz 與5.470 GHz～5.725 GHz 頻段，最大傳導輸出功率應小於或等於250 mW或11dBm+10log B (B 是26 dB發射頻寬，單位MHz)之較小者。

國家通訊傳播委員會低功率射頻器材技術規範5.7節無規定限制值，僅提供數據參考計算用。

6.2 測試配置

圖 1：發射頻寬之測試配置



6.3 發射頻寬之量測儀器

儀器名稱	廠 牌	型 號
Spectrum Analyzer	R&S	FSV40
Attenuator	WEINSCHEL	56-10

測試軟體: LZ-RF (Ver. ETC-3A2)

6.4 量測結果

測試工程師: 羅世勇

6.4.1 調變技術: IEEE 802.11a

測試日期: Sep. 13, 2021

環境溫度 : 25°C

環境濕度: 50%

Channel	26dB Bndwidth (MHz)	Chart
L	21.5710	Page 26
M	21.5710	Page 27
H	21.6524	Page 28

註：繪圖資料請參考第 26-28 頁。

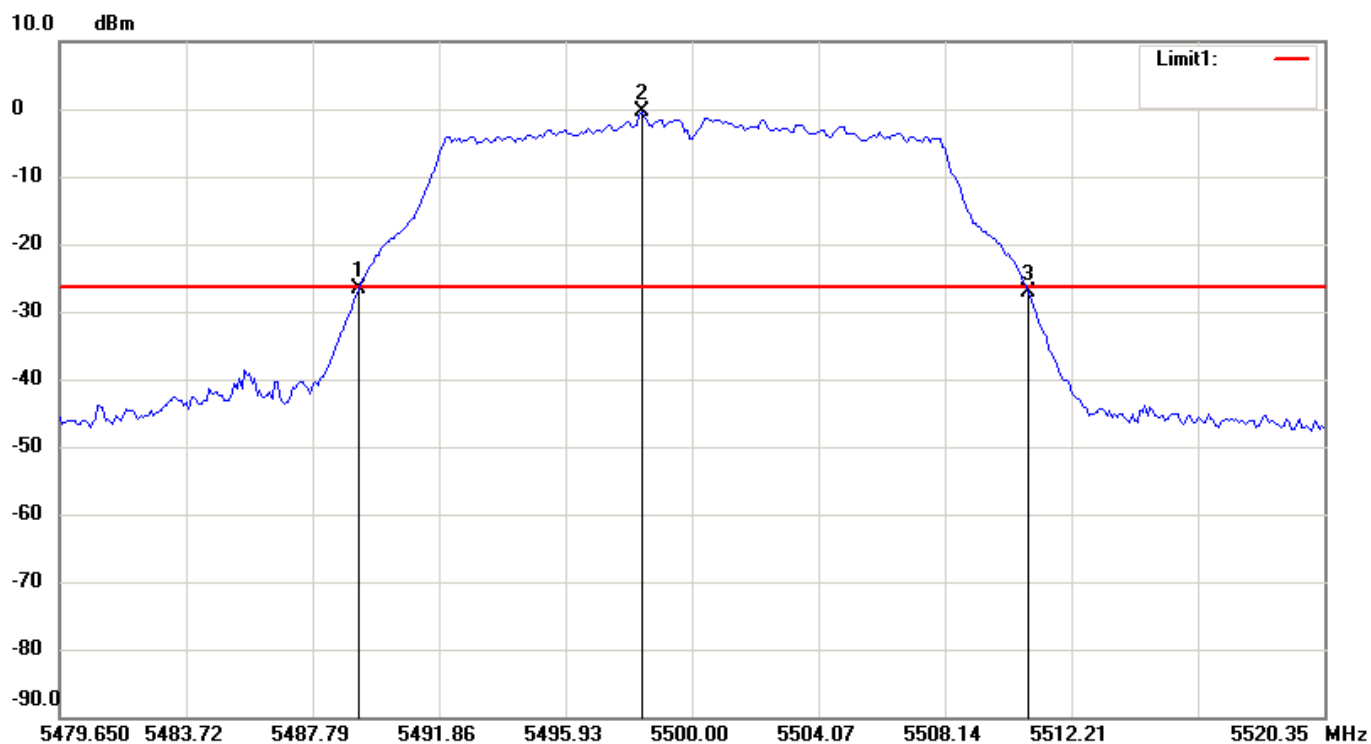
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#2

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: -26.46dBm

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a Channel 100_-26dB EBW

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 300 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5489.25520	-26.73
2	5498.37200	-0.46
3	5510.82620	-27.14

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.571	-0.41

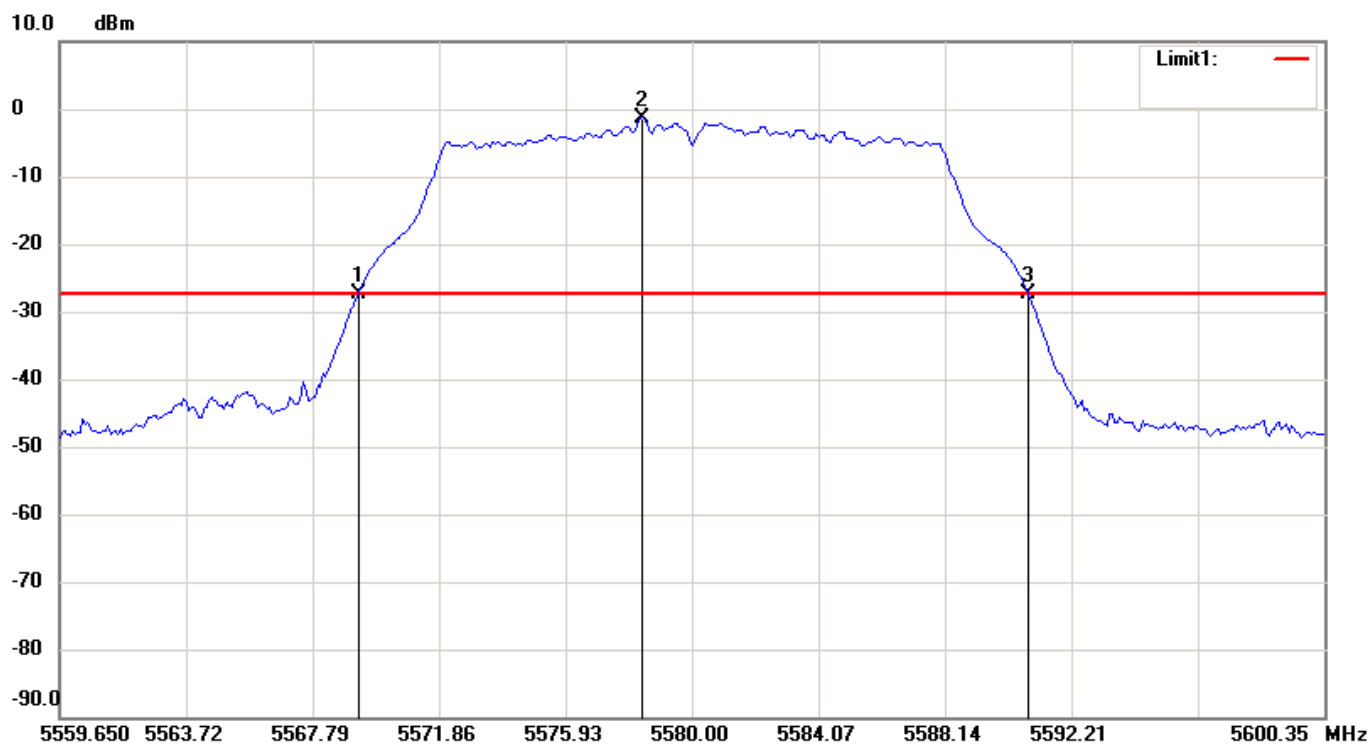
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#9

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: -27.25dBm
EUT: CV1 21 WIDE AVN
Model: VN251ASGG
Test Mode: UNII
Note: NCC_LP0002_802.11a Channel 116_-26dB EBW

RF Conducted
Sweep Time: 1ms Att.: 15dB
RBW: 300 KHz VBW: 1000 KHz
Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5569.25520	-27.36
2	5578.37200	-1.25
3	5590.82620	-27.34

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.571	0.02

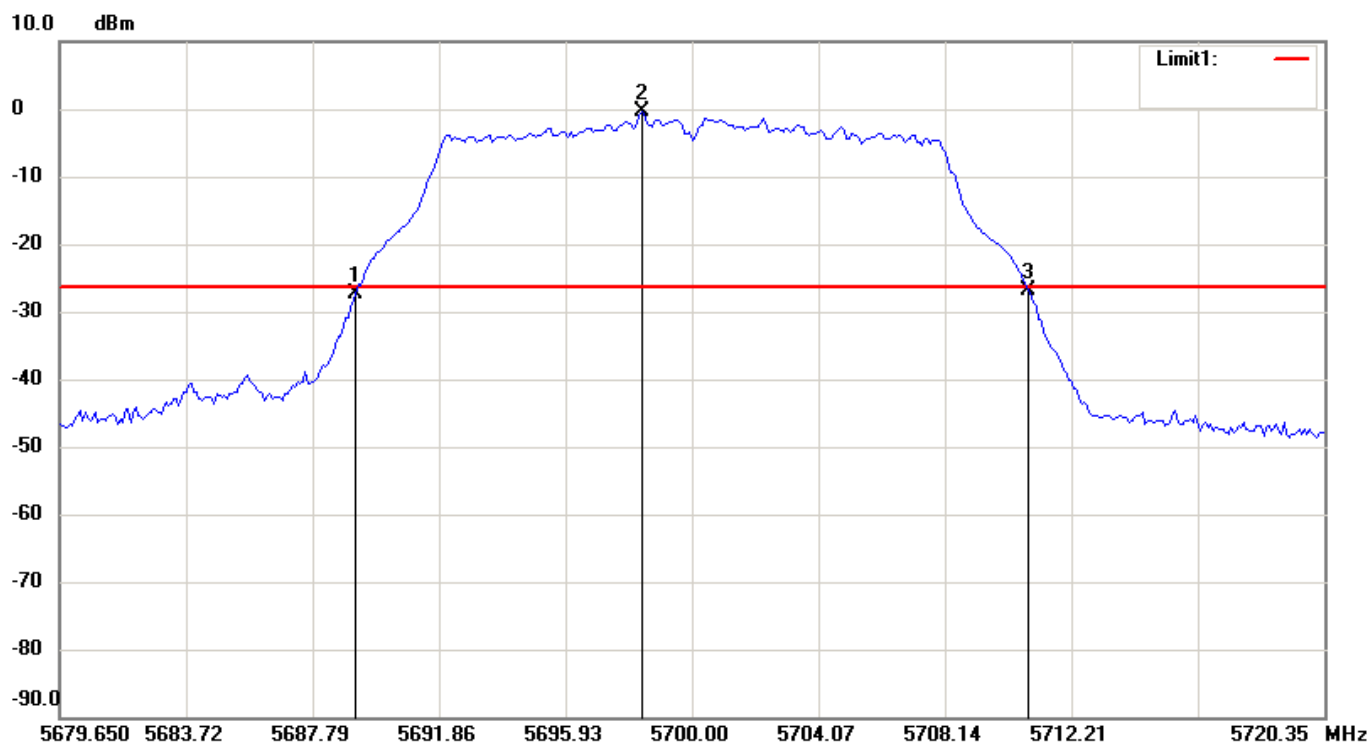
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#15

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: -26.44dBm

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a Channel 140_-26dB EBW

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 300 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5689.17380	-27.42
2	5698.37200	-0.44
3	5710.82620	-26.84

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.6524	0.58

6.4.2 調變技術: IEEE 802.11ac (20MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

Channel	26dB Bndwidth (MHz)	Chart
L	21.978	Page 30
M	21.978	Page 31
H	21.978	Page 32

註：繪圖資料請參考第 30-32 頁。

File: 21-08-MAW-005_5-6ac20

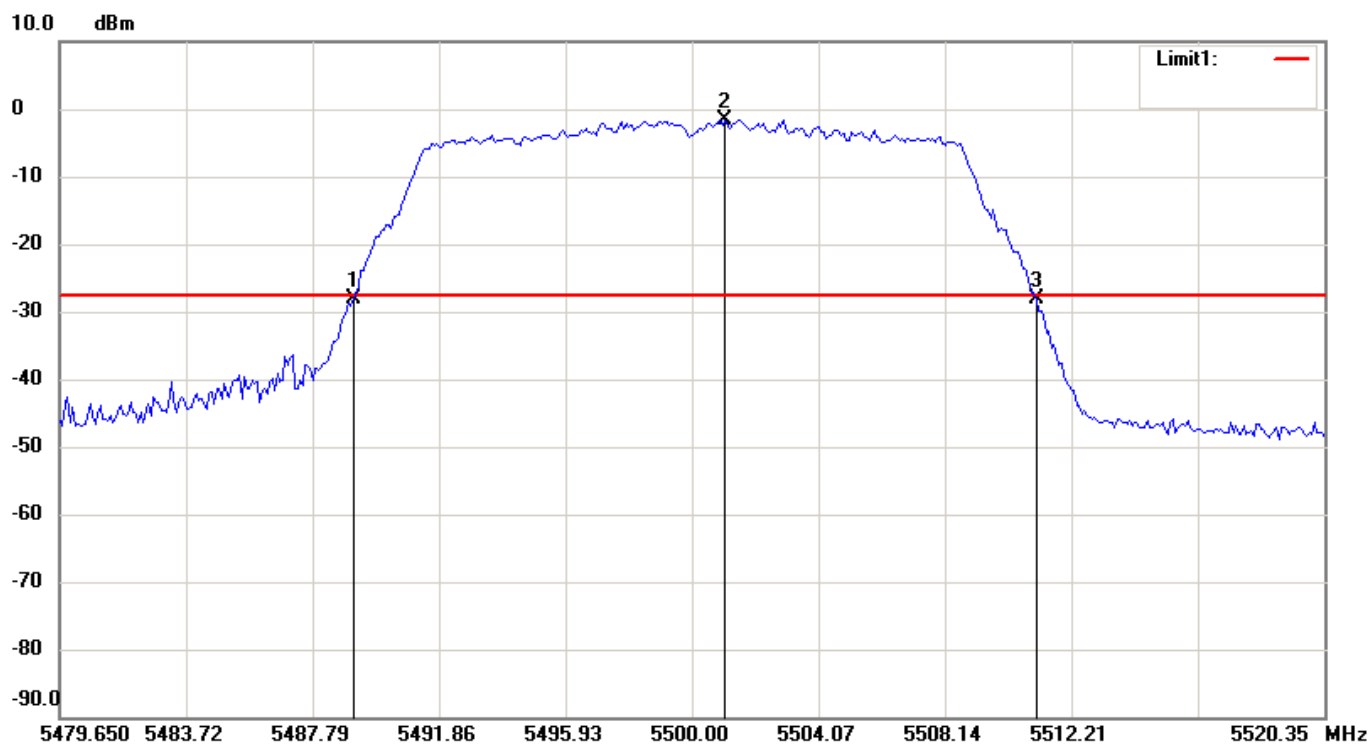
#2

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -27.56dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 300 KHz

VBW: 1000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac20 Channel 100_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5489.09240	-28.10
2	5501.05820	-1.56
3	5511.07040	-28.05

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.978	0.05

File: 21-08-MAW-005_5-6ac20

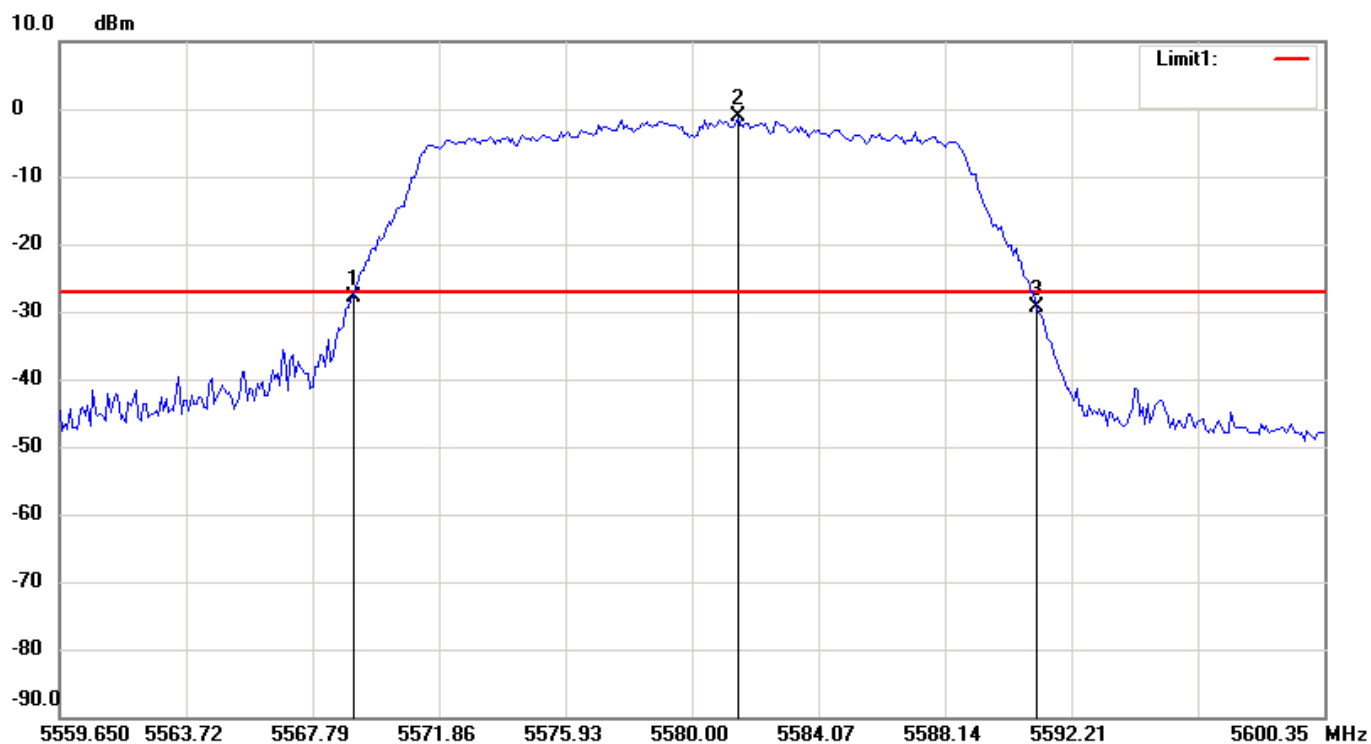
#9

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -27.19dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 300 KHz

VBW: 1000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac20 Channel 116_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5569.09240	-27.84
2	5581.46520	-1.19
3	5591.07040	-29.36

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.978	-1.52

File: 21-08-MAW-005_5-6ac20

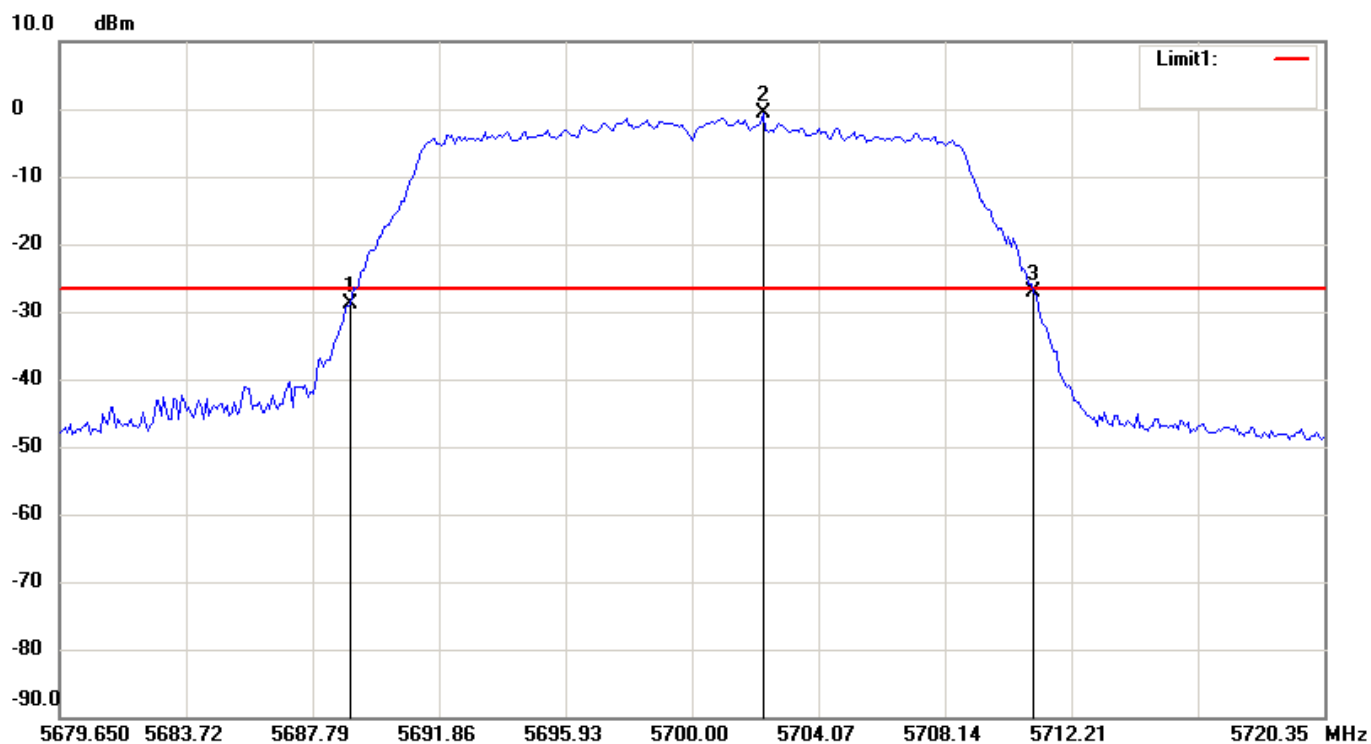
#15

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -26.55dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 300 KHz

VBW: 1000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac20 Channel 140_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5689.01100	-28.82
2	5702.27920	-0.55
3	5710.98900	-27.07

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	21.978	1.75

6.4.3 調變技術: IEEE 802.11ac (40MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

Channel	26dB Bndwidth (MHz)	Chart
L	40.4874	Page 34
M	40.3248	Page 35
H	40.3248	Page 36

註：繪圖資料請參考第 34-36 頁。

File: 21-08-MAW-005_5-6ac40

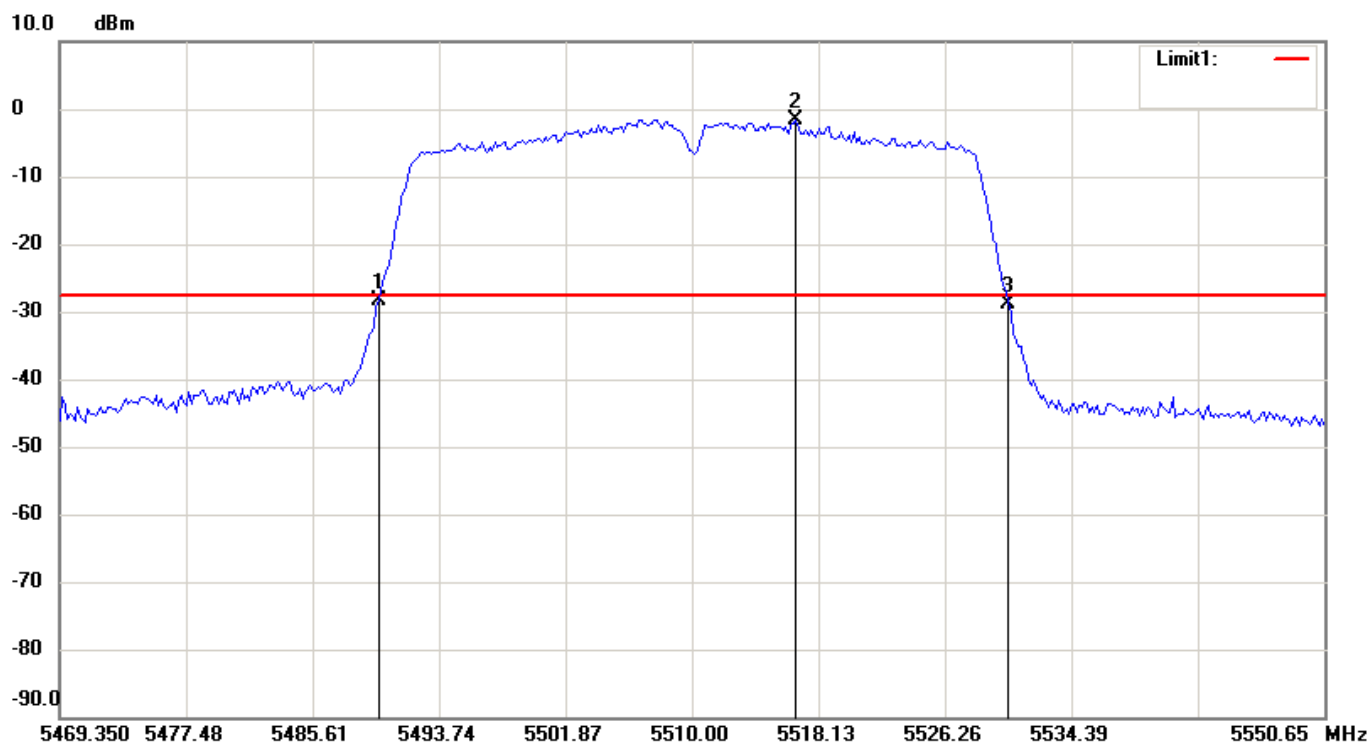
#22

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -27.65dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 500 KHz

VBW: 3000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac40 Channel 102_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5489.83760	-28.46
2	5516.66660	-1.65
3	5530.32500	-28.75

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	40.4874	-0.29

File: 21-08-MAW-005_5-6ac40

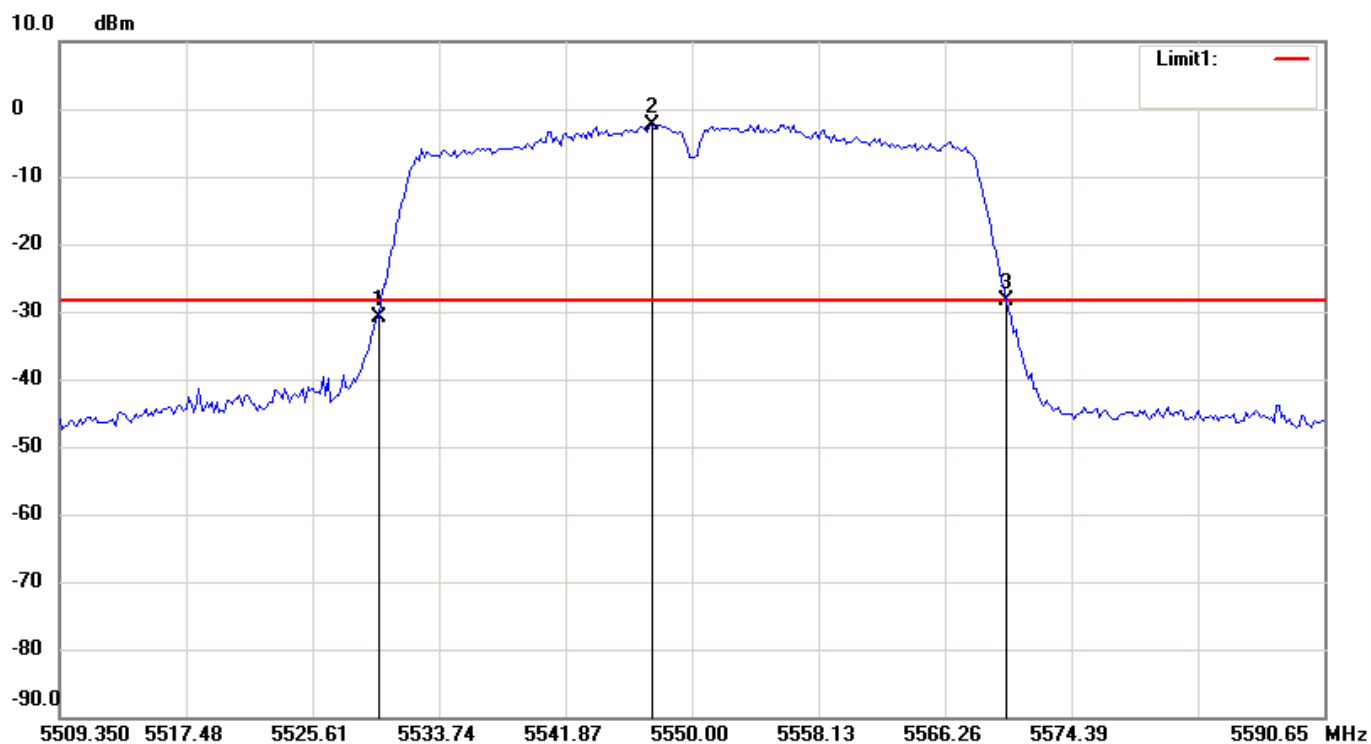
#29

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -28.27dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 500 KHz

VBW: 3000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac40 Channel 110_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5529.83760	-30.89
2	5547.39840	-2.27
3	5570.16240	-28.47

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	40.3248	2.42

File: 21-08-MAW-005_5-6ac40

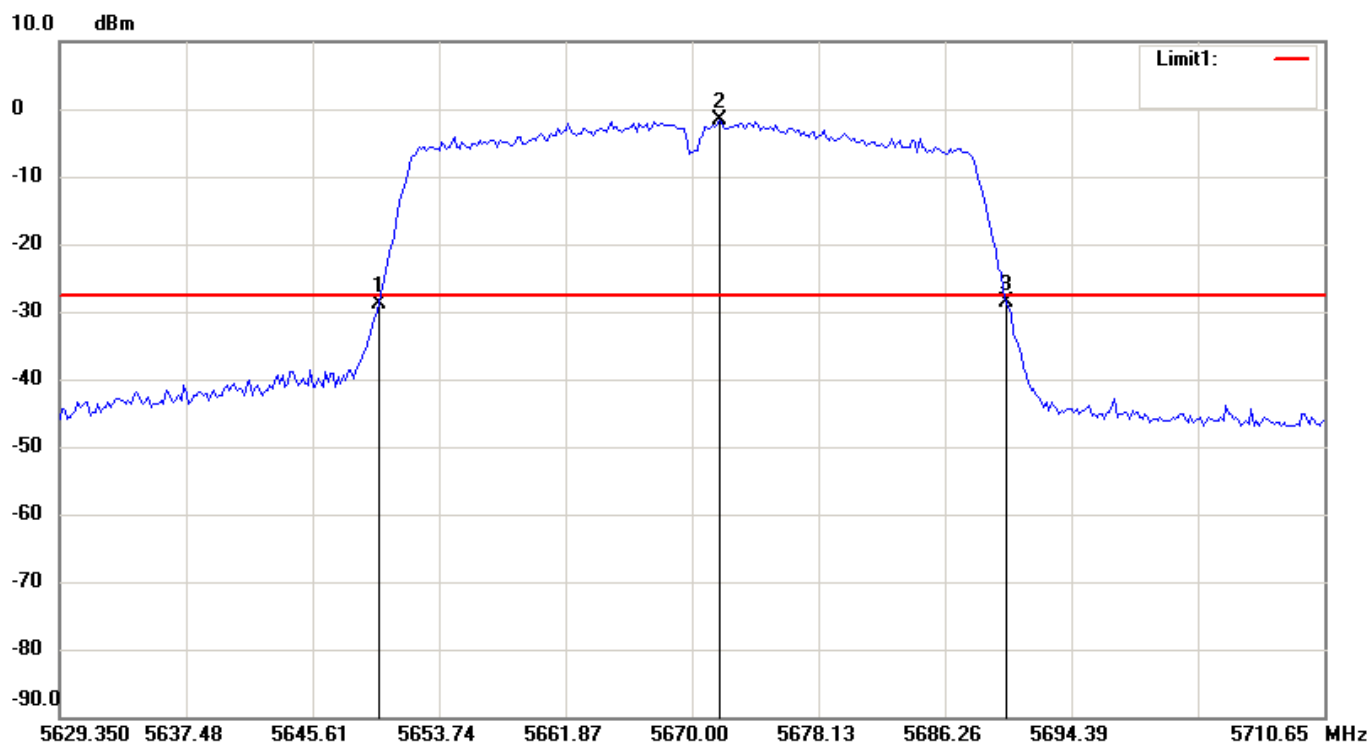
#35

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -27.71dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 500 KHz

VBW: 3000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac40 Channel 134_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5649.83760	-28.95
2	5671.78860	-1.71
3	5690.16240	-28.55

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	40.3248	0.4

6.4.4 調變技術:IEEE 802.11ac (80MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%%

Channel	26dB Bndwidth (MHz)	Chart
L	82.478	Page 38

註：繪圖資料請參考第 38 頁。

6.5 結果判定

僅提供數據，無須判定。

File: 21-08-MAW-005_5-6ac80

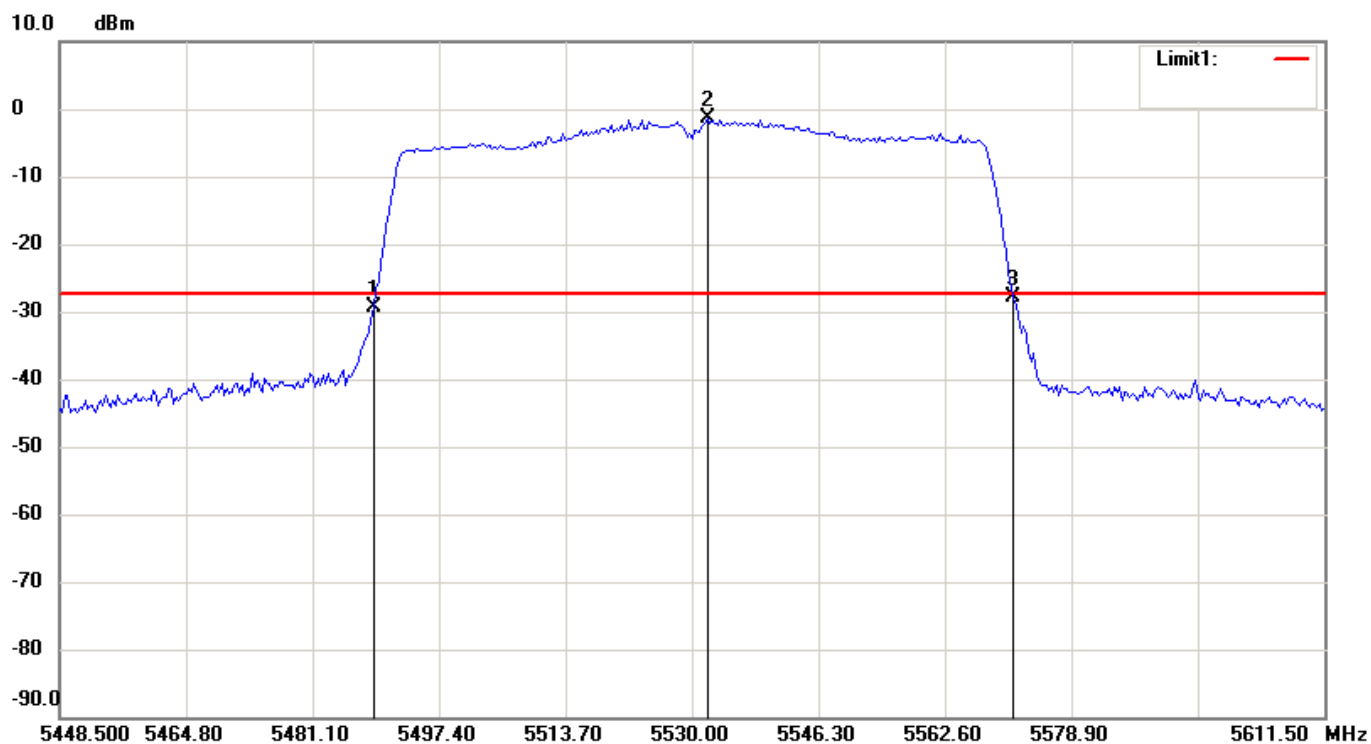
#10

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: -27.47dBm

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz

VBW: 3000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac80 Channel 106_-26dB EBW

No.	Frequency(MHz)	Level(dBm)
1	5488.92400	-29.42
2	5531.95600	-1.47
3	5571.40200	-27.83

No.		Δ Frequency(MHz)	Δ Level(dB)
1	mk3-mk1	82.478	1.59

7 最大傳導輸出功率之量測

7.1 最大傳導輸出功率適用標準

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.3.2節(1)(3)之規定：

5.7.3.2節(1)：5.25 GHz～5.35 GHz頻帶，最大傳導輸出功率應小於或等於250 mW或11dBm+10log B (B 是26 dB發射頻寬，單位MHz)之較小者。

5.7.3.2節(3)：使用超過 6 dBi 方向增益之發射天線時，應依超過 6 dBi 天線方向增益的 dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

7.2 最大傳導輸出功率之測試配置

如圖 1 所示。

7.3 最大傳導輸出功率之量測儀器

儀器名稱	廠 牌	型 號
Spectrum Analyzer	R&S	FSV40
Attenuator	WEINSCHEL	56-10

測試軟體: LZ-RF (Ver. ETC-3A2)

7.4 最大傳導輸出功率之量測結果

測試工程師: 羅世勇

7.4.1 調變技術: IEEE 802.11a

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi, NCC Limit 如下表所示:

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	21.571	24.34	6.12	24	Page 41
M	24	21.571	24.34	5.80	24	Page 42
H	24	21.652	24.36	6.06	24	Page 43

註: 1. 繪圖資料請參考第 41-43 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6a

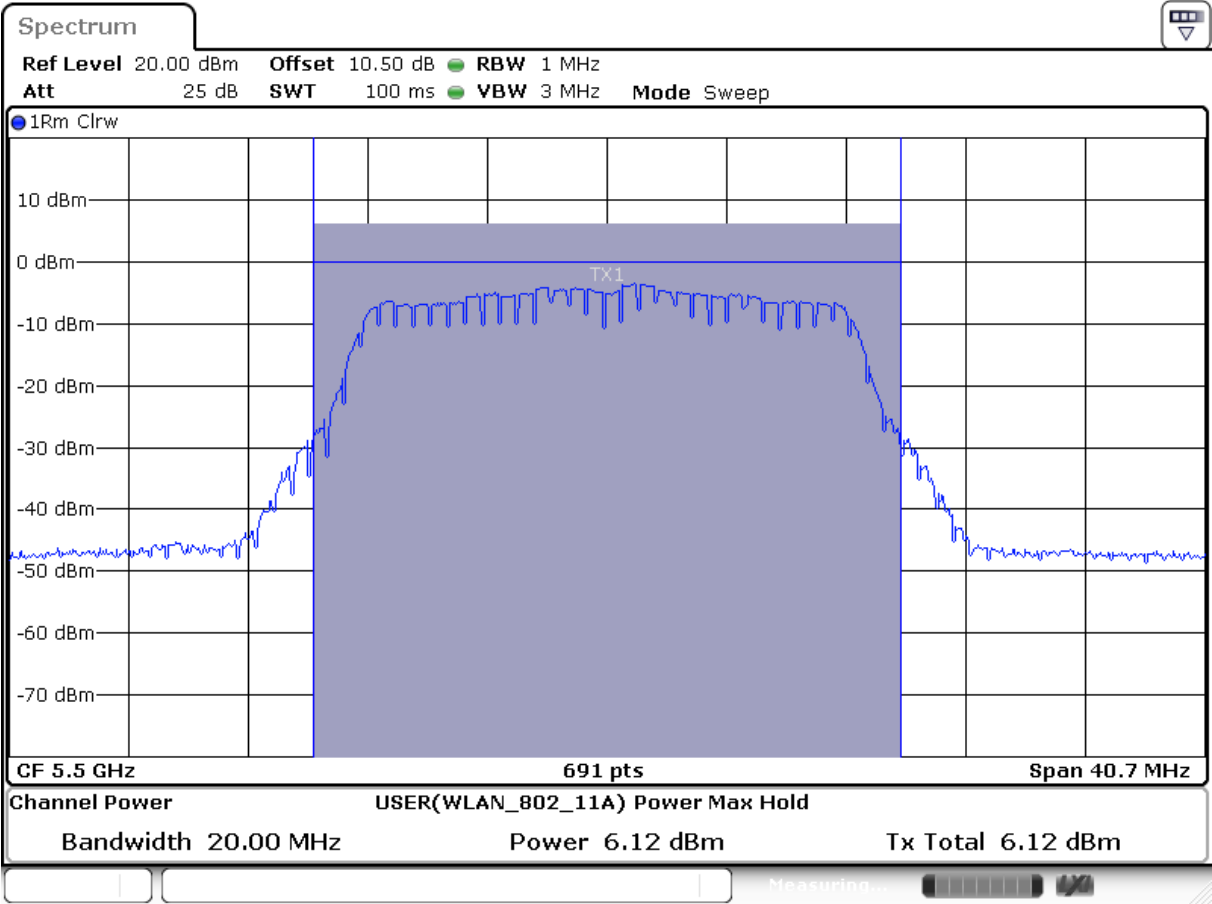
#1

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11a_Channel 100_Output power	

File: 21-08-MAW-005_5-6a

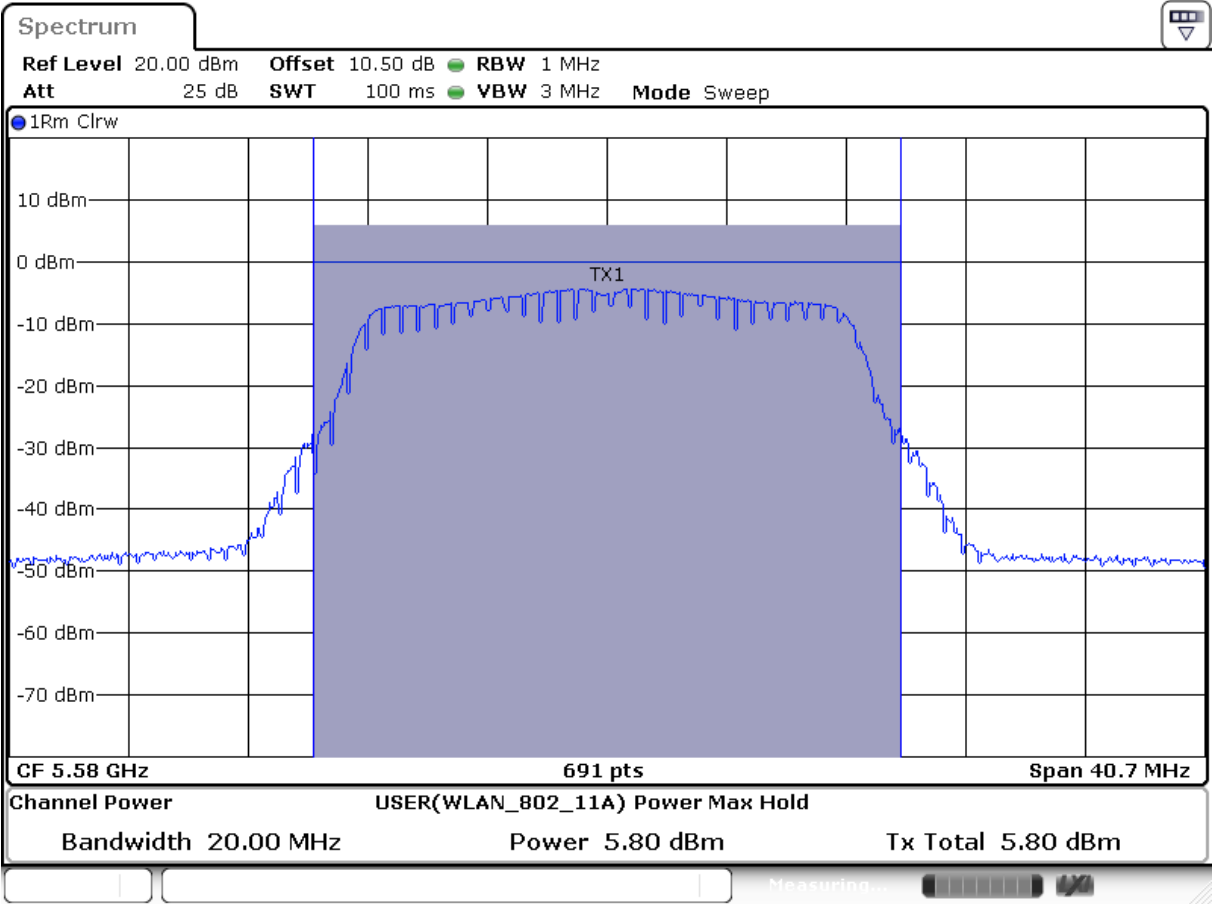
#8

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11a_Channel 116_Output power	

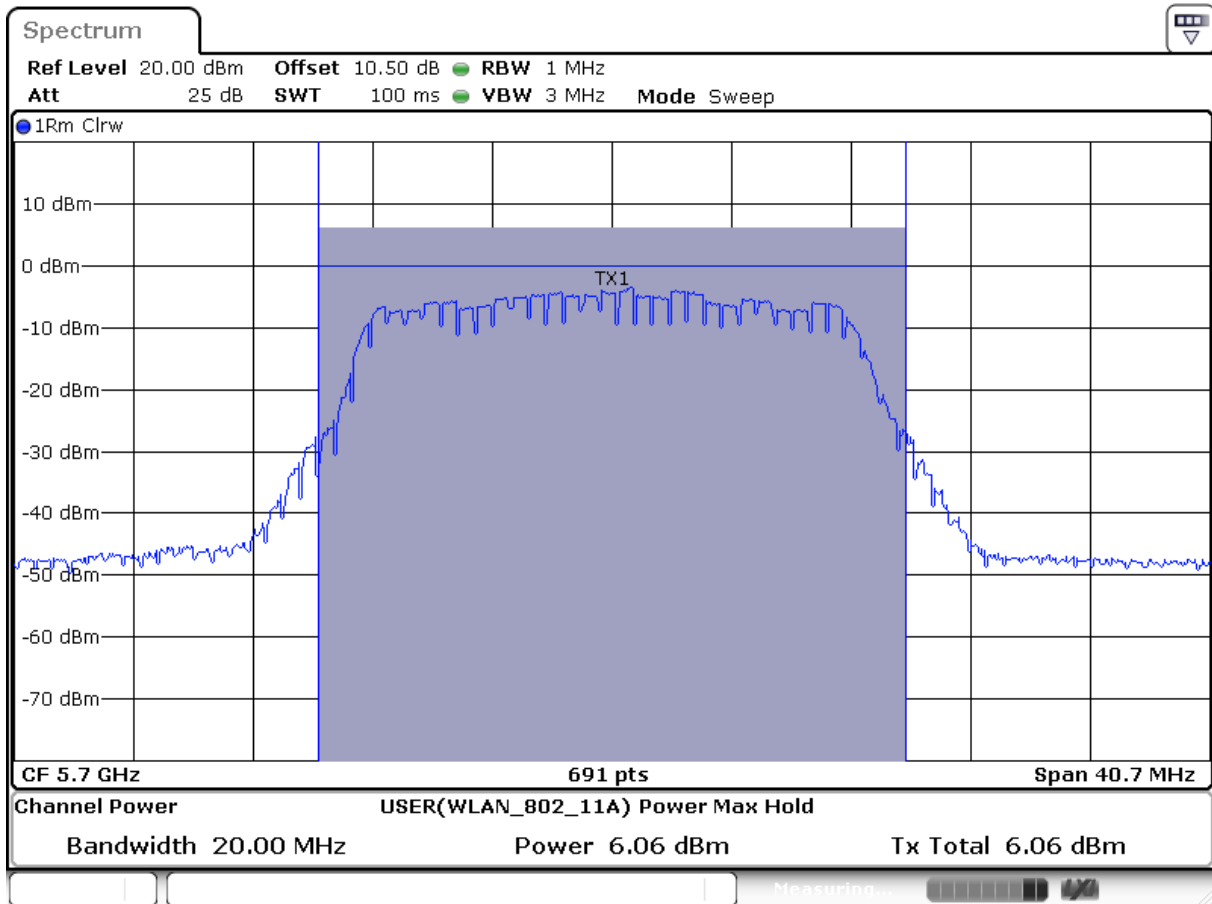
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#14

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 140_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

7.4.2 調變技術:IEEE 802.11n HT20

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	21.978	24.42	5.92	24	Page 45
M	24	21.978	24.42	5.66	24	Page 46
H	24	21.978	24.42	5.87	24	Page 47

註：1. 繪圖資料請參考第 45-47 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6n20

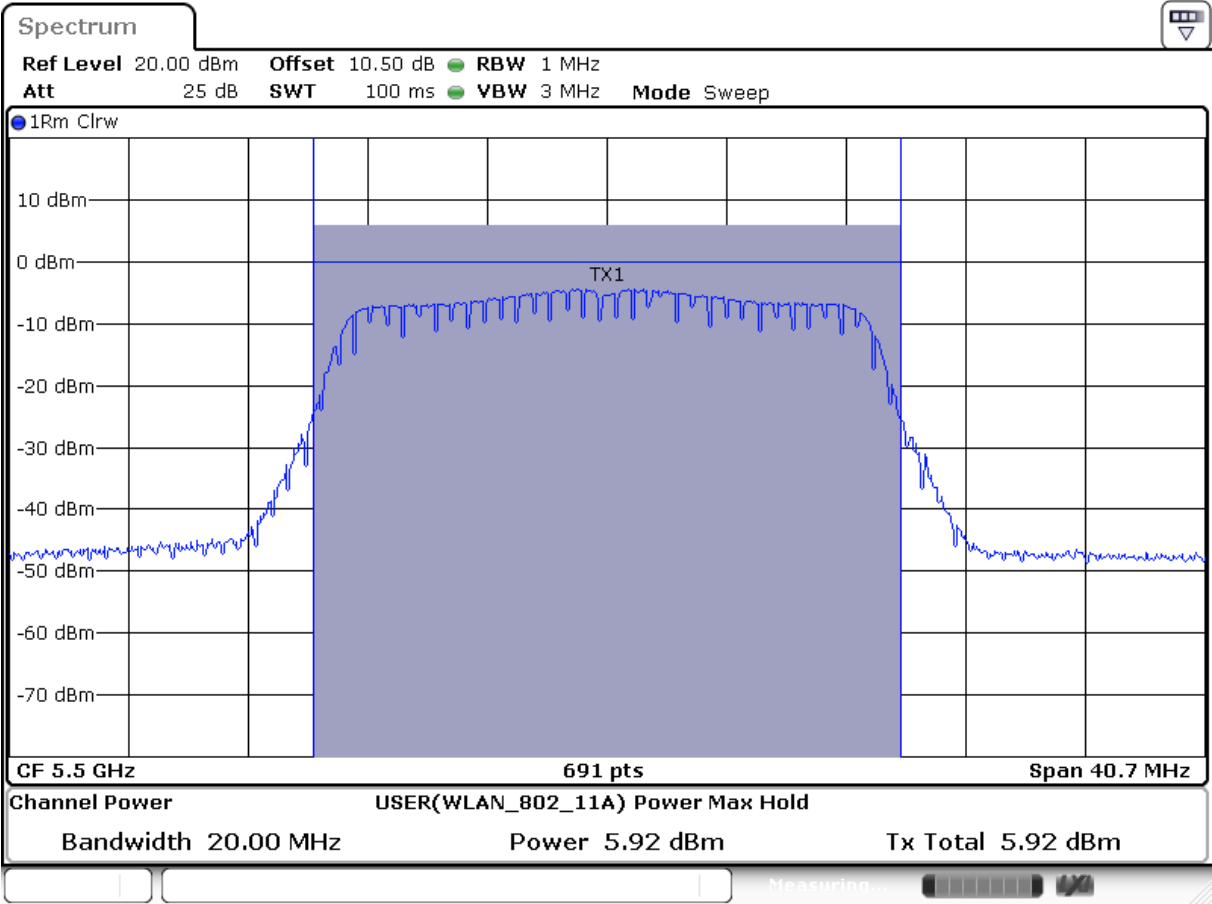
#1

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11n20_Channel 100_Output power	

File: 21-08-MAW-005_5-6n20

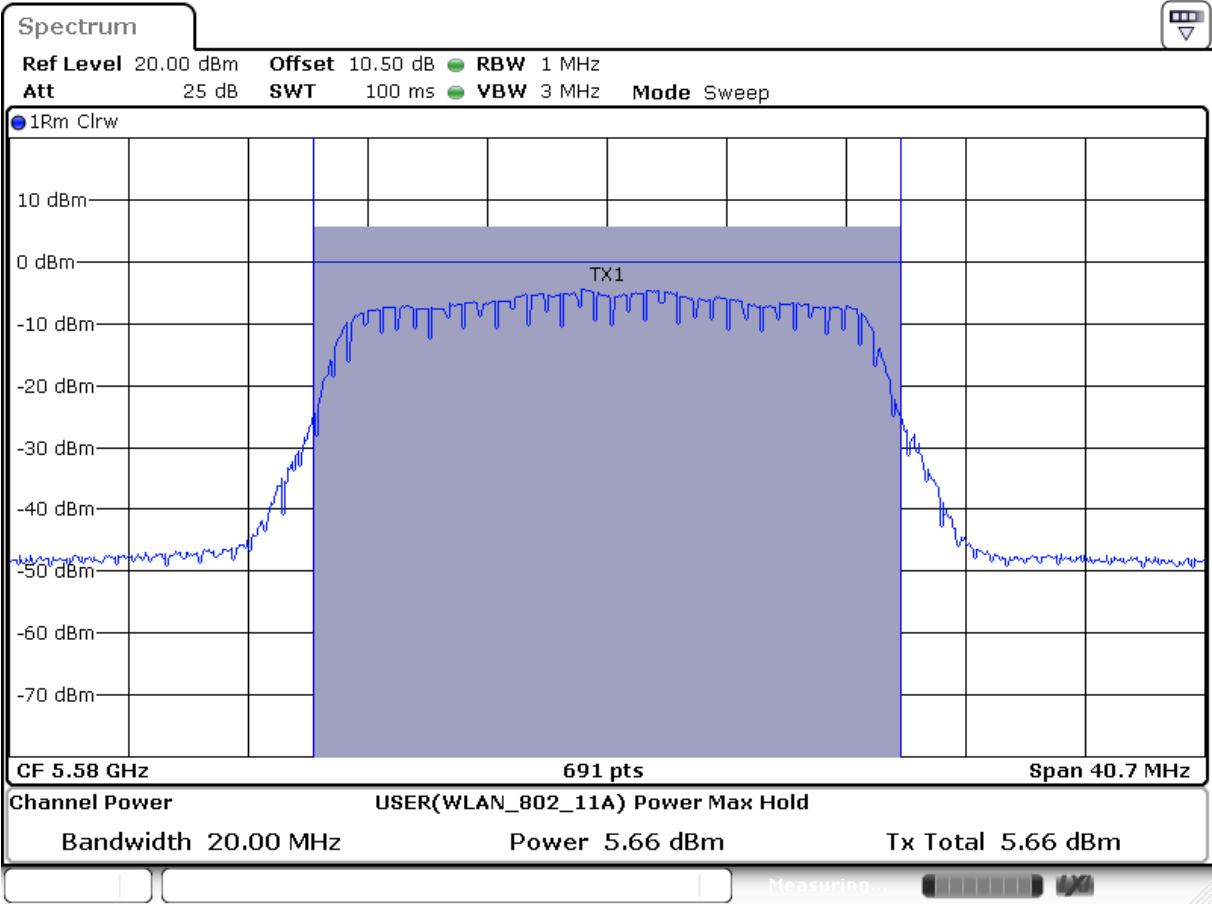
#8

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11n20_Channel 116_Output power	

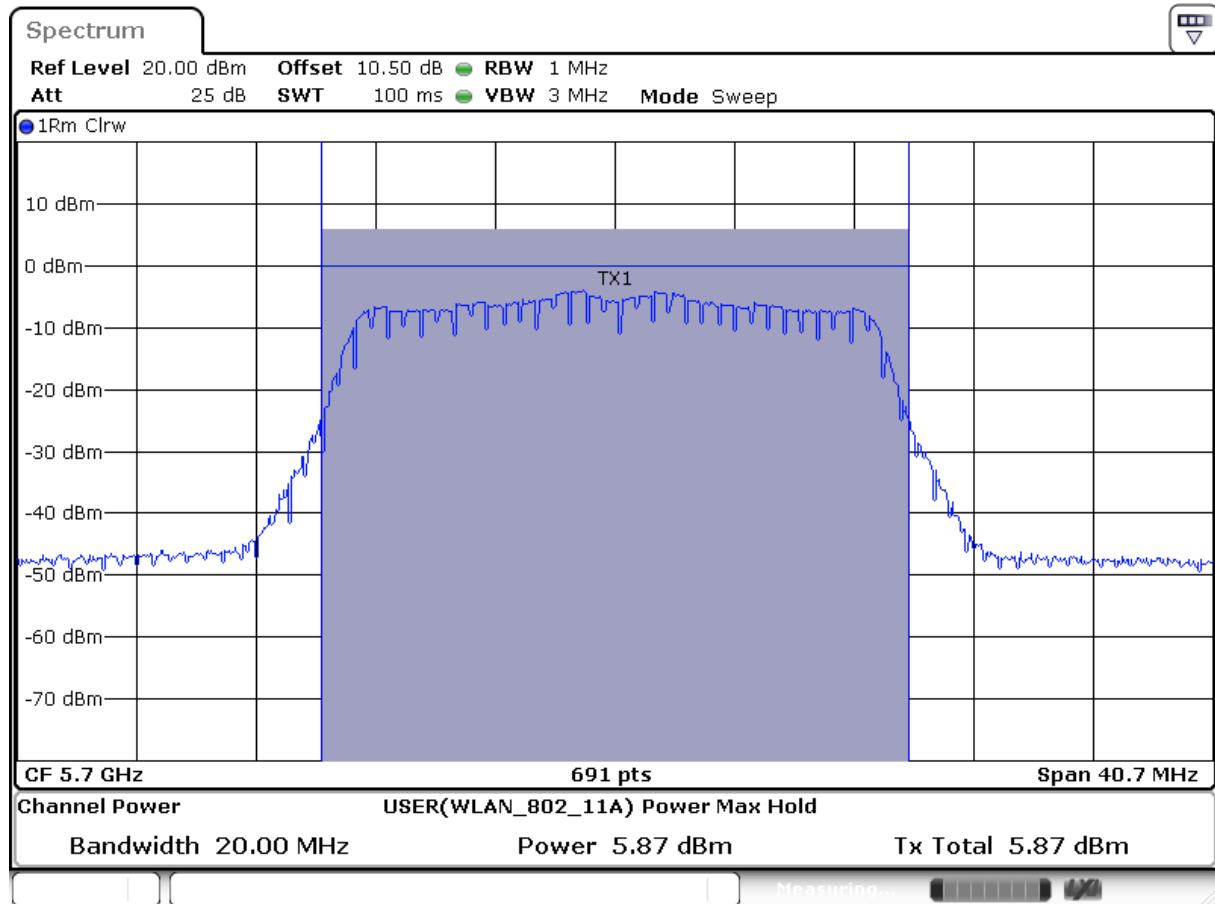
File: 21-08-MAW-005_5-6n20
Site: RF-Cond01

#14

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11n20_Channel 140_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

7.4.3 調變技術: IEEE 802.11n HT40

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	40.487	27.07	5.38	24	Page 49
M	24	40.325	27.06	5.28	24	Page 50
H	24	40.325	27.06	5.81	24	Page 51

註：1. 繪圖資料請參考第 49-51 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6n40

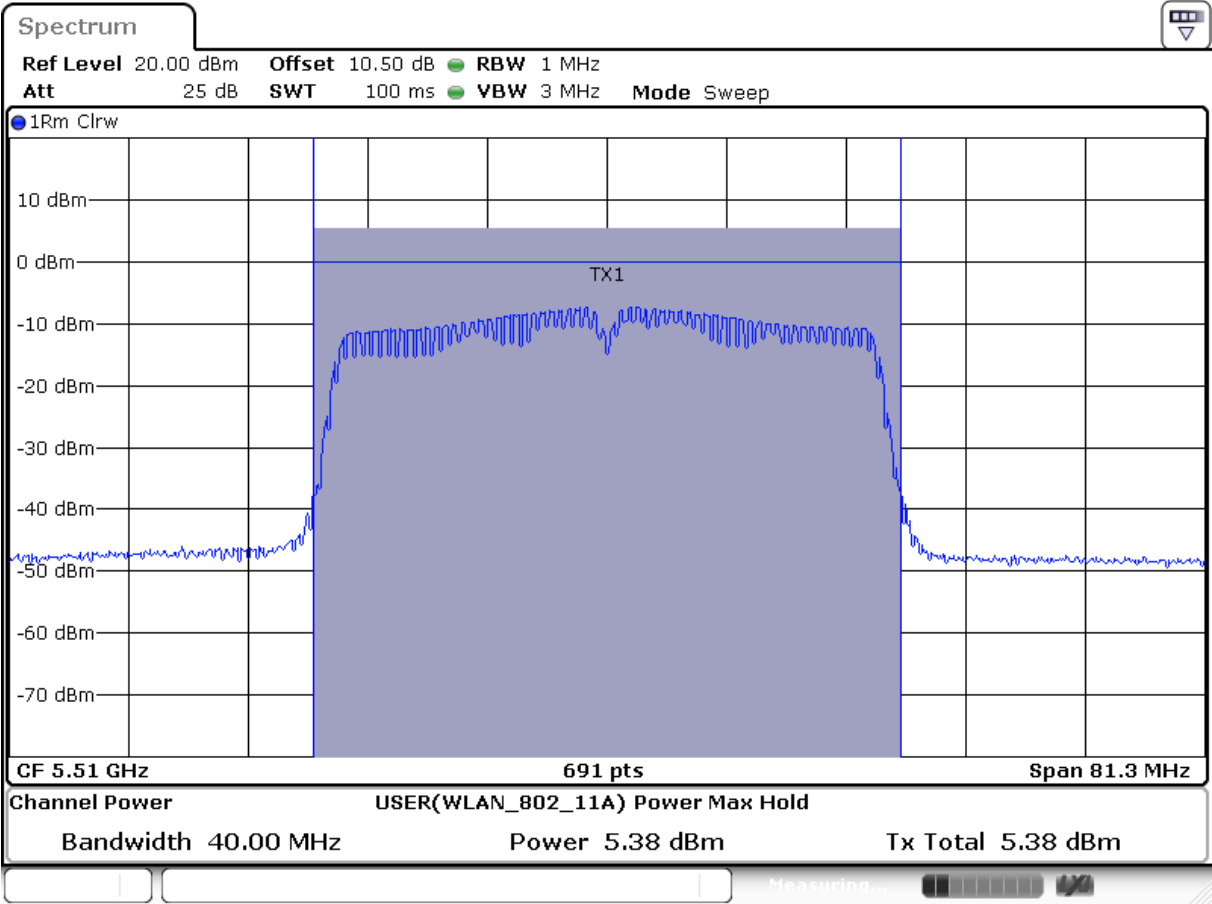
#1

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11n40_Channel 102_Output power	

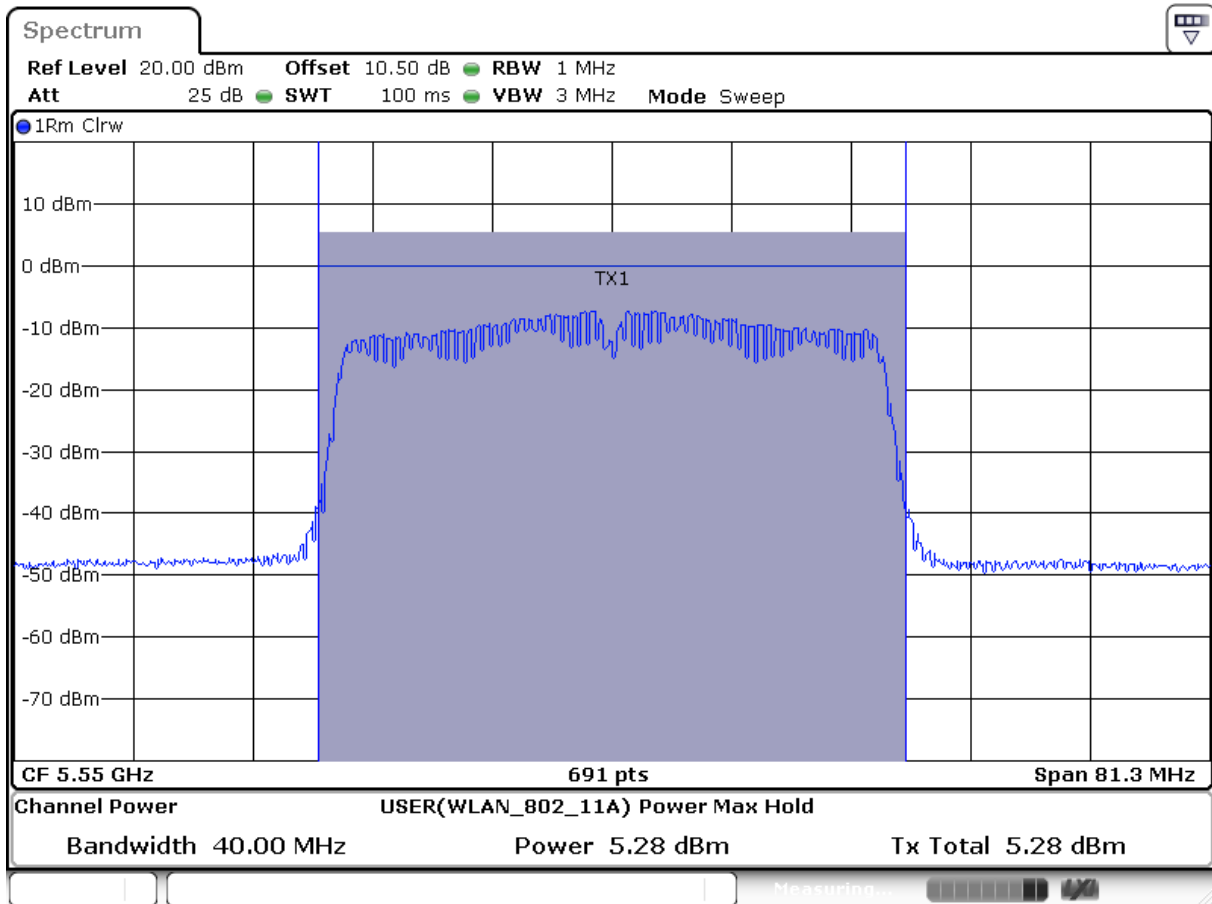
File: 21-08-MAW-005_5-6n40
Site: RF-Cond01

#21

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11n40_Channel 110_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

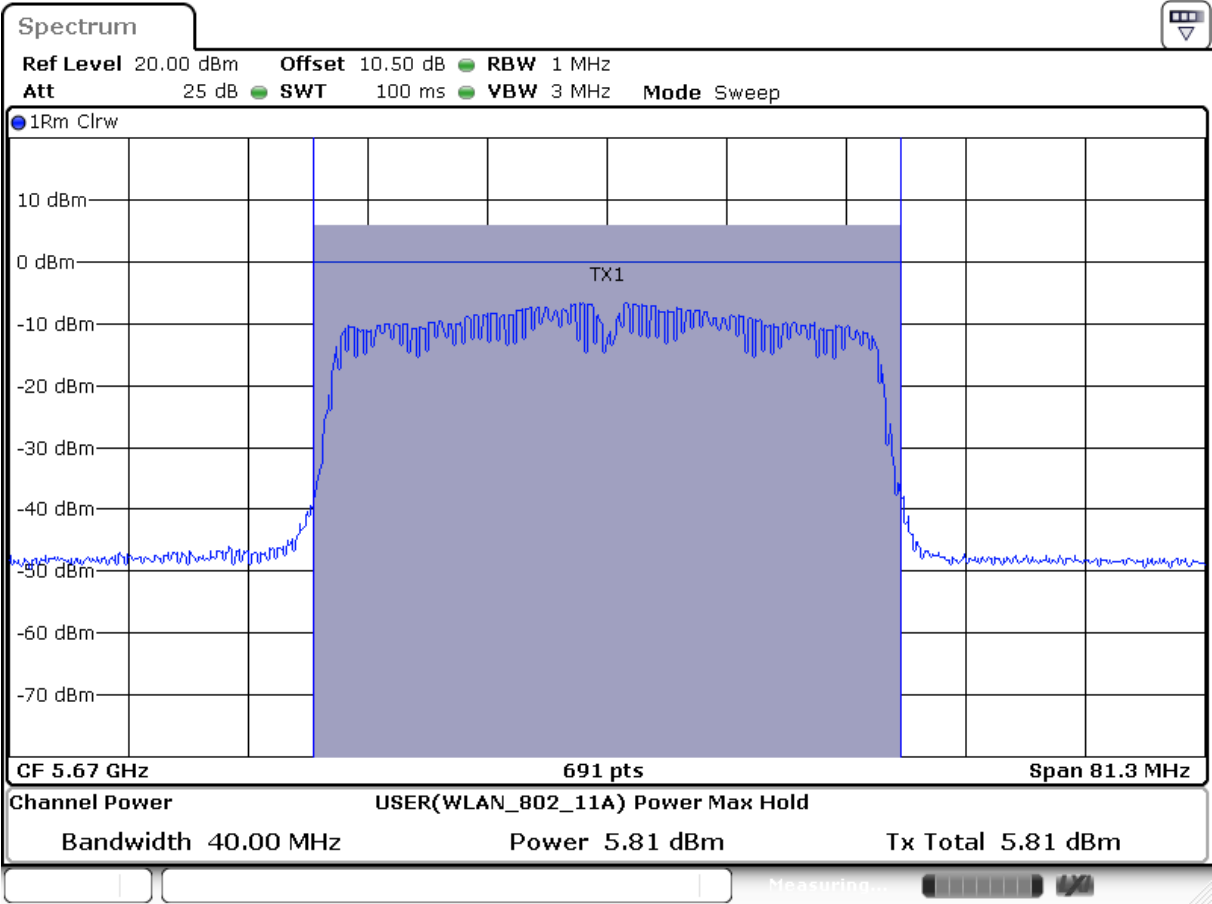
RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

File: 21-08-MAW-005_5-6n40
Site: RF-Cond01

#27 Date: 2021/9/13

Temperature: 25 °C
Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11n40_Channel 134_Output power	

7.4.4 調變技術: IEEE 802.11ac (20MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	21.978	24.42	5.95	24	Page 53
M	24	21.978	24.42	5.70	24	Page 54
H	24	21.978	24.42	5.97	24	Page 55

註：1. 繪圖資料請參考第 53-55 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6ac20

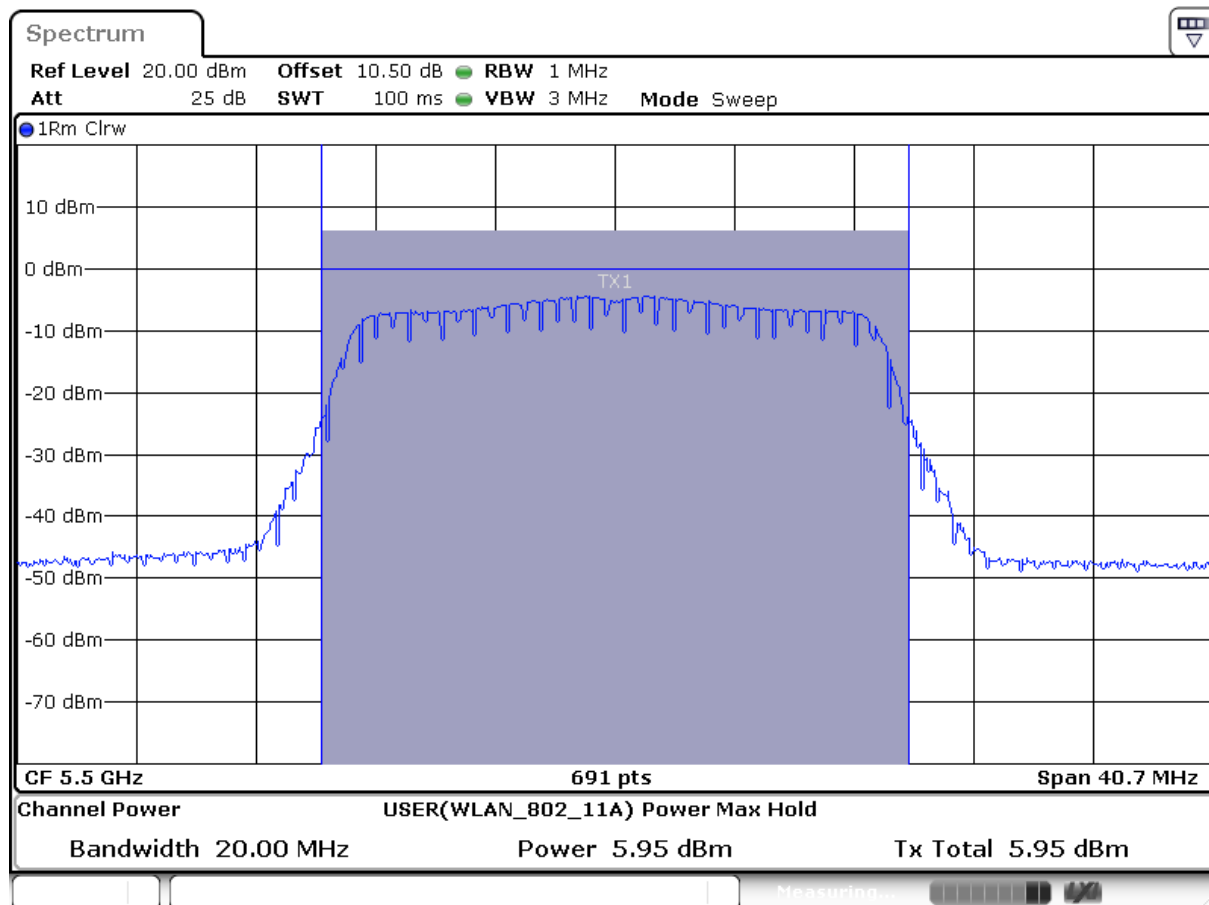
#1

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 100_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

File: 21-08-MAW-005_5-6ac20

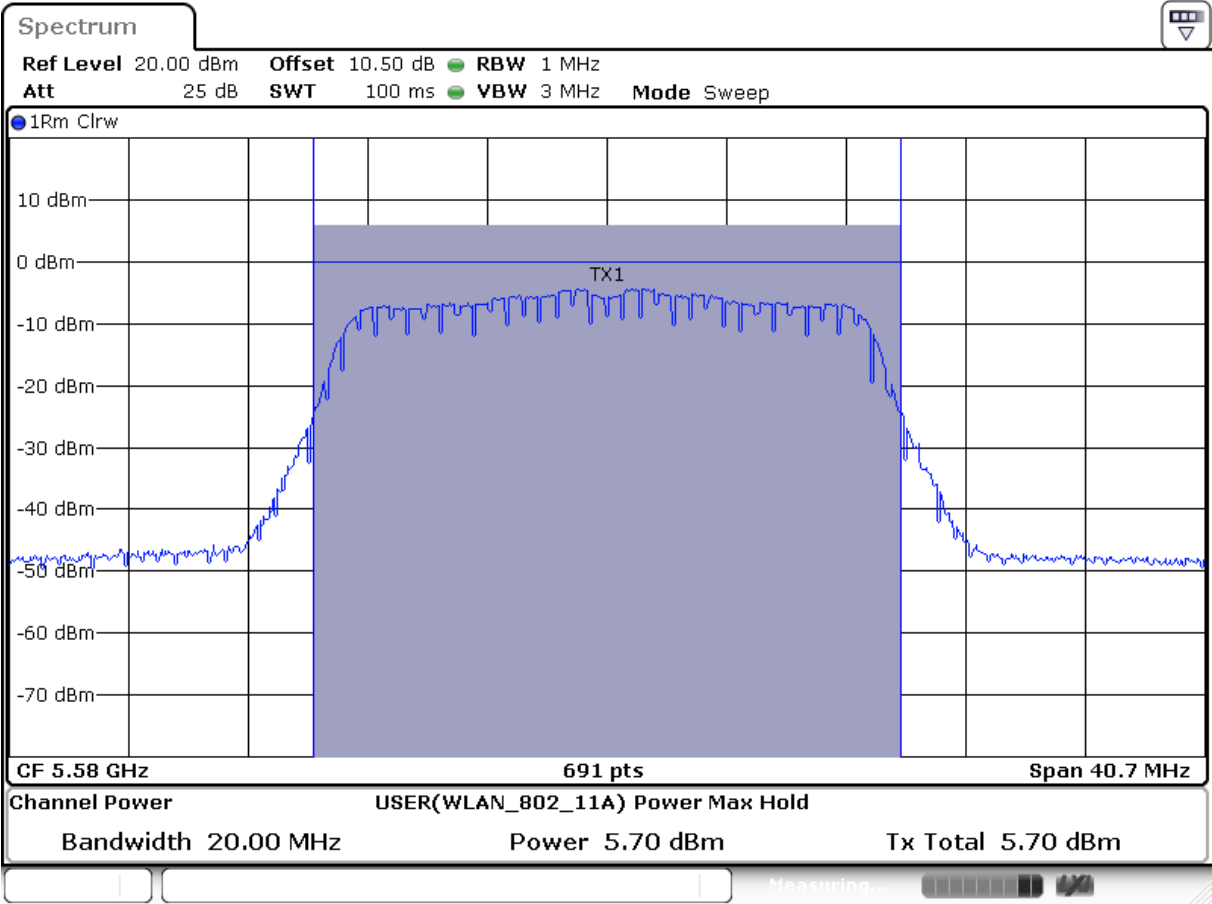
#8

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz VBW: 3000 KHz
Test Mode:	UNII	Operator: Phillip
Note:	NCC_LP0002_802.11ac20_Channel 116_Output power	

File: 21-08-MAW-005_5-6ac20

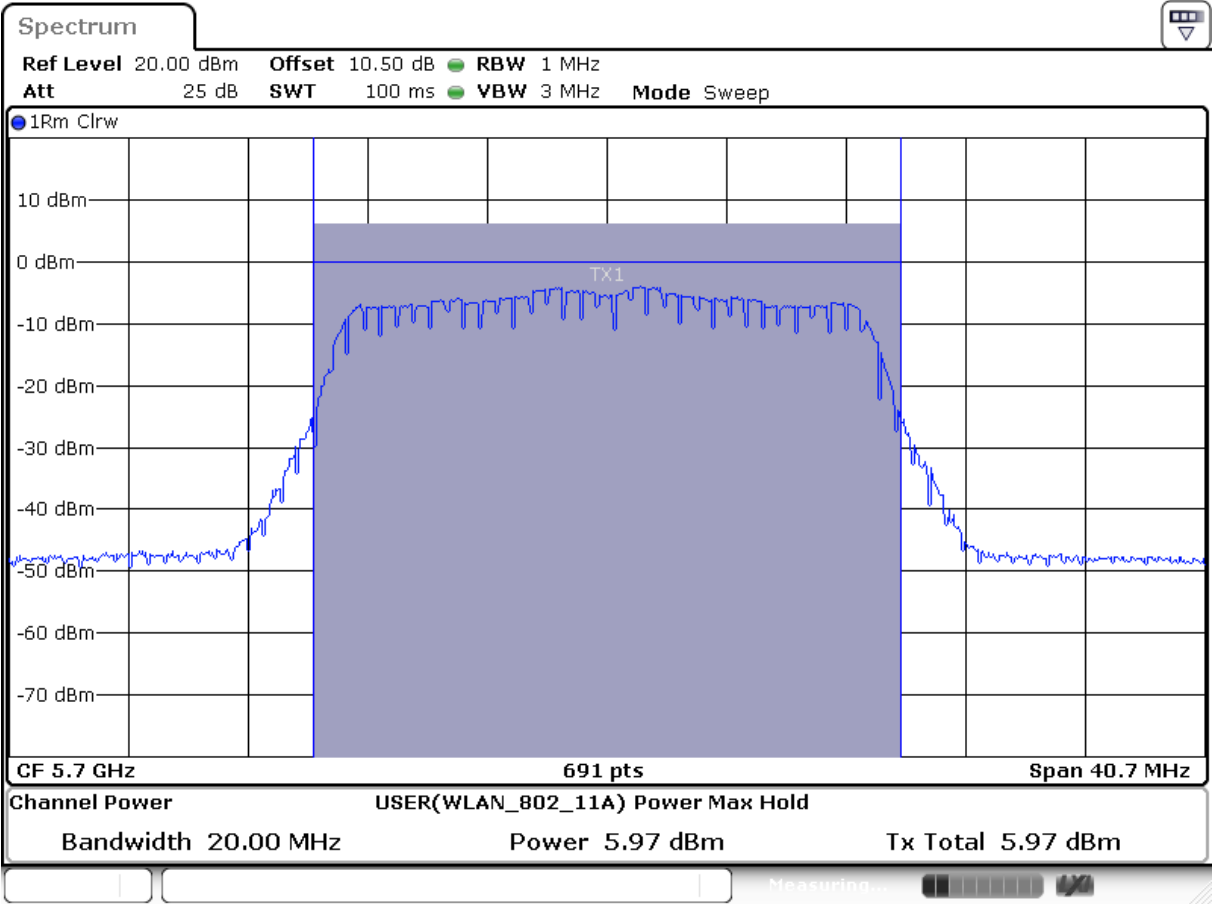
#14

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:		RF Conducted	
EUT:	CV1 21 WIDE AVN	Sweep Time: 100ms	Att.: 25dB
Model:	VN251ASGG	RBW: 1000 KHz	VBW: 3000 KHz
Test Mode:	UNII	Operator:	Phillip
Note:	NCC_LP0002_802.11ac20_Channel 140_Output power		

7.4.5 調變技術: IEEE 802.11ac (40MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	40.487	27.07	5.60	24	Page 57
M	24	40.325	27.06	5.36	24	Page 58
H	24	40.325	27.06	5.82	24	Page 59

註：1. 繪圖資料請參考第 57-59 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6ac40

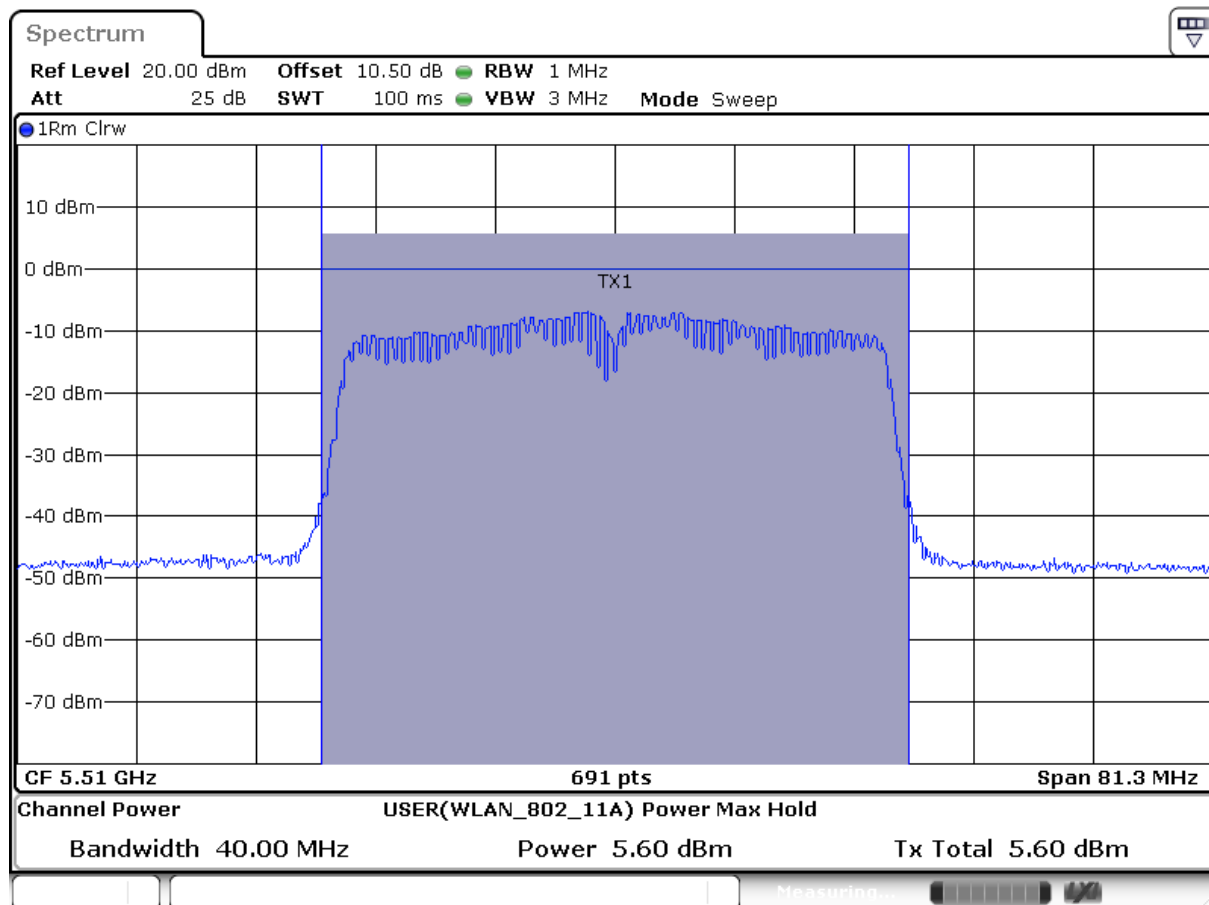
#21

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 102_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

File: 21-08-MAW-005_5-6ac40

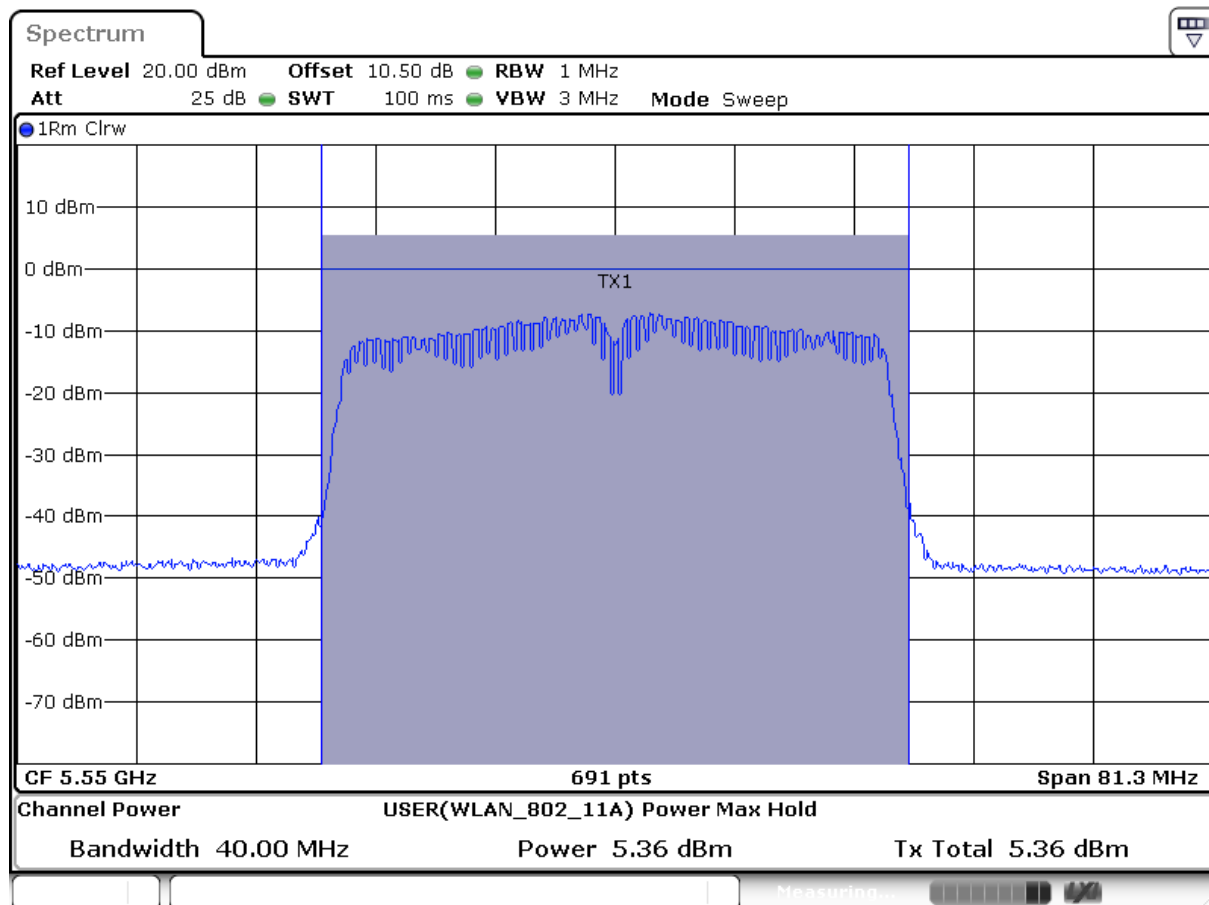
#28

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 110_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

File: 21-08-MAW-005_5-6ac40

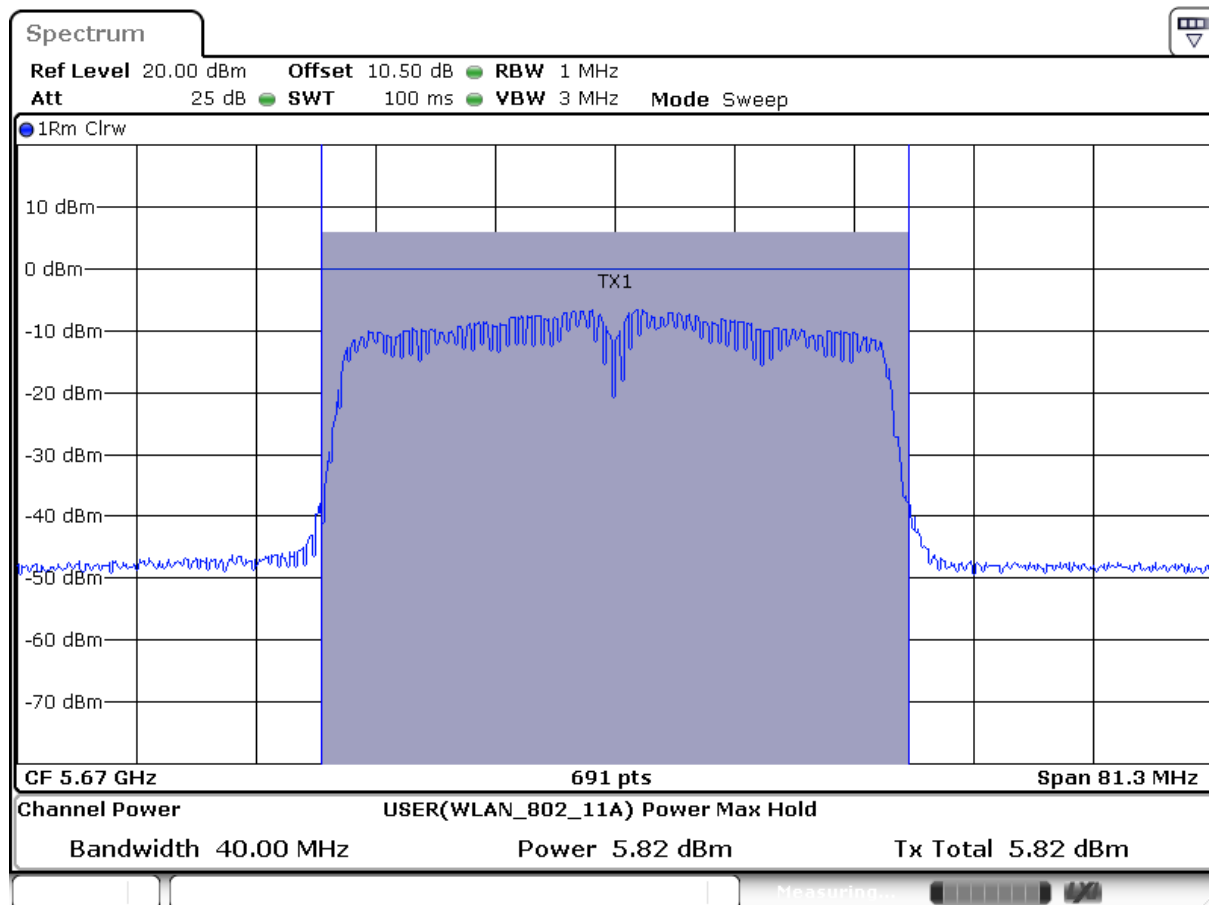
#34

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 134_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

7.4.6 調變技術: IEEE 802.11ac (80MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Fixd limit (dBm)	26dB BW (MHz)	Limit (dBm)	Output Power (dBm)	NCC Limit (dBm)	Chart
L	24	82.478	30.16	4.94	24	Page 61

註：1. 繪圖資料請參考第 61 頁。

2. 最大傳導輸出功率 (Maximum Output Power) 為經儀器校正補償過後的結果值。

3. Fixed Limit = 250mW=24dBm

4. Caculated Limit = 11dBm + 10 log (26dB BW)

5. If antenna gain $\leq$ 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm

6. If antenna gain > 6dBi, NCC Limit = (Minimum of Fixed Limit nd Caculated Limit) dBm – (highest antenna gain – 6 dBi)

7. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

7.5 結果判定

高、中、低頻段的最大傳導輸出功率皆低於限制值。

File: 21-08-MAW-005_5-6ac80

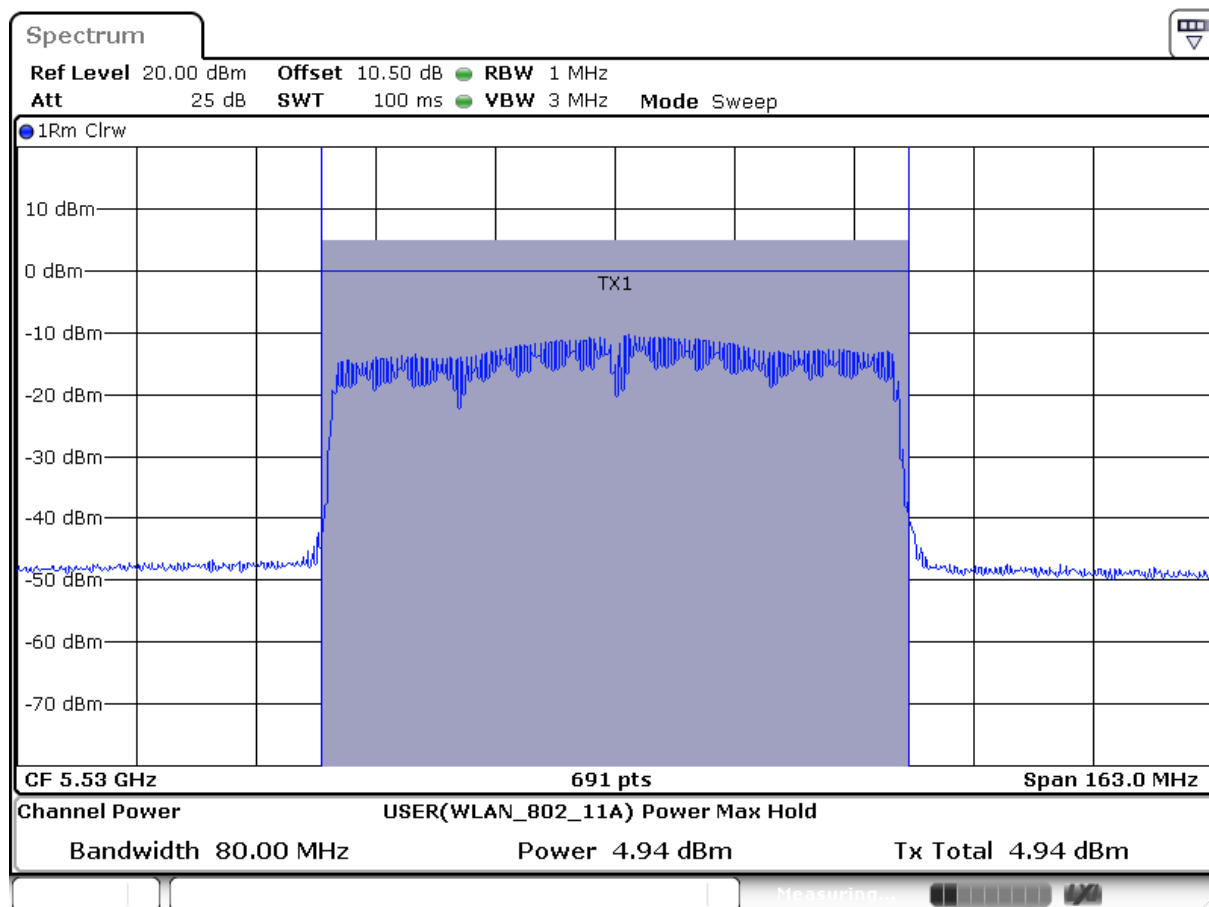
#9

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac80_Channel 106_Output power

RF Conducted

Sweep Time: 100ms Att.: 25dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

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器材技術規範5.7.3.2節之規定:

5.7.3.2 (2)最大功率頻譜密度在任何1 MHz 頻帶中應小於或等於11 dBm。

(1) 5.7.3.2 (3)使用超過6 dBi 方向增益之發射天線時，應依超過6 dBi 天線方向增益的dBi 總量，等量減少最大傳導輸出功率及最大功率頻譜密度。

8.2 量測功率密度之配置

如圖 1 所示。

8.3 量測功率密度之儀器

儀器名稱	廠 牌	型 號
Spectrum Analyzer	R&S	FSV40
Attenuator	WEINSCHEL	56-10

測試軟體: LZ-RF (Ver. ETC-3A2)

8.4 量測結果

測試工程師: 羅世勇

8.4.1 調變技術: IEEE 802.11a

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 3.4.58 dBi，NCC Limit 如下表所示：

Channel	Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	0.95	11.00	Page 64
M	0.44	11.00	Page 65
H	0.79	11.00	Page 66

註：1. 繪圖資料請參考第 64-66 頁。

2. 功率頻譜密度 (Power Spectral Density) 為經儀器校正補償過後的結果值。

3. If antenna gain $\leq$ 6dBi, NCC Limit =11 dBm

4. If antenna gain > 6dBi, NCC Limit =11 dBm – (highest antenna gain – 6 dBi)

5. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

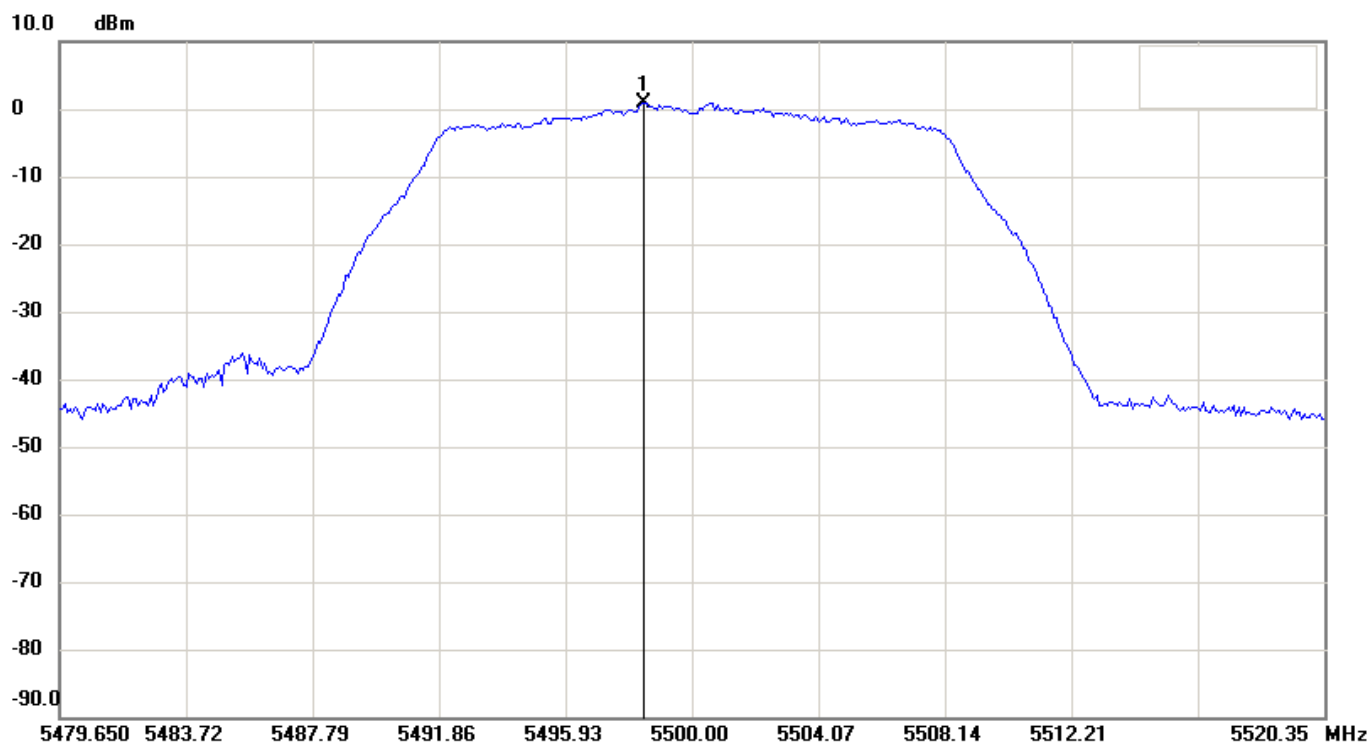
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#4

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 100_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5498.45340	0.95

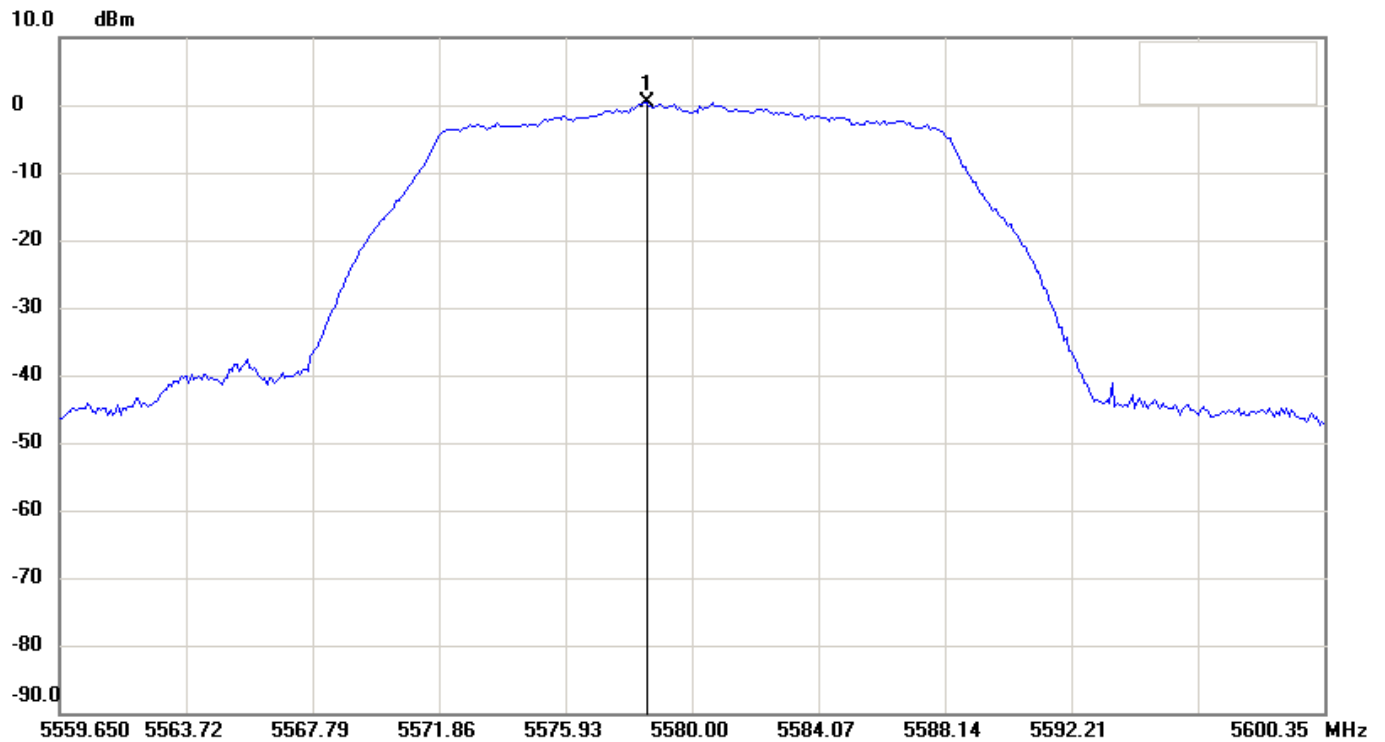
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#11

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 116_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5578.53480	0.44

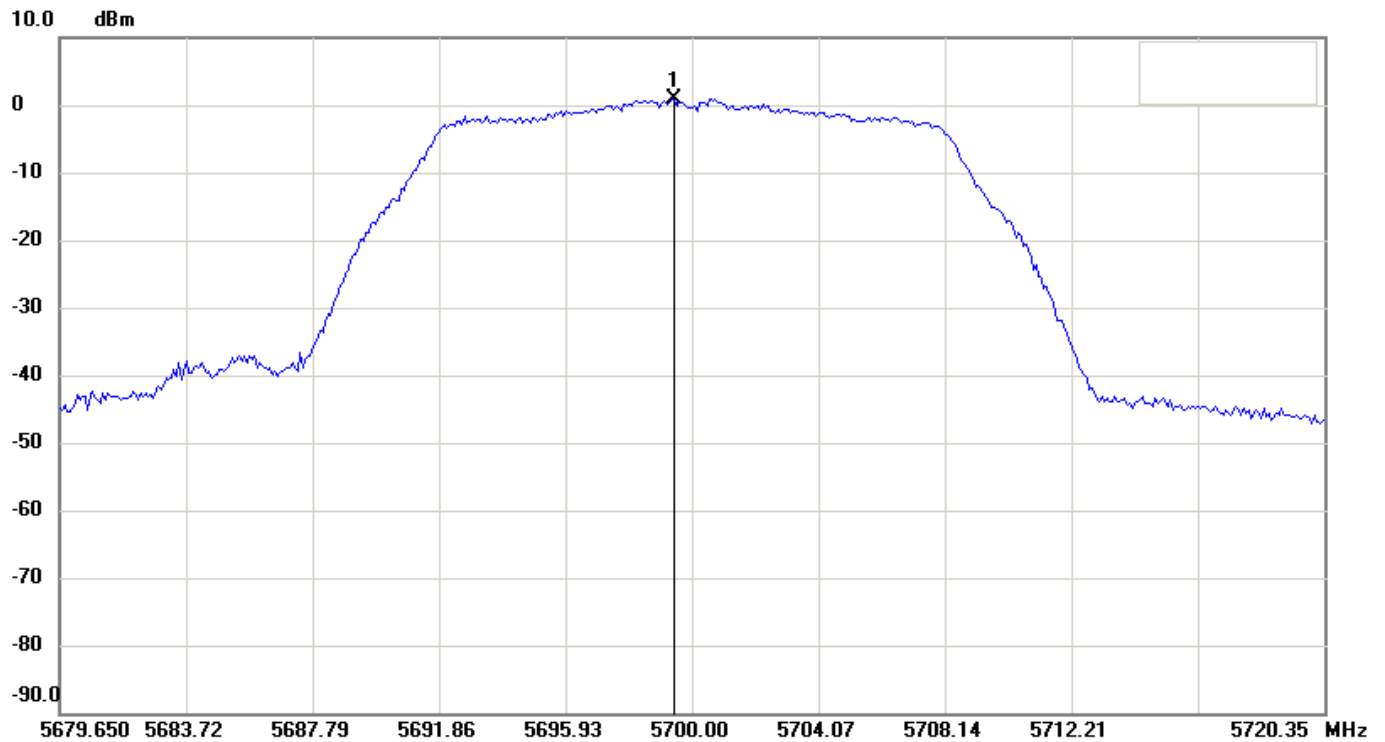
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#17

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 140_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5699.43020	0.79

8.4.2 調變技術：IEEE 802.11ac (20MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	0.12	11.0	Page 68
M	0.35	11.0	Page 98
H	0.74	11.0	Page 70

註：1. 繪圖資料請參考第 68-70 頁。

2. 功率頻譜密度 (Power Spectral Density) 為經儀器校正補償過後的結果值。

3. If antenna gain $\leq$ 6dBi, NCC Limit =11 dBm

4. If antenna gain > 6dBi, NCC Limit =11 dBm – (highest antenna gain – 6 dBi)

5. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6ac20

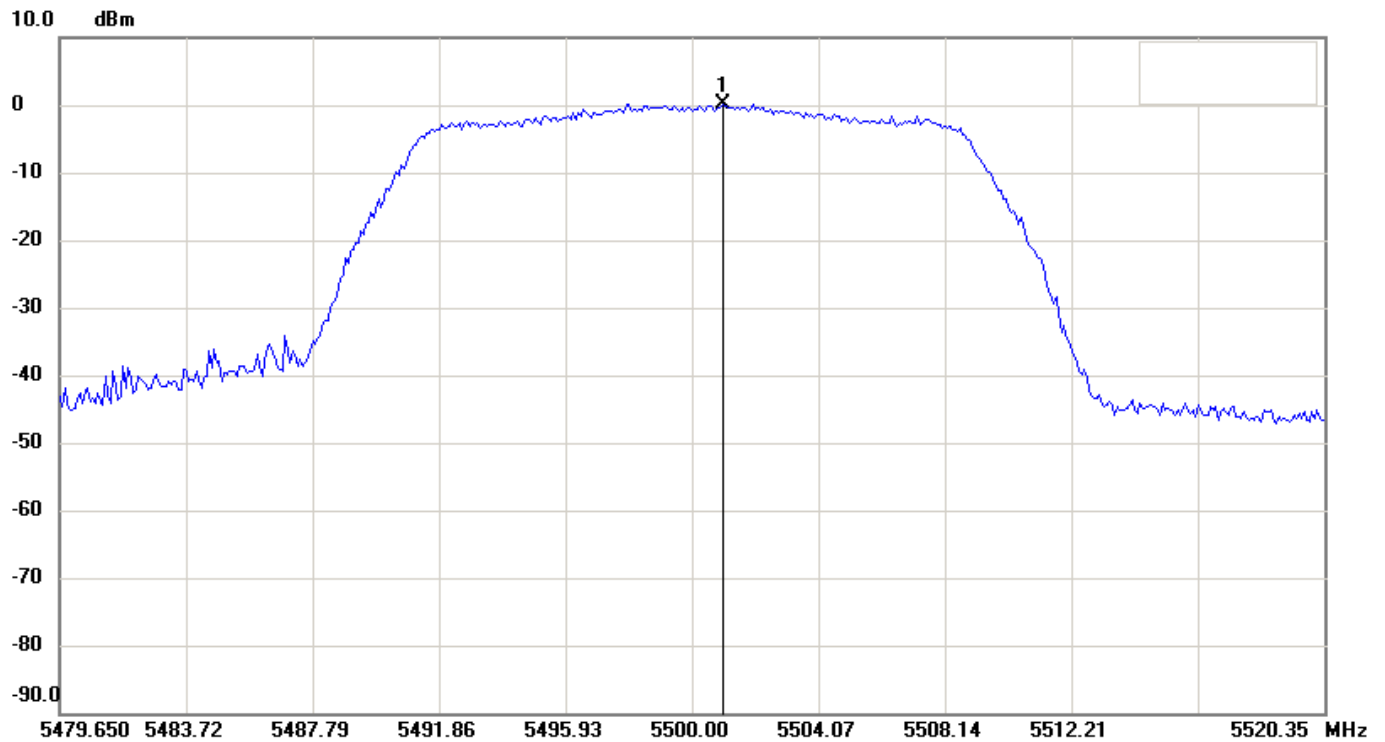
#4

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 100_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5500.97680	0.12

File: 21-08-MAW-005_5-6ac20

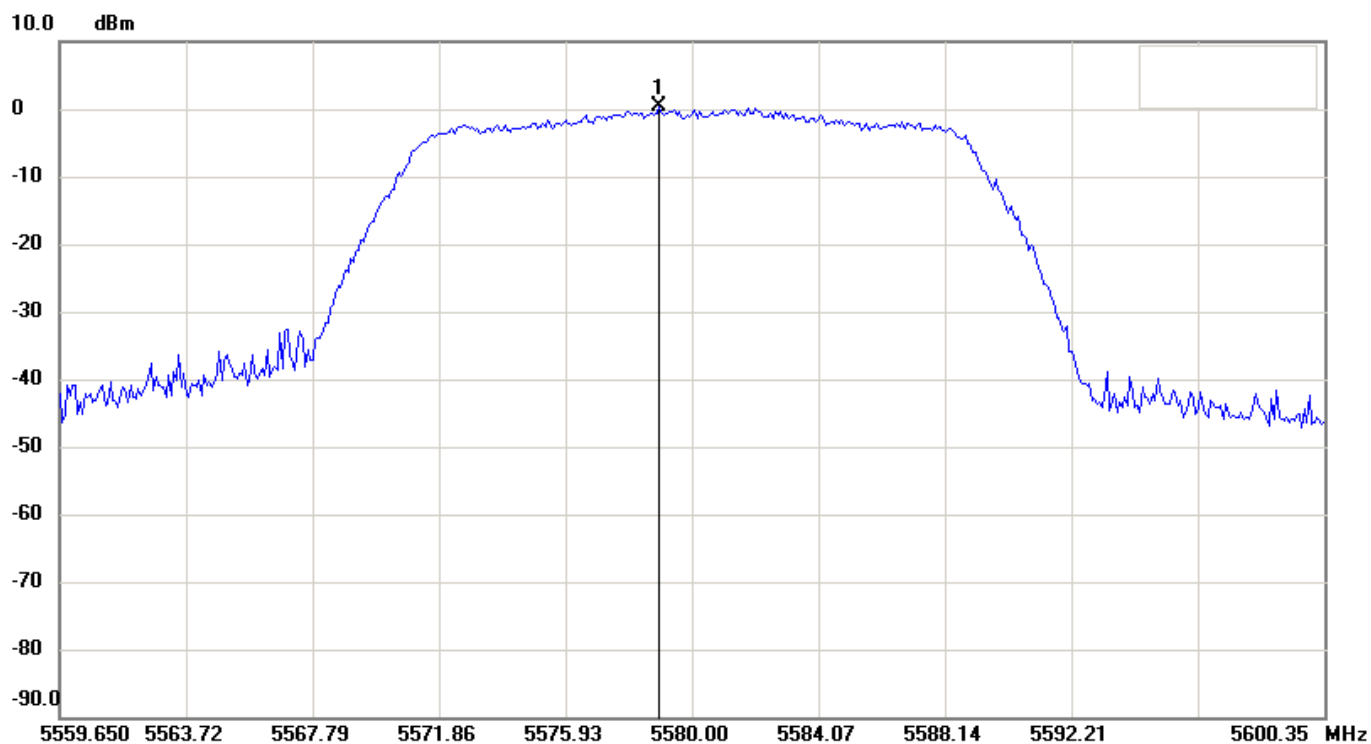
#11

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %

**Condition:**

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 116_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5578.94180	0.35

File: 21-08-MAW-005_5-6ac20

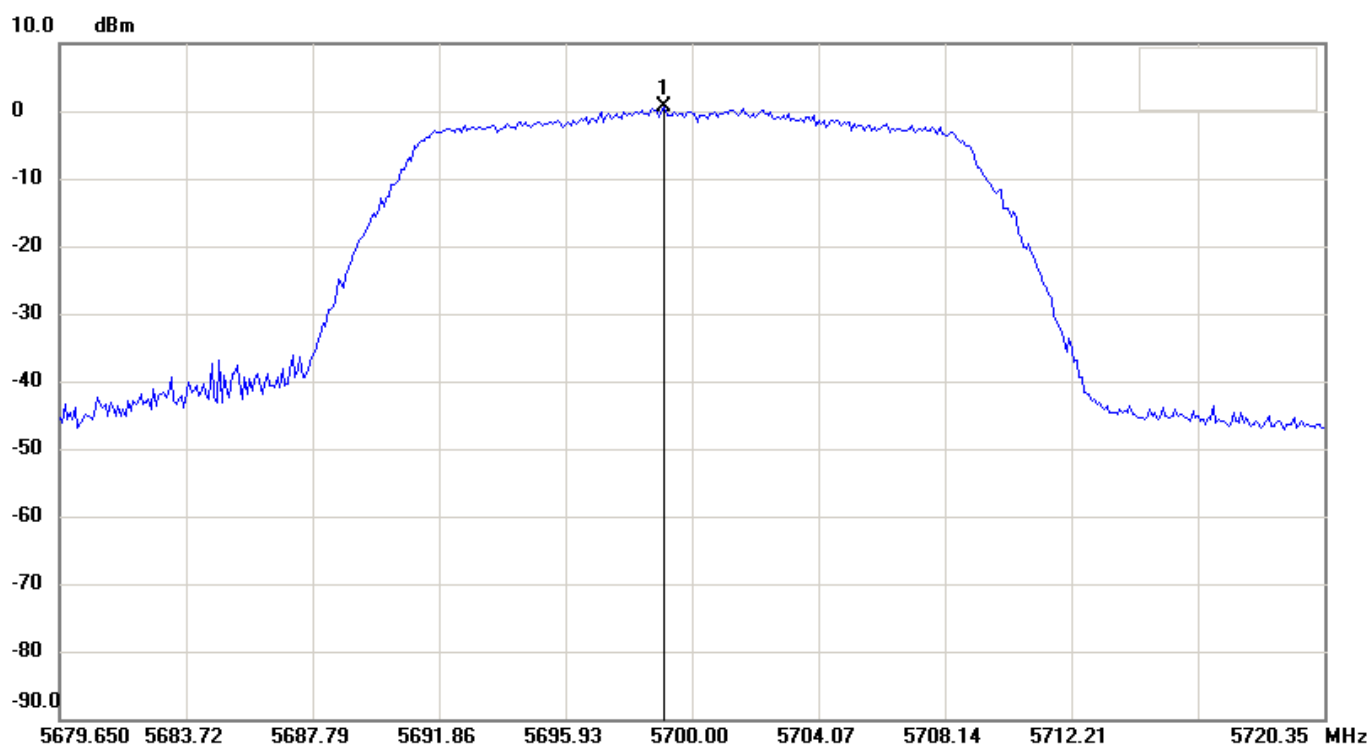
#17

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 140_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5699.10460	0.74

8.4.3 調變技術：IEEE 802.11ac (40MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-2.16	11.0	Page 72
M	-2.53	11.0	Page 73
H	-1.97	11.0	Page 74

註：1. 繪圖資料請參考第 72-74 頁。

2. 功率頻譜密度 (Power Spectral Density) 為經儀器校正補償過後的結果值。

3. If antenna gain $\leq$ 6dBi, NCC Limit =11 dBm

4. If antenna gain > 6dBi, NCC Limit =11 dBm – (highest antenna gain – 6 dBi)

5. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

File: 21-08-MAW-005_5-6ac40

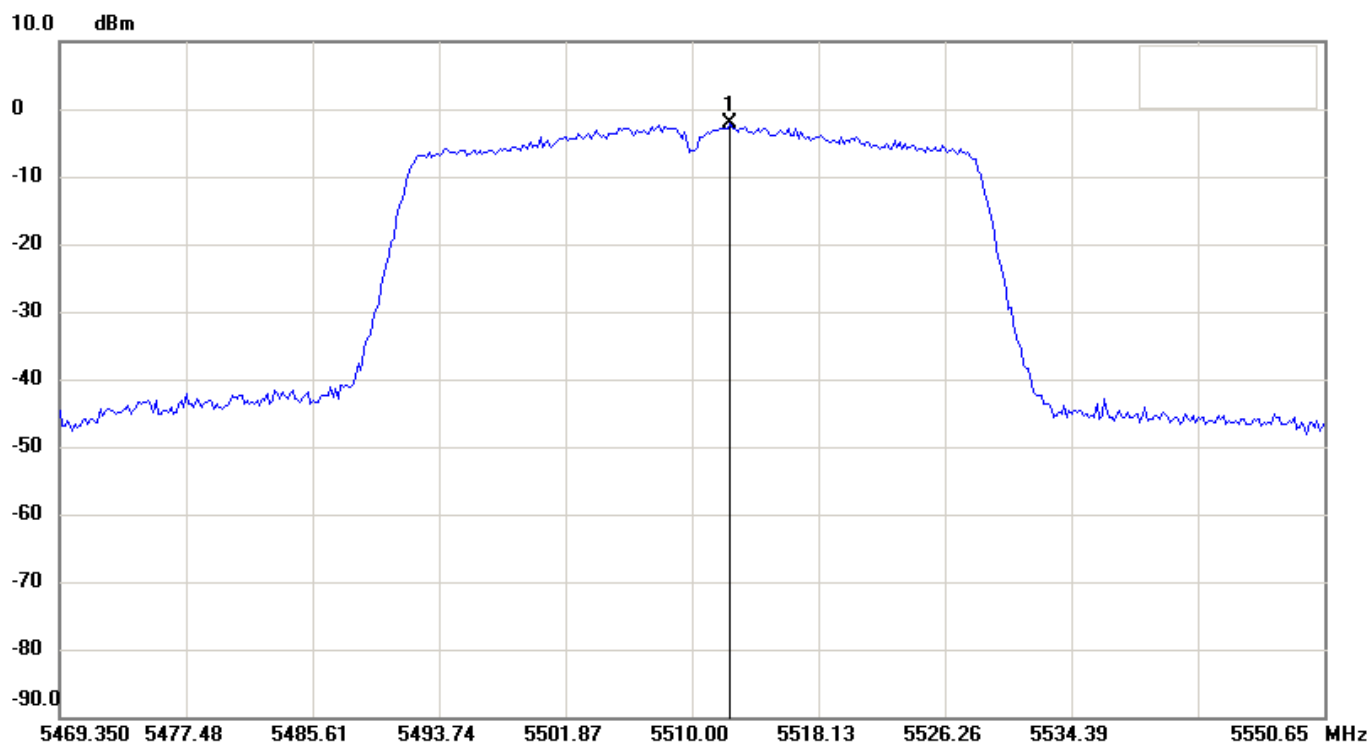
#24

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 102_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5512.43900	-2.16

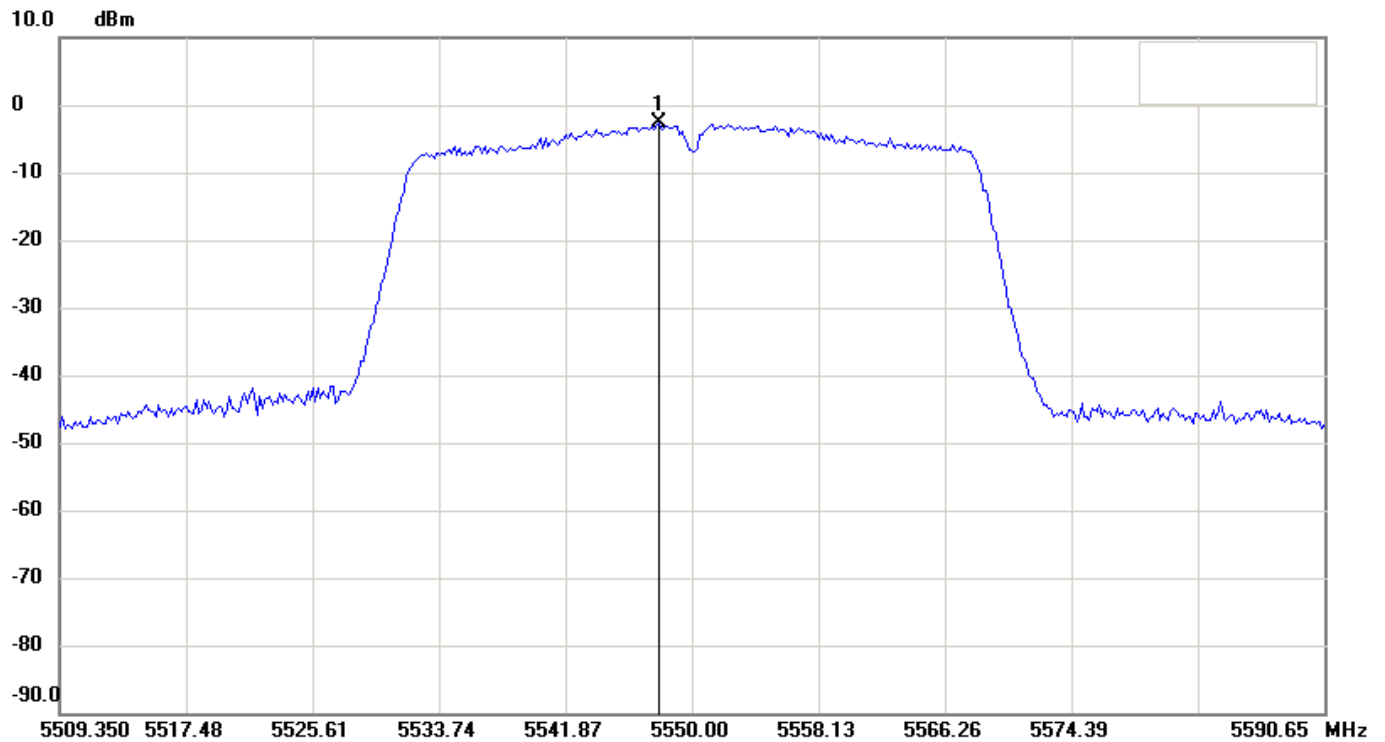
File: 21-08-MAW-005_5-6ac40
Site: RF-Cond01

#31

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN
Model: VN251ASGG
Test Mode: UNII
Note: NCC_LP0002_802.11ac40_Channel 110_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB
RBW: 1000 KHz VBW: 3000 KHz
Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5547.88620	-2.53

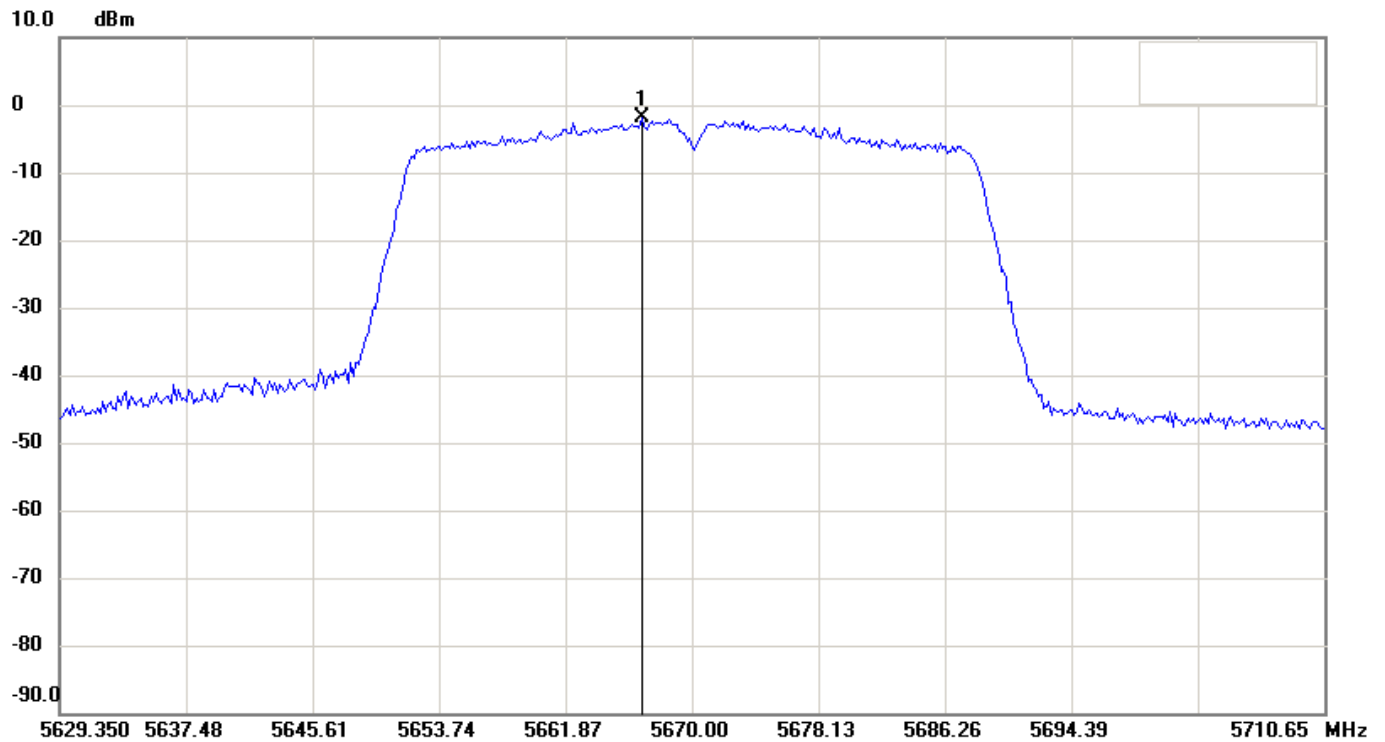
File: 21-08-MAW-005_5-6ac40
Site: RF-Cond01

#37

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN
Model: VN251ASGG
Test Mode: UNII
Note: NCC_LP0002_802.11ac40_Channel 134_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB
RBW: 1000 KHz VBW: 3000 KHz
Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5666.74800	-1.97

8.4.4 調變技術: IEEE 802.11ac (80MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

天線增益最大值為 4.58 dBi，NCC Limit 如下表所示：

Channel	Power Spectral Density (dBm)	NCC Limit (dBm)	Chart
L	-5.90	11.00	Page 76

註：1. 繪圖資料請參考第 76 頁。

2. 功率頻譜密度 (Power Spectral Density) 為經儀器校正補償過後的結果值。

3. If antenna gain $\leq$ 6dBi, NCC Limit =11 dBm

4. If antenna gain > 6dBi, NCC Limit =11 dBm – (highest antenna gain – 6 dBi)

5. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 18\text{GHz}$)

8.5 結果判定

高、中、低頻段的峰值功率頻譜密度皆低於限值，合乎標準規定。

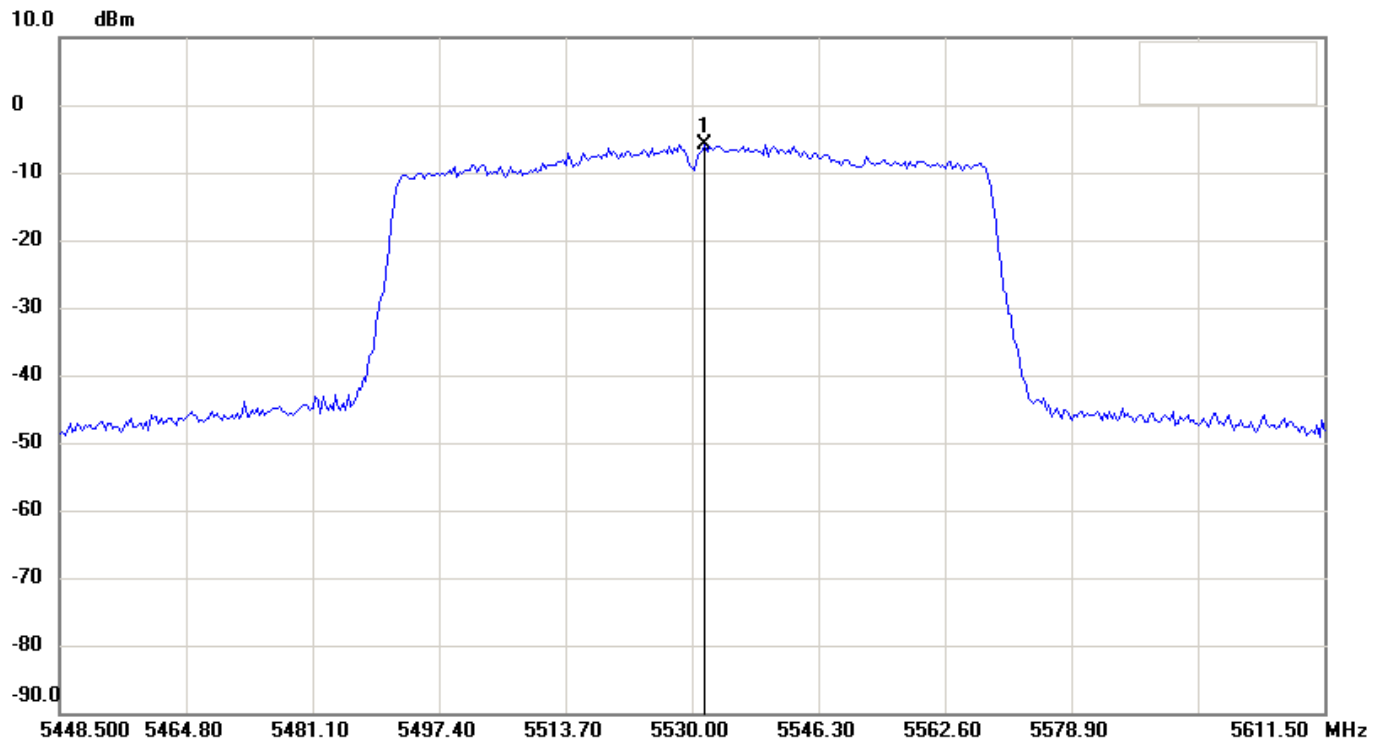
File: 21-08-MAW-005_5-6ac80
Site: RF-Cond01

#12

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition:

EUT: CV1 21 WIDE AVN
Model: VN251ASGG
Test Mode: UNII
Note: NCC_LP0002_802.11ac80_Channel 106_Power Density

RF Conducted

Sweep Time: 1ms Att.: 15dB
RBW: 1000 KHz VBW: 3000 KHz
Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5531.63000	-5.90

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器材技術規範5.7.4.1之規定，在 5.15 GHz~5.35 GHz 及 5.470 GHz~5.725 GHz 頻帶操作的發射器：帶外發射之有效等向輻射功率(EIRP) $\leq$ -27 dBm/MHz。

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.3之規定，測量不必要發射時，應使用之最低解析頻寬為 1 MHz。必要時，於頻帶邊緣附近可使用小於 1 MHz 之解析頻寬，並以補償方式計算其總值。

9.2 混附波發射限制之測試配置

如圖1 所示。

9.3 量測混附波發射限制之儀器

儀器名稱	廠 牌	型 號
Spectrum Analyzer	R&S	FSV40
Attenuator	WEINSCHEL	56-10
測試軟體: LZ-RF (Ver. ETC-3A2)		

9.4 混附波發射限制之量測結果 (傳導方式量測)

Single Conducted Limit:

Eirp Limit – Aantenna Directional Gain – 10 log[number of Tx output(s)]

測試工程師: 羅世勇

9.4.1 調變技術: IEEE 802.11a

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

註：1. 繪圖資料請參考第 78-83 頁。

2. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 40\text{GHz}$)

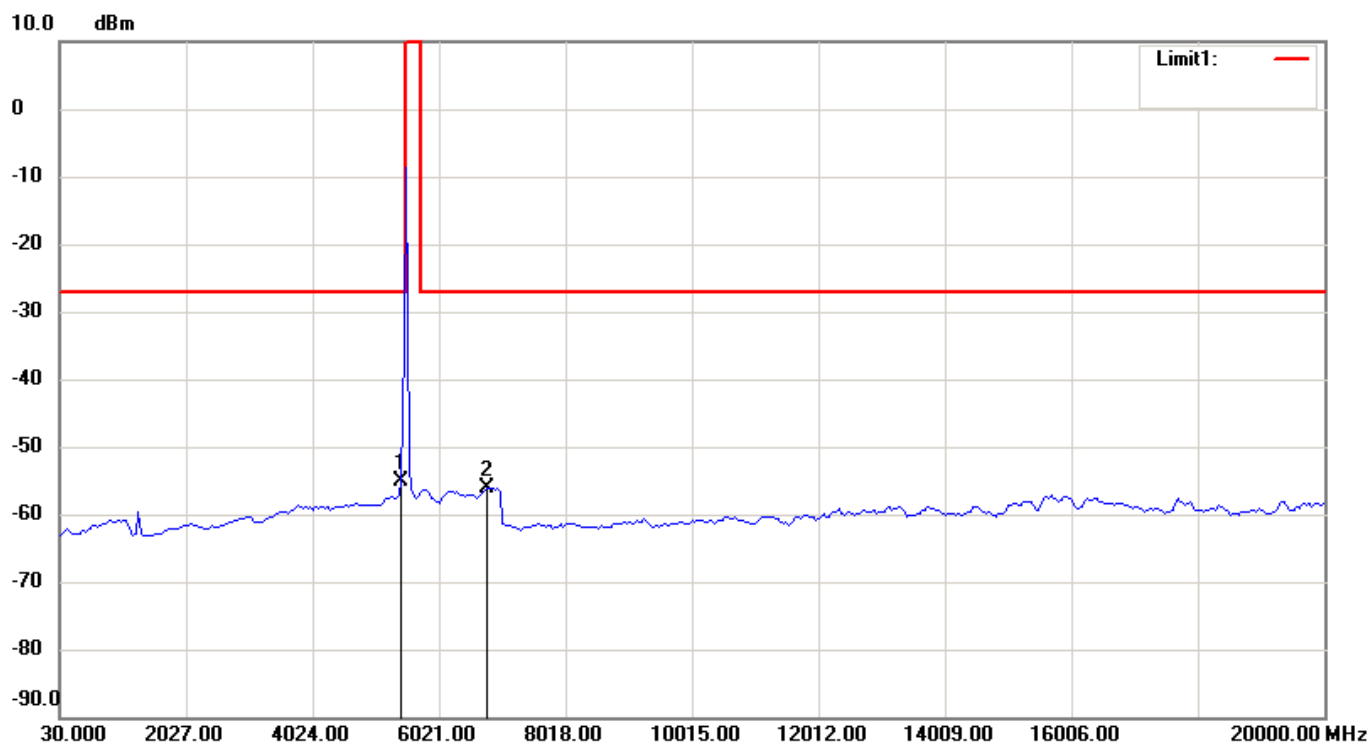
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#5

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 100_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-55.13
2	6779.86000	-56.13

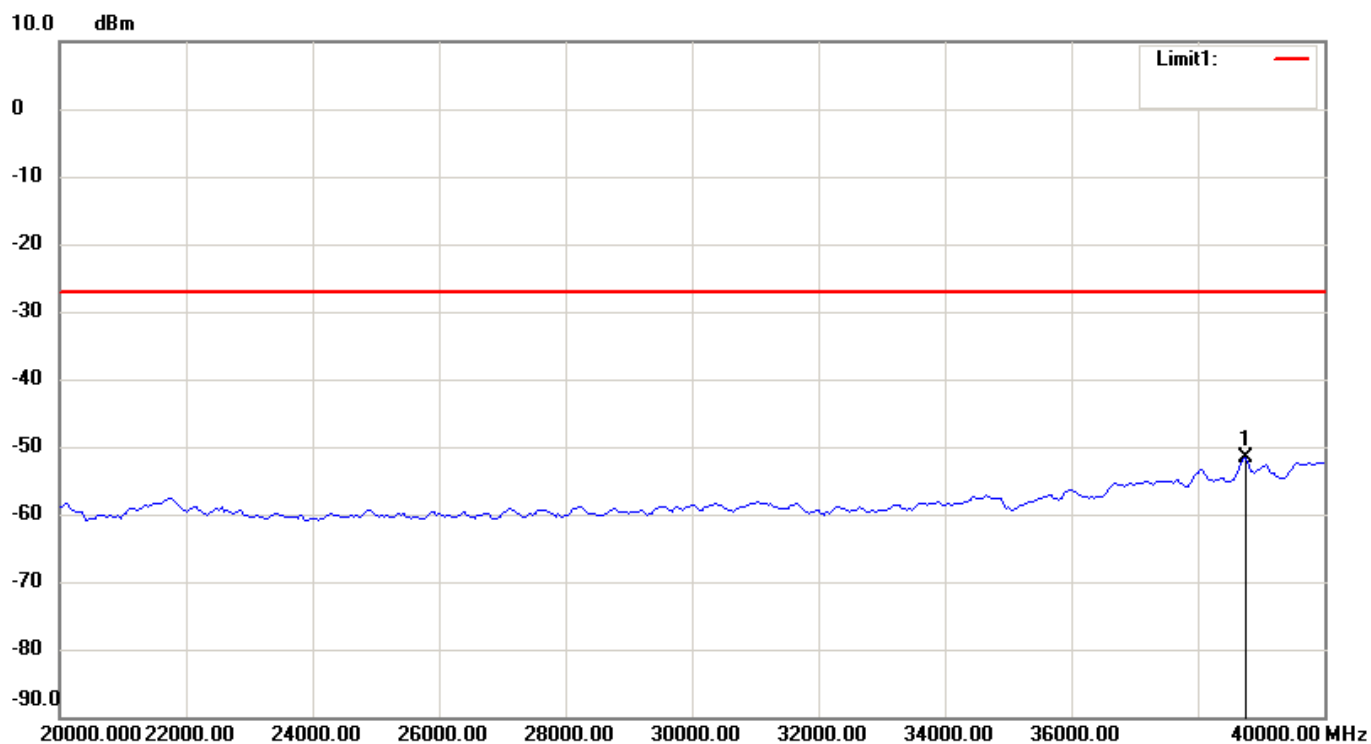
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#6

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 100_Spurious-2

RF Conducted

Sweep Time: 80ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.64

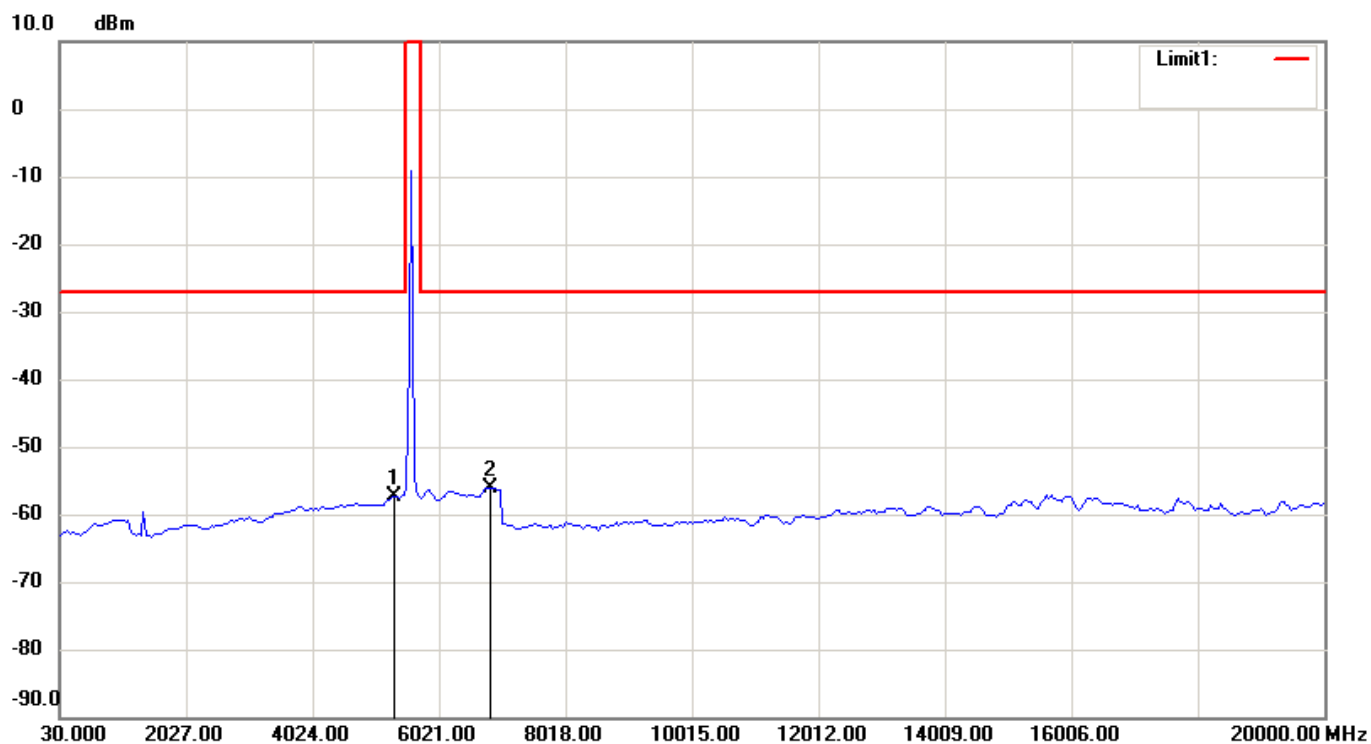
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#12

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 116_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5302.08000	-57.33
2	6819.80000	-56.04

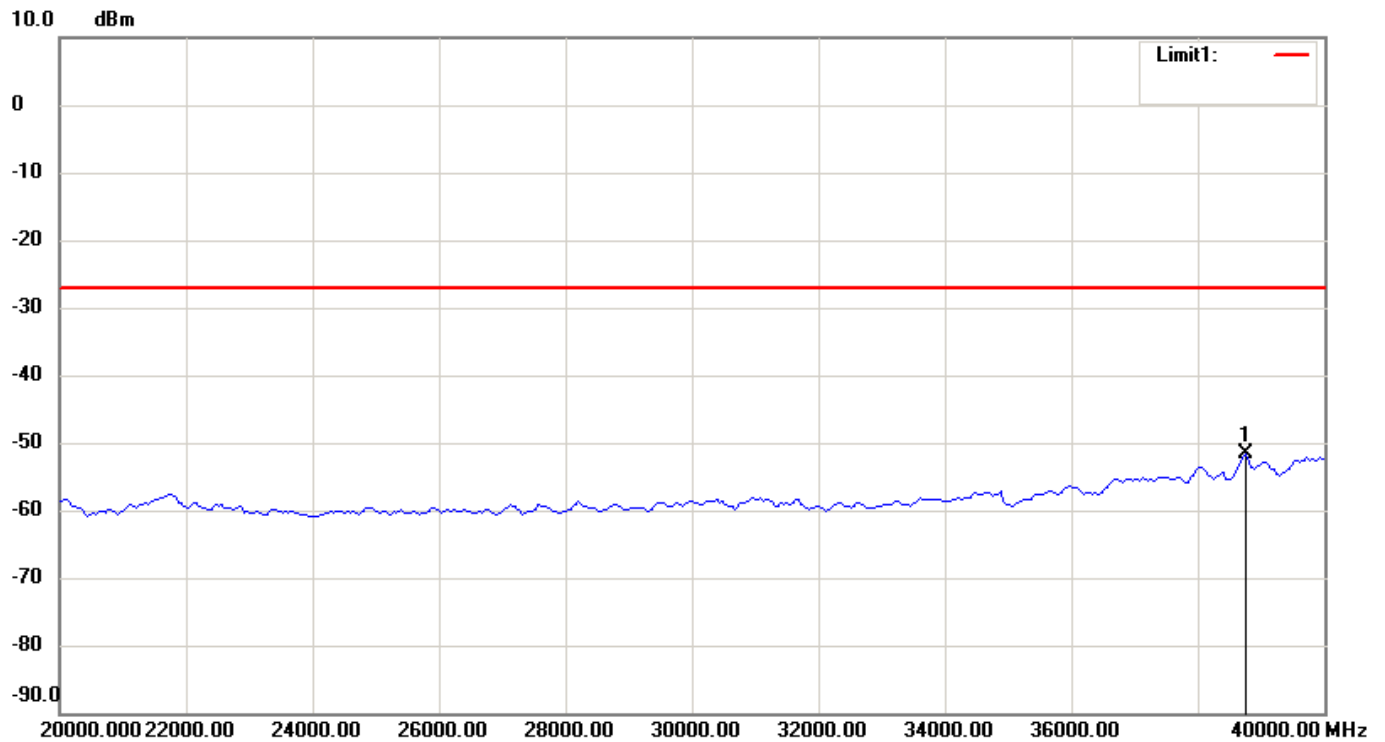
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#13

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 116_Spurious-2

RF Conducted

Sweep Time: 80ms Att.: 15dB

RBW: 1000 KHz

VBW: 1000 KHz

Operator:

Phillip

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.62

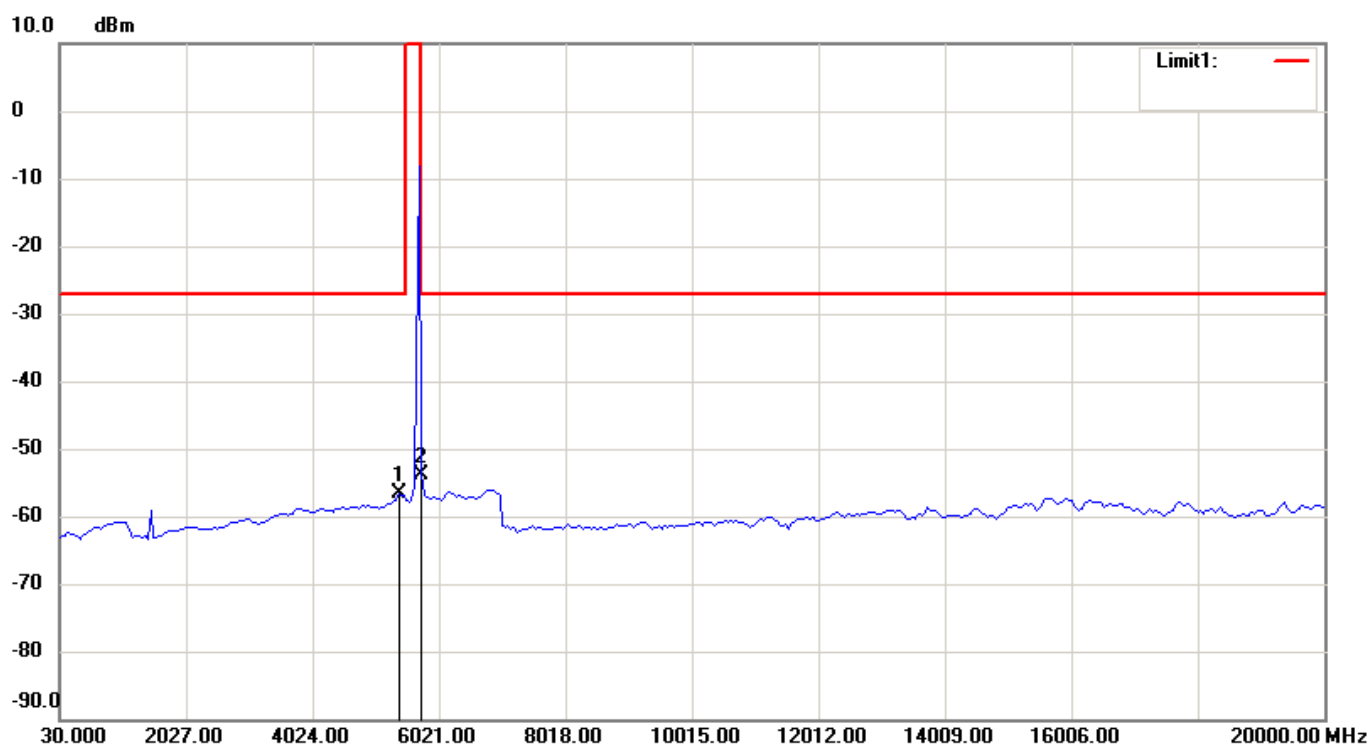
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#18

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 140_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5381.96000	-56.73
2	5741.42000	-53.79

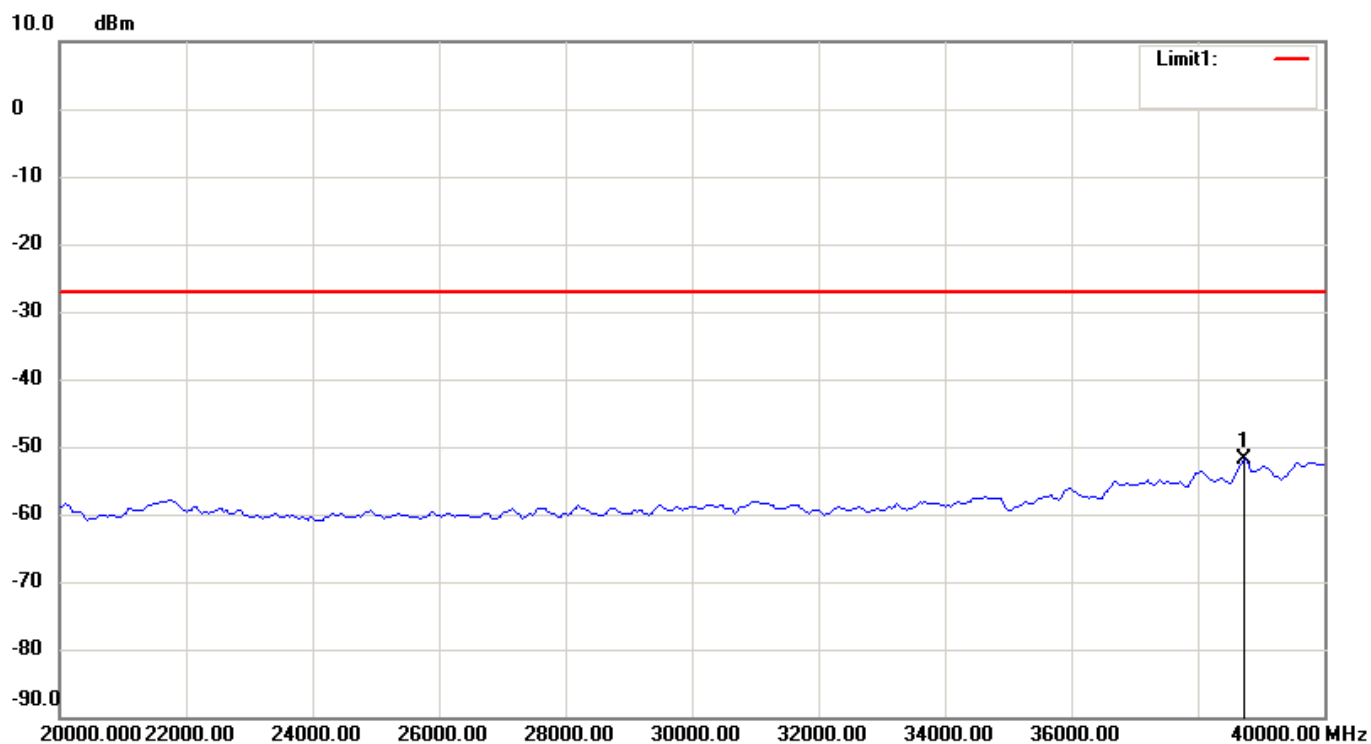
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#19

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a_Channel 140_Spurious-2

RF Conducted

Sweep Time: 80ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	38720.00000	-51.80

9.4.2 調變技術: IEEE 802.11ac (20MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

註: 1. 繪圖資料請參考第 85-90 頁。

2. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 40\text{GHz}$)

File: 21-08-MAW-005_5-6ac20

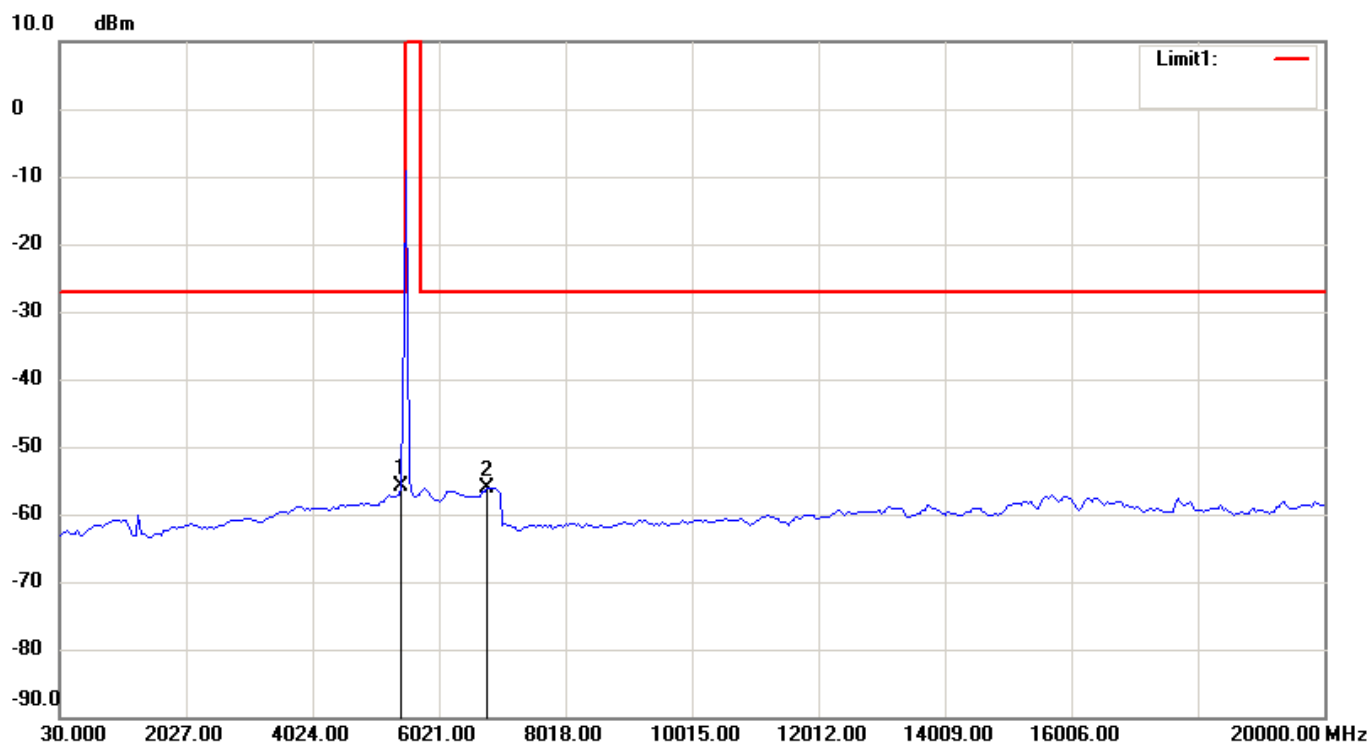
#5

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 100_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-55.92
2	6779.86000	-56.01

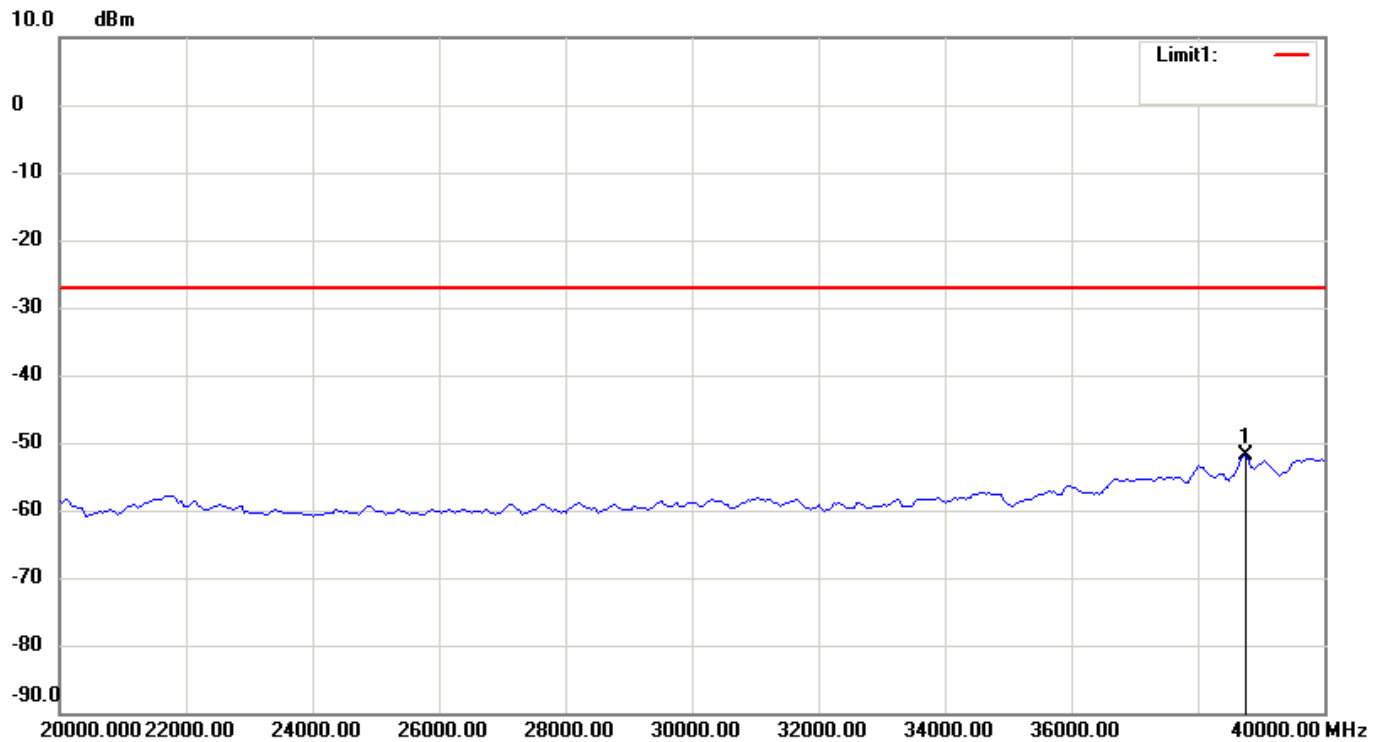
File: 21-08-MAW-005_5-6ac20
Site: RF-Cond01

#6

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 100_Spurious-2

RF Conducted

Sweep Time: 80ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.83

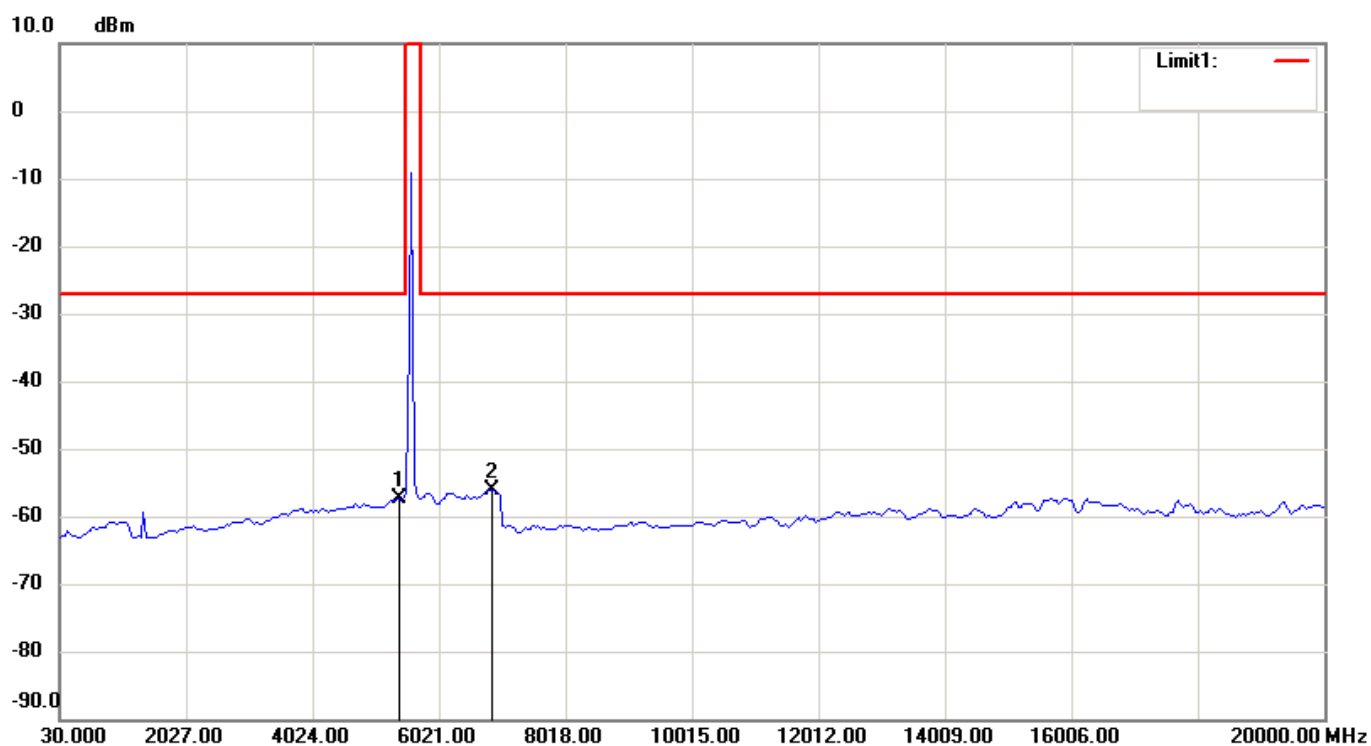
File: 21-08-MAW-005_5-6ac20
Site: RF-Cond01

#12

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 116_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5381.96000	-57.47
2	6859.74000	-56.00

File: 21-08-MAW-005_5-6ac20

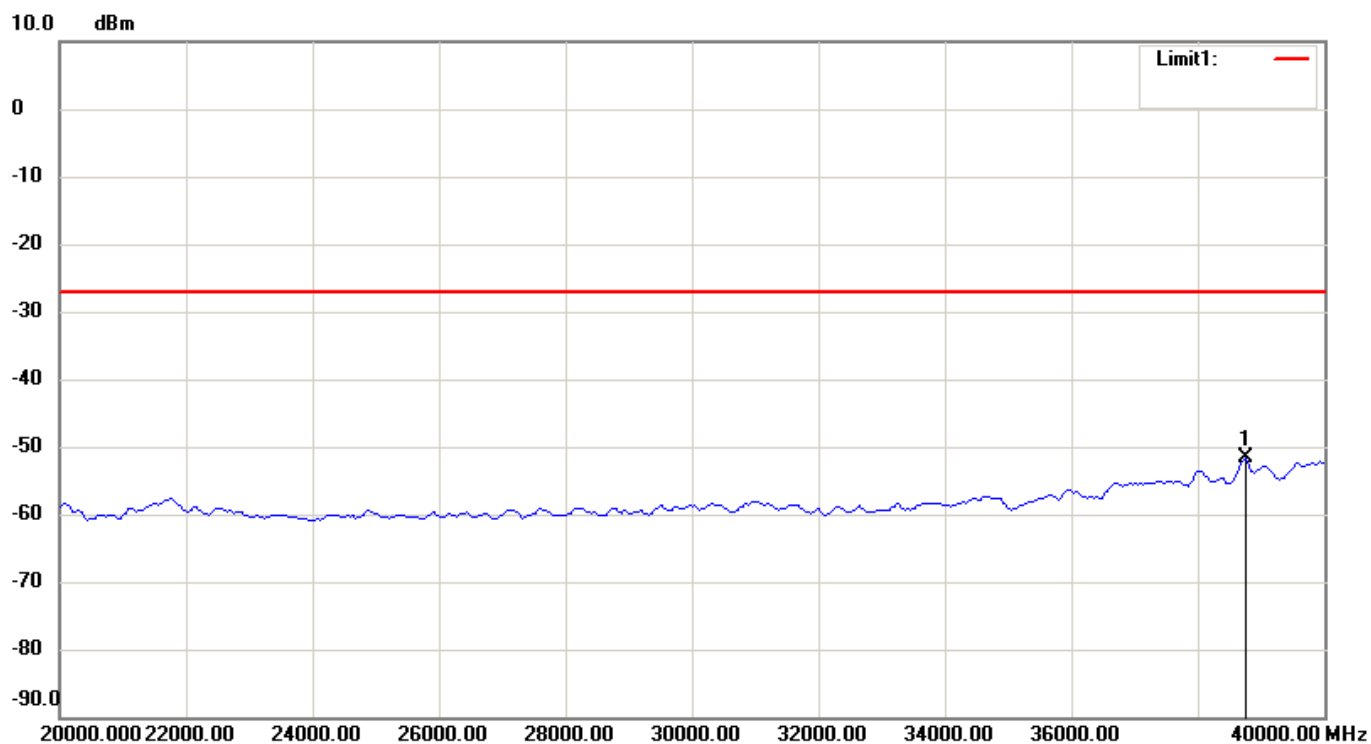
#13

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 80ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac20_Channel 116_Spurious-2

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.51

File: 21-08-MAW-005_5-6ac20

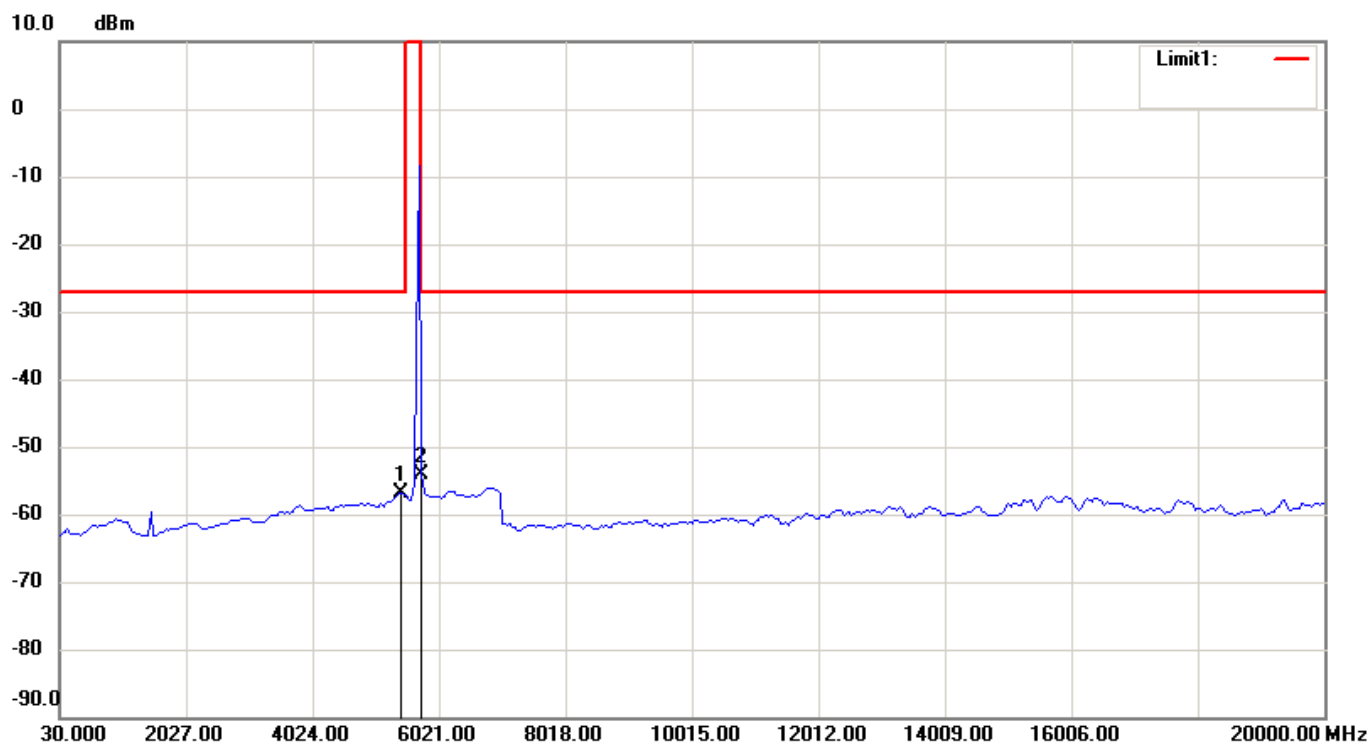
#18

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac20_Channel 140_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-56.85
2	5741.42000	-54.18

File: 21-08-MAW-005_5-6ac20

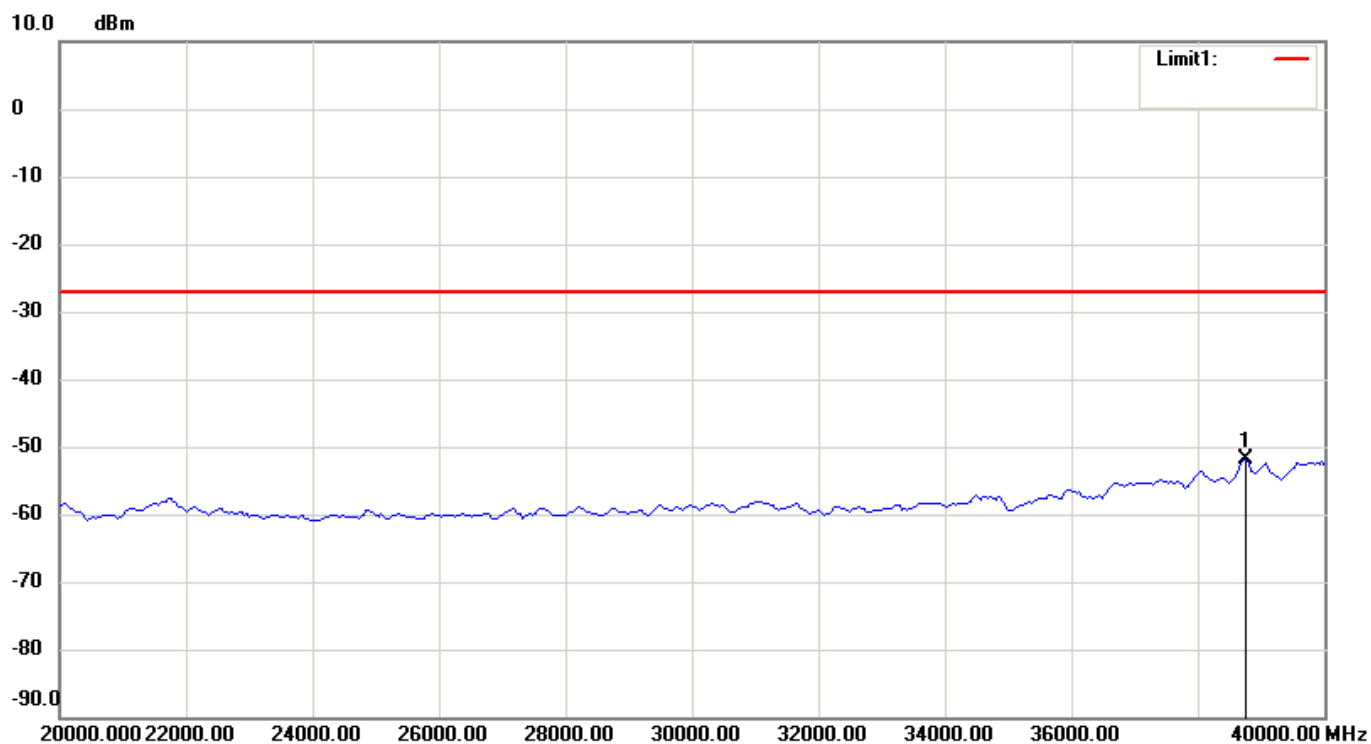
#19

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 80ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac20_Channel 140_Spurious-2

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.86

9.4.3 調變技術: IEEE 802.11ac (40MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

註: 1. 繪圖資料請參考第 92-97 頁。

2. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 40\text{GHz}$)

File: 21-08-MAW-005_5-6ac40

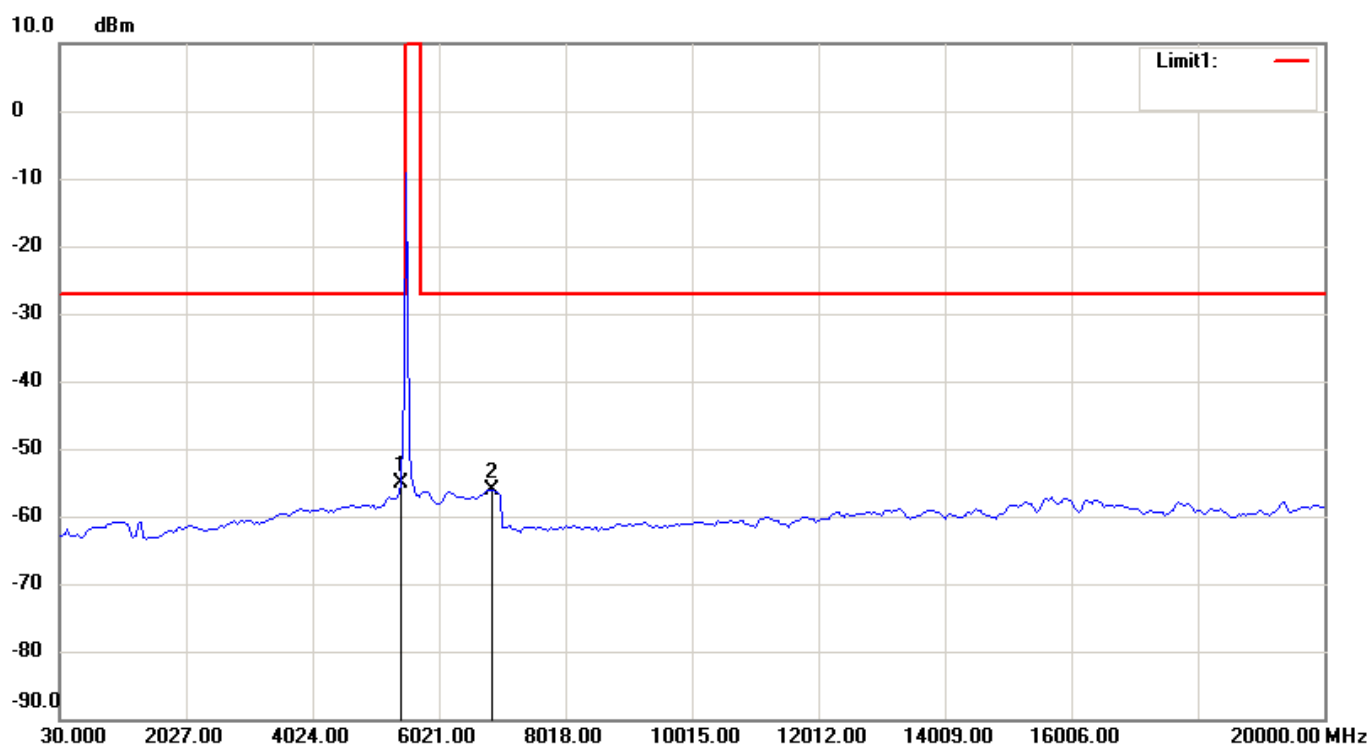
#25

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 79.9ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40_Channel 102_Spurious-1

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-55.22
2	6859.74000	-56.05

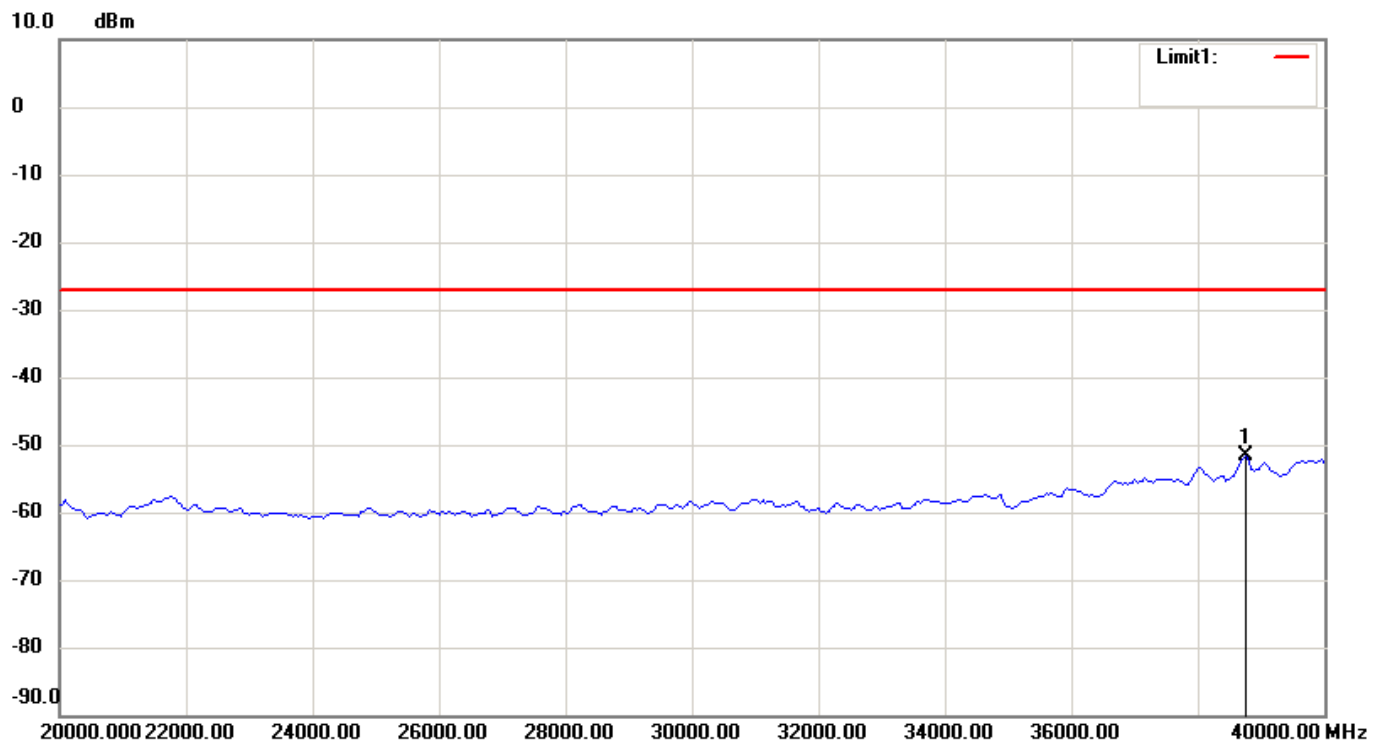
File: 21-08-MAW-005_5-6ac40
Site: RF-Cond01

#26

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 102_Spurious-2

RF Conducted

Sweep Time: 80ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.62

File: 21-08-MAW-005_5-6ac40

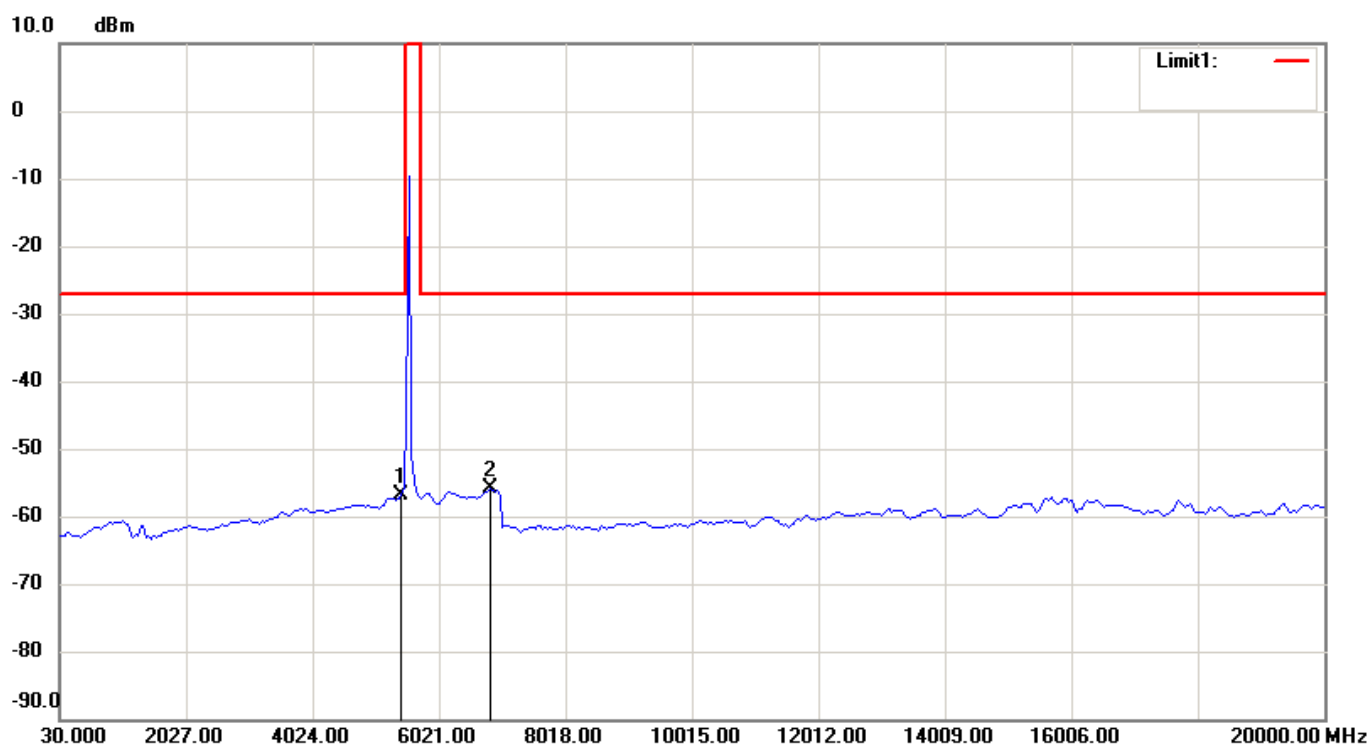
#32

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11ac40_Channel 110_Spurious-1

RF Conducted

Sweep Time: 79.9ms Att.: 15dB

RBW: 1000 KHz VBW: 1000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-56.82
2	6819.80000	-55.93

File: 21-08-MAW-005_5-6ac40

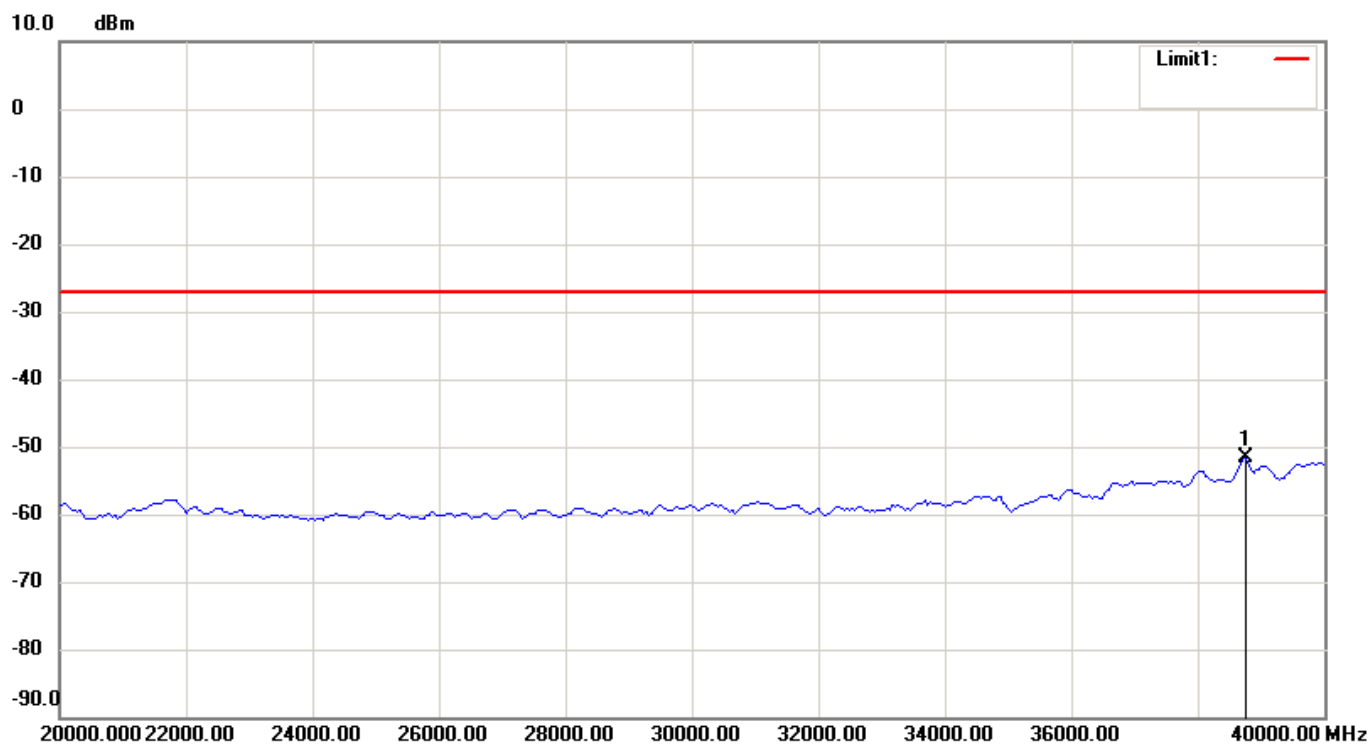
#33

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 80ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40_Channel 110_Spurious-2

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.69

File: 21-08-MAW-005_5-6ac40

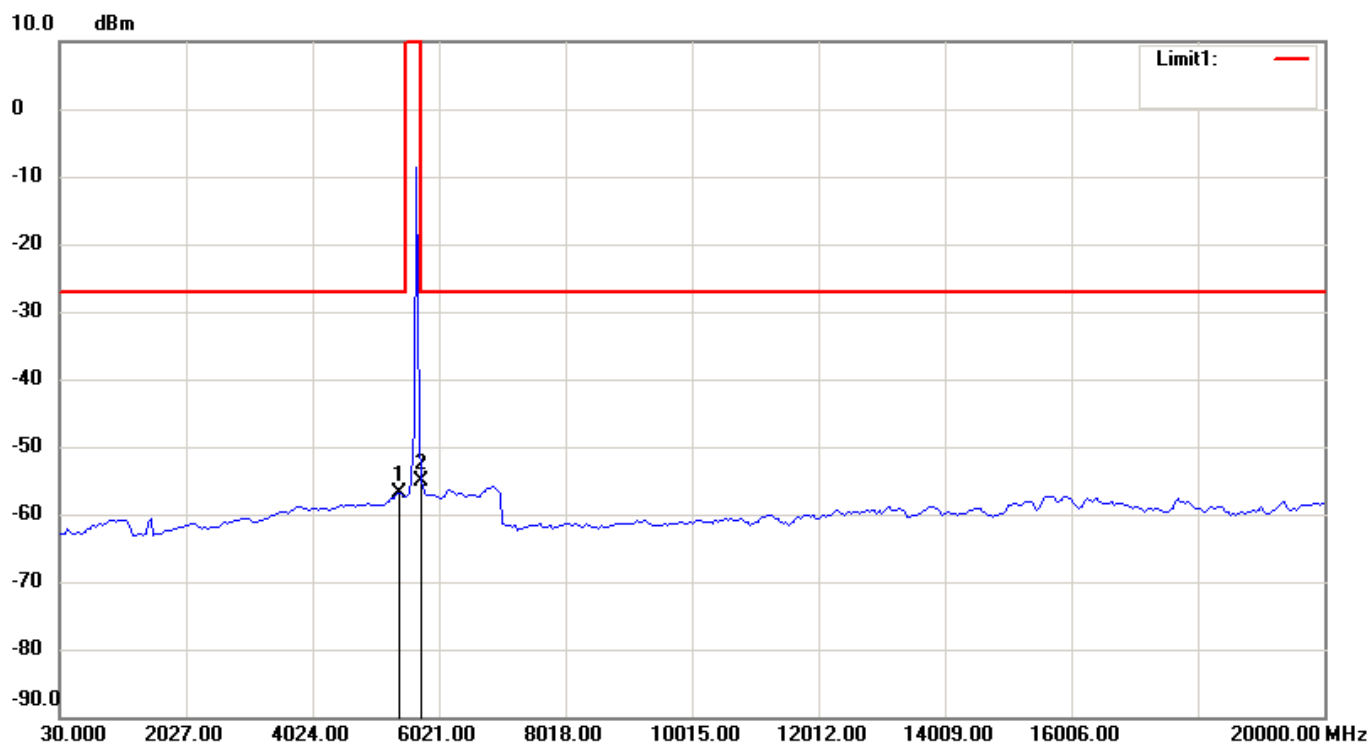
#38

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 79.9ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40_Channel 134_Spurious-1

No.	Frequency(MHz)	Level(dBm)
1	5381.96000	-56.86
2	5741.42000	-55.11

File: 21-08-MAW-005_5-6ac40

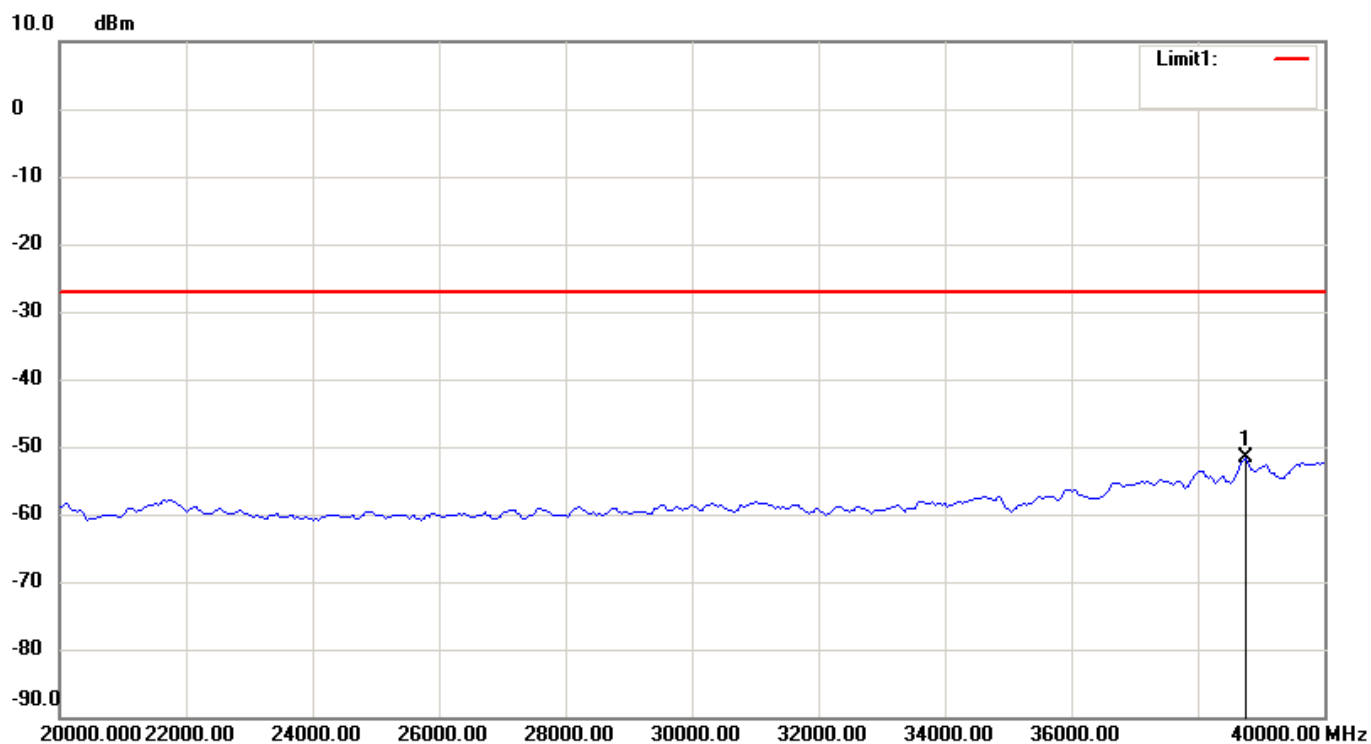
#39

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 80ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40_Channel 134_Spurious-2

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.62

9.4.4 調變技術: IEEE 802.11ac (80MHz)

測試日期: Sep. 13, 2021

環境溫度: 25°C

環境濕度: 50%

註: 1. 繪圖資料請參考第 99-100 頁。

2. 量測不準確度: $\pm 1.5\text{dB}$ ($1\text{GHz} \leq f \leq 40\text{GHz}$)

9.5 結果判定

混附波之發射皆低於限值，符合標準規定。

File: 21-08-MAW-005_5-6ac80

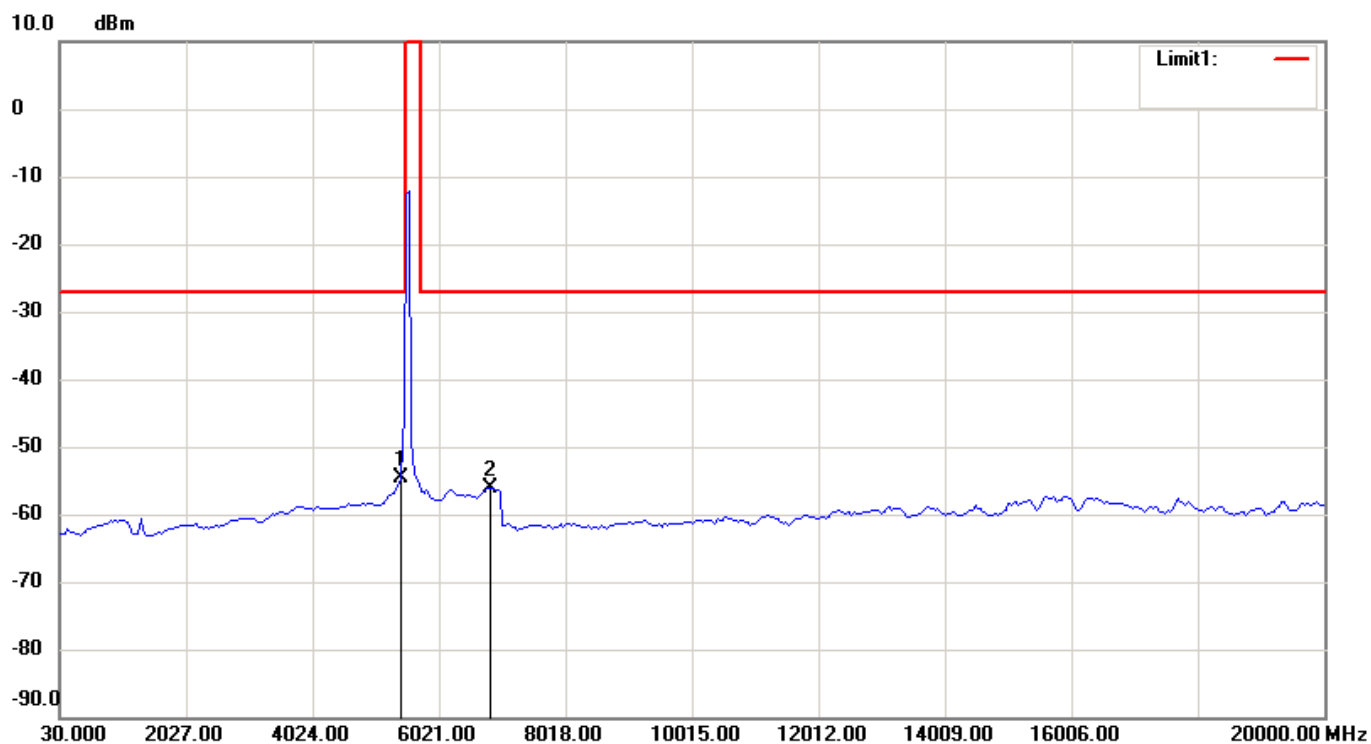
#13

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 79.9ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac80_Channel 106_Spurious-1

No.	Frequency(MHz)	Level(dBm)
1	5421.90000	-54.50
2	6819.80000	-56.03

File: 21-08-MAW-005_5-6ac80

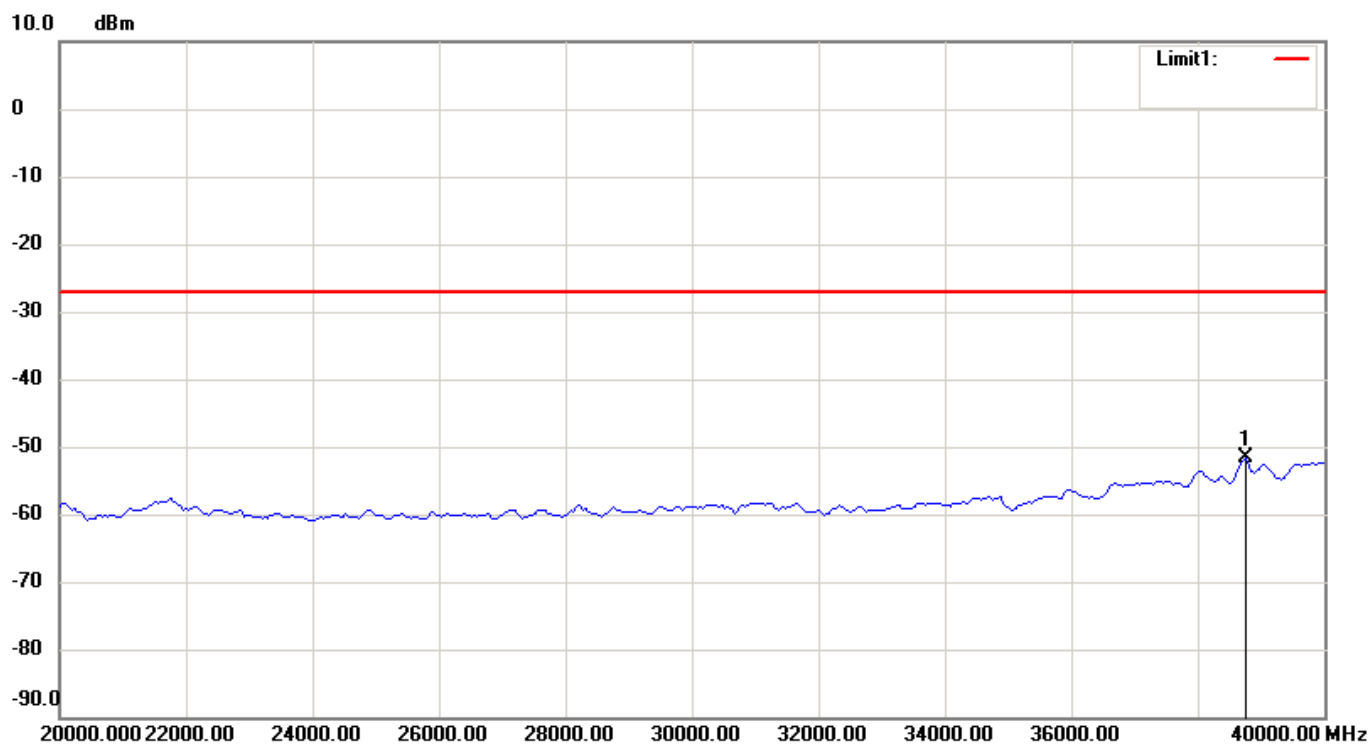
#14

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 80ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 1000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac80_Channel 106_Spurious-2

No.	Frequency(MHz)	Level(dBm)
1	38760.00000	-51.70

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器材技術規範5.7.4.5節之規定，在 1GHz 以下的不必要之發射，應符合第 3.6節之規定，任何使用交流市電為供應電之設備亦須符合第 3.3 節之電源線傳導限制值。

依據國家通訊傳播委員會低功率射頻器材技術規範5.7.4.6節之規定，不必要發射頻率屬 3.5節規定頻段者，應符合 3.6節之規定。

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、低各頻道產生最高最大傳導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	廠 牌	型 號
EMI Receiver	R&S	ESCI
Spectrum Analyzer	R&S	FSU46
Spectrum Analyzer	R&S	FSV40
Horn Antenna	EMCO	3117
Horn Antenna	EMCO	3116
PRE-Amplifier	Agilent	8449B
PRE-Amplifier	Agilent	8447D
BiLog Antenna	ETC	MCTD 2786
Trilog Broadband Antenna with 5dB Pad	SCHWARZBECK&EMCI	VULB 9168 & EMCI-N-6-05
PRE-Amplifier	Agilent	83051A

測試軟體: LZ-RF (Ver. ETC-3A2)

(2)儀器設定

Frequency Bnd (MHz)	Instrument	Function	Resolution Bndwidth	Video Bndwidth
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

$$\text{結果值} = \text{讀值} + \text{校正因子}$$

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

測試工程師: 羅世勇

測試日期: Oct. 01, 2021

環境溫度: 23°C

環境濕度: 60%

10.5.1 諧波發射量測值

10.5.1.1 調變技術: IEEE 802.11a

a. Channel Low

基本波頻率 : 5500 MHz

輻射 頻率 (MHz)	天線 極性 H/V	機器讀值 (dBuV/m)@3m		校正 因子 (dB)	結果值 (dBuV/m)@3m		限制值 (dBuV/m)@3m		餘裕值 (worse) (dB)
		Peak	AVG		Peak	AVG	Peak	AVG	
11000.0000	H	---	---	6.65	---	---	74.0	54.0	---
11000.0000	V	---	---	6.65	---	---	74.0	54.0	---
16500.0000	H	---	---	12.39	---	---	74.0	54.0	---
16500.0000	V	---	---	12.39	---	---	74.0	54.0	---
22000.0000	H	---	---	17.93	---	---	74.0	54.0	---
22000.0000	V	---	---	17.93	---	---	74.0	54.0	---
27500.0000	H	---	---	15.38	---	---	74.0	54.0	---
27500.0000	V	---	---	15.38	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

基本波頻率 : 5580 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)
11160.0000	H	---	---	6.82	---	---	74.0	54.0	---
11160.0000	V	---	---	6.82	---	---	74.0	54.0	---
16740.0000	H	---	---	12.91	---	---	74.0	54.0	---
16740.0000	V	---	---	12.91	---	---	74.0	54.0	---
22320.0000	H	---	---	18.12	---	---	74.0	54.0	---
22320.0000	V	---	---	18.12	---	---	74.0	54.0	---
27900.0000	H	---	---	15.95	---	---	74.0	54.0	---
27900.0000	V	---	---	15.95	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

c. Channel High

基本波頻率：5700 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)
11400.0000	H	---	---	7.07	---	---	74.0	54.0	---
11400.0000	V	---	---	7.07	---	---	74.0	54.0	---
17100.0000	H	---	---	13.23	---	---	74.0	54.0	---
17100.0000	V	---	---	13.23	---	---	74.0	54.0	---
22800.0000	H	---	---	18.34	---	---	74.0	54.0	---
22800.0000	V	---	---	18.34	---	---	74.0	54.0	---
28500.0000	H	---	---	15.57	---	---	74.0	54.0	---
28500.0000	V	---	---	15.57	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.1.2 調變技術: IEEE 802.11ac (20MHz)

a. Channel Low

基本波頻率 : 5500 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)
11000.0000	H	---	---	6.65	---	---	74.0	54.0	---
11000.0000	V	---	---	6.65	---	---	74.0	54.0	---
16500.0000	H	---	---	12.39	---	---	74.0	54.0	---
16500.0000	V	---	---	12.39	---	---	74.0	54.0	---
22000.0000	H	---	---	17.93	---	---	74.0	54.0	---
22000.0000	V	---	---	17.93	---	---	74.0	54.0	---
27500.0000	H	---	---	15.38	---	---	74.0	54.0	---
27500.0000	V	---	---	15.38	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

基本波頻率 : 5580 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)
11160.0000	H	---	---	6.82	---	---	74.0	54.0	---
11160.0000	V	---	---	6.82	---	---	74.0	54.0	---
16740.0000	H	---	---	12.91	---	---	74.0	54.0	---
16740.0000	V	---	---	12.91	---	---	74.0	54.0	---
22320.0000	H	---	---	18.12	---	---	74.0	54.0	---
22320.0000	V	---	---	18.12	---	---	74.0	54.0	---
27900.0000	H	---	---	15.95	---	---	74.0	54.0	---
27900.0000	V	---	---	15.95	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

c. Channel High

基本波頻率：5700 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)
11400.0000	H	---	---	7.07	---	---	74.0	54.0	---
11400.0000	V	---	---	7.07	---	---	74.0	54.0	---
17100.0000	H	---	---	13.23	---	---	74.0	54.0	---
17100.0000	V	---	---	13.23	---	---	74.0	54.0	---
22800.0000	H	---	---	18.34	---	---	74.0	54.0	---
22800.0000	V	---	---	18.34	---	---	74.0	54.0	---
28500.0000	H	---	---	15.57	---	---	74.0	54.0	---
28500.0000	V	---	---	15.57	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.1.3 調變技術: IEEE 802.11ac (40MHz)

a. Channel Low

基本波頻率 : 5510 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)
11020.0000	H	---	---	6.68	---	---	74.0	54.0	---
11020.0000	V	---	---	6.68	---	---	74.0	54.0	---
16530.0000	H	---	---	12.45	---	---	74.0	54.0	---
16530.0000	V	---	---	12.45	---	---	74.0	54.0	---
22040.0000	H	---	---	17.96	---	---	74.0	54.0	---
22040.0000	V	---	---	17.96	---	---	74.0	54.0	---
27550.0000	H	---	---	15.45	---	---	74.0	54.0	---
27550.0000	V	---	---	15.45	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

基本波頻率：5550 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)
11100.0000	H	---	---	6.75	---	---	74.0	54.0	---
11100.0000	V	---	---	6.75	---	---	74.0	54.0	---
16650.0000	H	---	---	12.72	---	---	74.0	54.0	---
16650.0000	V	---	---	12.72	---	---	74.0	54.0	---
22200.0000	H	---	---	18.05	---	---	74.0	54.0	---
22200.0000	V	---	---	18.05	---	---	74.0	54.0	---
27750.0000	H	---	---	15.73	---	---	74.0	54.0	---
27750.0000	V	---	---	15.73	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

c. Channel High

基本波頻率：5670 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)
11340.0000	H	---	---	7.00	---	---	74.0	54.0	---
11340.0000	V	---	---	7.00	---	---	74.0	54.0	---
17010.0000	H	---	---	13.46	---	---	74.0	54.0	---
17010.0000	V	---	---	13.46	---	---	74.0	54.0	---
22680.0000	H	---	---	18.31	---	---	74.0	54.0	---
22680.0000	V	---	---	18.31	---	---	74.0	54.0	---
28350.0000	H	---	---	15.72	---	---	74.0	54.0	---
28350.0000	V	---	---	15.72	---	---	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。

3. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.1.4 IEEE 802.11ac (80MHz)

基本波頻率：5530 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)
11060.0000	H	---	---	6.72	---	---	74.0	54.0	---
11060.0000	V	---	---	6.72	---	---	74.0	54.0	---
16590.0000	H	---	---	12.58	---	---	74.0	54.0	---
16590.0000	V	---	---	12.58	---	---	74.0	54.0	---
22120.0000	H	---	---	18.00	---	---	74.0	54.0	---
22120.0000	V	---	---	18.00	---	---	74.0	54.0	---
27650.0000	H	---	---	15.59	---	---	74.0	54.0	---
27650.0000	V	---	---	15.59	---	---	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。

3. 量測不準確度：

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.2 諧波及其它不必要之訊號測試圖

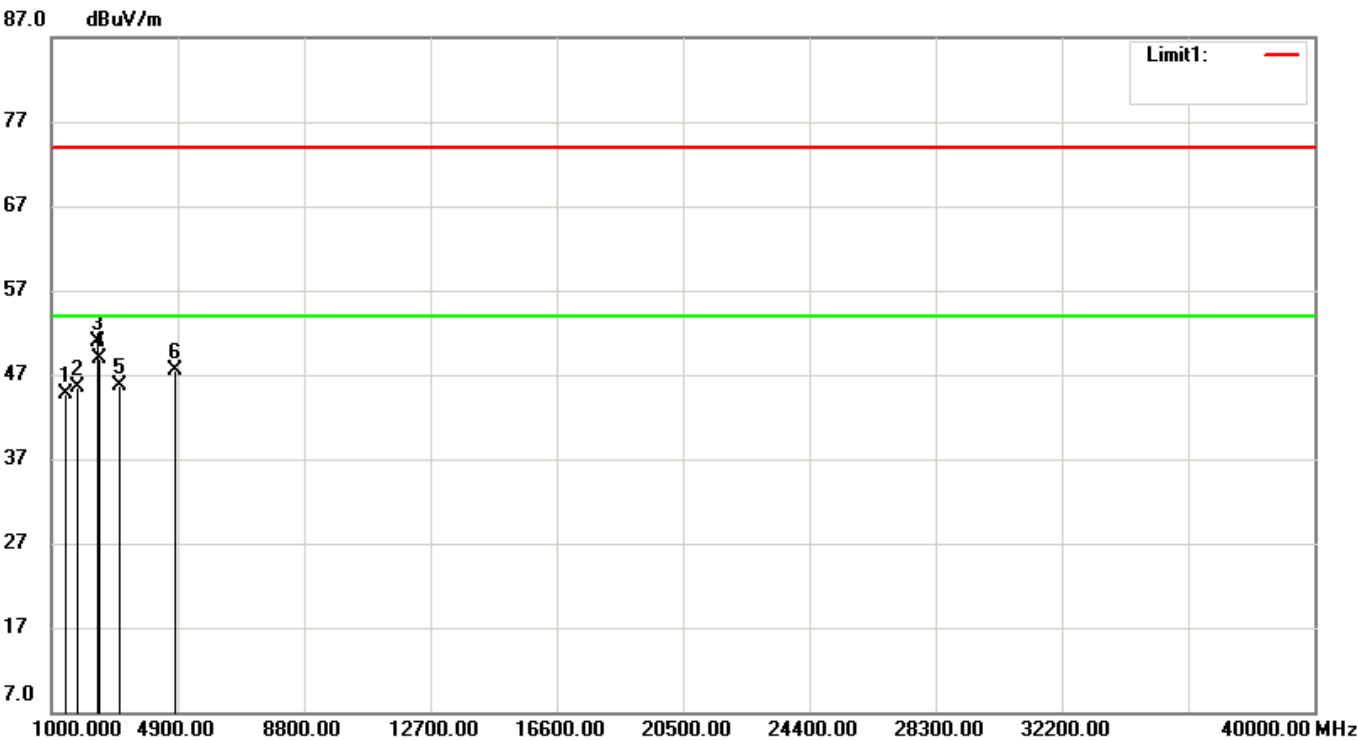
10.5.2.1 調變技術: IEEE 802.11a

a. Channel Low

操作模式：發射接收

基本波頻率：5500 MHz

File: 21-08-MAW-#27 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Horizontal
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH LOW-1

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1393.99030	52.94	peak	-8.22	44.72	74.00	-29.28
2	1759.32700	51.43	peak	-5.83	45.60	74.00	-28.40
3	2425.52880	53.67	peak	-2.81	50.86	74.00	-23.14
4	2468.50960	51.52	peak	-2.71	48.81	74.00	-25.19
5	3084.56730	47.53	peak	-1.91	45.62	74.00	-28.38
6	4789.47110	46.47	peak	1.03	47.50	74.00	-26.50

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5500 MHz

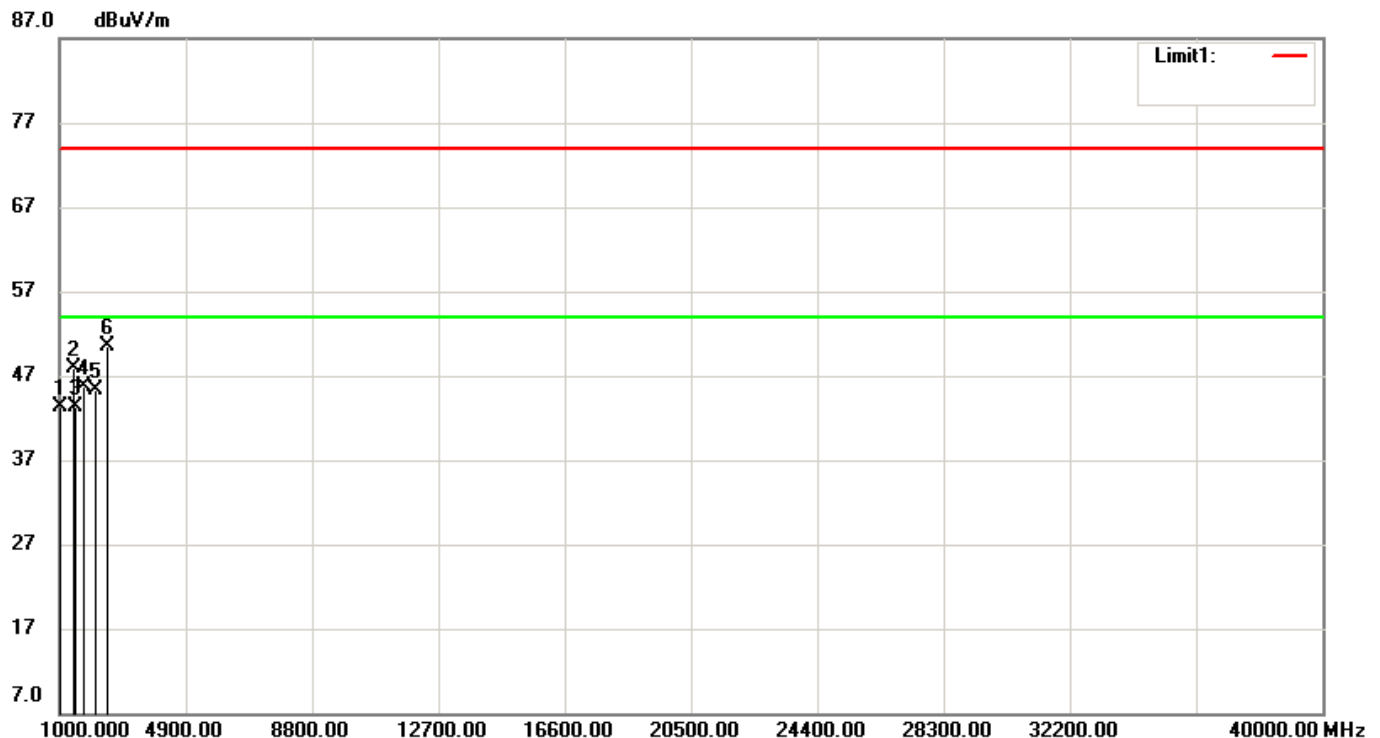
File: 21-08-MAW- #28

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH LOW-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	52.70	peak	-9.34	43.36	74.00	-30.64
2	1379.66340	56.22	peak	-8.28	47.94	74.00	-26.06
3	1494.27880	51.18	peak	-7.91	43.27	74.00	-30.73
4	1745.00000	51.63	peak	-5.94	45.69	74.00	-28.31
5	2088.84610	49.02	peak	-3.68	45.34	74.00	-28.66
6	2461.34610	53.17	peak	-2.72	50.45	74.00	-23.55

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

操作模式：發射接收

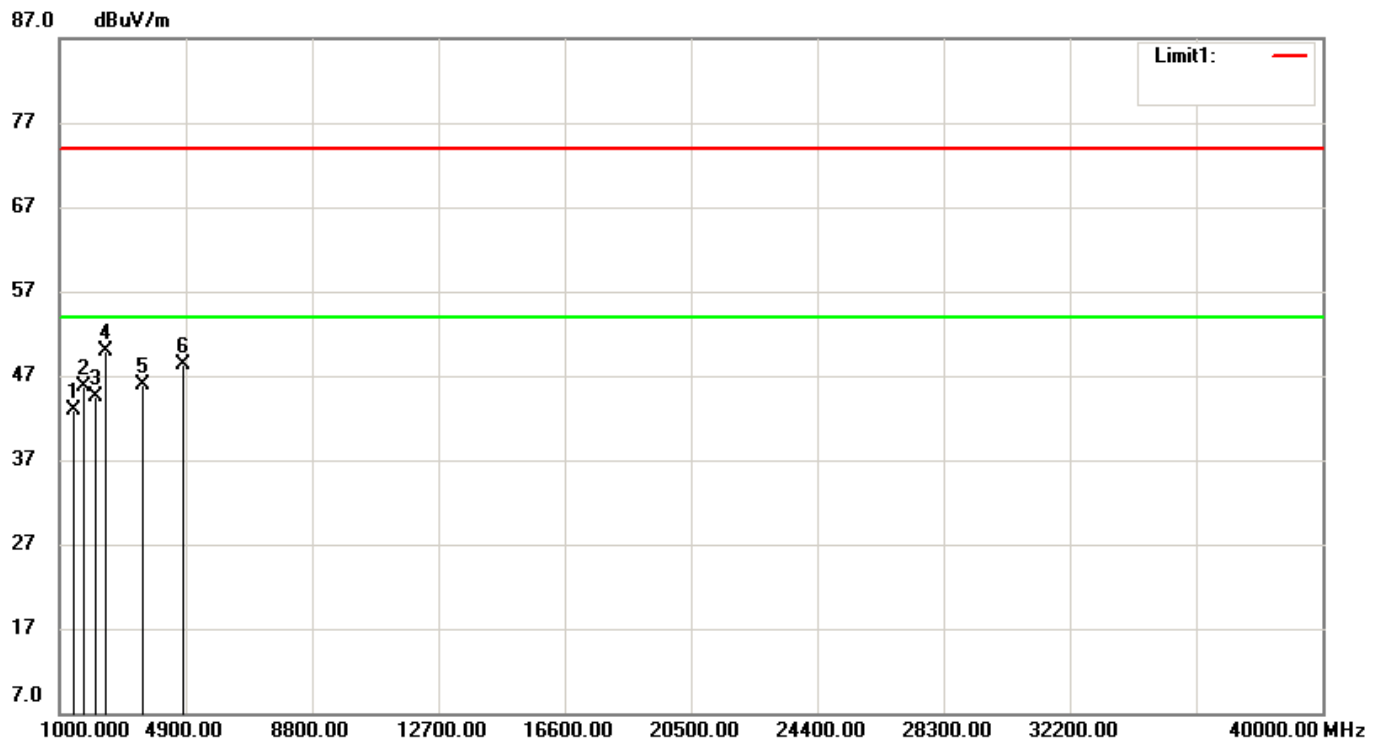
基本波頻率：5580 MHz

File: 21-08-MAW- #29
005_5-6a
Site: RE02-EMC B1-
N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: UNII
Note: CH MID-1

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1393.99030	51.16	peak	-8.22	42.94	74.00	-31.06
2	1737.83650	51.80	peak	-6.01	45.79	74.00	-28.21
3	2096.00960	48.22	peak	-3.67	44.55	74.00	-29.45
4	2432.69230	52.74	peak	-2.79	49.95	74.00	-24.05
5	3535.86530	47.12	peak	-1.31	45.81	74.00	-28.19
6	4796.63460	47.18	peak	1.06	48.24	74.00	-25.76

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5580 MHz

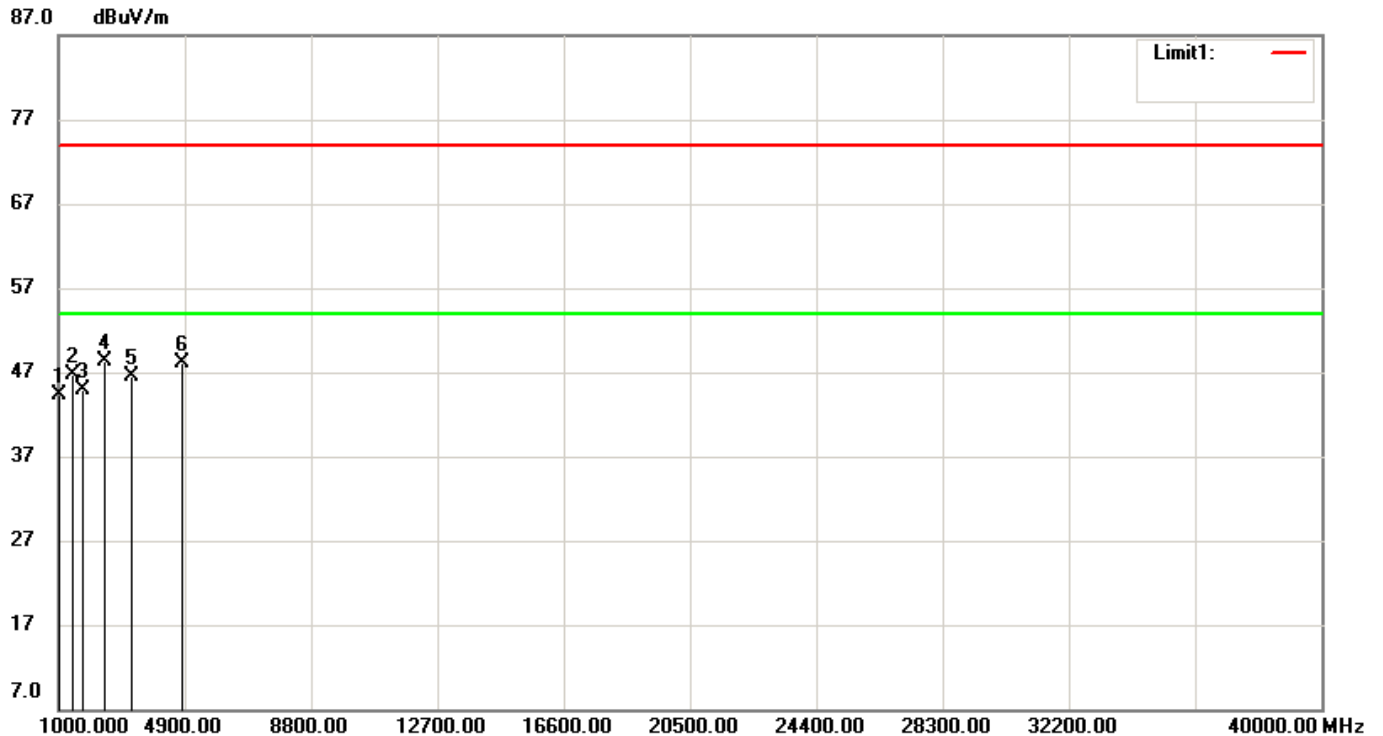
File: 21-08-MAW- #30

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH MID-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	53.62	peak	-9.34	44.28	74.00	-29.72
2	1386.82700	55.04	peak	-8.26	46.78	74.00	-27.22
3	1745.00000	50.84	peak	-5.94	44.90	74.00	-29.10
4	2425.52880	51.11	peak	-2.81	48.30	74.00	-25.70
5	3227.83650	48.20	peak	-1.74	46.46	74.00	-27.54
6	4767.98070	47.05	peak	0.96	48.01	74.00	-25.99

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

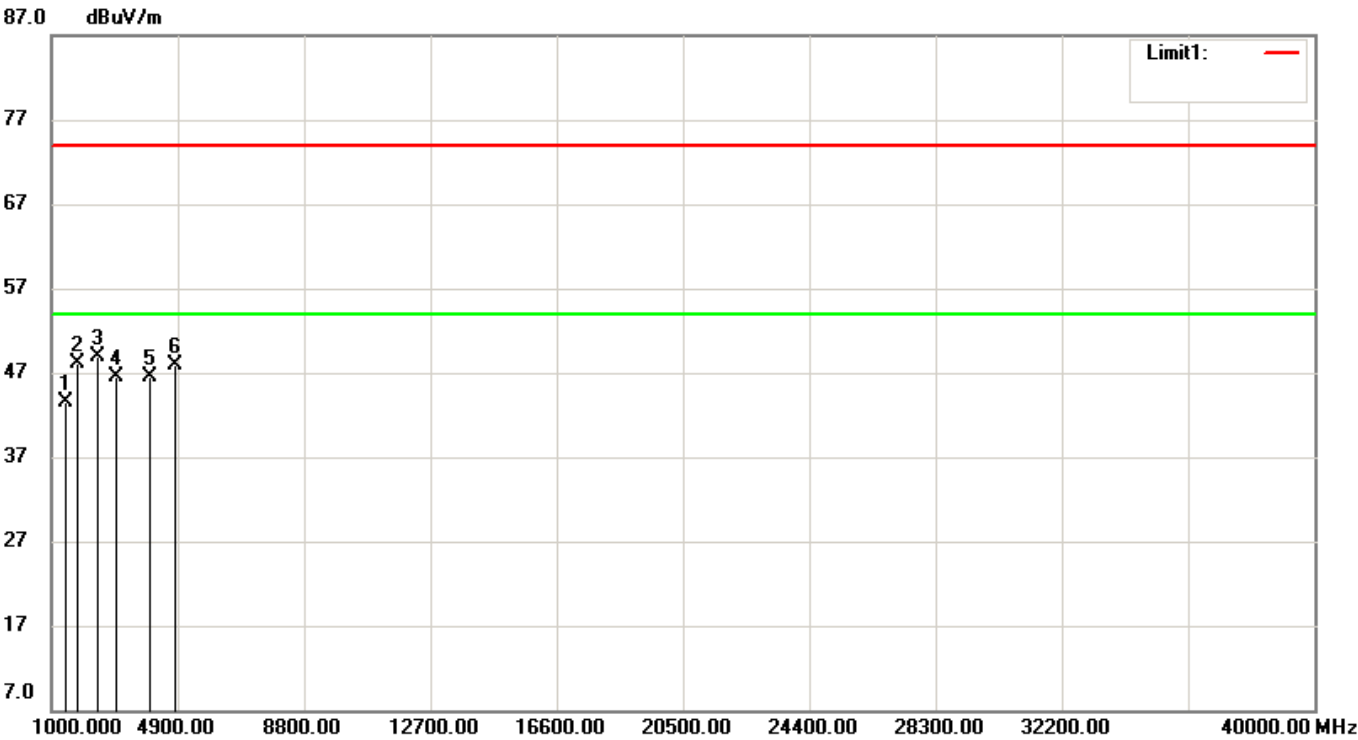
VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

c. Channel High

操作模式：發射接收
基本波頻率：5700 MHz

File: 21-08-MAW-#31 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Horizontal
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH HIGH-1

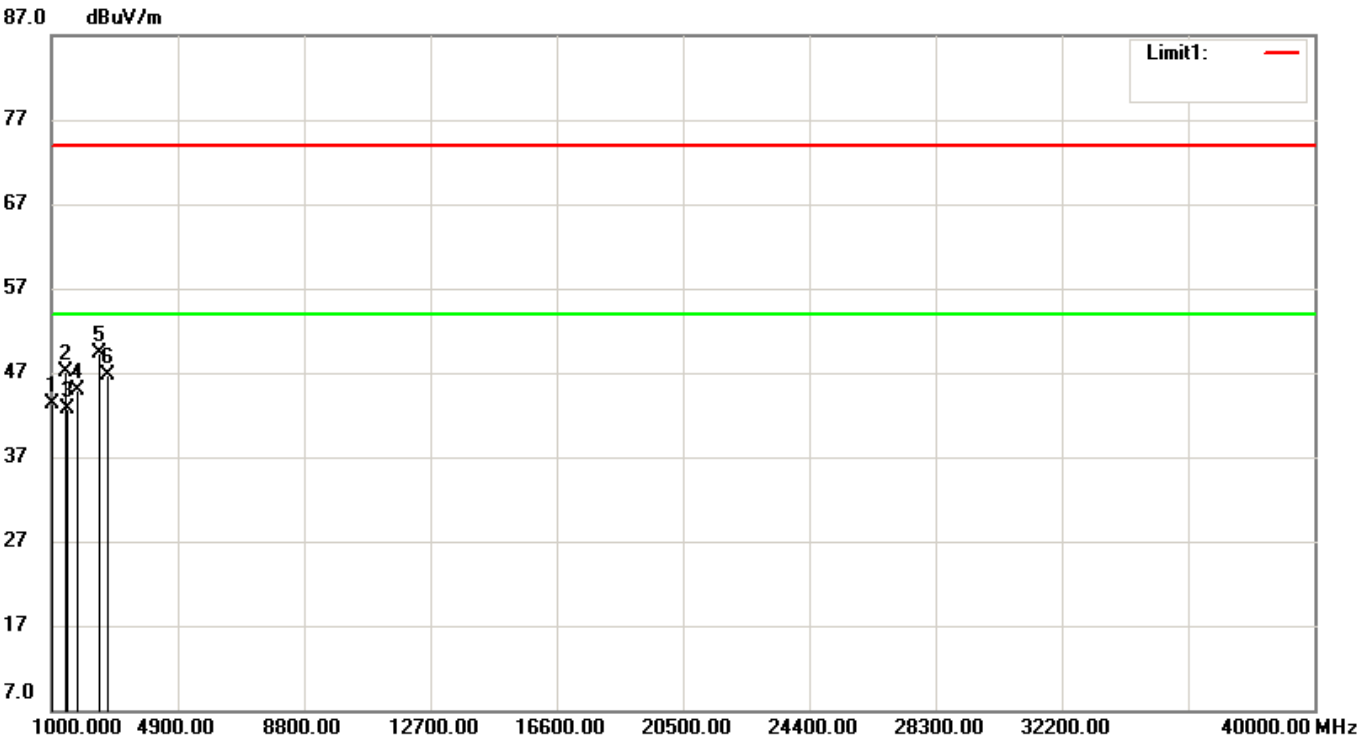
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1401.15380	51.70	peak	-8.21	43.49	74.00	-30.51
2	1759.32700	53.99	peak	-5.83	48.16	74.00	-25.84
3	2425.52880	51.76	peak	-2.81	48.95	74.00	-25.05
4	2991.44230	48.51	peak	-2.02	46.49	74.00	-27.51
5	4051.63460	46.55	peak	-0.06	46.49	74.00	-27.51
6	4789.47110	46.87	peak	1.03	47.90	74.00	-26.10

註：1. 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。

2. 量測不準確度:
- VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)
- VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)
- VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收
基本波頻率：5700 MHz

File: 21-08-MAW-#32 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Vertical
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH HIGH-1

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	52.71	peak	-9.34	43.37	74.00	-30.63
2	1393.99030	55.36	peak	-8.22	47.14	74.00	-26.86
3	1494.27880	50.70	peak	-7.91	42.79	74.00	-31.21
4	1759.32700	50.70	peak	-5.83	44.87	74.00	-29.13
5	2461.34610	52.06	peak	-2.72	49.34	74.00	-24.66
6	2704.90380	49.05	peak	-2.38	46.67	74.00	-27.33

註：1. 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。
2. 量測不準確度：
VER: ±5.32dB(1GHz≤f<6GHz) ;HOR: ±5.05dB(1GHz≤f<6GHz)
VER: ±4.71dB(6GHz≤f<18GHz) ;HOR: ±4.96dB(6GHz≤f<18GHz)
VER: ±5.37dB(18GHz≤f≤40GHz) ;HOR: ±5.61dB(18GHz≤f≤40GHz)

10.5.2.2 調變技術: IEEE 802.11ac (20MHz)

a. Channel Low

操作模式：發射接收

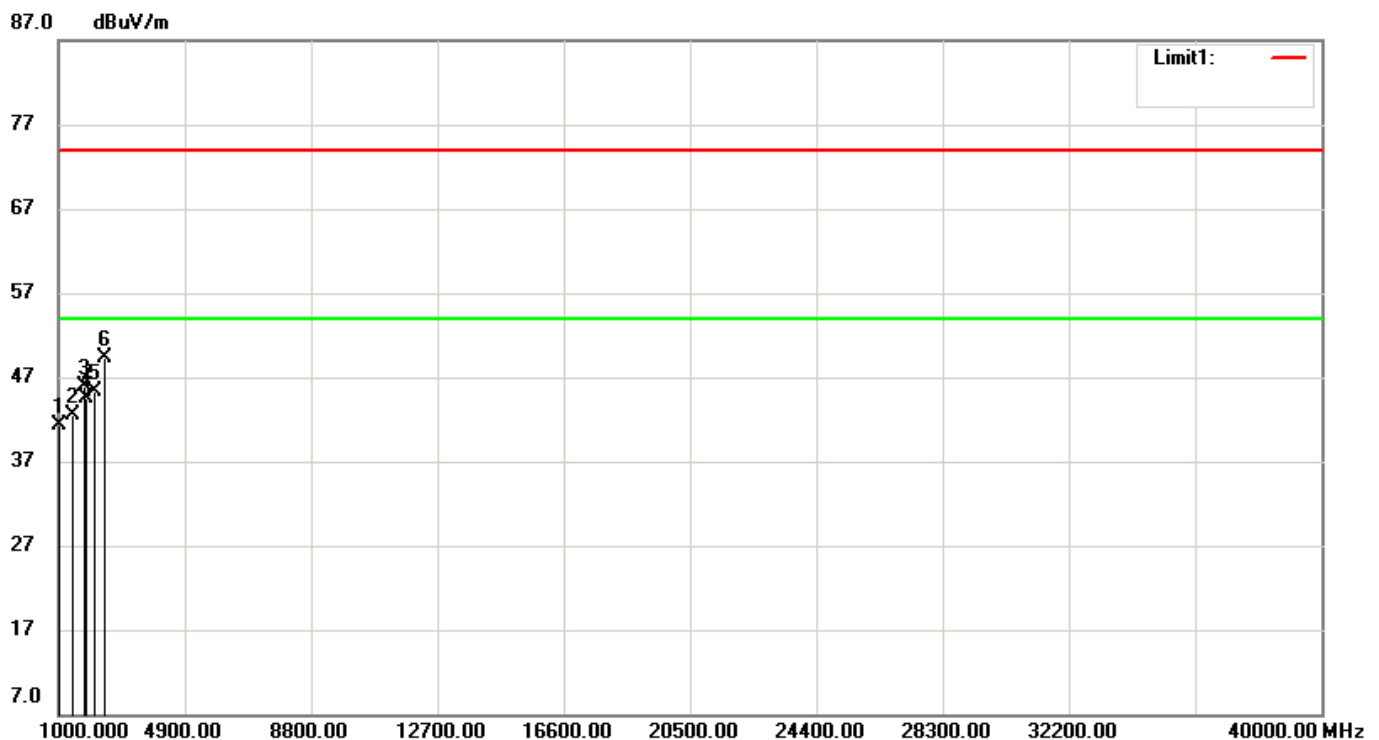
基本波頻率：5500 MHz

File: 21-08-MAW- #27
 005_5-6ac20
 Site: RE02-EMC B1-
 N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH LOW-1

Polarization: Horizontal
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	50.60	peak	-9.34	41.26	74.00	-32.74
2	1386.82700	50.78	peak	-8.26	42.52	74.00	-31.48
3	1759.32700	51.64	peak	-5.83	45.81	74.00	-28.19
4	1838.12500	49.76	peak	-5.21	44.55	74.00	-29.45
5	2110.33650	49.00	peak	-3.63	45.37	74.00	-28.63
6	2425.52880	52.06	peak	-2.81	49.25	74.00	-24.75

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$); HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$); HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$); HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5500 MHz

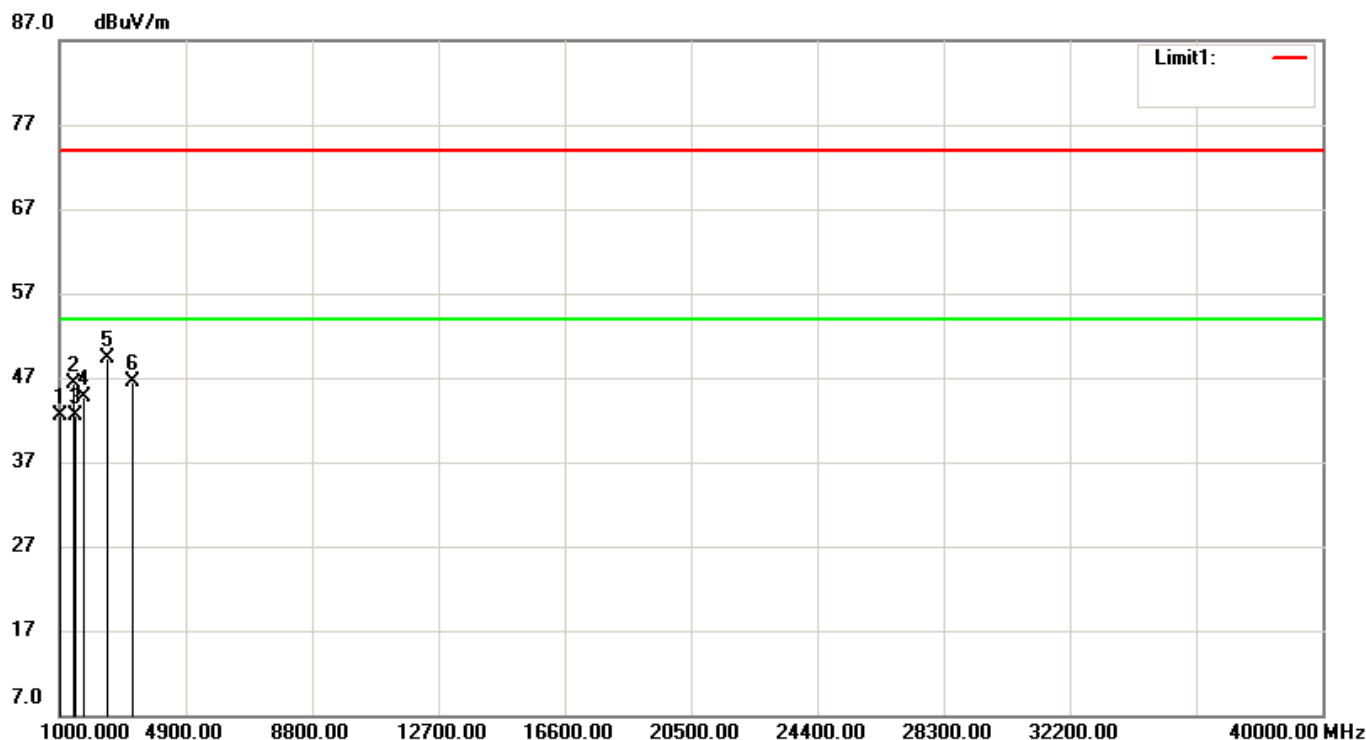
File: 21-08-MAW- #28

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH LOW-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1035.81730	51.91	peak	-9.36	42.55	74.00	-31.45
2	1408.31730	54.56	peak	-8.19	46.37	74.00	-27.63
3	1494.27880	50.37	peak	-7.91	42.46	74.00	-31.54
4	1745.00000	50.58	peak	-5.94	44.64	74.00	-29.36
5	2461.34610	51.95	peak	-2.72	49.23	74.00	-24.77
6	3242.16340	48.24	peak	-1.72	46.52	74.00	-27.48

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

操作模式：發射接收

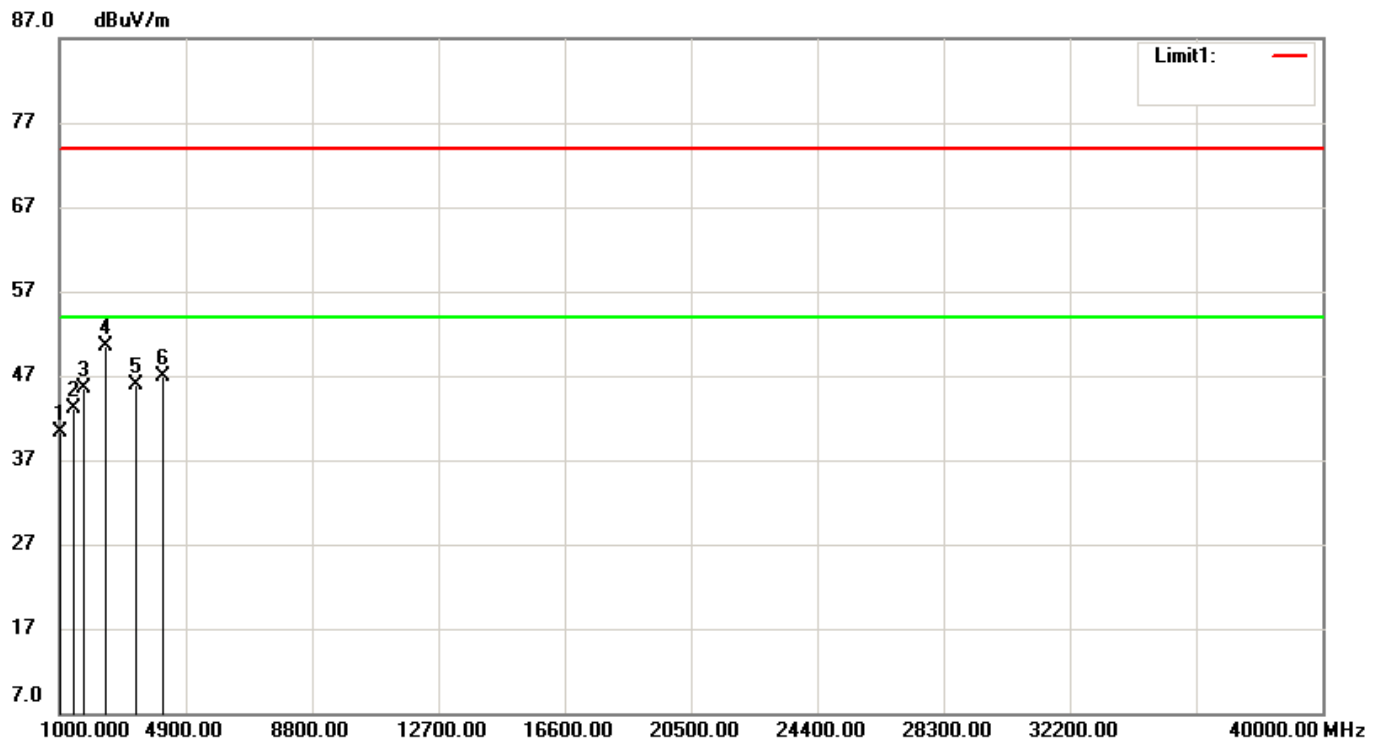
基本波頻率：5580 MHz

File: 21-08-MAW- #29
005_5-6ac20
Site: RE02-EMC B1-
N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: UNII
Note: CH MID-1

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1021.49030	49.74	peak	-9.40	40.34	74.00	-33.66
2	1393.99030	51.28	peak	-8.22	43.06	74.00	-30.94
3	1737.83650	51.59	peak	-6.01	45.58	74.00	-28.42
4	2425.52880	53.40	peak	-2.81	50.59	74.00	-23.41
5	3320.96150	47.47	peak	-1.63	45.84	74.00	-28.16
6	4166.25000	46.98	peak	-0.03	46.95	74.00	-27.05

註：1. 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。

2. 量測不準確度:

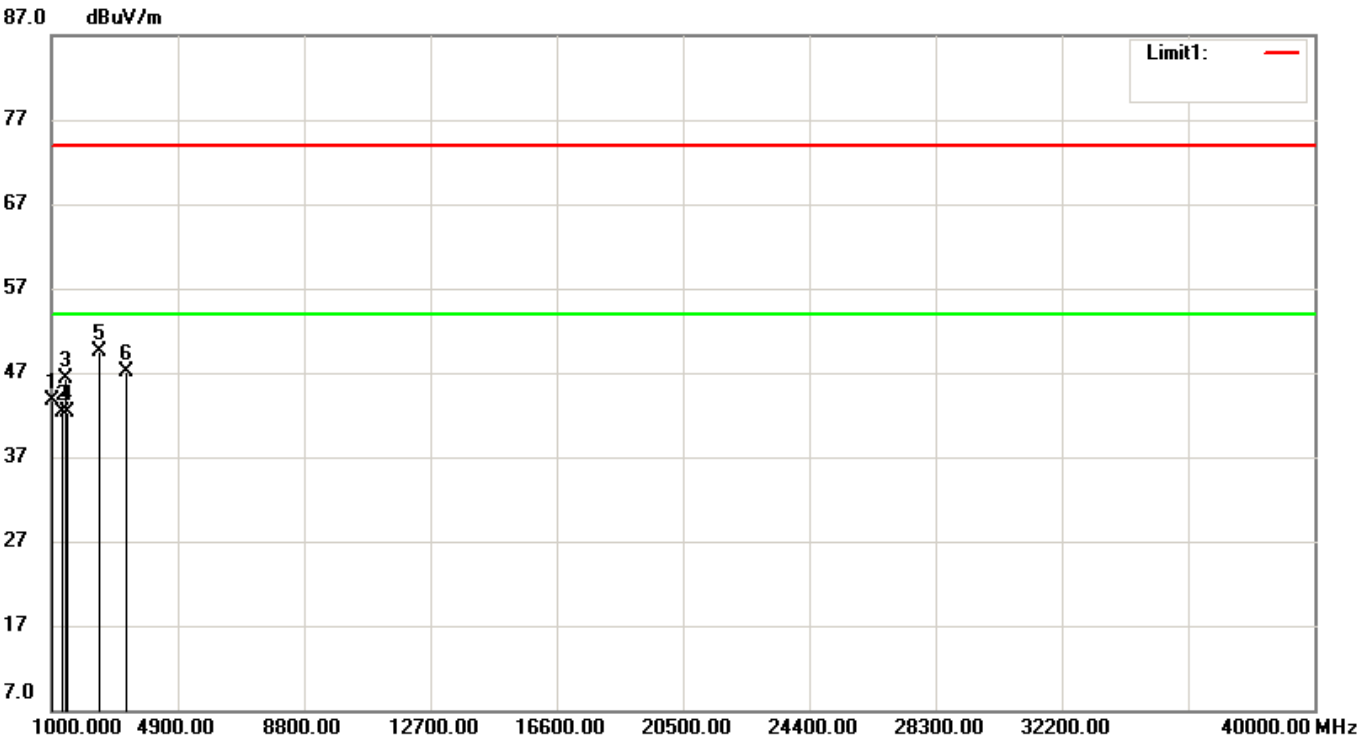
VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收
基本波頻率：5580 MHz

File: 21-08-MAW-#30 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Vertical
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH MID-1

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	52.97	peak	-9.34	43.63	74.00	-30.37
2	1286.53840	50.82	peak	-8.57	42.25	74.00	-31.75
3	1393.99030	54.55	peak	-8.22	46.33	74.00	-27.67
4	1494.27880	50.21	peak	-7.91	42.30	74.00	-31.70
5	2468.50960	52.12	peak	-2.71	49.41	74.00	-24.59
6	3263.65380	48.84	peak	-1.70	47.14	74.00	-26.86

註：1. 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。
2. 量測不準確度：
VER: ±5.32dB(1GHz≤f<6GHz) ;HOR: ±5.05dB(1GHz≤f<6GHz)
VER: ±4.71dB(6GHz≤f<18GHz) ;HOR: ±4.96dB(6GHz≤f<18GHz)
VER: ±5.37dB(18GHz≤f≤40GHz) ;HOR: ±5.61dB(18GHz≤f≤40GHz)

c. Channel High

操作模式：發射接收

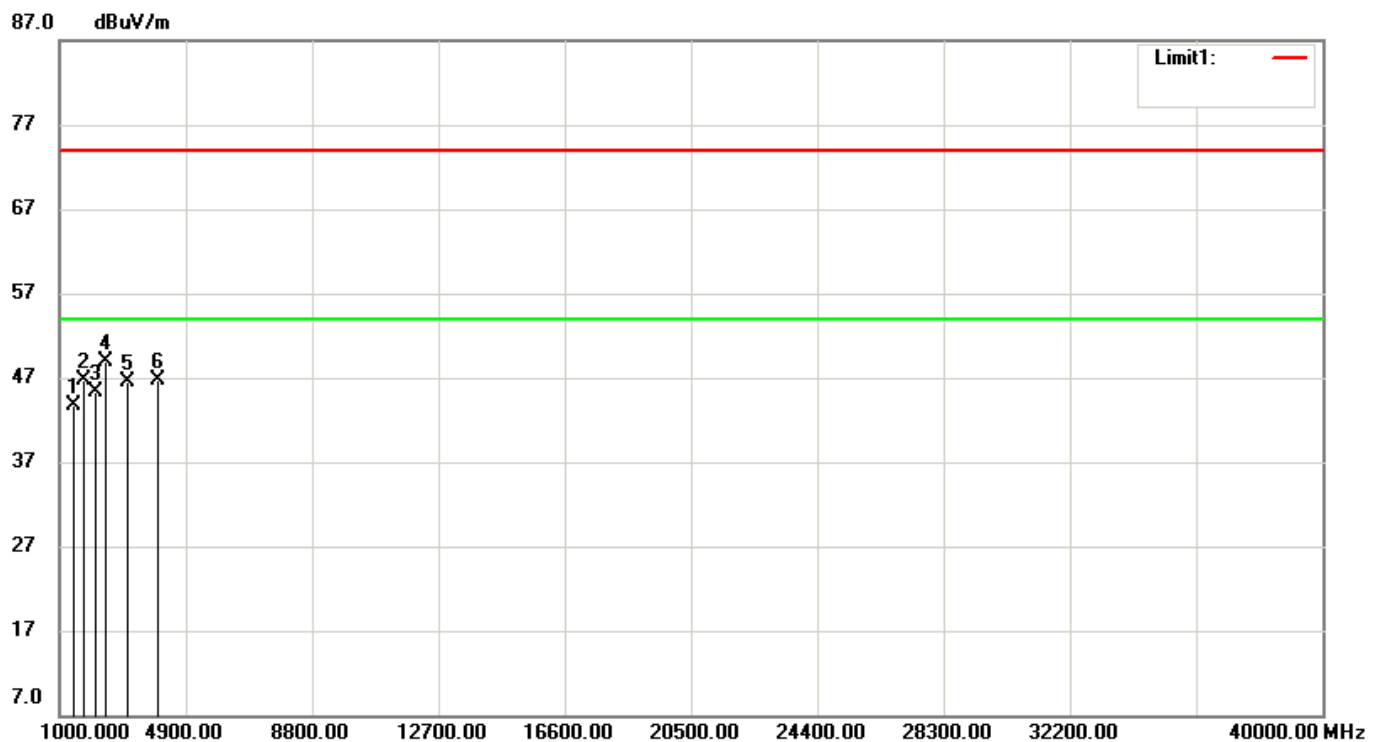
基本波頻率：5700 MHz

File: 21-08-MAW- #31
005_5-6ac20
Site: RE02-EMC B1-
N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: UNII
Note: CH HIGH-1

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1386.82700	51.87	peak	-8.26	43.61	74.00	-30.39
2	1745.00000	52.59	peak	-5.94	46.65	74.00	-27.35
3	2088.84610	48.98	peak	-3.68	45.30	74.00	-28.70
4	2432.69230	51.76	peak	-2.79	48.97	74.00	-25.03
5	3113.22110	48.30	peak	-1.87	46.43	74.00	-27.57
6	4030.14420	46.83	peak	-0.07	46.76	74.00	-27.24

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5700 MHz

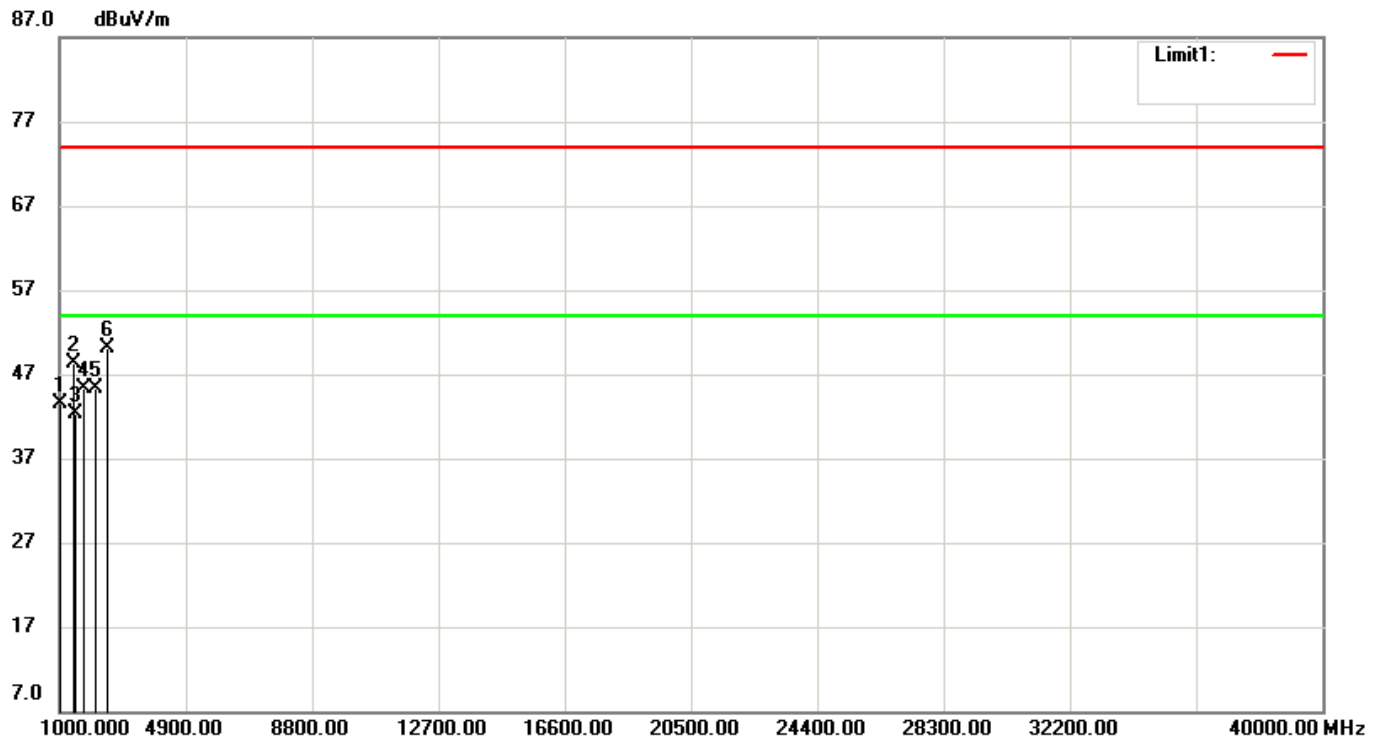
File: 21-08-MAW- #32

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH HIGH-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	52.83	peak	-9.34	43.49	74.00	-30.51
2	1386.82700	56.58	peak	-8.26	48.32	74.00	-25.68
3	1494.27880	50.17	peak	-7.91	42.26	74.00	-31.74
4	1737.83650	51.26	peak	-6.01	45.25	74.00	-28.75
5	2103.17300	48.90	peak	-3.65	45.25	74.00	-28.75
6	2439.85560	52.93	peak	-2.78	50.15	74.00	-23.85

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.2.3 調變技術: IEEE 802.11ac (40MHz)

a. Channel Low

操作模式：發射接收

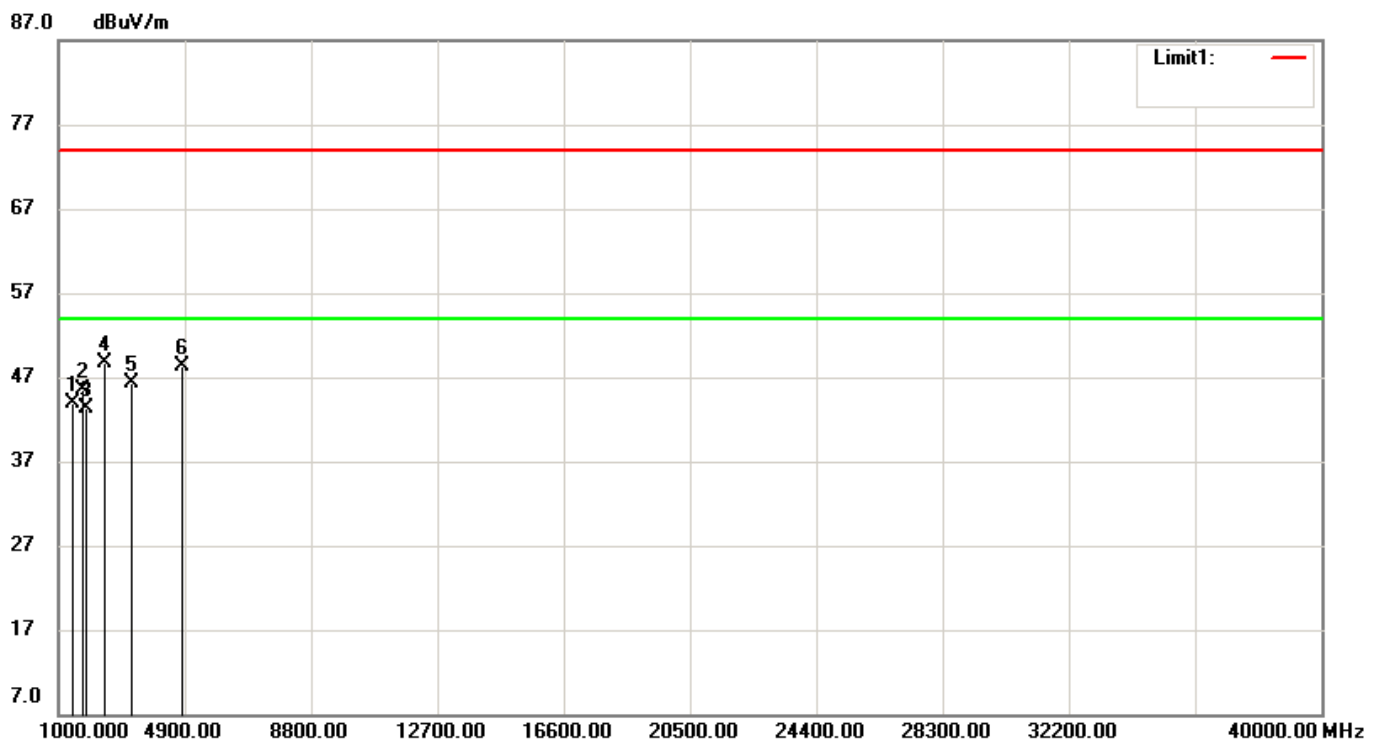
基本波頻率：5510 MHz

File: 21-08-MAW- #26
005_5-6ac40
Site: RE02-EMC B1-
N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: UNII
Note: CH LOW-1

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1393.99030	52.17	peak	-8.22	43.95	74.00	-30.05
2	1730.67300	51.60	peak	-6.06	45.54	74.00	-28.46
3	1838.12500	48.61	peak	-5.21	43.40	74.00	-30.60
4	2425.52880	51.45	peak	-2.81	48.64	74.00	-25.36
5	3235.00000	47.94	peak	-1.72	46.22	74.00	-27.78
6	4775.14420	47.36	peak	0.98	48.34	74.00	-25.66

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$); HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$); HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$); HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5510 MHz

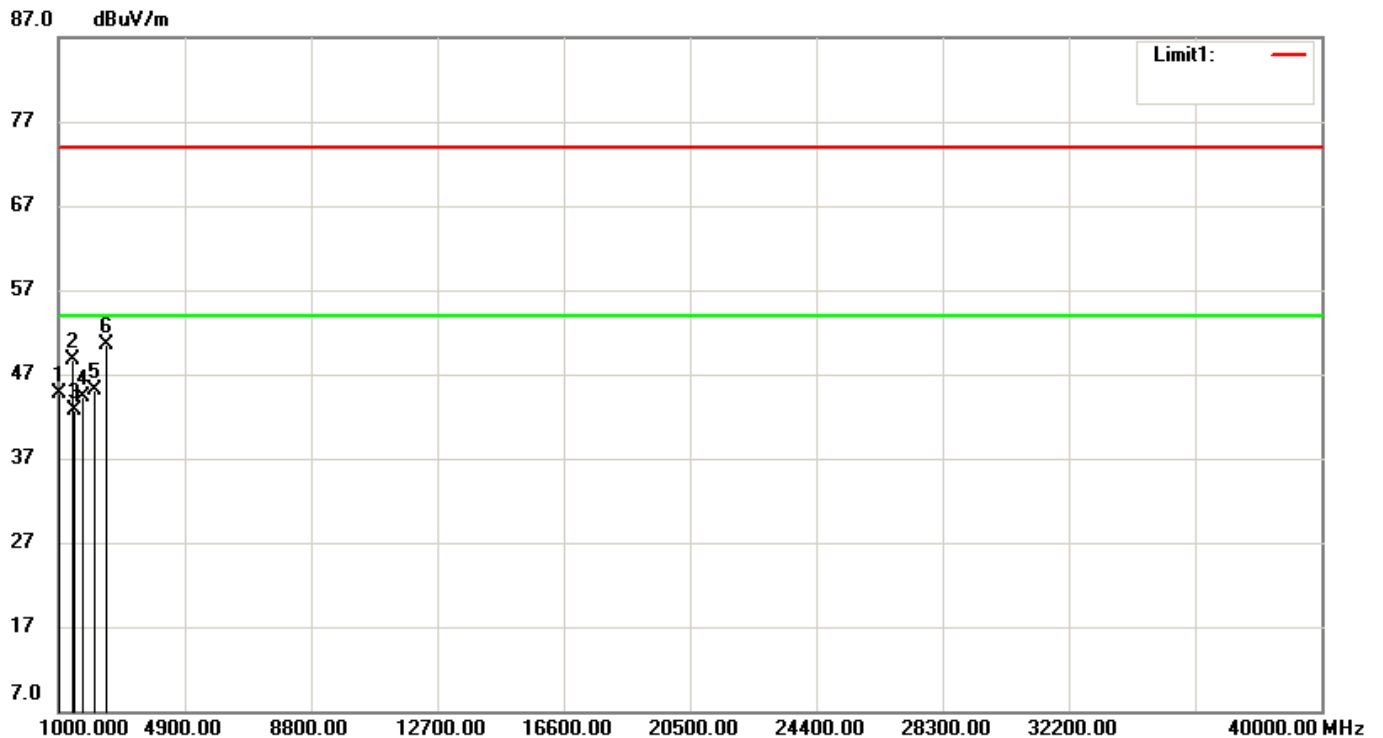
File: 21-08-MAW- #27

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH LOW-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	54.02	peak	-9.34	44.68	74.00	-29.32
2	1386.82700	56.93	peak	-8.26	48.67	74.00	-25.33
3	1494.27880	50.54	peak	-7.91	42.63	74.00	-31.37
4	1737.83650	50.24	peak	-6.01	44.23	74.00	-29.77
5	2074.51920	48.84	peak	-3.73	45.11	74.00	-28.89
6	2447.01920	53.24	peak	-2.76	50.48	74.00	-23.52

註：1. 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。

2. 量測不準確度：

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

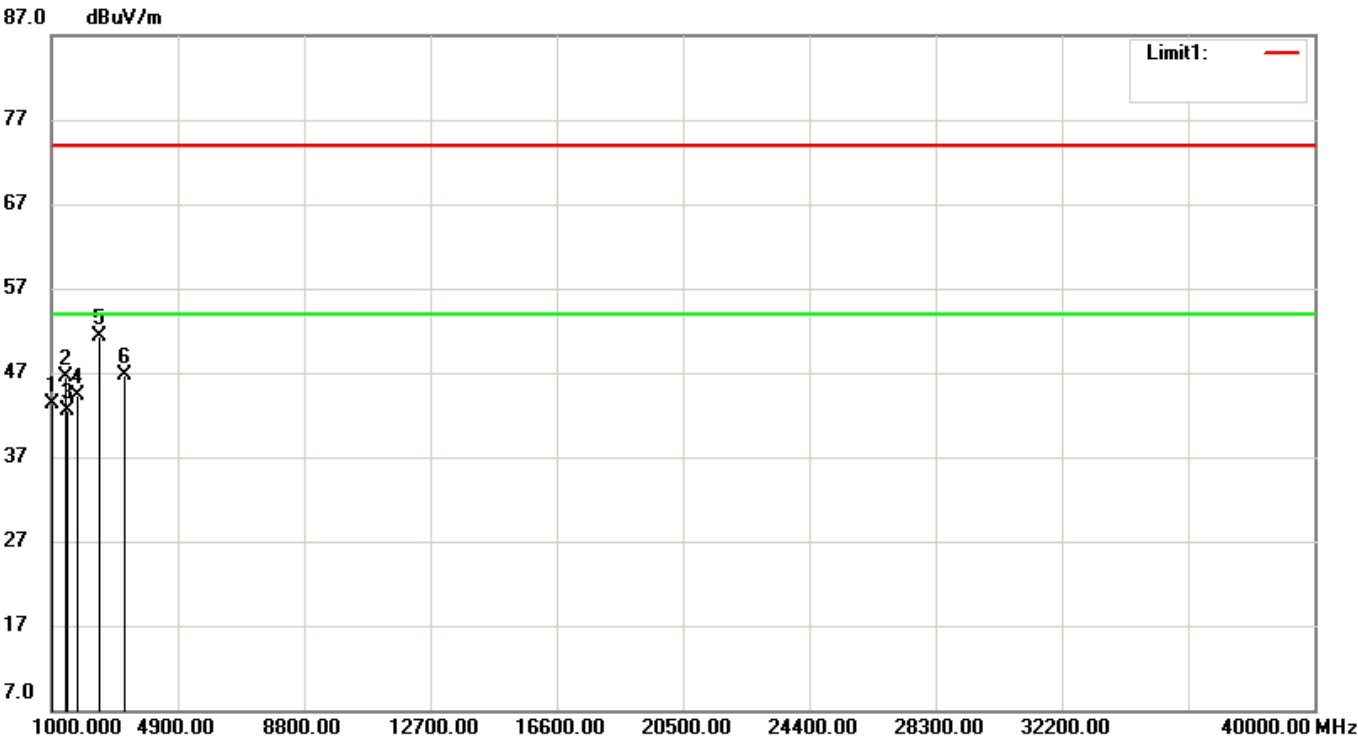
VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

b. Channel Mid

操作模式：發射接收
基本波頻率：5550 MHz

File: 21-08-MAW-#28 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



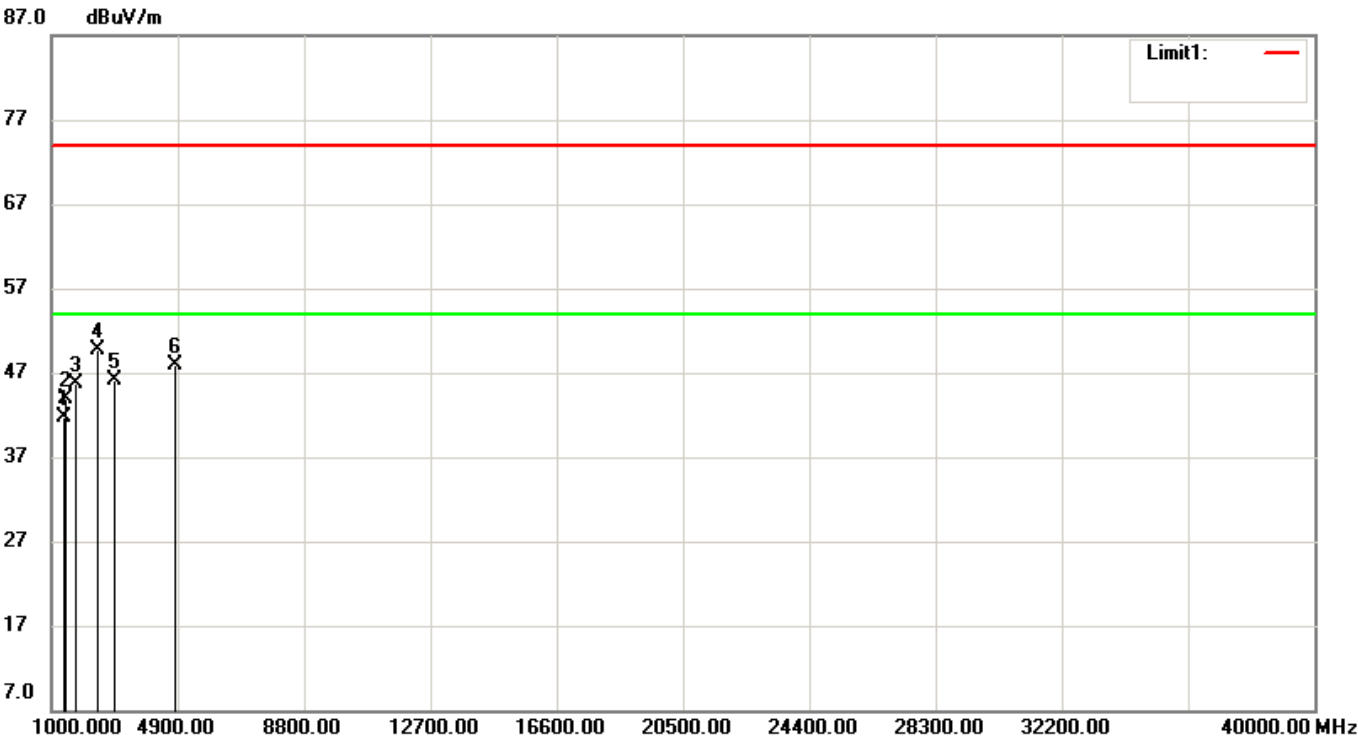
Condition: NCC_Above1G_Pk Polarization: Horizontal
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH MID-1

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1035.81730	52.60	peak	-9.36	43.24	74.00	-30.76
2	1408.31730	54.74	peak	-8.19	46.55	74.00	-27.45
3	1494.27880	50.45	peak	-7.91	42.54	74.00	-31.46
4	1752.16340	50.16	peak	-5.90	44.26	74.00	-29.74
5	2439.85560	54.12	peak	-2.78	51.34	74.00	-22.66
6	3249.32700	48.33	peak	-1.72	46.61	74.00	-27.39

註：1. 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。
2. 量測不準確度：
VER: ±5.32dB(1GHz ≤ f < 6GHz) ;HOR: ±5.05dB(1GHz ≤ f < 6GHz)
VER: ±4.71dB(6GHz ≤ f < 18GHz) ;HOR: ±4.96dB(6GHz ≤ f < 18GHz)
VER: ±5.37dB(18GHz ≤ f ≤ 40GHz) ;HOR: ±5.61dB(18GHz ≤ f ≤ 40GHz)

操作模式：發射接收
基本波頻率：5550 MHz

File: 21-08-MAW-#29 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Vertical
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH MID-1

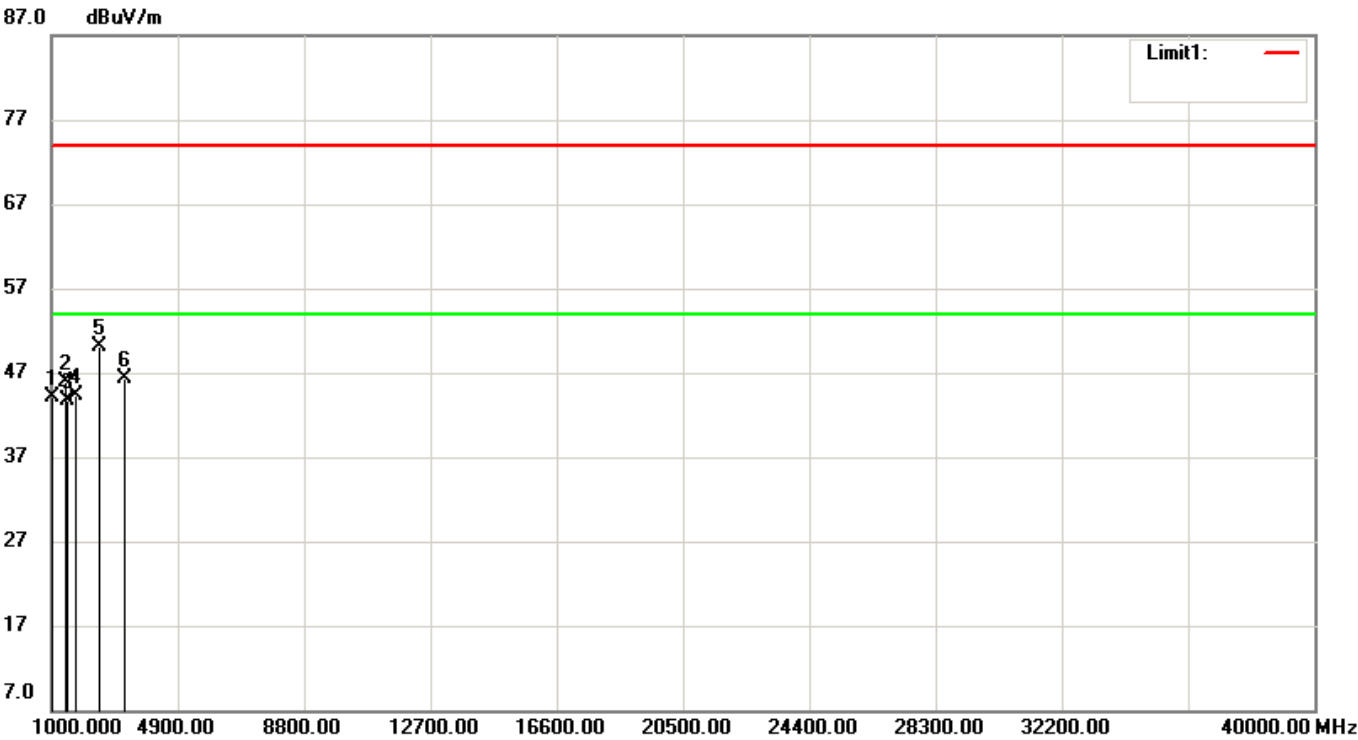
No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1336.68260	50.06	peak	-8.41	41.65	74.00	-32.35
2	1393.99030	52.20	peak	-8.22	43.98	74.00	-30.02
3	1745.00000	51.72	peak	-5.94	45.78	74.00	-28.22
4	2432.69230	52.59	peak	-2.79	49.80	74.00	-24.20
5	2934.13460	48.27	peak	-2.10	46.17	74.00	-27.83
6	4782.30760	46.86	peak	1.00	47.86	74.00	-26.14

註：1. 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。
2. 量測不準確度：
VER: ±5.32dB(1GHz≤f<6GHz) ;HOR: ±5.05dB(1GHz≤f<6GHz)
VER: ±4.71dB(6GHz≤f<18GHz) ;HOR: ±4.96dB(6GHz≤f<18GHz)
VER: ±5.37dB(18GHz≤f≤40GHz) ;HOR: ±5.61dB(18GHz≤f≤40GHz)

c. Channel High

操作模式：發射接收
基本波頻率：5670 MHz

File: 21-08-MAW-#30 Date: 2021/10/1 Temperature: 23 °C
Site: RE02-EMC B1-N2 Humidity: 60 %



Condition: NCC_Above1G_Pk Polarization: Horizontal
EUT: CV1 21 WIDE AVM Distance: 3m
Model: VN251ASGG
Test Mode: UNII Operator: Phillip
Note: CH HIGH-1

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1035.81730	53.47	peak	-9.36	44.11	74.00	-29.89
2	1379.66340	54.10	peak	-8.28	45.82	74.00	-28.18
3	1494.27880	51.71	peak	-7.91	43.80	74.00	-30.20
4	1745.00000	50.20	peak	-5.94	44.26	74.00	-29.74
5	2447.01920	52.82	peak	-2.76	50.06	74.00	-23.94
6	3199.18260	48.01	peak	-1.77	46.24	74.00	-27.76

註：1. 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。

2. 量測不準確度：
VER: ±5.32dB(1GHz ≤ f < 6GHz) ;HOR: ±5.05dB(1GHz ≤ f < 6GHz)
VER: ±4.71dB(6GHz ≤ f < 18GHz) ;HOR: ±4.96dB(6GHz ≤ f < 18GHz)
VER: ±5.37dB(18GHz ≤ f ≤ 40GHz) ;HOR: ±5.61dB(18GHz ≤ f ≤ 40GHz)

操作模式：發射接收

基本波頻率：5670 MHz

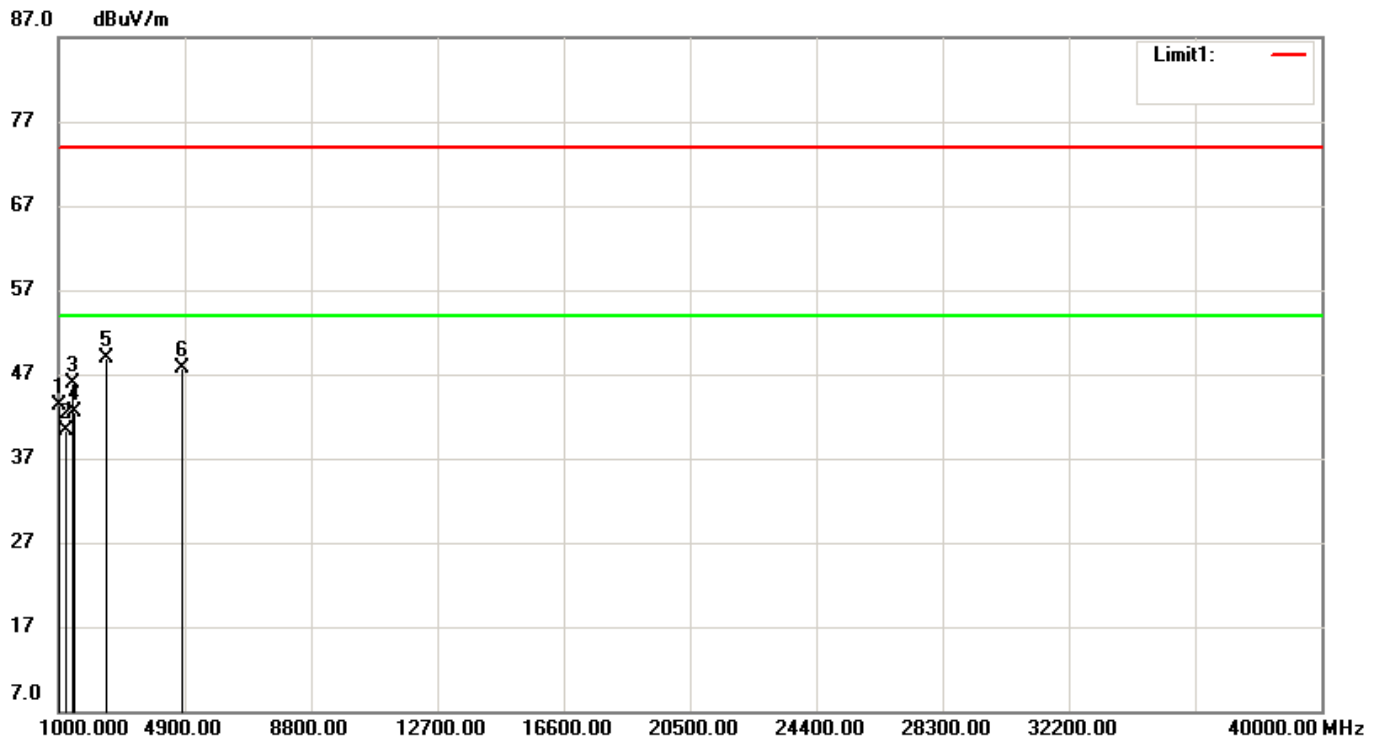
File: 21-08-MAW- #31

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH HIGH-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1035.81720	52.60	peak	-9.36	43.24	74.00	-30.76
2	1207.74020	49.19	peak	-8.82	40.37	74.00	-33.63
3	1386.82700	54.16	peak	-8.26	45.90	74.00	-28.10
4	1494.27880	50.45	peak	-7.91	42.54	74.00	-31.46
5	2461.34610	51.61	peak	-2.72	48.89	74.00	-25.11
6	4796.63460	46.72	peak	1.06	47.78	74.00	-26.22

註：1. 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。

2. 量測不準確度：

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.2.4 調變技術: IEEE 802.11ac (80MHz)

a. Channel Low

操作模式：發射接收

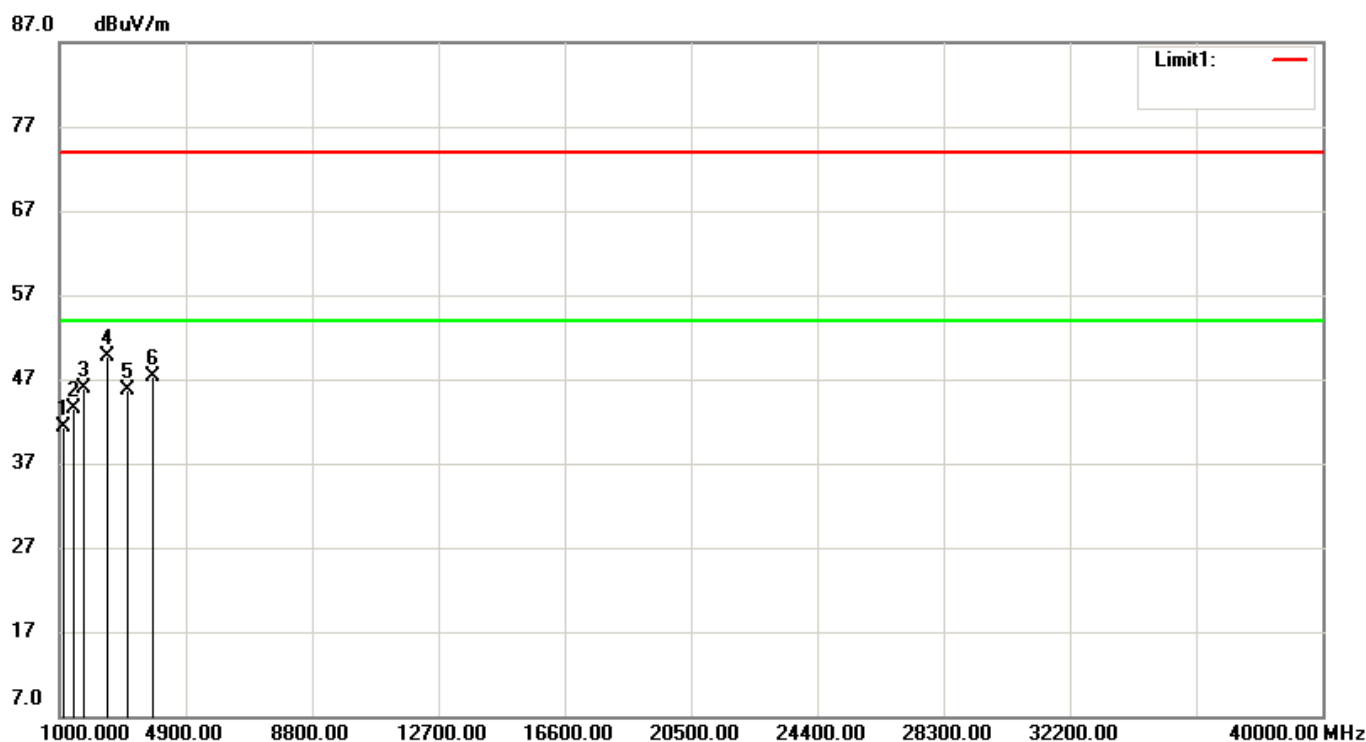
基本波頻率：5530 MHz

File: 21-08-MAW- #15
005_5-6ac80
Site: RE02-EMC B1-
N2

Date: 2021/10/1

Temperature: 23 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: UNII
Note: CH LOW-1

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1064.47110	50.48	peak	-9.27	41.21	74.00	-32.79
2	1401.15380	51.73	peak	-8.21	43.52	74.00	-30.48
3	1737.83650	51.95	peak	-6.01	45.94	74.00	-28.06
4	2447.01920	52.45	peak	-2.76	49.69	74.00	-24.31
5	3070.24030	47.69	peak	-1.92	45.77	74.00	-28.23
6	3851.05760	47.70	peak	-0.47	47.23	74.00	-26.77

註：1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$); HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$); HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$); HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式：發射接收

基本波頻率：5530 MHz

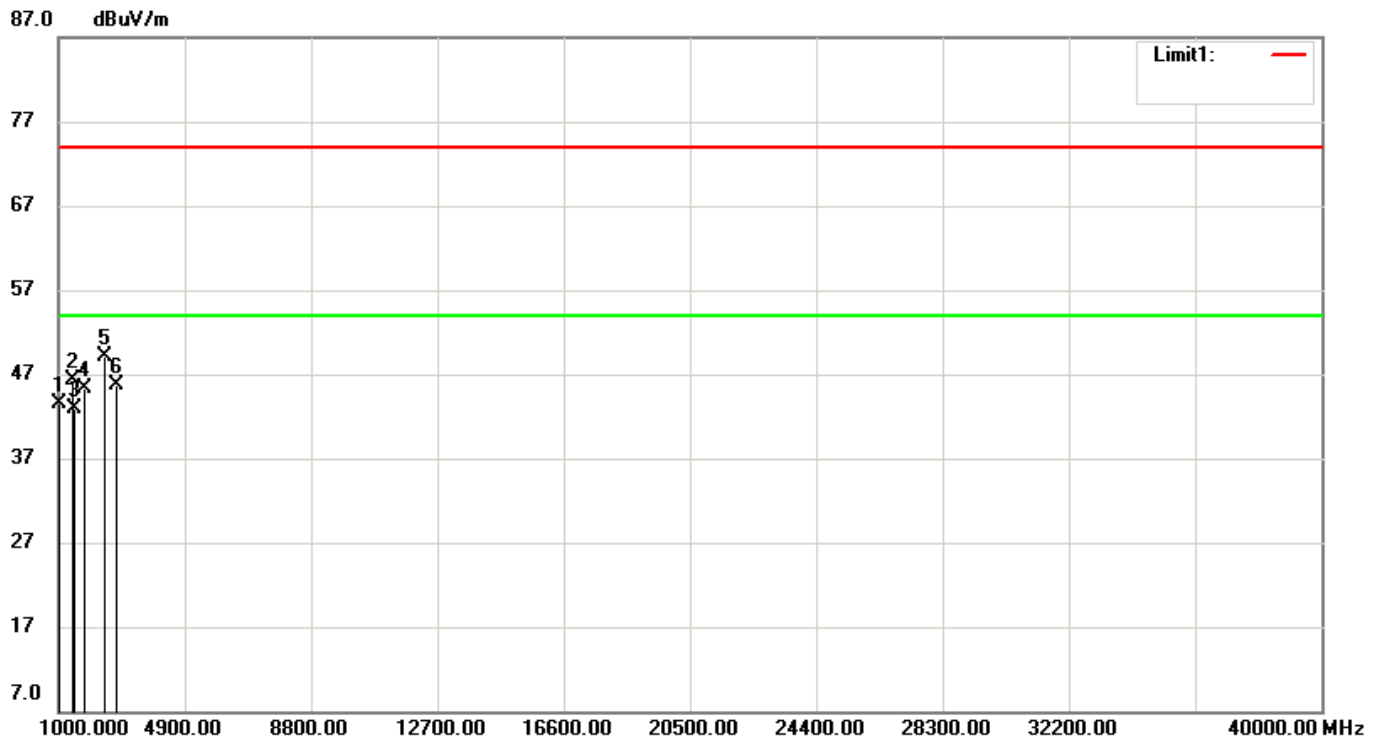
File: 21-08-MAW- #16

Date: 2021/10/1

Temperature: 23 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: UNII
 Note: CH LOW-1

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1042.98070	52.80	peak	-9.34	43.46	74.00	-30.54
2	1386.82700	54.56	peak	-8.26	46.30	74.00	-27.70
3	1494.27880	50.85	peak	-7.91	42.94	74.00	-31.06
4	1759.32700	51.15	peak	-5.83	45.32	74.00	-28.68
5	2432.69230	51.88	peak	-2.79	49.09	74.00	-24.91
6	2798.02880	47.90	peak	-2.25	45.65	74.00	-28.35

註：1. 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。

2. 量測不準確度：

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.2.5 測試狀態: LINK BT

操作模式: Mode G

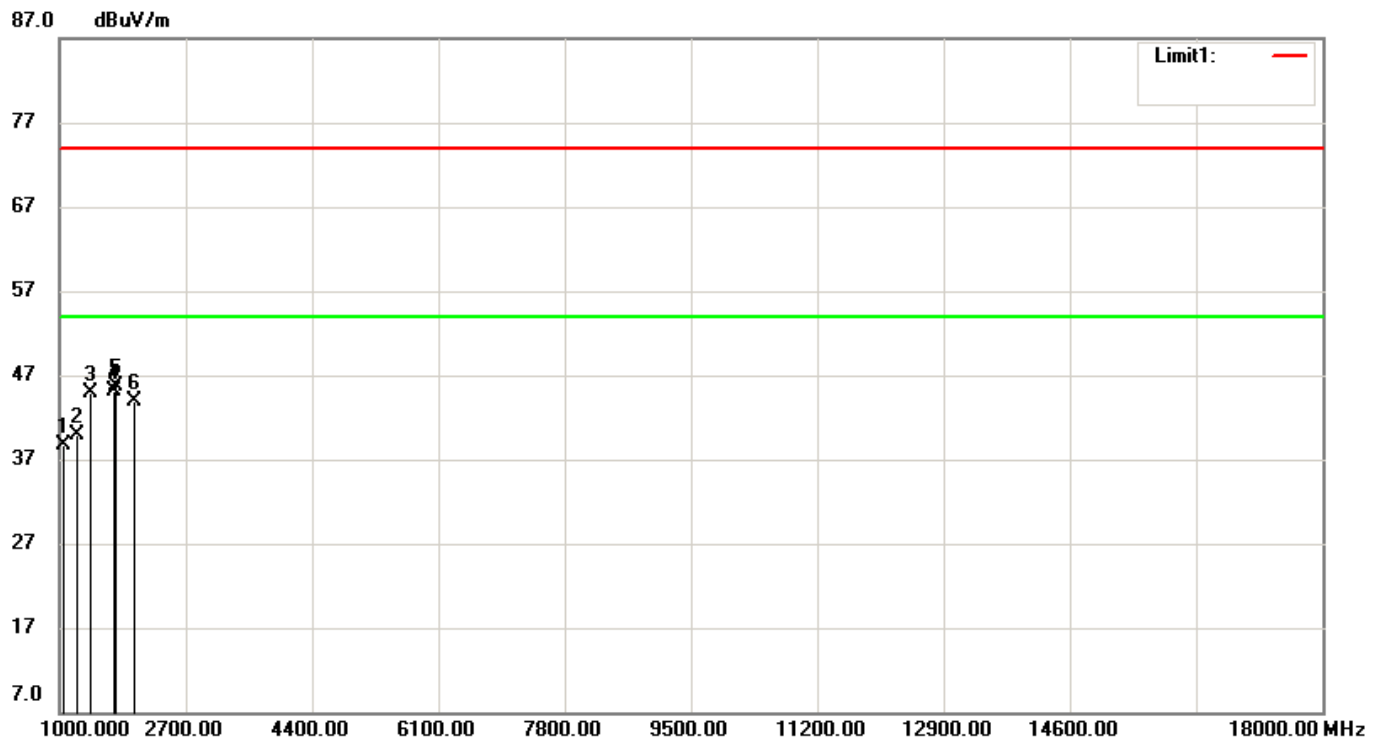
File: 21-08-MAW- #19

Date: 2021/8/26

Temperature: 22 °C

Site: RE02-EMC B1-N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVN
 Model: VN250ASGG(SVM,Internall)
 Test Mode: LINK WIFI
 Note:

Polarization: Horizontal
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1049.35900	48.07	peak	-9.31	38.76	74.00	-35.24
2	1224.35900	48.69	peak	-8.77	39.92	74.00	-34.08
3	1390.38460	53.11	peak	-8.25	44.86	74.00	-29.14
4	1726.92300	51.13	peak	-6.10	45.03	74.00	-28.97
5	1762.82050	51.55	peak	-5.81	45.74	74.00	-28.26
6	1998.39740	47.89	peak	-3.93	43.96	74.00	-30.04

註: 1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$); HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$); HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$); HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

操作模式: Mode G

File: 21-08-MAW-005

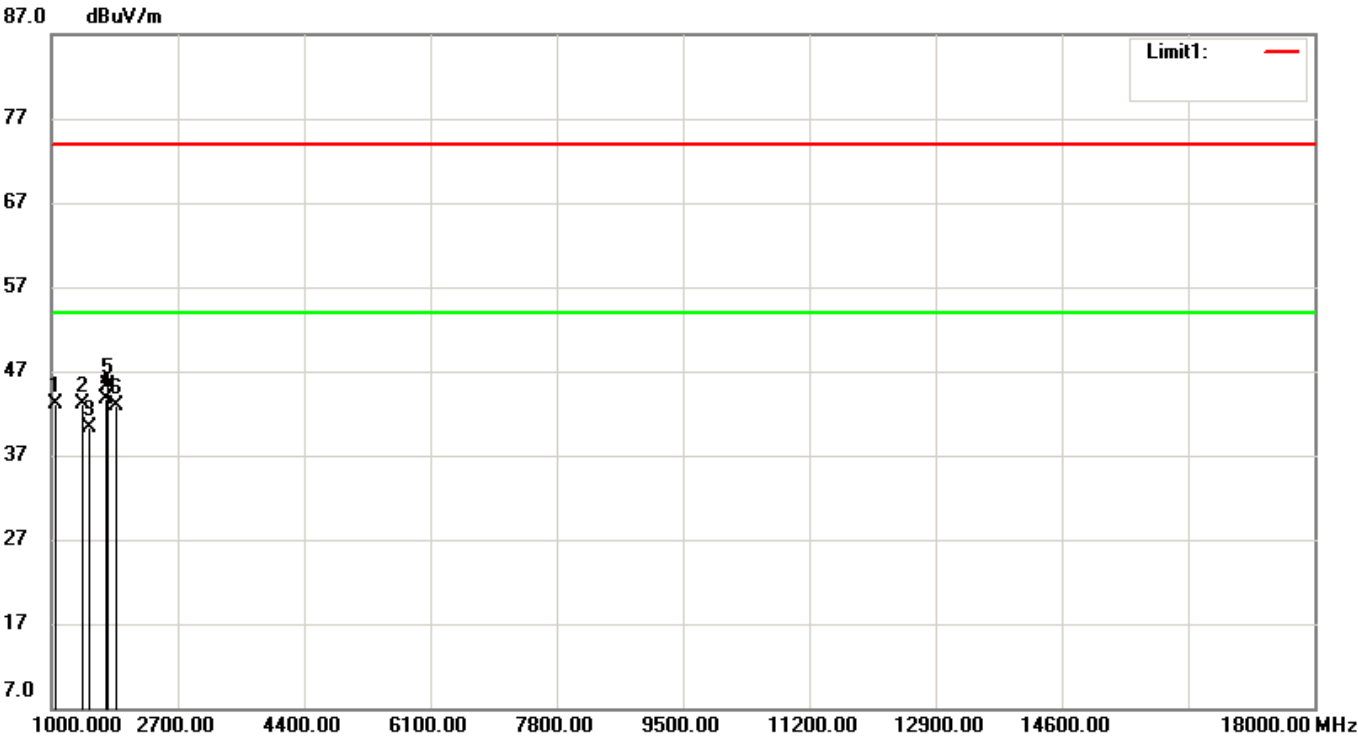
Site: RE02-EMC B1-N2

#20

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk

EUT: CV1 21 WIDE AVN

Model: VN250ASGG(SVM,Internall)

Test Mode: LINK WIFI

Note:

Polarization: Vertical

Distance: 3m

Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1044.87160	52.40	peak	-9.32	43.08	74.00	-30.92
2	1399.35900	51.40	peak	-8.22	43.18	74.00	-30.82
3	1495.83330	48.20	peak	-7.91	40.29	74.00	-33.71
4	1726.92300	49.88	peak	-6.10	43.78	74.00	-30.22
5	1758.33330	51.13	peak	-5.84	45.29	74.00	-28.71
6	1857.05120	47.94	peak	-5.06	42.88	74.00	-31.12

註: 1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}(1\text{GHz} \leq f < 6\text{GHz})$;HOR: $\pm 5.05\text{dB}(1\text{GHz} \leq f < 6\text{GHz})$

VER: $\pm 4.71\text{dB}(6\text{GHz} \leq f < 18\text{GHz})$;HOR: $\pm 4.96\text{dB}(6\text{GHz} \leq f < 18\text{GHz})$

VER: $\pm 5.37\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$;HOR: $\pm 5.61\text{dB}(18\text{GHz} \leq f \leq 40\text{GHz})$

10.5.2.6 測試狀態: LINK WIFI

操作模式: Mode H

File: 21-08-MAW-005

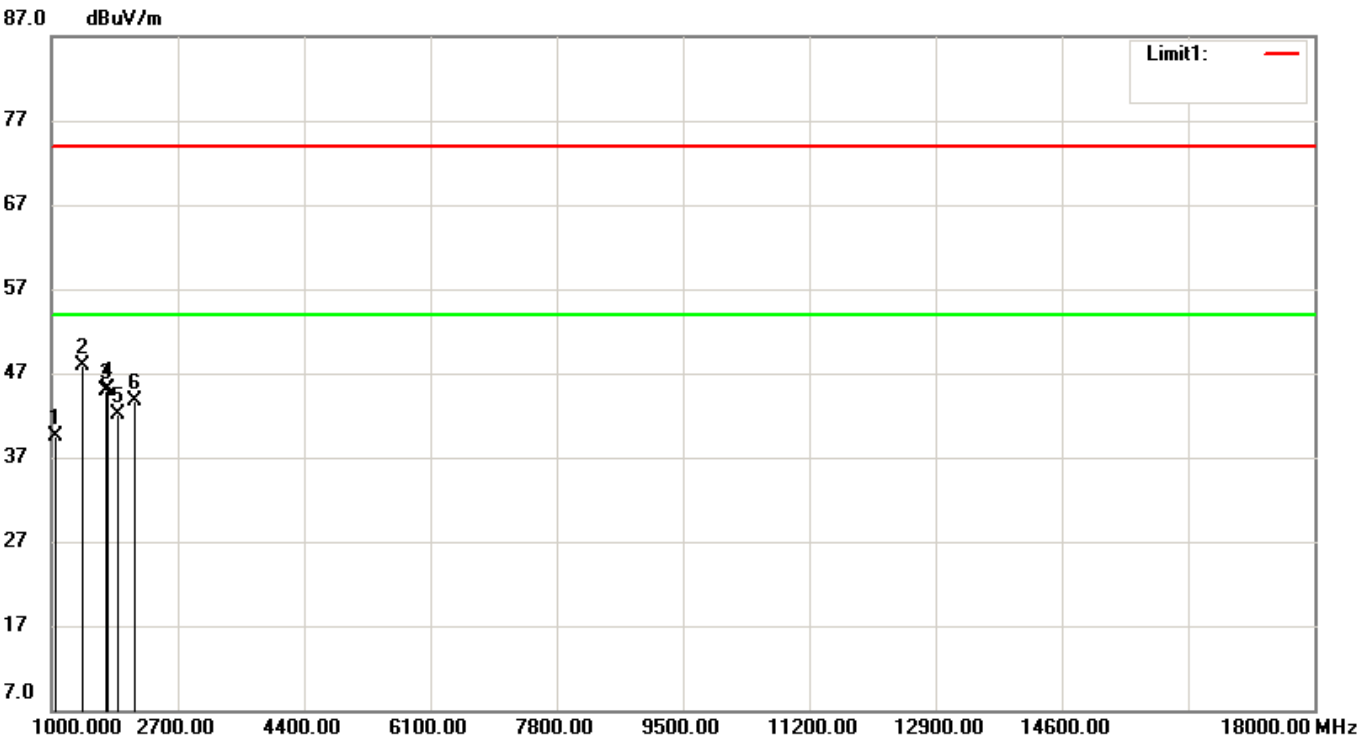
Site: RE02-EMC B1-N2

#23

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk

EUT: CV1 21 WIDE AVN

Model: VN250ASGG(SVM,Internall)

Test Mode: LINK BT

Note:

Polarization: Horizontal

Distance: 3m

Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1040.38460	48.95	peak	-9.35	39.60	74.00	-34.40
2	1390.38460	56.23	peak	-8.25	47.98	74.00	-26.02
3	1729.16660	50.91	peak	-6.07	44.84	74.00	-29.16
4	1756.08960	51.00	peak	-5.86	45.14	74.00	-28.86
5	1881.73070	47.03	peak	-4.86	42.17	74.00	-31.83
6	2106.08950	47.43	peak	-3.64	43.79	74.00	-30.21

- 註: 1. 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。
2. 量測不準確度:
- VER: ±5.32dB(1GHz≤f<6GHz) ;HOR: ±5.05dB(1GHz≤f<6GHz)

VER: ±4.71dB(6GHz≤f<18GHz) ;HOR: ±4.96dB(6GHz≤f<18GHz)

VER: ±5.37dB(18GHz≤f≤40GHz) ;HOR: ±5.61dB(18GHz≤f≤40GHz)

操作模式: Mode H

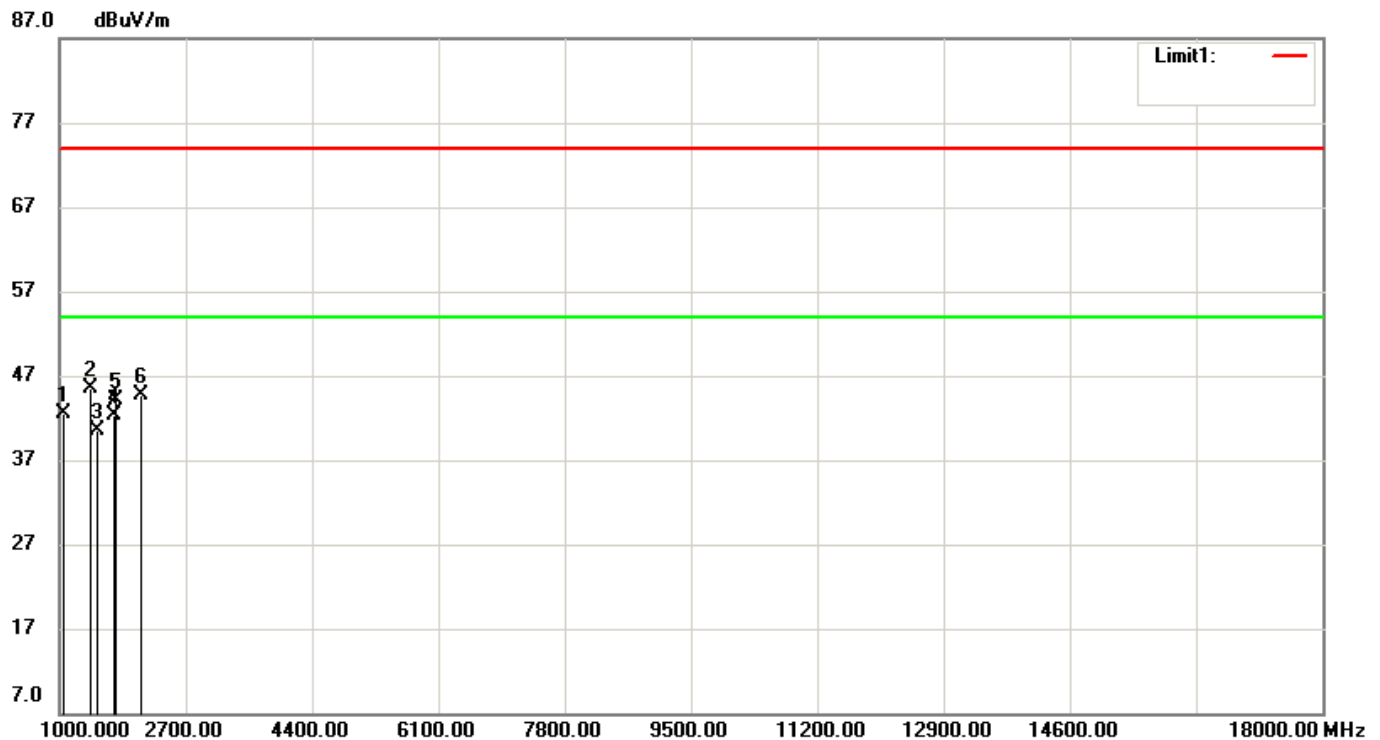
File: 21-08-MAW- #24
005

Date: 2021/8/26

Temperature: 22 °C

Site: RE02-EMC B1-
N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVN
 Model: VN250ASGG(SVM,Internall)
 Test Mode: LINK BT
 Note:

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1044.87160	51.75	peak	-9.32	42.43	74.00	-31.57
2	1394.87160	53.79	peak	-8.22	45.57	74.00	-28.43
3	1495.83330	48.41	peak	-7.91	40.50	74.00	-33.50
4	1726.92300	48.42	peak	-6.10	42.32	74.00	-31.68
5	1753.84600	49.90	peak	-5.89	44.01	74.00	-29.99
6	2074.67930	48.50	peak	-3.73	44.77	74.00	-29.23

註: 1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.2.7 測試狀態: USB

操作模式: Mode I

File: 21-08-MAW-005

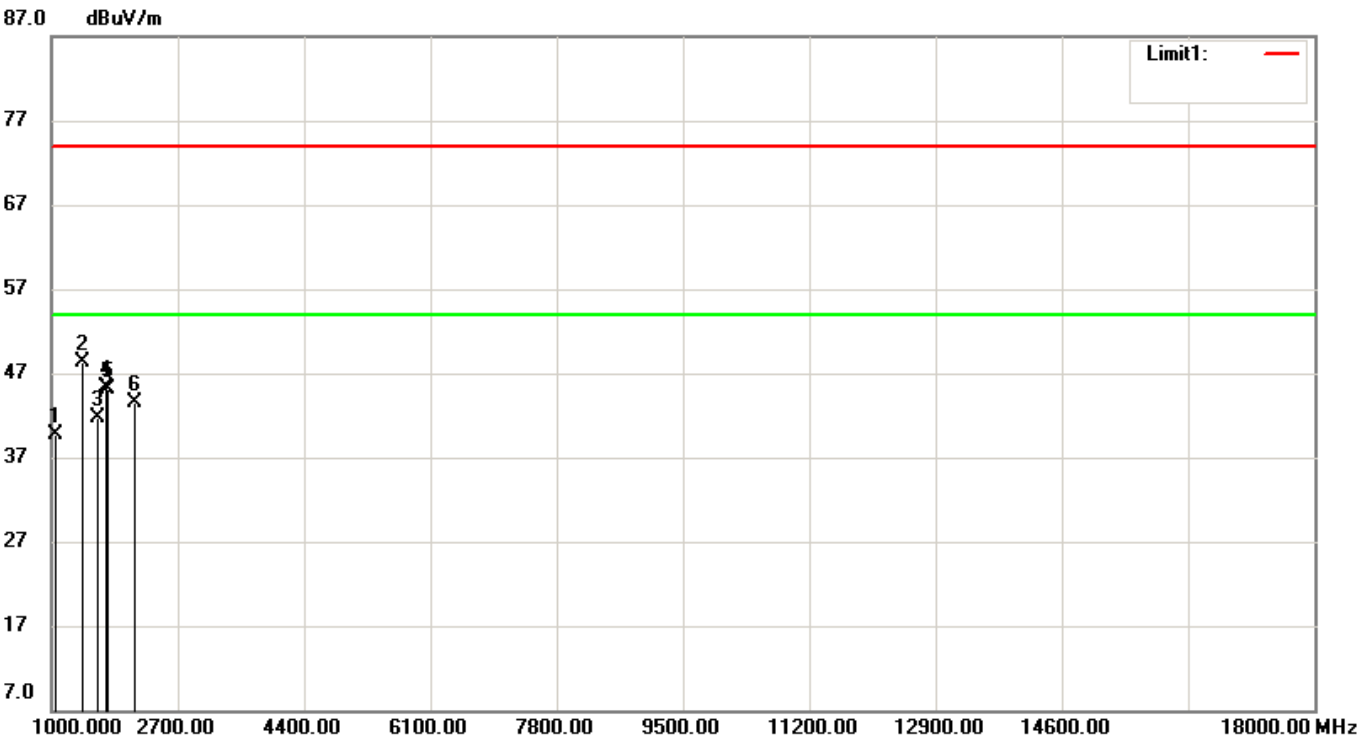
Site: RE02-EMC B1-N2

#21

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_Above1G_Pk

EUT: CV1 21 WIDE AVN

Model: VN250ASGG(SVM,Internall)

Test Mode: USB

Note:

Polarization: Horizontal

Distance: 3m

Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1047.11520	49.07	peak	-9.32	39.75	74.00	-34.25
2	1394.87160	56.62	peak	-8.22	48.40	74.00	-25.60
3	1601.28200	48.75	peak	-7.09	41.66	74.00	-32.34
4	1731.41020	51.30	peak	-6.06	45.24	74.00	-28.76
5	1760.57700	50.94	peak	-5.82	45.12	74.00	-28.88
6	2090.38450	47.11	peak	-3.68	43.43	74.00	-30.57

- 註: 1. 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。
2. 量測不準確度:
- VER: ±5.32dB(1GHz≤f<6GHz) ;HOR: ±5.05dB(1GHz≤f<6GHz)

VER: ±4.71dB(6GHz≤f<18GHz) ;HOR: ±4.96dB(6GHz≤f<18GHz)

VER: ±5.37dB(18GHz≤f≤40GHz) ;HOR: ±5.61dB(18GHz≤f≤40GHz)

操作模式: Mode I

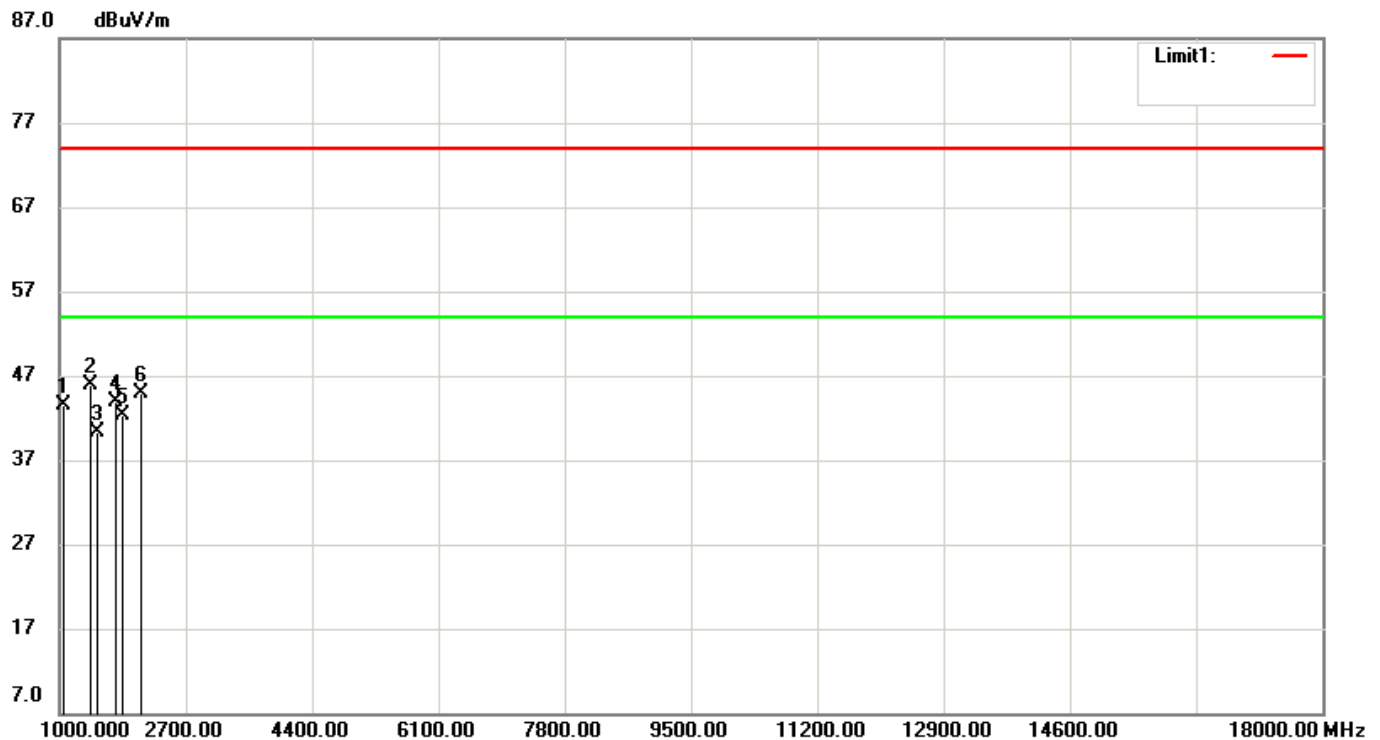
File: 21-08-MAW- #22
005

Date: 2021/8/26

Temperature: 22 °C

Site: RE02-EMC B1-
N2

Humidity: 60 %



Condition: NCC_Above1G_Pk
 EUT: CV1 21 WIDE AVN
 Model: VN250ASGG(SVM,Internall)
 Test Mode: USB
 Note:

Polarization: Vertical
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	1044.87160	52.76	peak	-9.32	43.44	74.00	-30.56
2	1392.62820	54.12	peak	-8.24	45.88	74.00	-28.12
3	1495.83330	48.29	peak	-7.91	40.38	74.00	-33.62
4	1758.33330	49.84	peak	-5.84	44.00	74.00	-30.00
5	1827.88460	47.66	peak	-5.29	42.37	74.00	-31.63
6	2074.67930	48.66	peak	-3.73	44.93	74.00	-29.07

註: 1. 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。

2. 量測不準確度:

VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$) ; HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

VER: $\pm 4.71\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$) ; HOR: $\pm 4.96\text{dB}$ ($6\text{GHz} \leq f < 18\text{GHz}$)

VER: $\pm 5.37\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$) ; HOR: $\pm 5.61\text{dB}$ ($18\text{GHz} \leq f \leq 40\text{GHz}$)

10.5.3 其它不必要之訊號

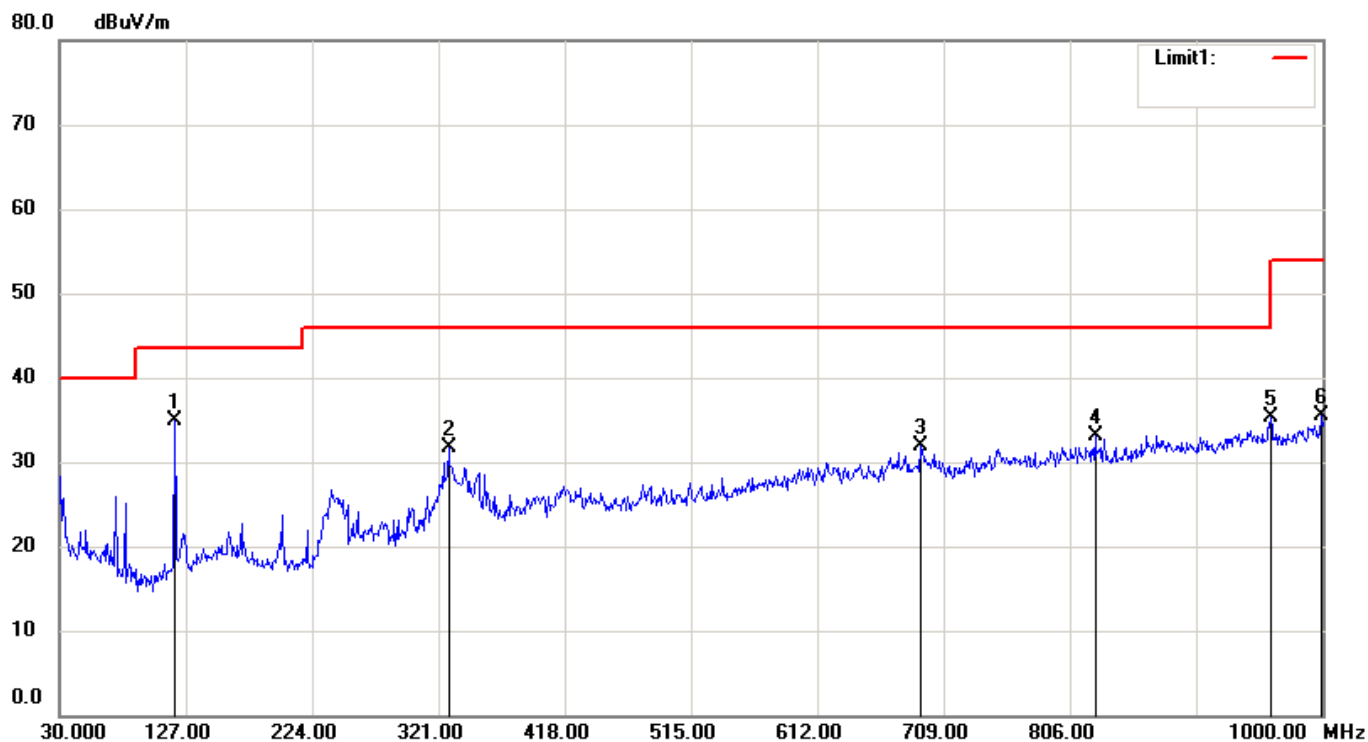
10.5.3.1 測試狀態: IEEE 802.11a

File: 21-08-MAW- #5
 005_Below 1G
 Site: RE02-EMC B1-
 N2

Date: 2021/10/4

Temperature: 23 °C

Humidity: 58 %



Condition: NCC_LP0002_30-1000MHz
 EUT: CV1 21 WIDE AVM
 Model: VN251ASGG
 Test Mode: Band3
 Note:

Polarization: Horizontal
 Distance: 3m
 Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	118.2700	44.66	QP	-9.78	34.88	43.50	-8.62
2	328.7600	36.57	QP	-4.83	31.74	46.00	-14.26
3	691.5400	29.90	QP	2.08	31.98	46.00	-14.02
4	825.4000	28.59	QP	4.47	33.06	46.00	-12.94
5	960.2300	28.23	QP	7.05	35.28	54.00	-18.72
6	999.0300	27.72	QP	7.78	35.50	54.00	-18.50

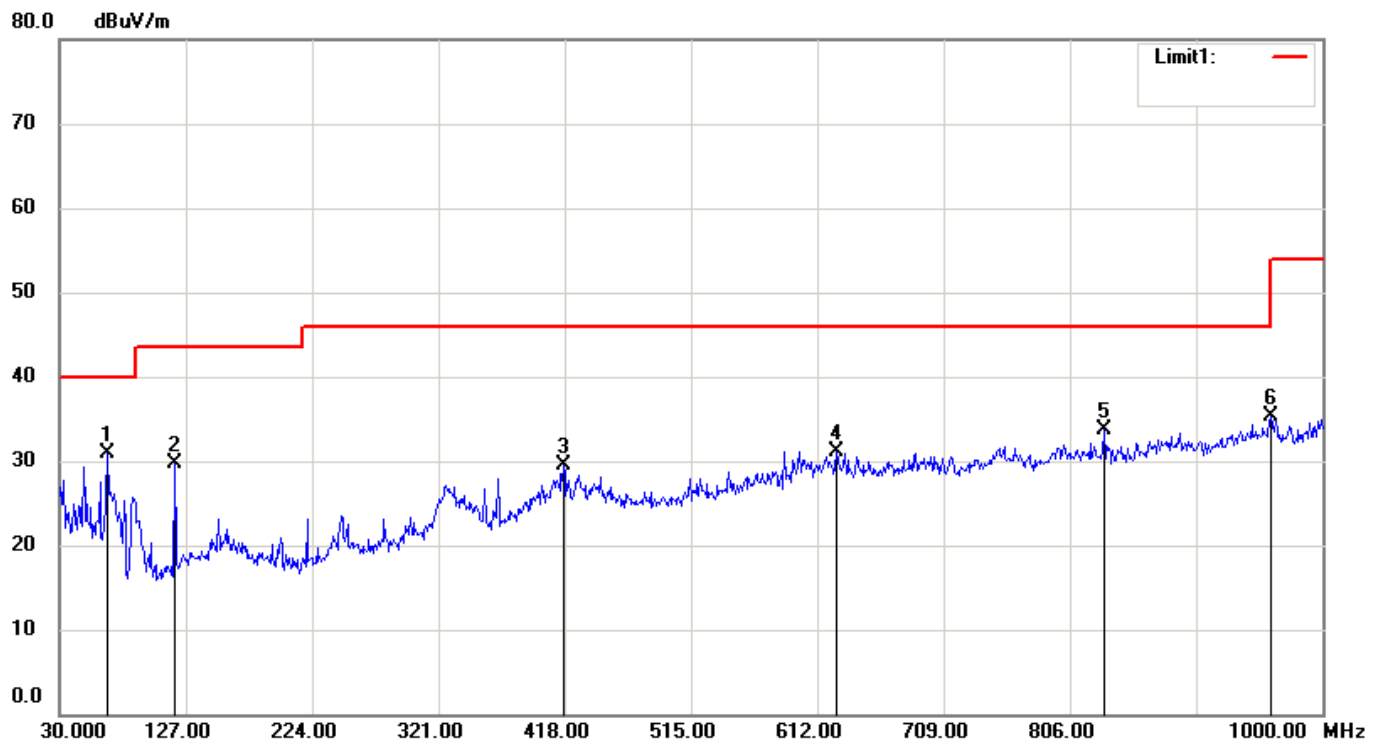
File: 21-08-MAW-005_Below 1G
Site: RE02-EMC B1-N2

#6

Date: 2021/10/4

Temperature: 23 °C

Humidity: 58 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVM
Model: VN251ASGG
Test Mode: Band3
Note:

Polarization: Vertical
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	66.8600	40.39	QP	-9.56	30.83	40.00	-9.17
2	118.2700	39.47	QP	-9.78	29.69	43.50	-13.81
3	417.0300	32.52	QP	-2.96	29.56	46.00	-16.44
4	626.5500	30.14	QP	0.93	31.07	46.00	-14.93
5	832.1900	29.05	QP	4.61	33.66	46.00	-12.34
6	960.2300	28.24	QP	7.05	35.29	54.00	-18.71

註：1. 若以峰值檢測功能測量之值符合準峰值限制值，則可視同以準峰值功能測量之值亦符合準峰值限制值。

2. 量測不準確度：

VER: $\pm 6.23\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$) ; HOR: $\pm 4.55\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$)

VER: $\pm 5.94\text{dB}$ ($2000\text{MHz} \leq f < 1\text{GHz}$) ; HOR: $\pm 4.34\text{dB}$ ($200\text{MHz} \leq f < 1\text{GHz}$)

10.5.3.2 測試狀態: LINK BT

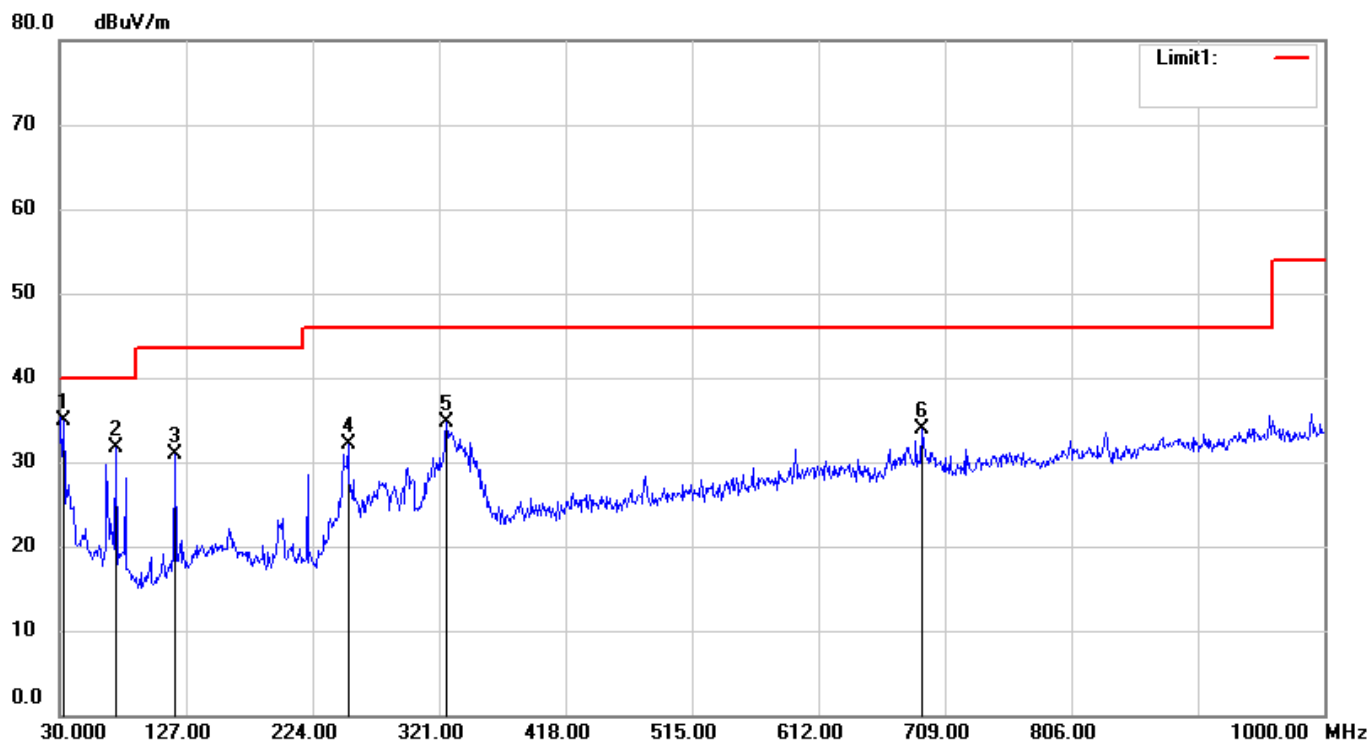
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#5

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: LINK BT
Note:

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	43.96	QP	-8.97	34.99	40.00	-5.01
2	73.6500	42.38	QP	-10.63	31.75	40.00	-8.25
3	118.2700	40.66	QP	-9.78	30.88	43.50	-12.62
4	251.1600	39.23	QP	-7.21	32.02	46.00	-13.98
5	326.8200	39.64	QP	-4.88	34.76	46.00	-11.24
6	691.5400	31.74	QP	2.08	33.82	46.00	-12.18

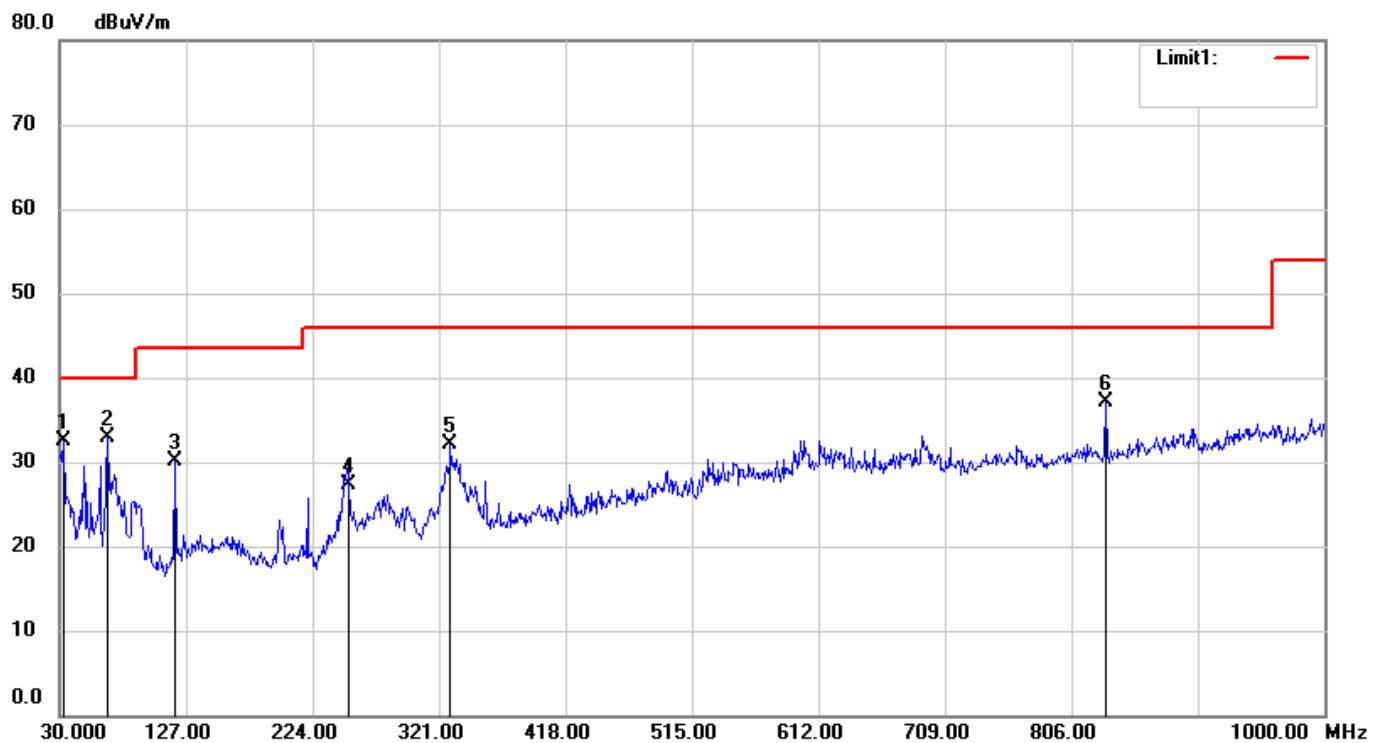
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#6

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: LINK BT
Note:

Polarization: Vertical
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	41.47	QP	-8.97	32.50	40.00	-7.50
2	66.8600	42.53	QP	-9.56	32.97	40.00	-7.03
3	118.2700	39.83	QP	-9.78	30.05	43.50	-13.45
4	252.1300	34.49	QP	-7.19	27.30	46.00	-18.70
5	329.7300	36.82	QP	-4.81	32.01	46.00	-13.99
6	832.1900	32.48	QP	4.61	37.09	46.00	-8.91

註：1. 若以峰值檢測功能測量之值符合準峰值限制值，則可視同以準峰值功能測量之值亦符合準峰值限制值。

2. 量測不準確度:

VER: $\pm 6.23\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$) ; HOR: $\pm 4.55\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$)

VER: $\pm 5.94\text{dB}$ ($2000\text{MHz} \leq f < 1\text{GHz}$) ; HOR: $\pm 4.34\text{dB}$ ($200\text{MHz} \leq f < 1\text{GHz}$)

10.5.3.3 測試狀態: LINK WIFI

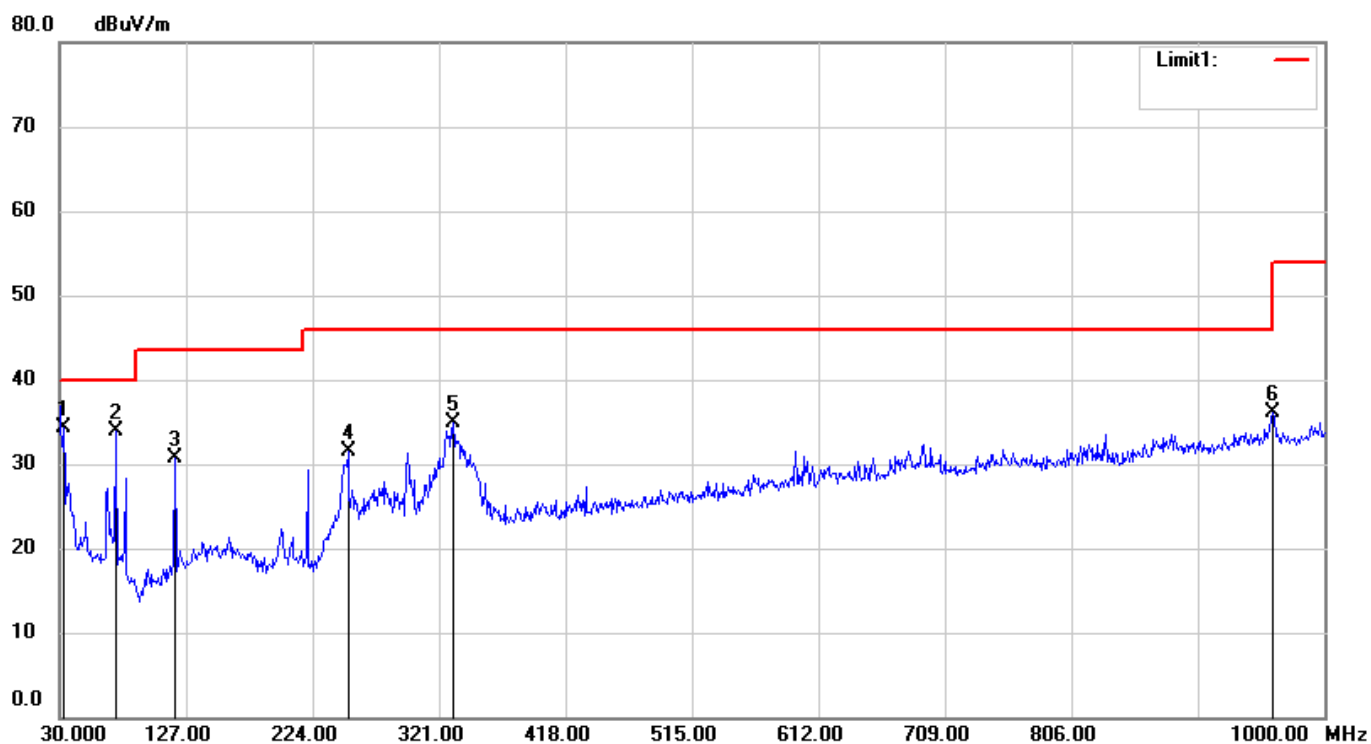
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#3

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: LINK WIFI
Note:

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	43.33	QP	-8.97	34.36	40.00	-5.64
2	72.6800	44.39	QP	-10.46	33.93	40.00	-6.07
3	118.2700	40.39	QP	-9.78	30.61	43.50	-12.89
4	251.1600	38.78	QP	-7.21	31.57	46.00	-14.43
5	331.6700	39.66	QP	-4.76	34.90	46.00	-11.10
6	960.2300	29.02	QP	7.05	36.07	54.00	-17.93

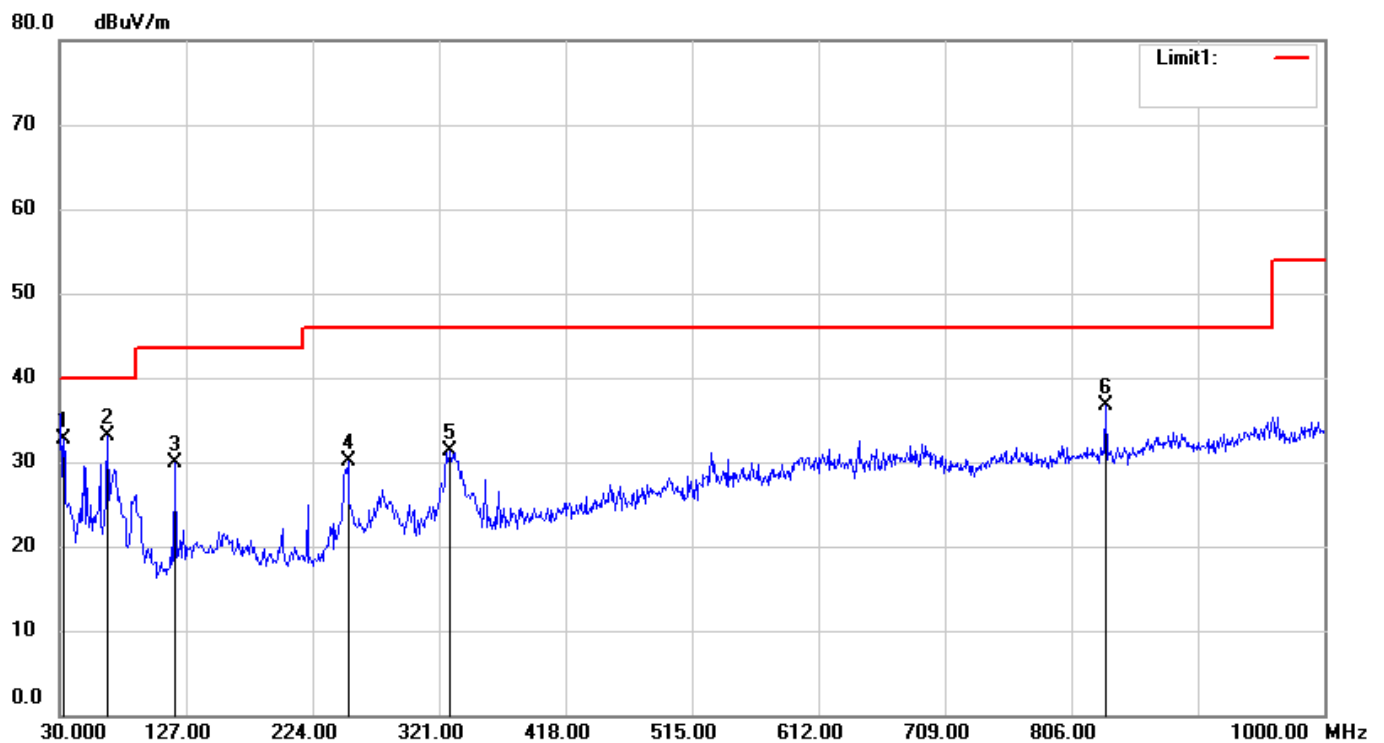
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#4

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: LINK WIFI
Note:

Polarization: Vertical
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	41.58	QP	-8.97	32.61	40.00	-7.39
2	66.8600	42.76	QP	-9.56	33.20	40.00	-6.80
3	118.2700	39.74	QP	-9.78	29.96	43.50	-13.54
4	251.1600	37.23	QP	-7.21	30.02	46.00	-15.98
5	329.7300	36.14	QP	-4.81	31.33	46.00	-14.67
6	832.1900	32.11	QP	4.61	36.72	46.00	-9.28

註：1. 若以峰值檢測功能測量之值符合準峰值限制值，則可視同以準峰值功能測量之值亦符合準峰值限制值。

2. 量測不準確度:

VER: $\pm 6.23\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$) ; HOR: $\pm 4.55\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$)

VER: $\pm 5.94\text{dB}$ ($2000\text{MHz} \leq f < 1\text{GHz}$) ; HOR: $\pm 4.34\text{dB}$ ($200\text{MHz} \leq f < 1\text{GHz}$)

10.5.3.4 測試狀態: USB

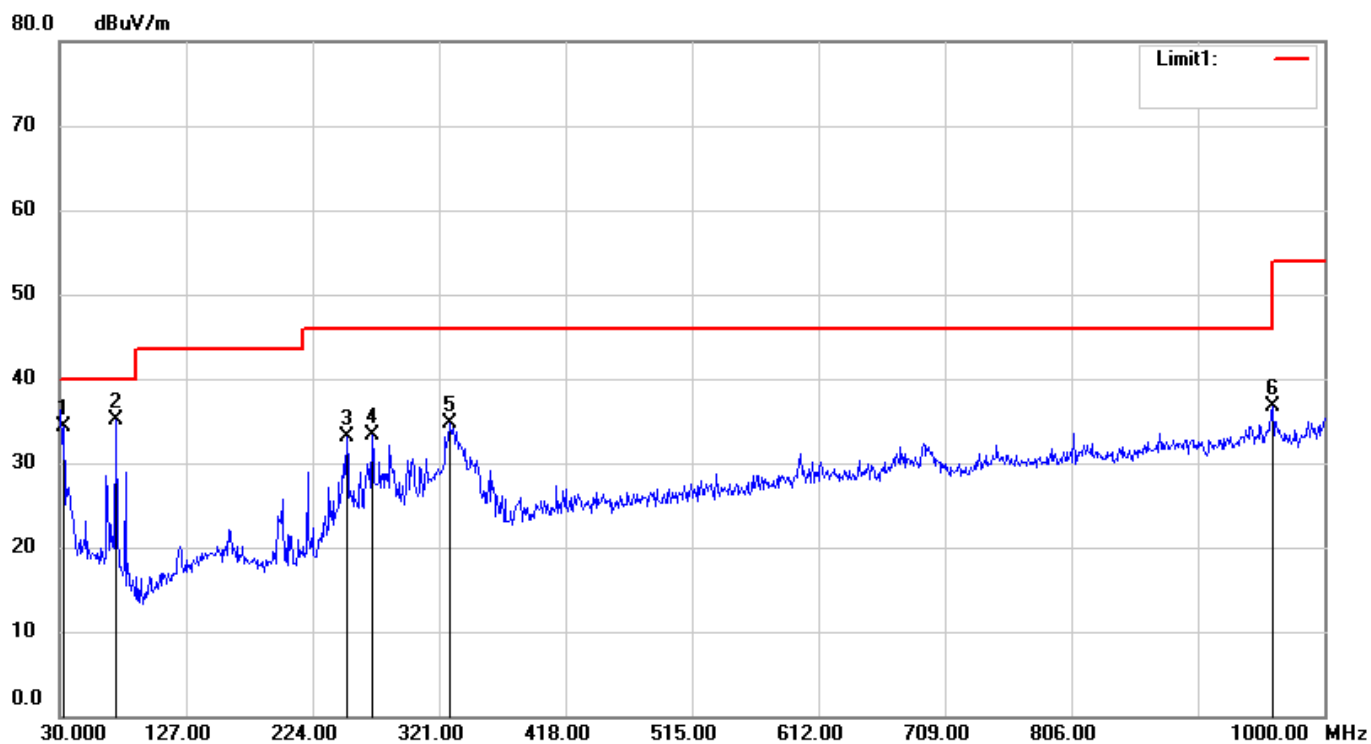
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#1

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: USB
Note:

Polarization: Horizontal
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	32.9100	43.21	QP	-8.97	34.24	40.00	-5.76
2	72.6800	45.58	QP	-10.46	35.12	40.00	-4.88
3	250.1900	40.39	QP	-7.23	33.16	46.00	-12.84
4	269.5900	39.76	QP	-6.50	33.26	46.00	-12.74
5	329.7300	39.52	QP	-4.81	34.71	46.00	-11.29
6	960.2300	29.67	QP	7.05	36.72	54.00	-17.28

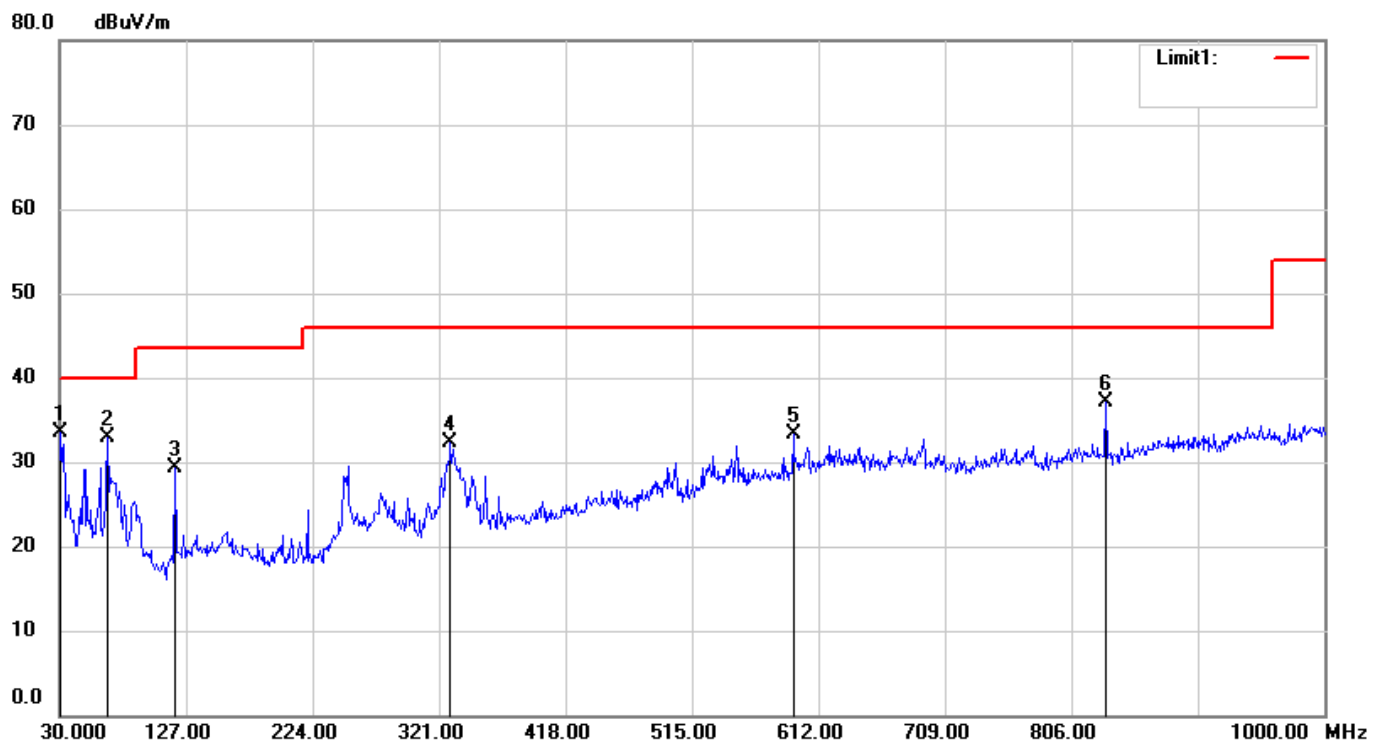
File: 21-08-MAW-005
Site: RE02-EMC B1- N2

#2

Date: 2021/8/26

Temperature: 22 °C

Humidity: 60 %



Condition: NCC_LP0002_30-1000MHz
EUT: CV1 21 WIDE AVN
Model: VN250ASGG(SVM,Internall)
Test Mode: USB
Note:

Polarization: Vertical
Distance: 3m
Operator: Phillip

No.	Frequency (MHz)	Reading (dBuV/m)	Detector	Corrected dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1	30.9700	42.59	QP	-9.12	33.47	40.00	-6.53
2	66.8600	42.54	QP	-9.56	32.98	40.00	-7.02
3	118.2700	39.02	QP	-9.78	29.24	43.50	-14.26
4	329.7300	37.09	QP	-4.81	32.28	46.00	-13.72
5	592.6000	32.78	QP	0.46	33.24	46.00	-12.76
6	832.1900	32.47	QP	4.61	37.08	46.00	-8.92

註：1. 若以峰值檢測功能測量之值符合準峰值限制值，則可視同以準峰值功能測量之值亦符合準峰值限制值。

2. 量測不準確度:

VER: $\pm 6.23\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$) ; HOR: $\pm 4.55\text{dB}$ ($30\text{MHz} \leq f < 200\text{MHz}$)

VER: $\pm 5.94\text{dB}$ ($2000\text{MHz} \leq f < 1\text{GHz}$) ; HOR: $\pm 4.34\text{dB}$ ($200\text{MHz} \leq f < 1\text{GHz}$)

10.6 頻帶外邊緣輻射場強之量測結果

操作模式: 發射接收

測試日期: Oct. 01, 2021

環境溫度: 23°C

環境濕度: 60%

10.6.1 調變技術: IEEE 802.11a

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
5460.000	25.55	11.34	25.29	11.22	38.83	64.38	50.17	74.00	54.00	-9.62	-3.83

10.6.2 調變技術: IEEE 802.11ac (20MHz)

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
5460.000	25.17	11.26	25.62	11.26	38.83	64.45	50.09	74.00	54.00	-9.55	-3.91

10.6.3 調變技術: IEEE 802.11ac (40MHz)

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
5460.000	25.12	11.30	25.55	11.23	38.83	64.38	50.13	74.00	54.00	-9.62	-3.87

10.6.4 調變技術: IEEE 802.11ac (80MHz)

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
5460.000	25.58	11.63	25.35	11.54	38.83	64.41	50.46	74.00	54.00	-9.59	-3.54

註:1. 量測不準確度:VER: $\pm 5.32\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$); HOR: $\pm 5.05\text{dB}$ ($1\text{GHz} \leq f < 6\text{GHz}$)

2. 量測頻率範圍為 4500 ~ 5250 MHz 及 5350 ~ 5460 MHz，並記錄兩頻率範圍中之最大讀值。

10.7 頻帶外邊緣直接量測之量測結果

調變技術: IEEE 802.11a

File: 21-08-MAW-005_5-6a

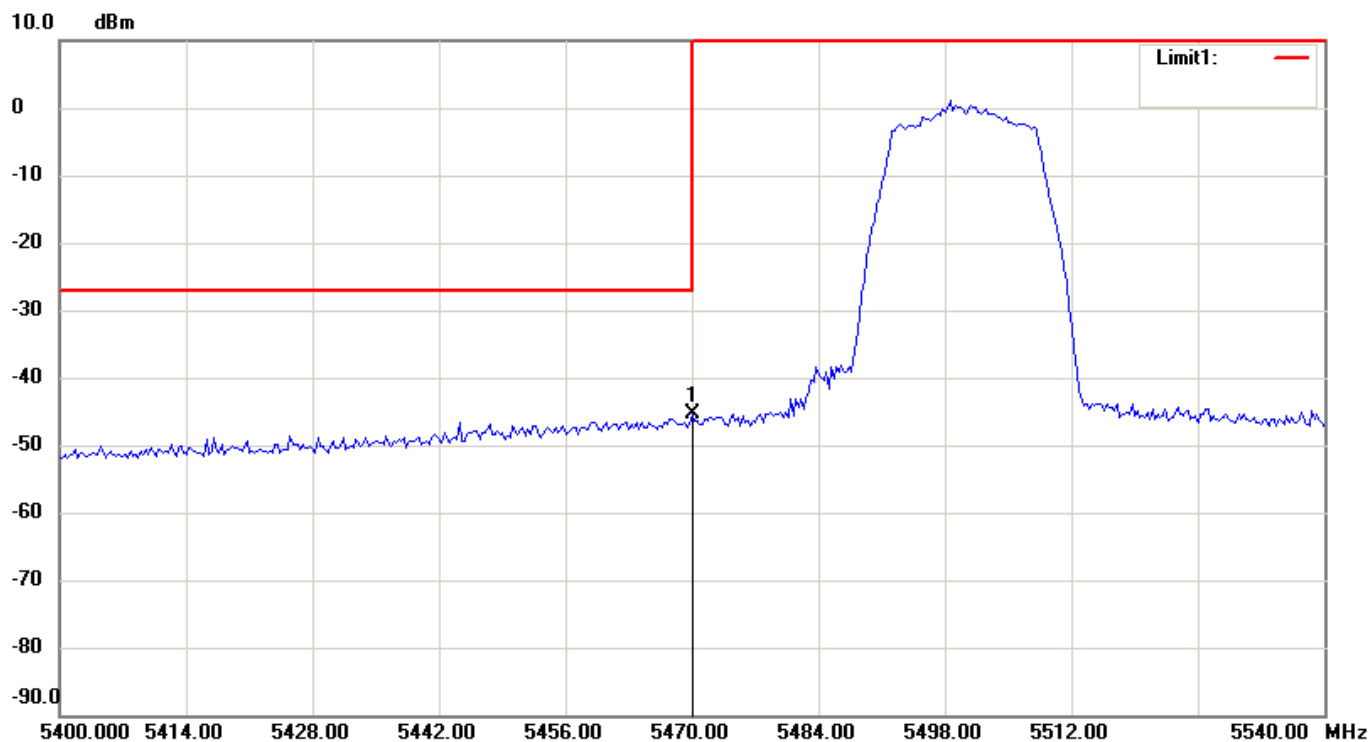
#7

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a Channel 100_Low_Bandedge

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5470.00000	-45.30

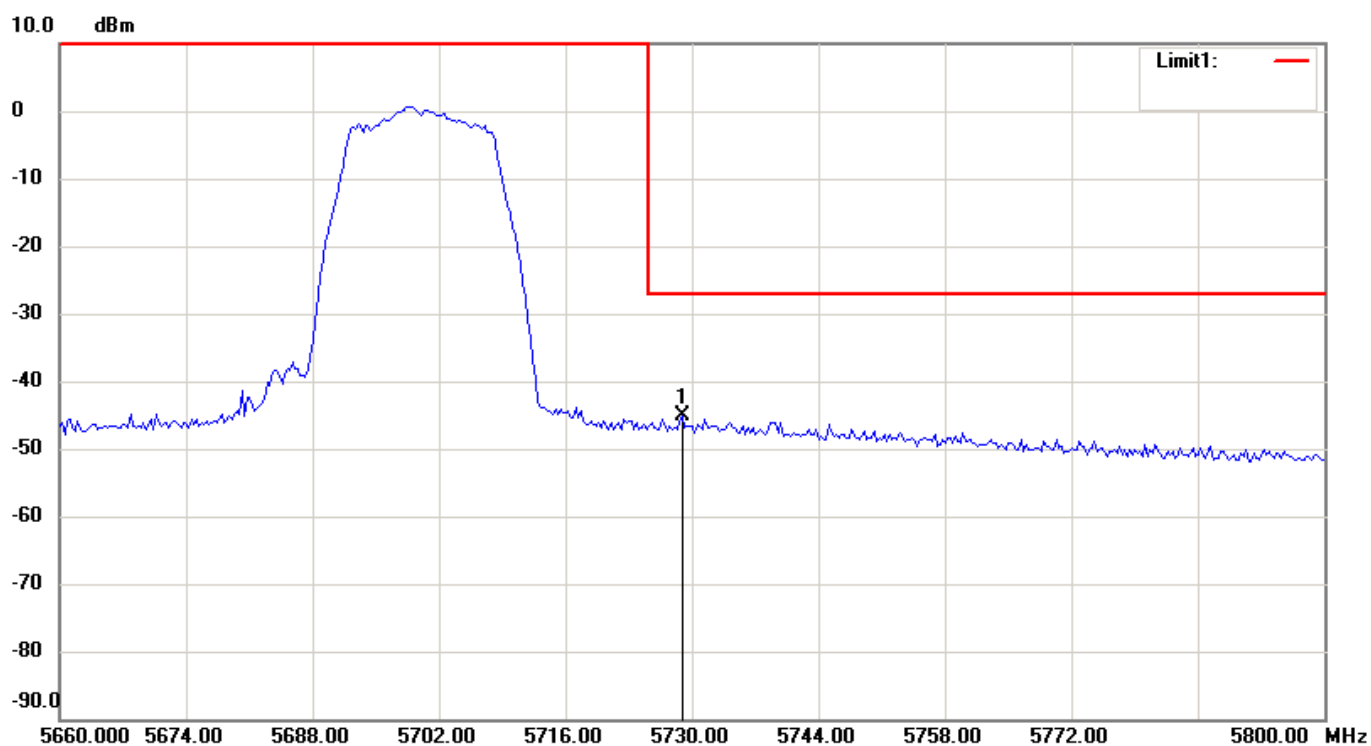
File: 21-08-MAW-005_5-6a
Site: RF-Cond01

#20

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Note: NCC_LP0002_802.11a Channel 140_High_Bandedge

RF Conducted

Sweep Time: 1ms Att.: 15dB

RBW: 1000 KHz VBW: 3000 KHz

Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5728.88000	-45.05

調變技術: IEEE 802.11ac (20MHz)

File: 21-08-MAW-005_5-6ac20

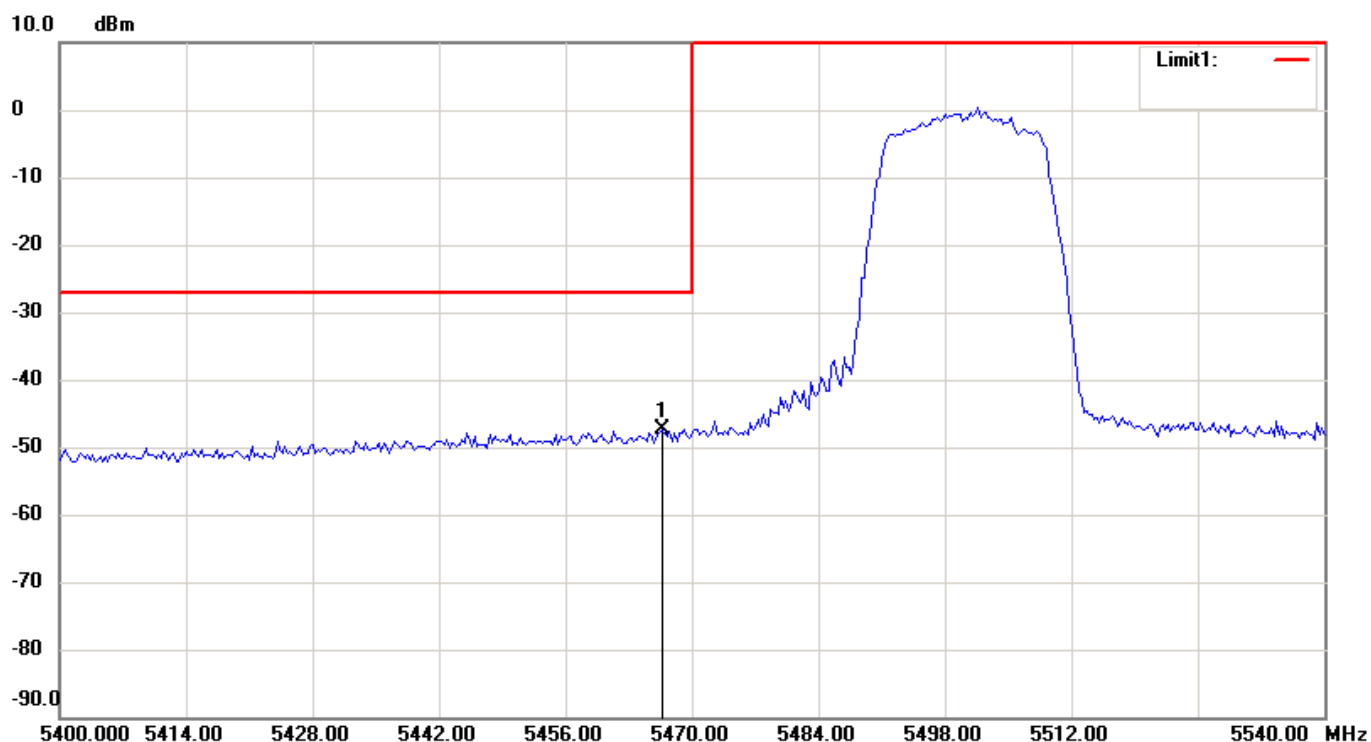
#7

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz

VBW: 3000 KHz

Test Mode: UNII

Operator:

Phillip

Note: NCC_LP0002_802.11ac20 Channel 100_Low_Bandedge

No.	Frequency(MHz)	Level(dBm)
1	5466.64000	-47.37

File: 21-08-MAW-005_5-6ac20

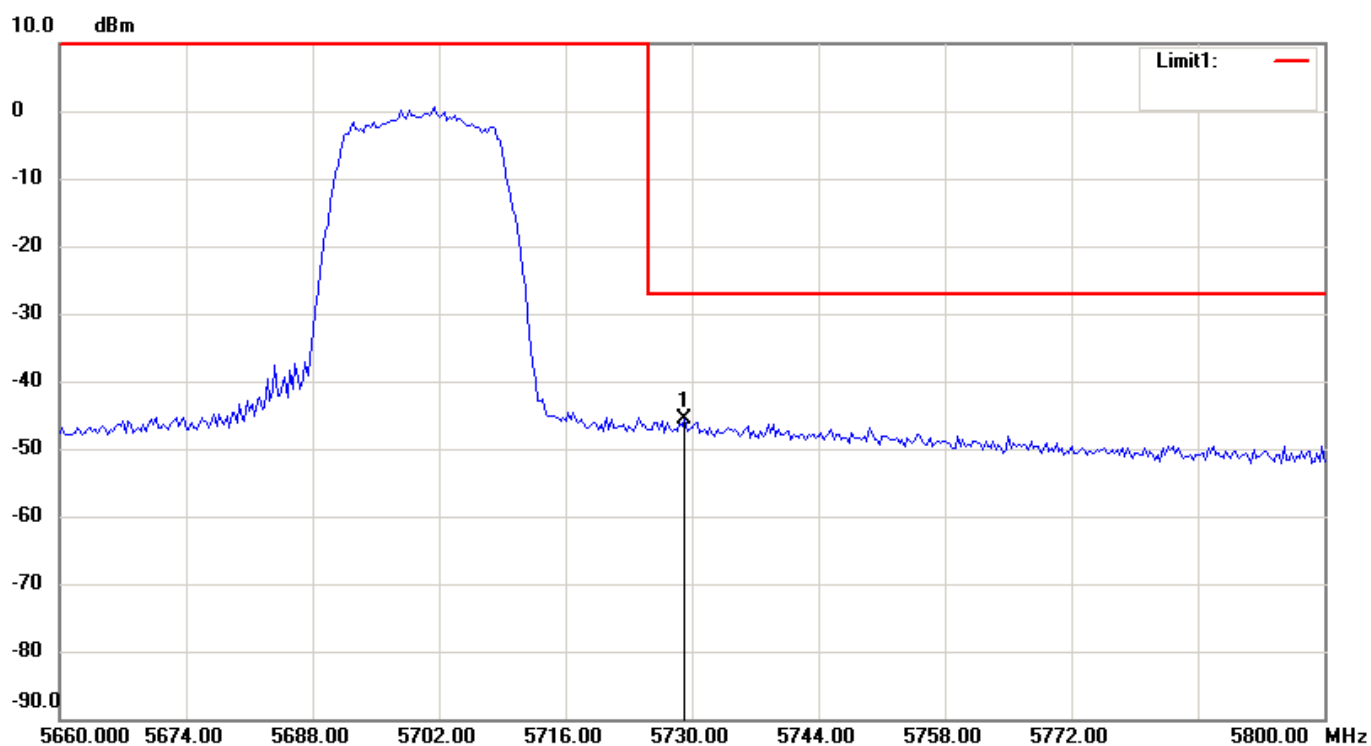
#20

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac20 Channel 140_High_Bandedge

No.	Frequency(MHz)	Level(dBm)
1	5729.16000	-45.62

調變技術: IEEE 802.11ac (40MHz)

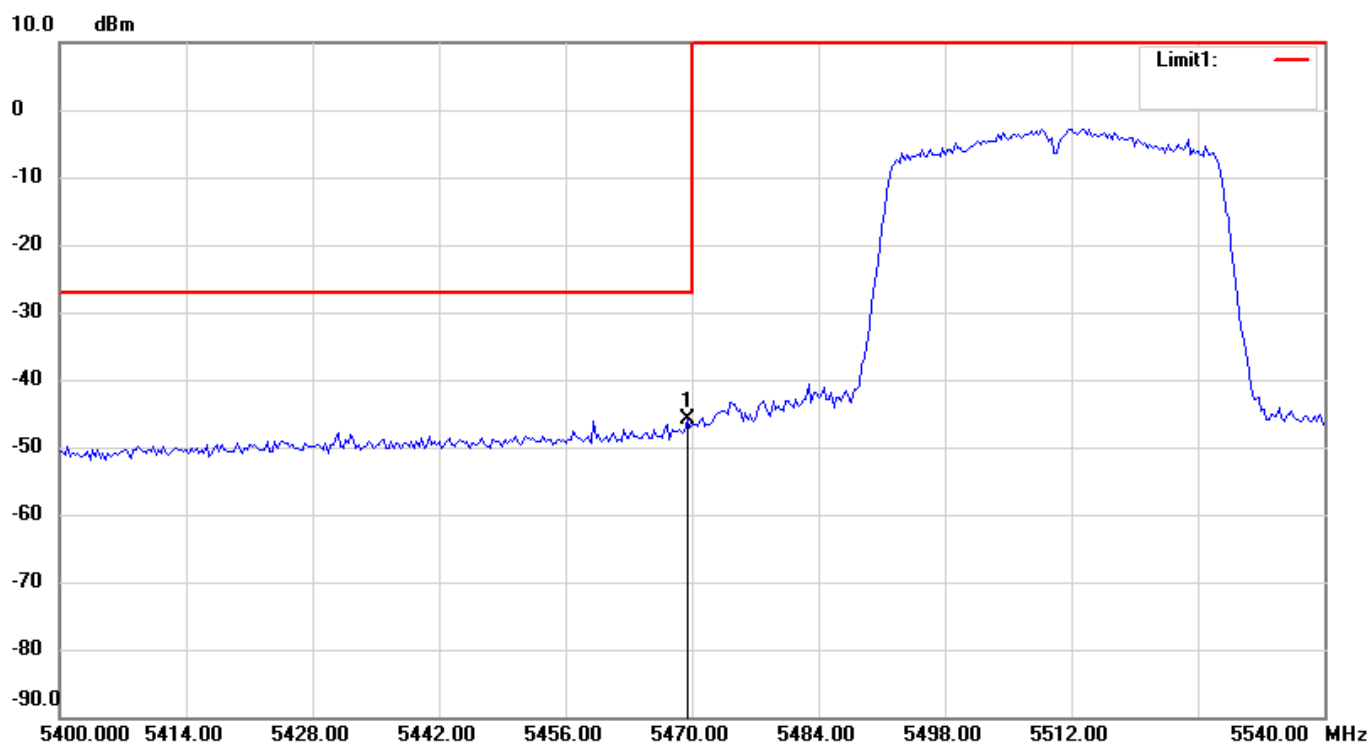
File: 21-08-MAW-005_5-6ac40
Site: RF-Cond01

#27

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge
EUT: CV1 21 WIDE AVN
Model: VN251ASGG
Test Mode: UNII
Note: NCC_LP0002_802.11ac40 Channel 102_Low_Bandedge

RF Conducted
Sweep Time: 1ms Att.: 15dB
RBW: 1000 KHz VBW: 3000 KHz
Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5469.44000	-45.93

File: 21-08-MAW-005_5-6ac40

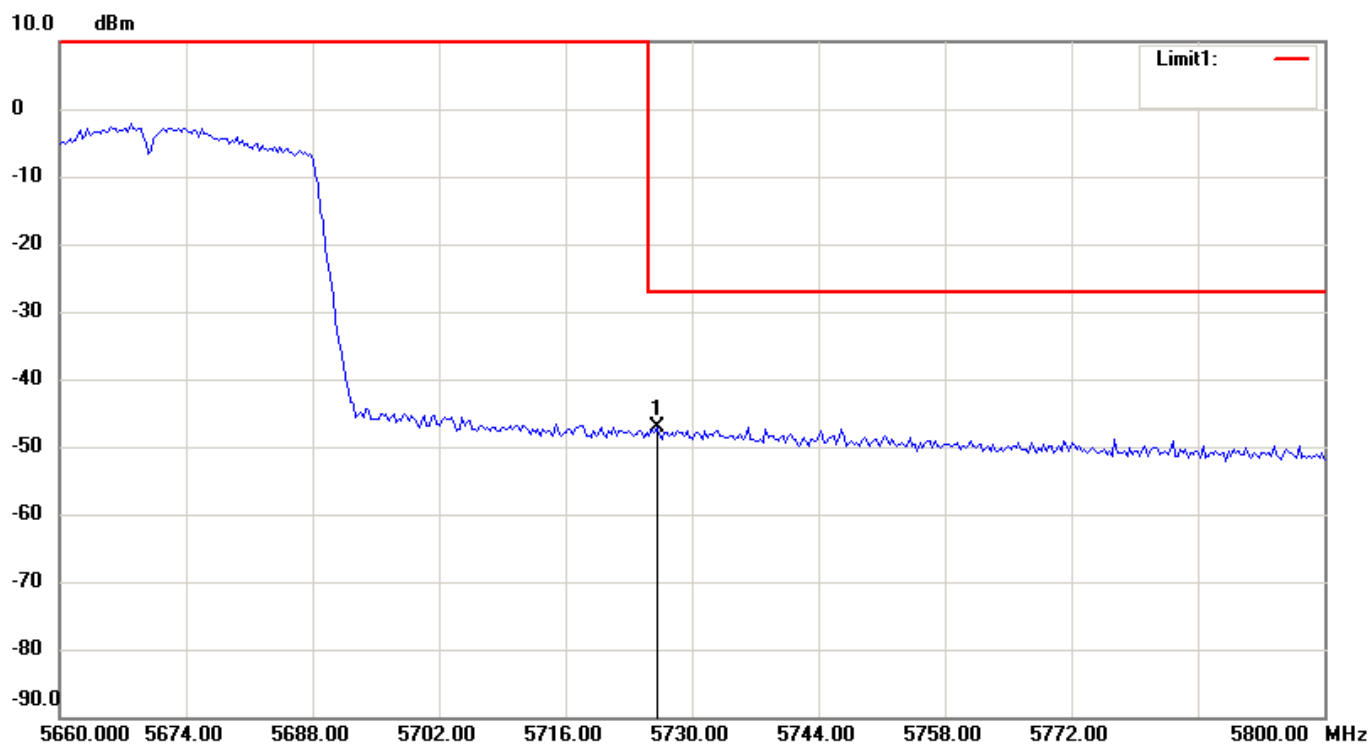
#40

Date: 2021/9/13

Temperature: 25 °C

Site: RF-Cond01

Humidity: 50 %



Condition: UNII-Band-3-Bandedge

RF Conducted

EUT: CV1 21 WIDE AVN

Sweep Time: 1ms Att.: 15dB

Model: VN251ASGG

RBW: 1000 KHz VBW: 3000 KHz

Test Mode: UNII

Operator: Phillip

Note: NCC_LP0002_802.11ac40 Channel 134_High_Bandedge

No.	Frequency(MHz)	Level(dBm)
1	5726.08000	-47.08

調變技術: IEEE 802.11ac80

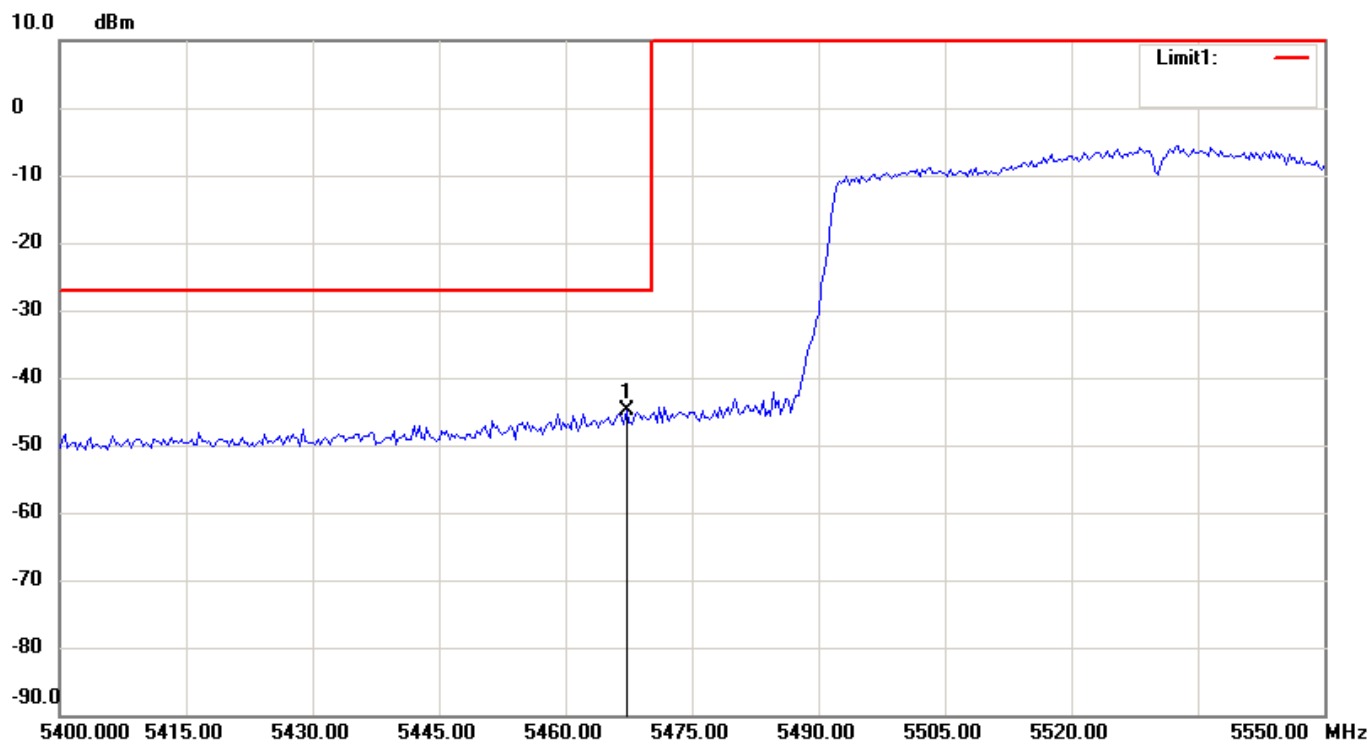
File: 21-08-MAW-005_5-6ac80
 Site: RF-Cond01

#15

Date: 2021/9/13

Temperature: 25 °C

Humidity: 50 %



Condition: UNII-Band-3-Bandedge
 EUT: CV1 21 WIDE AVN
 Model: VN251ASGG
 Test Mode: UNII
 Note: NCC_LP0002_802.11ac80 Channel 106_Low_Bandedge

RF Conducted
 Sweep Time: 1ms Att.: 15dB
 RBW: 1000 KHz VBW: 3000 KHz
 Operator: Phillip

No.	Frequency(MHz)	Level(dBm)
1	5467.20000	-44.87

10.8 結果判定

以上頻帶外邊緣測試之結果皆低於限制值 -27dBm，合乎標準規定。

10.9 輻射之測試配置

圖 2: 量測頻率低於1GHz之測試配置

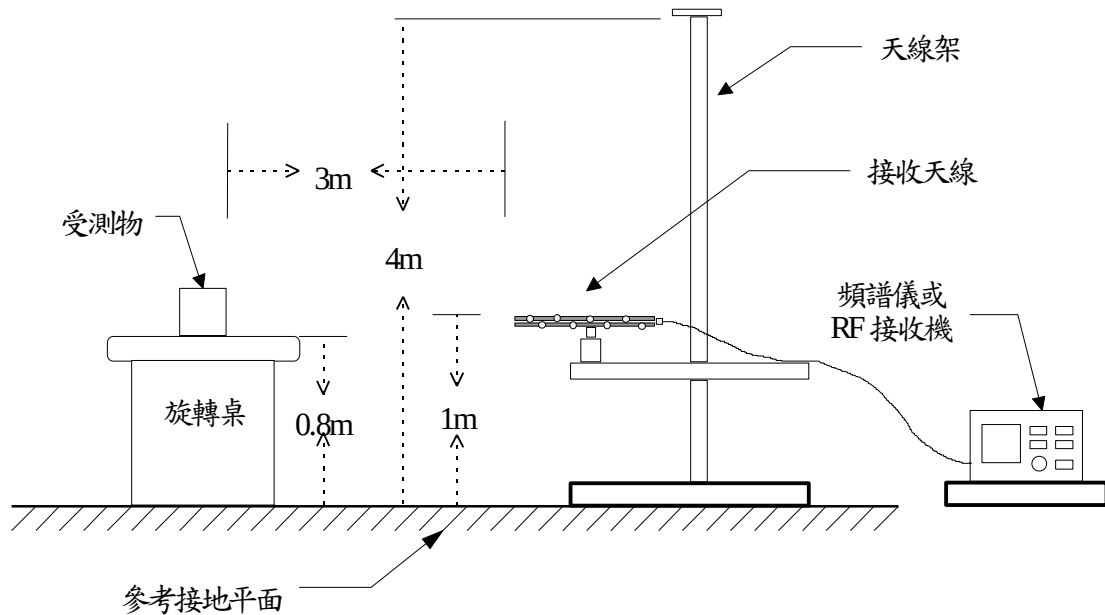
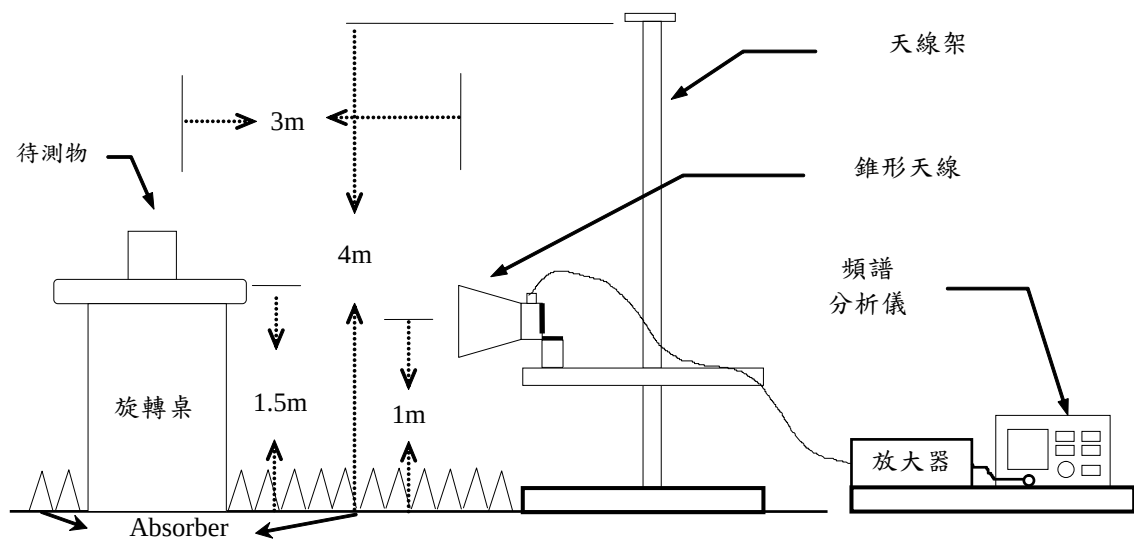


圖 3: 量測頻率高於1GHz之測試配置



10.10 輻射量測之配置照片

請參考產品照片

11 發射功率控制(TPC)之量測

11.1 發射功率控制(TPC)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4.7.7.1節之規定，操作於 5.25GHz ~5.35GHz 與5.470GHz~5.725GHz 頻段的設備，應具備發射功率控制機能。設備必須至少具有6dB 低於平均 EIRP 30dBm 的能力。EIRP 低於 500mW 之系統不須具備TPC機能。

11.2 發射功率控制(TPC)之測試配置

如圖 1 所示。

11.3 適用性

Highest Power Level in DFS Bnd (EIRP)		6.12 dBm+ 4.58 dBi = 10.7 dBm = 11.75 mW
☒	EIRP < 500 mW	Not Applicable
☐	EIRP $\geq$ 500 mW	Applicable

12 動態頻率選擇(DFS)之量測

12.1 LIMITS

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.7.2 節之規定與 FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 COMPLIANCE MEASUREMENT PROCEDURES FOR UNLICENSED-NATIONAL INFORMATION INFRASTRUCTURE DEVICES OPERATING IN THE 5250-5350 MHz AND 5470-5725 MHz BANDS INCORPORATING DYNAMIC FREQUENCY SELECTION.

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>U-NII Detection Bandwidth and Statistical Performance Check</i>	All BW modes must be tested	Not required
<i>Channel Move Time and Channel Closing Transmission Time</i>	Test using widest BW mode available	Test using the widest BW mode available for the link
<i>All other tests</i>	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

Table 4: DFS Response Requirement Values

Parameter	Value
<i>Non-occupancy period</i>	Minimum 30 minutes
<i>Channel Availability Check Time</i>	60 seconds
<i>Channel Move Time</i>	10 seconds See Note 1.
<i>Channel Closing Transmission Time</i>	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
<i>U-NII Detection Bandwidth</i>	Minimum 100% of the U-NII 99% transmission power bandwidth. See Note 3.
Note 1: <i>Channel Move Time</i> and the <i>Channel Closing Transmission Time</i> should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The <i>Channel Closing Transmission Time</i> is comprised of 200 milliseconds starting at the beginning of the <i>Channel Move Time</i> plus any additional intermittent control signals required to facilitate a <i>Channel</i> move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the <i>U-NII Detection Bandwidth</i> detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A	$\text{Roundup} \left\{ \left\lceil \frac{1}{360} \right\rceil \cdot \left\lceil \frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right\rceil \right\}$	60%	30
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

12.2 產品描述

12.2.1 待測物

DFS 操作頻帶	☒ 5470MHz~5725MHz
操作模式	☐ 主控 (Master)
	☒ 受控 (Client without In-Service Monitoring)
	☐ 受控 (Client with In-Service Monitoring)
頻道負載運作方式	☒ IP Based System
	☐ Frame Based System
	☐ Other System _____

Note: The tested level is lower thn the required level hence it provides margin to the limit.

12.3 測試系統

12.3.1 系統描述

12.3.1.1 雷達信號

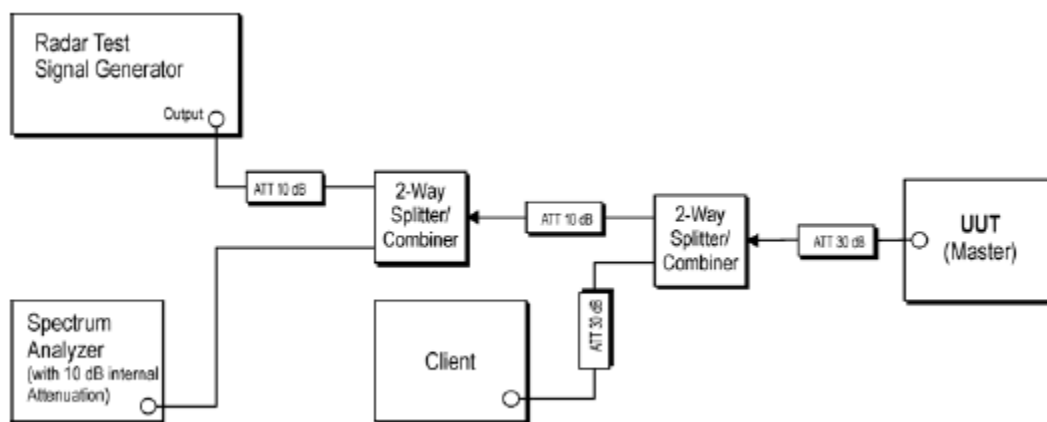
所有雷達信號依據 FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 之規定產生。

12.3.1.2 參考信號負載

無線傳輸信號負載使用由美國電信資訊署(N.T.I.A)參考系統所提供之 MPEG 影像檔。
資料傳送方向由 Master 傳送到 Client。

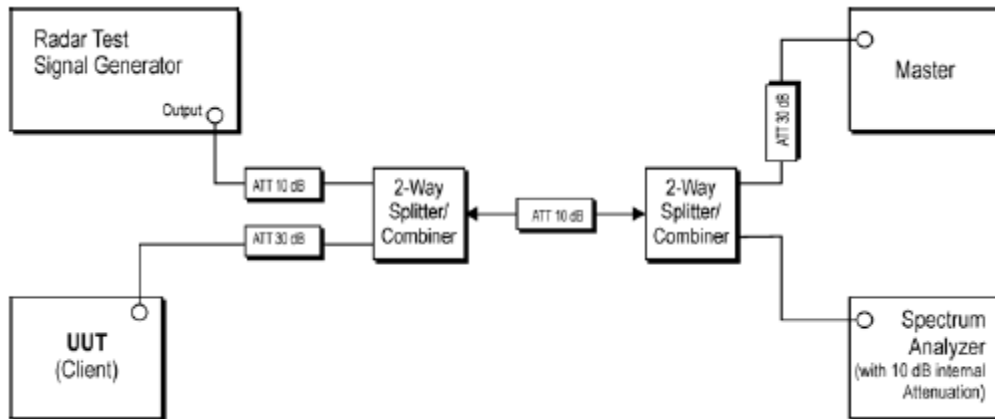
12.3.2 系統配置

12.3.2.1 Setup for Master with injection at the Master



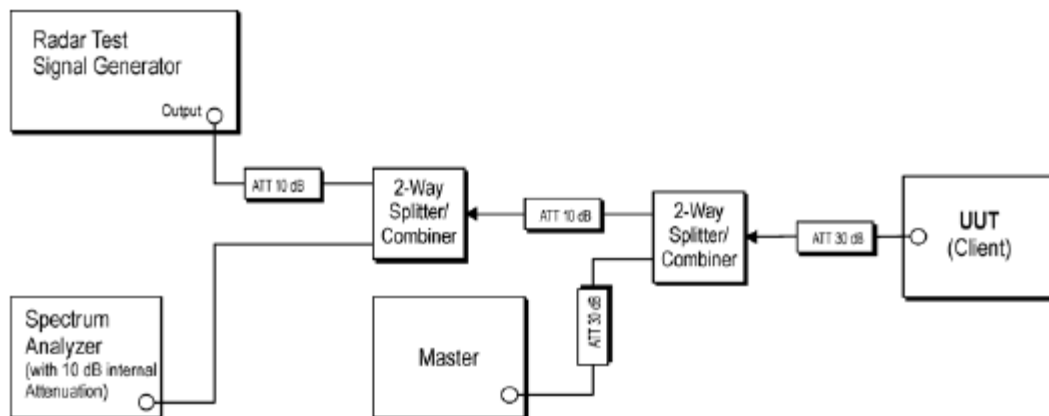
主控設備配置圖

12.3.2.2 Setup for Client with injection at the Master



受控設備配置圖 1(Client without In-Service Monitoring)

12.3.2.3 Setup for Client with injection at the Client



受控設備配置圖 2 (Client with In-Service Monitoring)

12.3.3 量測儀器

儀器名稱	廠 牌	型 號
Spectrum Analyzer	R&S	FSV40
Vector Signal Generator	R&S	SMU200A

12.3.4 使用週邊

裝置名稱	廠 牌	型 號	纜 線 說 明
Notebook	Dell	Inspiron 1420	非隔離電源線 3.3m*1 / Adaptor 非隔離信號線 1.0m*1/RJ45
Notebook	HP	650G1	非隔離電源線 2.8m*1 / Adaptor 非隔離信號線 1.0m*1/RJ45
Access Point	ASUS	RT-AX88U	非隔離電源線 2.3m* 1/Adapter

12.4 測試頻道及測試方法

12.4.1

測試方法	☒ 直接量測方式	☐ 輻射方式
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12.4.2 使用雷達信號

使用 Short Pulse Radar Type 0 ， Level = -64dBm 。

12.5 量測結果

12.5.1 Radar TYPE 0 CHANNEL MOVE TIME RESULTS

結果判定：符合標準規定。

Modulation	Operation Frequency (MHz)	Channel Move Time (s)	Limit (s)
IEEE 802.11ac VHT80	5530	< 10S	10

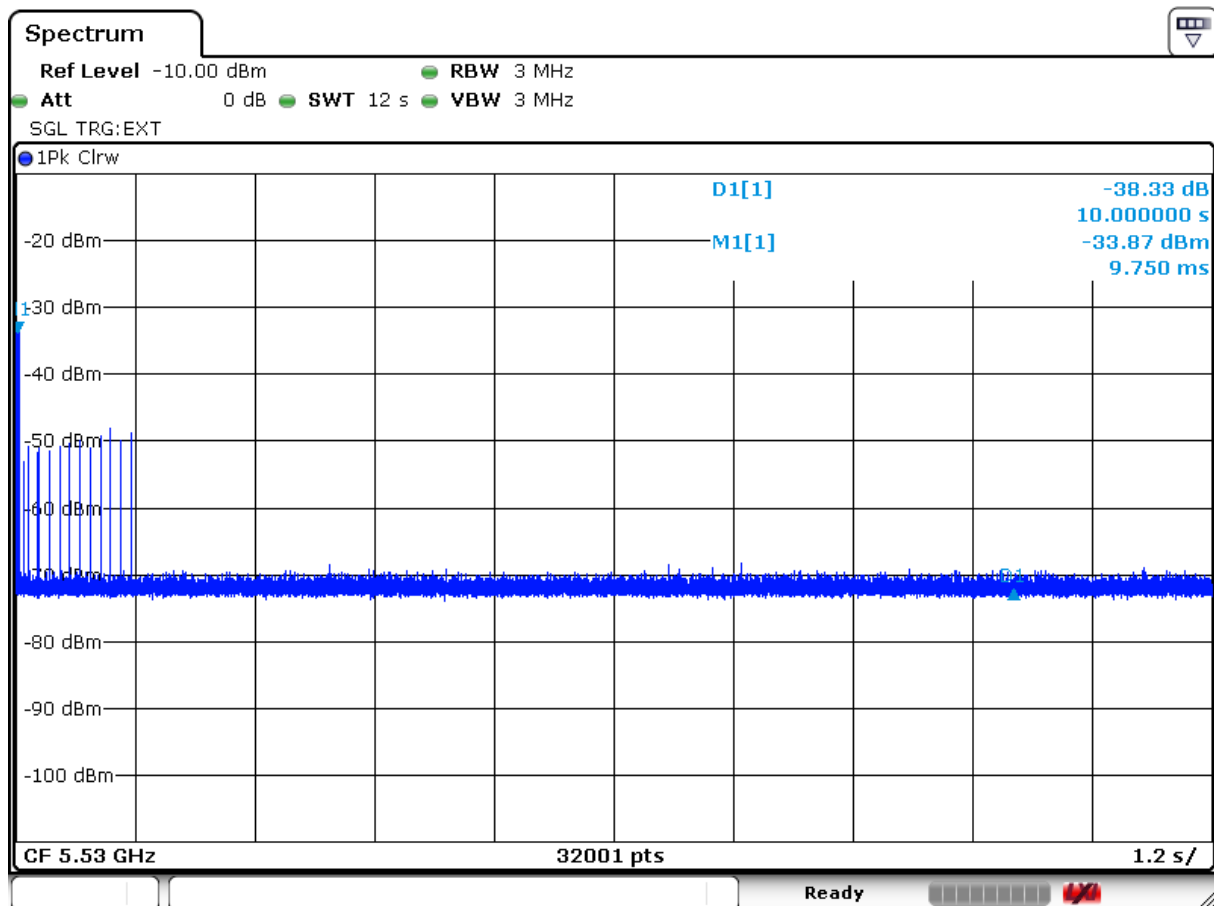
File: 21-08-MAW-005_5-6

Date: 2021/10/05

Temperature: 24 °C

Site: RF-Cond01

Humidity: 55 %



Condition: NCC_LP0002

RF Conducted

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Operator: Phillip

Note: 12S-1

12.5.2 Radar TYPE 0 CHANNEL CLOSING TRANSMISSION TIME RESULTS

The following plot demonstrates a channel close time of <200ms, with an aggregate of no more than 60 ms.

結果判定：符合標準規定。

Modulation	Operation Frequency (MHz)	Aggregate Transmission Time (ms)	Limit (ms)
IEEE 802.11ac VHT80	5530	7	60

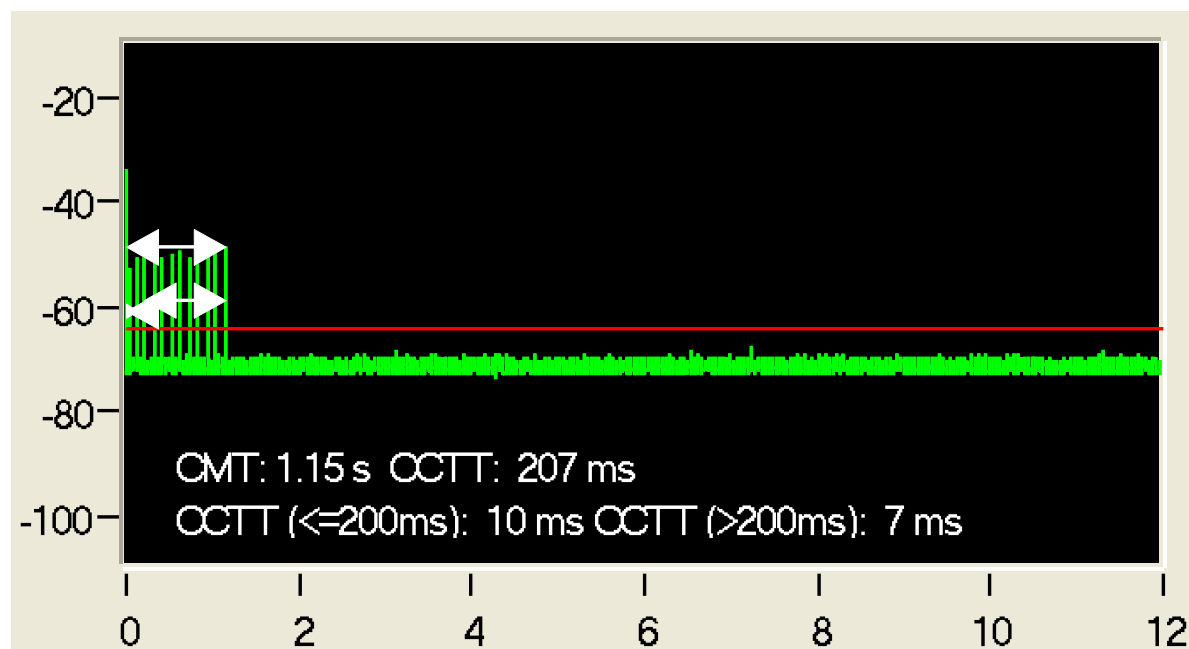
File: 21-08-MAW-005_5-6

Date: 2021/10/05

Temperature: 24 °C

Site: RF-Cond01

Humidity: 55 %



Condition: NCC_LP0002

RF Conducted

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Operator: Phillip

Note: 12S-2

Aggregate Transmission Time =

(Number of analyzer bins showing Transmission) * (dwell time per bin)

=7 ms

12.5.3 Non-occupncy Period (Associated Test)

No EUT Transmissions were observed on the test channel during the 30-minute observation time.

結果判定：符合標準規定。

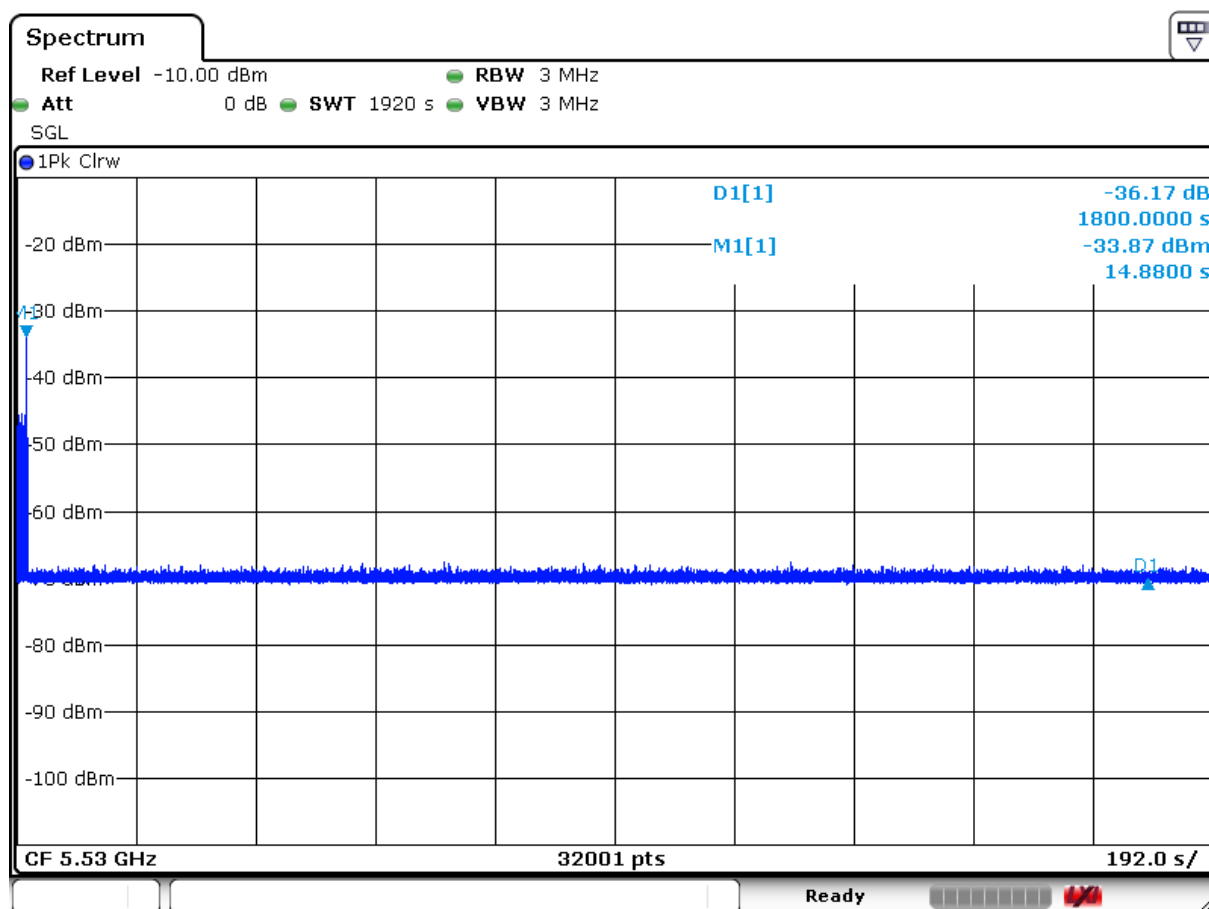
File: 21-08-MAW-005_5-6

Date: 2021/10/05

Temperature: 24 °C

Site: RF-Cond01

Humidity: 55 %



Condition: NCC_LP0002

RF Conducted

EUT: CV1 21 WIDE AVN

Model: VN251ASGG

Test Mode: UNII

Operator: Phillip

Note: 30 mins

13 量測之儀器

儀器名稱	廠 牌	型 號	財產編號/序號	校驗日期	下次校驗日期
Spectrum Analyzer	R&S	FSV40	13052017-001	05/27/2021	05/26/2022
Attenuator	WEINSCHEL	56-10	58772	05/03/2021	05/02/2022
EMI Receiver	R&S	ESCI	13054423-001	12/15/2020	12/14/2021
Spectrum Analyzer	R&S	FSU46	13040904-001	05/13/2021	05/12/2022
Horn Antenna	EMCO	3117	13059211-004	04/09/2021	04/08/2022
Horn Antenna	EMCO	3116	13059202-001	11/06/2020	11/05/2021
PRE-Amplifier	Agilent	8449B	13040709-001	12/21/2020	12/20/2021
PRE-Amplifier	Agilent	8447D	13040715-002	05/03/2021	05/02/2022
BiLog Antenna	ETC	MCTD 2786	BL19J04024	03/11/2021	03/10/2022
Trilog Broadband Antenna with 5dB Pad	SCHWARZB ECK&EMCI	VULB 9168 & EMCI-N-6-05	1211&AT-N0569	05/10/2021	05/09/2022
PRE-Amplifier	Agilent	83051A	13052916001	09/15/2021	09/14/2022
Vector Signal Generator	R&S	SMU200A	13549901-002	06/03/2021	06/02/2022