



報告編號 : 4789482589-TW-R1-V0

頁碼 : 1 of 146

報告發行日期 : 2020/8/18

低功率射頻電機試驗報告

產品名稱 : 802.11ac/b/g/n WiFi + Bluetooth M.2 Card

型號 : WNFT-237ACN(BT)

申請廠商 : Hakko Electronics Co., Ltd.

申請者地址 : 238, Kamikashiwano-machi, Hakusan-shi, Ishikawa, 924-0035, Japan

製造廠商 : SparkLAN Communications, Inc.

製造商地址 : 8F., No.257, Sec. 2, Tiding Blvd., Neihu District, Taipei City 11493, Taiwan (R.O.C.)

實驗室名稱 : 優力國際安全認證有限公司

實驗室地址 : 新竹縣竹東鎮中興路四段 372-7 號 B 戶、E 戶

試驗受理日期 : 109 年 5 月 13 日

試驗完成日期 : 109 年 5 月 18 日 ~ 109 年 7 月 16 日

待測物接收日期 : 109 年 5 月 13 日

依據標準 : 低功率射頻電機技術規 (LP0002) 107 年 1 月版



備註:

- 1.此份報告未經優力國際安全認證有限公司書面同意，不得部分複製。
- 2.本測試報告僅對受測之樣品負責。
- 3.本測試報告需加負責人簽名始可生效。
- 4.此案產品內外觀照請參考報告編號 4789482589-EP。

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Doc No: 17-EM-F0880 / 5.0



報告編號 : 4789482589-TW-R1-V0
頁碼 : 2 of 146
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認可報告之試驗機構

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財團法人全國認證基金會

認證編號：3398

認證有效期間：2020.08.29 ~ 2023.08.28

認可能量範圍：低功率射頻電機技術規範(LP0002)

報告製作者：

辛姿伶

, 日期： 109 年 8 月 18 日

審核與授權者：

官聲宇

, 日期： 109 年 8 月 18 日

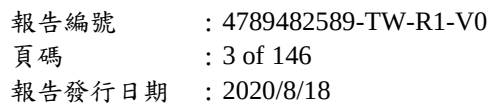
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原始報告編號: 4789482589-TW-R1-V0

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測試項目與結果判定總表

項次	測試項目	適用規範	結果判定
1	最大傳導輸出功率	低功率射頻電機技術規範 4.7.3.1 節、 4.7.3.2 節、4.7.3.3 節	合格
2	6dB 發射頻寬	低功率射頻電機技術規範 4.7.5 節	合格
3	最大功率頻譜密度	低功率射頻電機技術規範 4.7.3.1 節、 4.7.3.2 節、4.7.3.3 節	合格
4	場強輻射	低功率射頻電機技術規範 4.7.4 節	合格
5	電源線傳導干擾	低功率射頻電機技術規範 2.3 節	合格

Note:

1. 對於頻帶邊緣輻射與頻帶邊緣向外輻射之測試圖記錄在附錄 I，混附波輻射測試圖記錄在附錄 II。

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1. 一般資料

1.1 產品描述

產 品 名 稱	802.11ac/b/g/n WiFi + Bluetooth M.2 Card
廠 牌	Hakko Electronics
型 號	WNFT-237ACN(BT)
額 定 電 壓	3.3 Vdc
調 變 方 式	256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
傳 輸 速 率	802.11a: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0 Mbps 802.11n: up to MCS 15 802.11ac: up to MCS9
頻 率 使 用 範 圍	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz, 5745 ~ 5825MHz
頻 道 數 量	5180 ~ 5240MHz 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 4 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 12 802.11n (HT40), 802.11ac (VHT40): 6 802.11ac (VHT80): 3 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20): 5 802.11n (HT40), 802.11ac (VHT40): 2 802.11ac (VHT80): 1
發 射 功 率	5180 ~ 5240 MHz: 22.96 dBm 5260 ~ 5320 MHz: 23.09 dBm 5500 ~ 5720 MHz: 23.33 dBm 5745 ~ 5825 MHz: 24.86 dBm
測 試 軟 體	MPTool.Ink 1.2.0.5
天 線 型 態	見註 2

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**註:**

1. 此待測物之射頻發射與接收技術的種類組合如下：

Modulation Mode	Tx,Rx Function
802.11a	2TX,2RX
802.11n (HT20)	2TX,2RX
802.11n (HT40)	2TX,2RX
802.11ac (VHT20)	2TX,2RX
802.11ac (VHT40)	2TX,2RX
802.11ac (VHT80)	2TX,2RX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40, therefore investigated worst case to representative mode in test report.

2. 此待測設備搭配測試的天線，其資料如下：

No.	天線型式	天線型號	商標	接頭型式	頻率使用範圍	增益 (dBi)
Ant. 0	PCB	FML2.4W45A-160-MHF4L	Nissei Limited	I-PEX	5180 ~ 5240	-0.52
					5260 ~ 5320	0.26
					5500 ~ 5720	4.94
					5745 ~ 5825	4.45
Ant. 1	PCB	FML2.4W45A-160-MHF4L	Nissei Limited	I-PEX	5180 ~ 5240	-0.52
					5260 ~ 5320	0.26
					5500 ~ 5720	4.94
					5745 ~ 5825	4.45
Note :						
1. 適用規範請見本報告 3.1 節第 (5)、(6) 的規定。						
2. 依據測試數據結果，符合低功率射頻電機技術規範之要求。						
3. 此天線資訊由客戶提供，詳請參閱製造商的產品規格或使用手冊。						

3. 配件清單如下：

配件	廠牌	型號	規格
Antenna	Nissei Limited	FML2.4W45A-160-MHF4L	N/A

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4. 此報告中待測物測試模式評估如下表。

模式	測試狀態
模式 1	802.11a TX_Ch36, 44, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165
模式 2	802.11ac (VHT20) Ch36, 44, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165
模式 3	802.11ac (VHT40) TX_Ch38, 46, 54, 62, 102, 110, 134, 142, 151, 159
模式 4	802.11ac (VHT80) TX_Ch42, 58, 106, 122, 138, 155
模式 5	WiFi RX

- CDD 模式：

發射：

1 GHz以上之輻射量測以模式1,2,3,4進行量測，1 GHz以下之輻射量測以模式2之測試通道48進行量測，電源線傳導干擾量測以模式2之測試通道48進行量測。

接收：

1 GHz以上與1 GHz以下之場強輻射量測與電源線傳導干擾量測以模式5進行量測。

5. 此報告中傳輸模式，場強輻射量測及電源線傳導干擾量測之外的測試項目，以OFDM調變技術進行測試並記錄最終量測結果於報告中。

6. 此待測設備，經評估三個正交軸方位評估測試擺設方式：平躺、垂直、側放，其中以平躺擁有最大場強輻射量測干擾值，故以此擺放方式進行最終量測，並將測試結果紀錄。



7. Duty cycle of test signal.

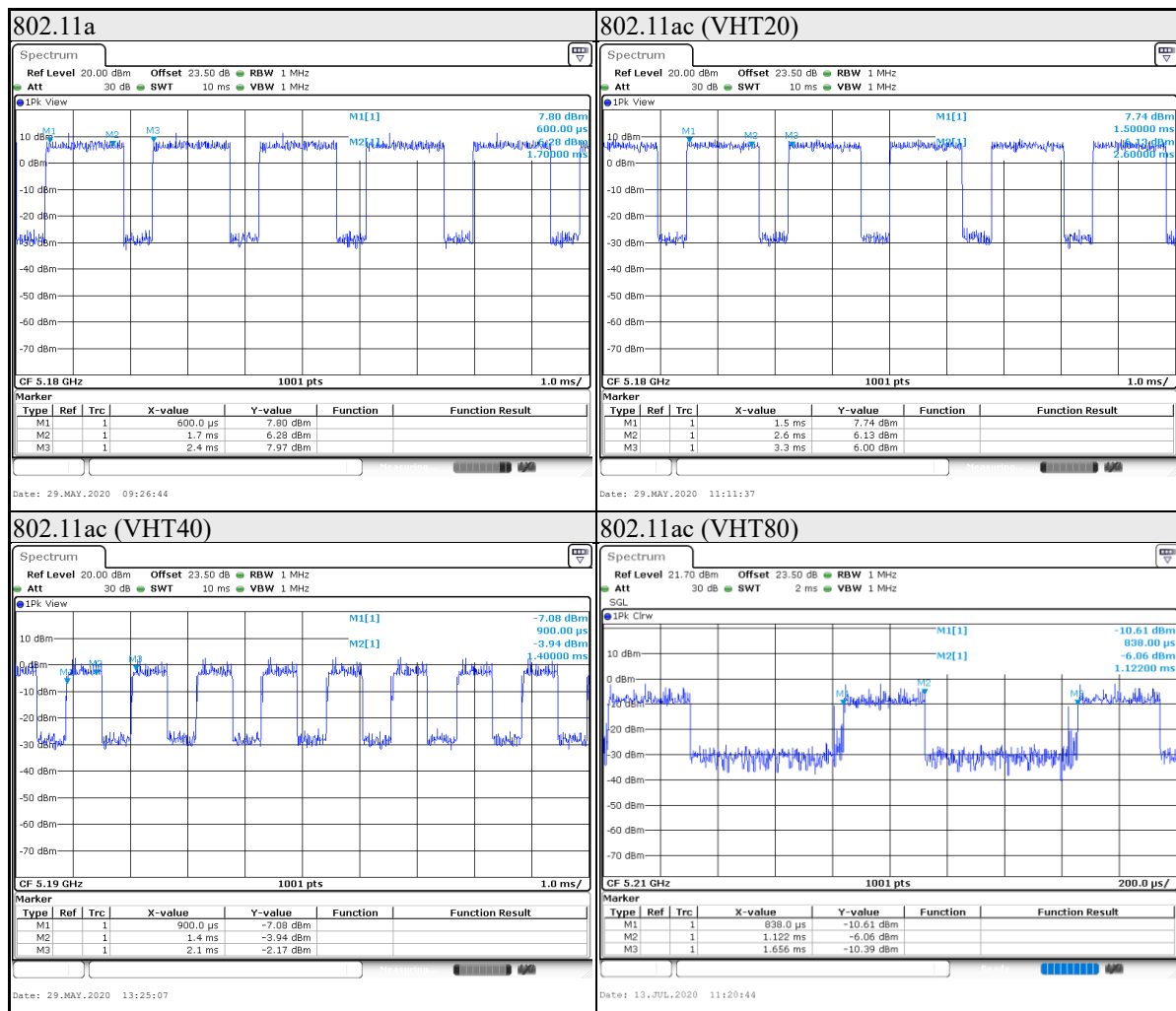
Duty cycle of test signal is < 98 %, duty factor is required.

802.11a: Duty cycle = $1.1/1.8 = 0.611$, Duty factor = $10 * \log(1/0.611) = 2.14$

802.11ac (VHT20): Duty cycle = $1.1/1.8 = 0.611$, Duty factor = $10 * \log(1/0.611) = 2.14$

802.11ac (VHT40): Duty cycle = $0.5/1.2 = 0.417$, Duty factor = $10 * \log(1/0.417) = 3.8$

802.11ac (VHT80): Duty cycle = $0.28/0.818 = 0.347$, Duty factor = $10 * \log(1/0.347) = 4.59$



Note: $T_{on} = \text{Mark2} - \text{Mark1}$, $T_{on} + T_{off} = \text{Mark3} - \text{Mark1}$.

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8. 此裝置各頻道的中心頻率如下：

802.11a, 802.11n (HT20), 802.11ac (VHT20)：

頻道	頻率(MHz)	頻道	頻率(MHz)
36	5180 MHz	120	5600 MHz
40	5200 MHz	124	5620 MHz
44	5220 MHz	128	5640 MHz
48	5240 MHz	132	5660 MHz
52	5260 MHz	136	5680 MHz
56	5280 MHz	140	5700 MHz
60	5300 MHz	144	5720 MHz
64	5320 MHz	149	5745 MHz
100	5500 MHz	153	5765 MHz
104	5520 MHz	157	5785 MHz
108	5540 MHz	161	5805 MHz
112	5560 MHz	165	5825 MHz
116	5580 MHz	-	-

802.11n (HT40), 802.11ac (VHT40)：

頻道	頻率(MHz)	頻道	頻率(MHz)
38	5190 MHz	118	5590 MHz
46	5230 MHz	126	5630 MHz
54	5270 MHz	134	5670 MHz
62	5310 MHz	142	5710 MHz
102	5510 MHz	151	5755 MHz
110	5550 MHz	159	5795 MHz

802.11ac (VHT80)：

頻道	頻率(MHz)	頻道	頻率(MHz)
42	5210MHz	122	5610 MHz
58	5290 MHz	138	5690MHz
106	5530 MHz	155	5775 MHz

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The power setting are list as below:

802.11a			802.11ac (VHT20)		
頻道	Power Setting		頻道	Power Setting	
	Chian 0	Chain 1		Chian 0	Chain 1
36	95	88	36	93	85
44	95	88	44	96	87
48	94	89	48	94	89
52	95	90	52	95	91
60	95	87	60	94	85
64	93	87	64	95	88
100	87	78	100	82	74
116	91	84	116	91	84
140	88	80	140	84	75
144 (U-NII-2c Band)	86	79	144 (U-NII-2c Band)	88	80
144 (U-NII-3 Band)	86	79	144 (U-NII-3 Band)	88	80
144	86	79	144	88	80
149	100	94	149	101	94
157	101	93	157	99	93
165	102	95	165	102	96
802.11ac (VHT40)			802.11ac (VHT80)		
頻道	Power Setting		頻道	Power Setting	
	Chian 0	Chain 1		Chian 0	Chain 1
38	65	62	42	65	63
46	96	91	58	74	72
54	99	94	106	72	63
62	80	72	122	91	80
102	69	66	138 (U-NII-2c Band)	96	87
110	97	86	138 (U-NII-3 Band)	96	87
134	94	85	138	96	87
142 (U-NII-2c Band)	94	85	155	80	68
142 (U-NII-3 Band)	94	85	-	-	-
142	94	85	-	-	-
151	94	85	-	-	-
159	89	85	-	-	-

詳細之規格請參考使用說明書。

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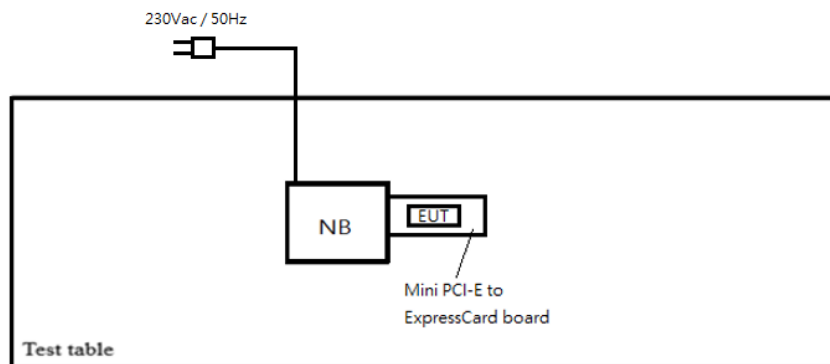
1.2 補助測試之週邊設備

待測設備於受測時均接上其所屬的配件或一般用途之相關設備；下列輔助設備或配件測試中所使用的配備，以形成一個代表待測物實際運作的受測系統。

裝置名稱	廠牌	型號	序號	Remark
Notebook	Lenovo	T430	PBE38AK	N/A
Mini PCI-E to ExpressCard board	N/A	N/A	N/A	N/A

1.3 測試架構圖

在測試筆電上開啟測試軟體（MPTool.Ink 1.2.0.5）進行控制。該測試軟體用於啟用連續傳輸或接收模式，並根據需要選擇測試通道，數據速率，調變方式和功率設置。



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2. 量測儀器及測試配置說明

2.1 量測設備

Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070827	Nov. 13, 2019	1 year
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	Dec. 17, 2019	1 year
Loop Antenna	ETS lindgren	6502	00213440	Dec. 19, 2019	1 year
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	774 & AT-N0538	Jan. 3, 2020	1 year
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	Jan. 3, 2020	1 year
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	Dec. 27, 2019	1 year
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	Feb. 4, 2020	1 year
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	Feb. 4, 2020	1 year
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	May 19, 2020	1 year
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-4 & 170425-2	Jan. 8, 2020	1 year
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	Jan. 8, 2020	1 year

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Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	Nov. 6, 2019	1 year
Pulse Power Sensor	Anrisu	MA2411B	1531202	Dec. 23, 2019	1 year
Power Meter	Anrisu	ML2495A	1645002	Dec. 23, 2019	1 year
Signal Generator	Keysight	N5182B	MY56200244	Jan. 6, 2020	1 year
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	Nov. 19, 2019	1 year
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	Aug. 8, 2019	1 year
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	Aug. 6, 2019	1 year
Cables	HARBOUR INDUSTRIES	LL142	170205-5000-1	Feb. 5, 2020	1 year

UL Software

Software	Test Item	Version
EZ EMC	Radiated measurement	1.1.4.2
Keysight.TestSystem	Conducted measurement	1.0.0.0
EZ EMC	AC power Line Conducted Emission	1.1.4.2

2.2 測試應用參考標準

本報告中記錄的測試程序參照如下：

KDB 789033 D02 General UNII Test Procedure New Rules v02r01, KDB414788 D01 Radiated Test Site v01r01, ANSI C63.10-2013 and KDB 662911 D01 Multiple Transmitter Output v02r01.

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2.3 量測不確定度

此報告中關於量測之符合性聲明，採用 ISO Guide 98-4 的 8.2.4 與 8.2.5 章節中描述的準確度方法為判定規則。

下列量測不確定水準是參照量測儀器 CISPR 16-4-2 所規定之不確定度。

Test Item	Measurement Frequency Range	K	U(dB)
Conducted disturbance at mains terminals ports	0.15 MHz ~ 30 MHz	2	1.7
RF Conducted	9 kHz – 40 GHz	2	1.0
Radiated disturbance below 30MHz	9 kHz - 30 MHz	2	2.2
Radiated disturbance below 1 GHz	30 MHz ~ 1 GHz	2	5.3
Radiated disturbance above 1GHz	1 GHz ~ 40 GHz	2	4.8

2.4 試驗環境

產品測試時之環境條件如下：

測試項目	環境條件	輸入功率	測試日期	測試人員
最大傳導輸出功率	23~26°C / 63~68%RH	3.3Vdc	2020/05/18 ~ 2020/07/16	官振皓
6dB 發射頻寬	23~26°C / 63~68%RH	3.3Vdc	2020/05/18 ~ 2020/07/16	官振皓
最大功率頻譜密度	23~26°C / 63~68%RH	3.3Vdc	2020/05/18 ~ 2020/07/16	官振皓
場強輻射	22~26°C / 62~68%RH	110Vac, 60 Hz	2020/05/19 ~ 2020/06/10	蔡顯佳
電源線傳導干擾	23~25°C / 63~68%RH	110Vac, 60 Hz	2020/06/10	蔡顯佳

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3. 適用規範

3.1 規範要求

(1) 最大傳導輸出功率之要求

操作於 5.15 GHz~5.25 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.1 節之要求:

(A) 供戶外操作使用/供室內操作使用/供固定式點對點操作使用: 最大傳導輸出功率應小於或等於 1 W。

(B) 供用戶端裝置(Client Device)操作使用: 最大傳導輸出功率應小於或等於 250mW。

操作於 5.25 GHz~5.35 GHz 及 5.470 GHz ~5.725 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.2 節之規定, 最大傳導輸出功率應小於或等於 250mW 或 $11\text{dBm} + 10\log B$ (B 是 26 dB 發射頻寬, 單位 MHz)之較小者。

操作於 5.725 GHz~5.850 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.3 節之規定, 最大傳導輸出功率應小於或等於 1 W。

(2) 6dB 發射頻寬之要求

操作於 5.725 GHz~5.850 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.5 節之規定, 其 6dB 頻寬至少應有 500kHz。

(3) 功率頻譜密度之要求

操作於 5.15 GHz~5.25 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.1 節之要求:

(A)供戶外操作使用/供室內操作使用/供固定式點對點操作使用: 在任何 1 MHz 頻帶中最大功率頻譜密度應小於或等於 17 dBm。

(B)供用戶端裝置(Client Device)操作使用: 在任何 1 MHz 頻帶中最大功率頻譜密度應小於或等於 11 dBm。

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操作於 5.25 GHz~5.35 GHz 及 5.470 GHz ~5.725 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.2 節之規定，最大功率頻譜密度在任何 1 MHz 頻帶中應小於或等於 11 dBm。

操作於 5.725 GHz~5.850 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3.3 節之規定，在任何 500 kHz 頻帶中最大功率頻譜密度應小於或等於 30 dBm。

(4) 帶外發射之要求

操作於 5.15 GHz~5.35 GHz 及 5.470 GHz ~5.725 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.4.1 節之要求，帶外發射之有效等向輻射功率(EIRP) ≤ -27 dBm/MHz。

操作於 5.725 GHz~5.850 GHz 頻段:

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.4.2 節之要求，所有頻帶邊緣向外 5 MHz 內頻率之發射，有效等向輻射功率(EIRP) ≤ 27 dBm/MHz ~ 15.6 dBm/MHz (以線性法計算對應之限制值)；所有頻帶邊緣向外 5 MHz~25 MHz，有效等向輻射功率 35(EIRP) ≤ 15.6 dBm/MHz ~ 10 dBm/MHz (以線性法計算對應之限制值)；所有頻帶邊緣外 25 MHz~75 MHz，有效等向輻射功率(EIRP) ≤ 10 dBm/MHz ~ -27 dBm/MHz (以線性法計算對應之限制值)；所有頻帶邊緣外 ≥ 75 MHz 的頻率之發射，有效等向輻射功率(EIRP) ≤ -27 dBm/MHz；有關遮罩限制值詳圖 1。

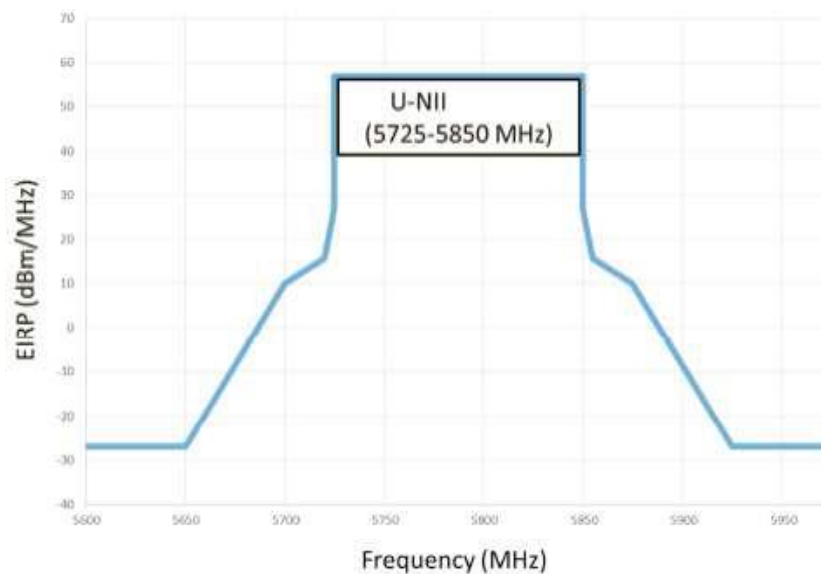


圖 1



此外，落於 2.7 禁用頻段之輻射發射，應符合 2.8 之規定。

頻率(f) (MHz)	電場強度 (微伏特/公尺，uV/m)	測距(公尺)
0.009 - 0.490 (含)	2,400/f(kHz)	300
0.490 (不含) - 1.705 (含)	24,000/f(kHz)	30
1.705 (不含) - 30 (不含)	30	30
30 (含) - 88 (含)	100	3
88 (不含)- 216 (含)	150	3
216 (不含)- 960 (含)	200	3
960 (不含)以上	500	3

(5) 天線之規定

天線規格不受第 2.2 節規定之限制。

(6) 天線增益之要求

低功率發射機，依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.3 節之規定如下：

操作於 5.15 GHz~5.25 GHz 頻段：

(A) 供戶外操作使用: 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。在水平面仰角超過 30 度時，其最大 EIRP 應小於或等於 21 dBm。

(B) 供室內操作使用: 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。

(C) 供固定式點對點操作使用: 使用超過 23 dBi 方向增益之指向性天線時，應依超過 23 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。固定式點對點操作，不包括點對多點系統、全方向性應用及多台共站發射機傳送相同資訊。

(D) 供用戶端裝置(Client Device)操作使用: 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。

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操作於 5.25 GHz~5.35 GHz 與 5.470 GHz ~5.725 GHz 頻段:

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。

操作於 5.725 GHz~5.850 GHz 頻段:

(A) 供固定式點對點操作時，使用方向增益超過 6 dBi 之發射天線，可不需對應減少發射器之傳導輸出功率限制值。

(B) 除(A)外，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) 傳導之規定

依據國家通訊傳播委員會低功率射頻電機技術規範之 2.3 節，電源傳導干擾之限制要求如下:

頻率(MHz)	傳導限制值 (dBuV)	
	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。

(8) 無線資訊傳輸設備必須擁有安全功能之要求

依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.7.3 節之規定，無線資訊傳輸設備必須擁有安全功能，以保護未經授權之一方更改軟體。製造商應提出符合本節規定之相關證明文件或符合性聲明。

(9) 依據國家通訊傳播委員會低功率射頻電機技術規範 4.7.7.4 節之規定，製造商必須在操作於 U-NII 頻段上之數位調變系統中提供安全功能，使第三方團體無法重寫程式，使其操作於非經認證之設定。該軟體必須避免發射機操作於非經認證之頻率、輸出功率、調變形式或其他射頻參數。製造商可使用私有網路，只有經授權的用戶能下載軟體、進行軟體式電子簽章或硬體式的韌體更新，新的軟體可以被合法的載入到設備中，同時又能符合上述事項，並於應用程式中描述設備授權的方法。

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(10) 限制使用之頻帶

除本規範另有規定外，任何低功率射頻電機之主波皆不得使用下表所列各頻段之頻率；低功率射頻電機落於下表所列頻段之混附發射，其電場強度必須符合 2.8 之限制規定。

頻率(MHz)	頻率(MHz)	頻率(MHz)
0.090~0.110	240.00~285.00	3332.0~3339.0
0.490~0.510	322.00~335.40	3345.8~3358.0
2.172~2.198	399.90~410.00	3500.0~4400.0
3.013~3.033	485.00~510.00	4500.0~5250.0
4.115~4.198	608.00~614.00	5350.0~5460.0
5.670~5.690	703.00~748.00	7250.0~7750.0
6.200~6.300	758.00~803.00	8025.0~8500.0
8.230~8.400	825.00~915.00	9000.0~9200.0
12.265~12.600	930.00~1240.0	9300.0~9500.0
13.340~13.430	1300.0~1427.0	10600~12700
14.965~15.020	1435.0~1626.5	13250~13400
16.700~16.755	1660.0~1785.0	14470~14500
19.965~20.020	1805.0~1880.0	15350~16200
25.500~25.700	1885.0~1900.0	17700~21400
37.475~38.275	1905.0~1985.0	22010~23120
73.500~75.400	2010.0~2025.0	23600~24000
108.00~138.00	2110.0~2170.0	31200~31800
149.90~150.05	2200.0~2300.0	36430~36500
156.70~156.90	2310.0~2390.0	38600 以上
162.01~167.17	2483.5~2900.0	-
167.72~173.20	3260.0~3267.0	-

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4. 測試紀錄結果

4.1 最大傳導輸出功率

4.1.1 適用標準

請見本報告 3.1 節第 (1)、(6) 的規定。

4.1.2 測試方法

最大傳導輸出功率量測：

For 802.11a, 802.11ac (VHT20), 802.11ac (VHT40)

- 將待測物之天線埠經由適當之衰減器接到功率計上。
- 設定待測物處於連續發射狀態。
- 計算其最大傳導輸出功率。

For 802.11ac (VHT80)

- 將待測物之天線埠經由適當之衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 計算其最大傳導輸出功率。

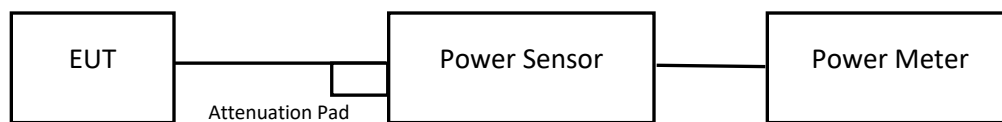
發射頻寬量測：

- 將待測物之天線埠經由適當之衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 最大輸出功率峰值減 26dB 的最大頻率範圍。

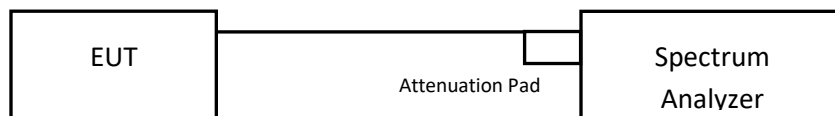


4.1.3 測試配置圖

最大傳導輸出功率量測：

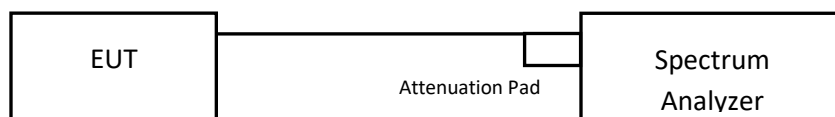


The loss between RF output port of the EUT and the input port of the Power Meter has been taken into consideration.



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

發射頻寬量測：



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

**4.1.4 測試結果****802.11a**

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		chain 0	chain 1				
36	5180	18.74	18.74	149.63	21.75	24	PASS
44	5220	18.76	18.69	149.12	21.74	24	PASS
48	5240	18.75	18.79	150.67	21.78	24	PASS
52	5260	18.66	18.63	146.40	21.66	23.7	PASS
60	5300	18.51	18.54	142.41	21.54	23.68	PASS
64	5320	18.52	18.68	144.91	21.61	23.68	PASS
100	5500	17.81	17.65	118.61	20.74	23.71	PASS
116	5580	18.75	18.74	149.81	21.76	23.7	PASS
140	5700	17.62	17.71	116.83	20.68	23.71	PASS
144 (U-NII-2c Band)	5720	14.32	14.33	54.15	17.34	22.6	PASS
144 (U-NII-3 Band)	5720	3.50	3.55	4.50	6.54	30	PASS
149	5745	21.7	21.83	300.32	24.78	30	PASS
157	5785	21.69	21.81	299.28	24.76	30	PASS
165	5825	21.83	21.72	301.00	24.79	30	PASS

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		chain 0	chain 1		
144	5720	17.82	17.83	121.21	20.84

Note: The total power was calculated through formula and record the value for reference only.

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**802.11ac (VHT20)**

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		chain 0	chain 1				
36	5180	18.61	18.35	141.00	21.49	24	PASS
44	5220	18.84	18.61	149.17	21.74	24	PASS
48	5240	18.75	18.72	149.46	21.75	24	PASS
52	5260	18.67	18.77	148.96	21.73	23.97	PASS
60	5300	17.98	17.84	123.62	20.92	23.89	PASS
64	5320	18.74	18.7	148.95	21.73	23.92	PASS
100	5500	16.59	16.56	90.89	19.59	23.96	PASS
116	5580	18.68	18.72	148.26	21.71	23.93	PASS
140	5700	16.59	16.67	92.06	19.64	23.9	PASS
144 (U-NII-2c Band)	5720	14.01	13.96	50.07	17.00	22.74	PASS
144 (U-NII-3 Band)	5720	3.87	3.85	4.86	6.87	30	PASS
149	5745	21.84	21.85	305.87	24.86	30	PASS
157	5785	21.61	21.78	295.54	24.71	30	PASS
165	5825	21.78	21.74	299.94	24.77	30	PASS

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		chain 0	chain 1		
144	5720	17.88	17.81	121.77	20.86

Note: The total power was calculated through formula and record the value for reference only.

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**802.11ac (VHT40)**

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		chain 0	chain 1				
38	5190	13.91	13.52	47.10	16.73	24	PASS
46	5230	20.02	19.87	197.51	22.96	24	PASS
54	5270	20.17	19.98	203.53	23.09	24	PASS
62	5310	15.09	14.93	63.40	18.02	24	PASS
102	5510	14.90	14.89	61.74	17.91	24	PASS
110	5550	20.31	20.33	215.29	23.33	24	PASS
134	5670	18.94	18.86	155.26	21.91	24	PASS
142 (U-NII-2c Band)	5710	18.09	17.62	122.26	20.87	24	PASS
142 (U-NII-3 Band)	5710	1.83	2.08	3.14	4.97	30	PASS
151	5755	20.14	20.29	210.18	23.23	30	PASS
159	5795	20.24	20.20	210.40	23.23	30	PASS

For Reference only – Power meter value

The power value was measured by power meter with average sensor.

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		chain 0	chain 1		
142	5710	19.92	19.41	185.47	22.68

Note: The total power was calculated through formula and record the value for reference only.

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**802.11ac (VHT80)**

CHAN.	CHAN. FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		chain 0	chain 1				
42	5210	13.01	12.78	38.97	15.91	24	PASS
58	5290	14.91	14.88	61.74	17.91	24	PASS
106	5530	14.01	14.15	51.18	17.09	24	PASS
122	5610	18.17	18.24	132.30	21.22	24	PASS
138 (U-NII-2c Band)	5690	18.59	19.04	152.46	21.83	24	PASS
138 (U-NII-3 Band)	5690	0.66	0.67	2.33	3.67	30	PASS
155	5775	17.21	17.39	107.43	20.31	30	PASS

CHAN.	FREQ. (MHz)	MAXIMUM CONDUCTED POWER (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)
		chain 0	chain 1		
138	5690	19.25	19.71	177.68	22.50

Note: The total power was calculated through formula and record the value for reference only.

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發射頻寬:

802.11a

CHANNEL	CHANNEL FREQUENCY (MHz)	26 dB Bandwidth (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	18.62	18.74	PASS
44	5220	18.50	18.82	PASS
48	5240	18.54	18.58	PASS
52	5260	18.66	18.82	PASS
60	5300	18.66	18.54	PASS
64	5320	18.82	18.54	PASS
100	5500	18.70	18.78	PASS
116	5580	18.62	30.49	PASS
140	5700	18.70	18.78	PASS
144 (U-NII-2c Band)	5720	14.47	17.07	PASS

802.11ac (VHT20)

CHANNEL	CHANNEL FREQUENCY (MHz)	26 dB Bandwidth (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
36	5180	19.54	19.62	PASS
44	5220	19.66	19.62	PASS
48	5240	19.86	19.62	PASS
52	5260	19.82	19.86	PASS
60	5300	19.70	19.46	PASS
64	5320	19.78	19.62	PASS
100	5500	19.82	19.78	PASS
116	5580	19.66	32.61	PASS
140	5700	19.54	19.86	PASS
144 (U-NII-2c Band)	5720	14.99	14.95	PASS

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802.11ac (VHT40)

CHANNEL	CHANNEL FREQUENCY (MHz)	26 dB Bandwidth (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
38	5190	43.56	43.00	PASS
46	5230	42.60	43.80	PASS
54	5270	61.62	43.32	PASS
62	5310	42.92	44.12	PASS
102	5510	45.23	43.72	PASS
110	5550	43.16	75.29	PASS
134	5670	43.32	55.54	PASS
142 (U-NII-2c Band)	5710	37.06	54.08	PASS

802.11ac (VHT80)

CHANNEL	CHANNEL FREQUENCY (MHz)	26 dB Bandwidth (MHz)		PASS / FAIL
		CHAIN 0	CHAIN 1	
42	5210	81.36	81.52	PASS
58	5290	82.80	82.64	PASS
106	5530	81.52	82.32	PASS
122	5610	91.75	132.35	PASS
138 (U-NII-2c Band)	5690	89.82	87.91	PASS

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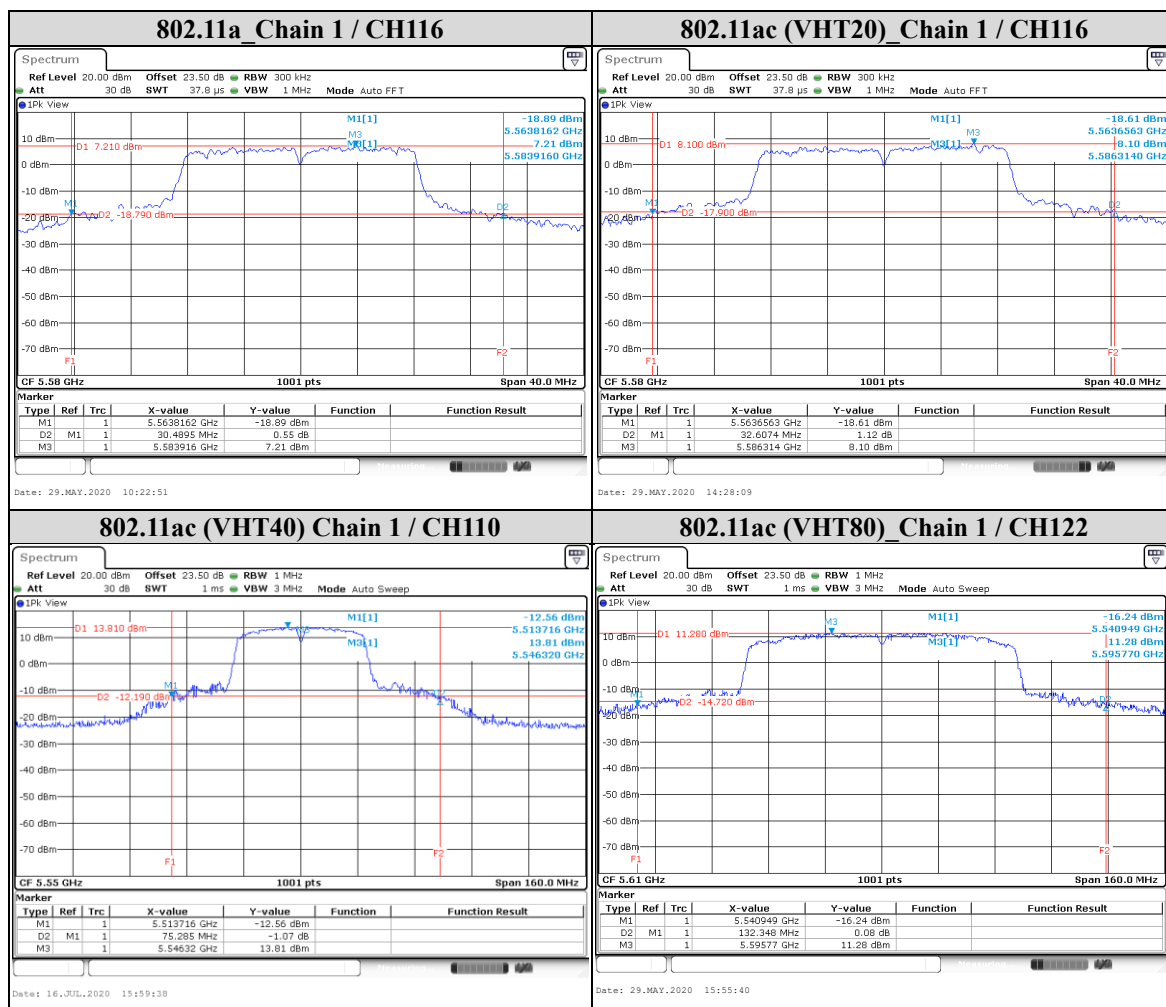


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4.1.5 測試結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

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4.2 6 dB 發射頻寬

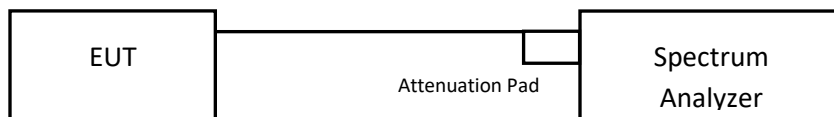
4.2.1 適用標準

請見本報告 3.1 節第 (2) 的規定。

4.2.2 測試方法

- 將待測物之天線埠經由適當之衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 計算最大輸出功率峰值減 6 dB 的最大頻率範圍。

4.2.3 測試配置圖



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.



4.2.4 測試結果

802.11a

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.07	2.79	0.5	Pass
149	5745	16.30	15.94	0.5	Pass
157	5785	16.34	15.94	0.5	Pass
165	5825	16.30	16.26	0.5	Pass

802.11ac (VHT20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
144 (U-NII-3 Band)	5720	3.31	3.67	0.5	Pass
149	5745	17.54	16.94	0.5	Pass
157	5785	17.54	16.90	0.5	Pass
165	5825	17.54	17.18	0.5	Pass

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802.11ac (VHT40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
142 (U-NII-3 Band)	5710	2.50	2.42	0.5	Pass
151	5755	35.48	29.49	0.5	Pass
159	5795	35.16	35.08	0.5	Pass

802.11ac (VHT80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)		Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1		
138 (U-NII-3 Band)	5690	2.24	1.84	0.5	Pass
155	5775	74.97	72.57	0.5	Pass

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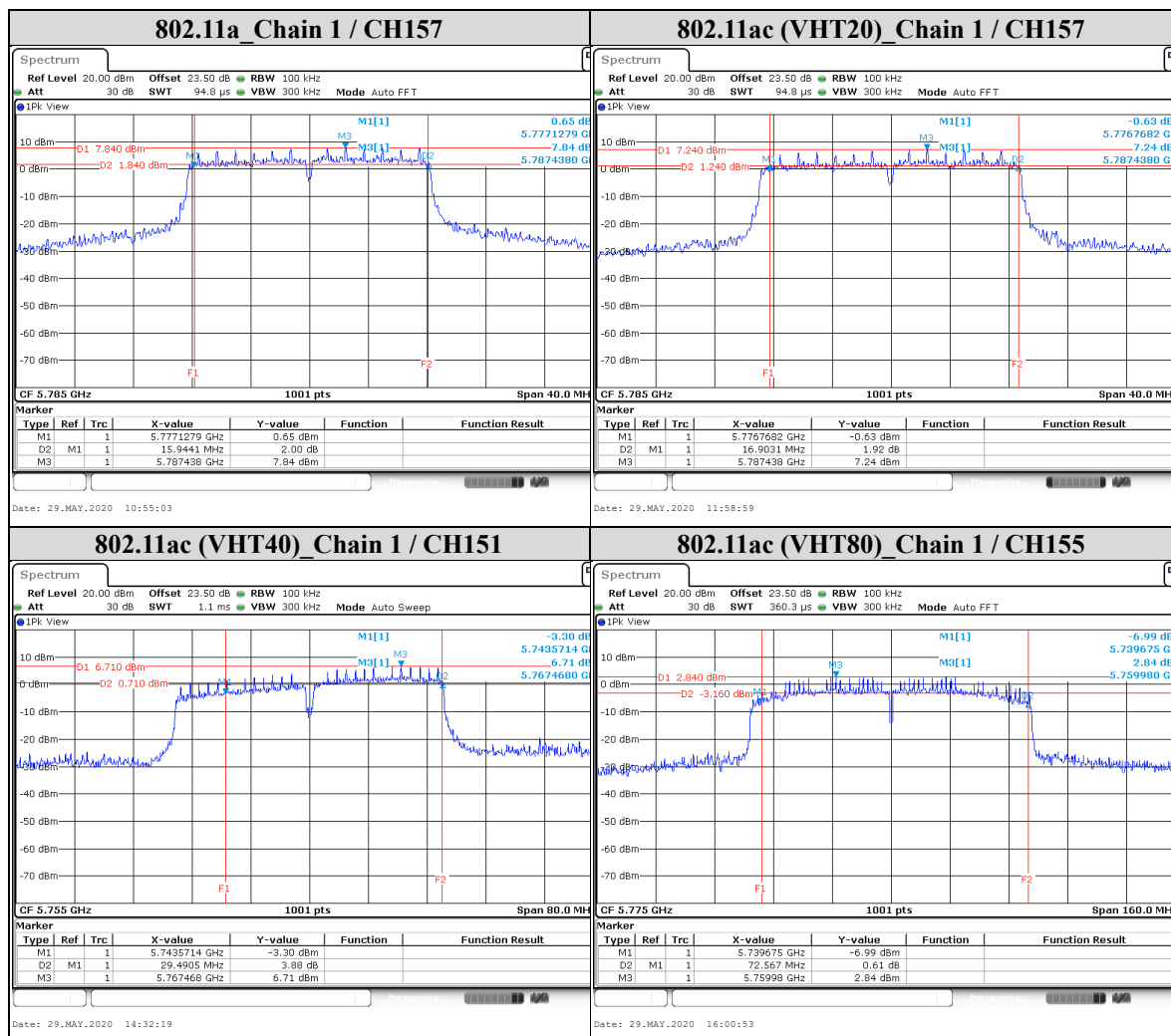
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此測試圖僅放測試結果最差的頻道



4.2.5 測試結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

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4.3 最大功率頻譜密度

4.3.1 適用標準

請見本報告 3.1 節第 (3)、(6) 的規定。

4.3.2 測試方法

For U-NII-1, U-NII-2A, U-NII-2C band:

Refer as FCC KDB 789033

Using method SA-2_Duty cycle <98 %

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 1 MHz, Set VBW $\geq$ 3 RBW, Detector = RMS
3. Sweep time = auto, trigger set to “free run”.
4. Trace average at least 100 traces in power averaging mode.
5. Record the max value and add 10 log (1/duty cycle)

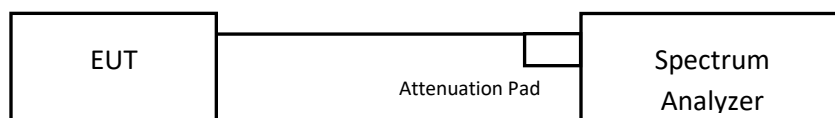
For U-NII-3 band:

Refer as FCC KDB 789033

with Duty cycle <98 %

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
3. Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
4. Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$
5. Sweep time = auto, trigger set to “free run”.
6. Trace average at least 100 traces in power averaging mode.
7. Record the max value and add 10 log (1/duty cycle)

4.3.3 測試配置圖



The loss between RF output port of the EUT and the input port of the Spectrum Analyzer has been taken into consideration.

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4.3.4 測試結果

For U-NII-1, U-NII-2A, U-NII-2C band

802.11a

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	3.61	3.52	8.71	11	PASS
44	5220	3.60	3.48	8.69	11	PASS
48	5240	3.93	3.68	8.96	11	PASS
52	5260	3.56	3.41	8.64	11	PASS
60	5300	3.90	3.84	9.02	11	PASS
64	5320	3.50	3.64	8.72	11	PASS
100	5500	2.90	2.59	7.90	9.05	PASS
116	5580	3.79	3.73	8.91	9.05	PASS
140	5700	2.70	2.93	7.97	9.05	PASS
144 (U-NII-2c Band)	5720	2.40	2.65	7.68	9.05	PASS

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1 band: Directional gain = 2.49 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2A band: Directional gain = 3.27 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2C band: Directional gain = 7.95 dBi > 6 dBi , so the limit shall be reduced.
3. Refer to section 1.1 for duty cycle spectrum plot.

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**802.11ac (VHT20)**

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
36	5180	3.66	3.64	8.80	11	PASS
44	5220	3.70	3.85	8.93	11	PASS
48	5240	3.49	3.57	8.68	11	PASS
52	5260	3.69	3.48	8.74	11	PASS
60	5300	2.46	2.40	7.58	11	PASS
64	5320	3.60	3.84	8.87	11	PASS
100	5500	2.05	2.13	7.24	9.05	PASS
116	5580	3.89	3.74	8.97	9.05	PASS
140	5700	2.03	2.22	7.28	9.05	PASS
144 (U-NII-2c Band)	5720	2.46	2.28	7.52	9.05	PASS

Note:

- Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
- For U-NII-1 band: Directional gain = 2.49 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2A band: Directional gain = 3.27 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2C band: Directional gain = 7.95 dBi > 6 dBi , so the limit shall be reduced.
- Refer to section 1.1 for duty cycle spectrum plot.

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**802.11ac (VHT40)**

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
38	5190	-4.52	-4.98	2.07	11	PASS
46	5230	2.21	2.30	9.06	11	PASS
54	5270	2.12	2.49	9.12	11	PASS
62	5310	-8.42	-8.20	-0.70	11	PASS
102	5510	-6.61	-6.95	0.83	11	PASS
110	5550	-7.24	-7.26	0.36	9.05	PASS
134	5670	-2.97	-3.11	4.57	9.05	PASS
142 (U-NII-2c Band)	5710	-2.89	-2.73	4.80	9.05	PASS

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1 band: Directional gain = 2.49 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2A band: Directional gain = 3.27 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2C band: Directional gain = 7.95 dBi > 6 dBi , so the limit shall be reduced.
3. Refer to section 1.1 for duty cycle spectrum plot.

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**802.11ac (VHT80)**

CHAN.	FREQ. (MHz)	PSD (dBm)		TOTAL PSD with duty factor (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN 0	CHAIN 1			
42	5210	-8.42	-8.20	-0.70	11	PASS
58	5290	-6.61	-6.95	0.83	11	PASS
106	5530	-7.24	-7.26	0.36	9.05	PASS
122	5610	-2.97	-3.11	4.57	9.05	PASS
138 (U-NII-2c Band)	5690	-2.89	-2.73	4.80	9.05	PASS

Note:

1. Method a) of power density measurement of KDB 662911 is using for calculating total power density.
Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.
2. For U-NII-1 band: Directional gain = 2.49 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2A band: Directional gain = 3.27 dBi < 6 dBi , so the limit does not need to reduced.
For U-NII-2C band: Directional gain = 7.95 dBi > 6 dBi , so the limit shall be reduced.
3. Refer to section 1.1 for duty cycle spectrum plot.

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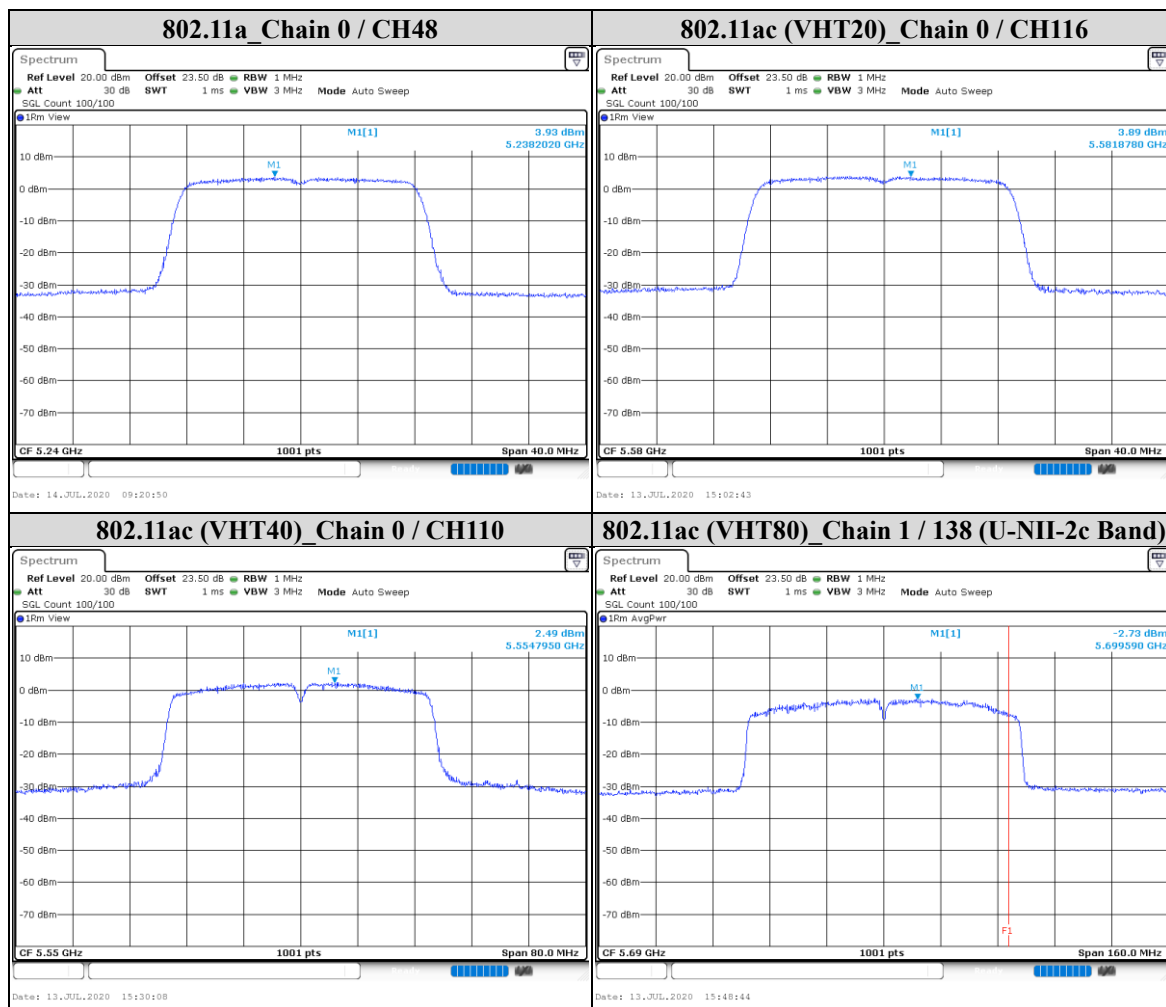


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**For U-NII-3 band****802.11a**

TX Chain	Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)	10 log (N=2) dB	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	144 (U-NII-3 Band)	5720	0.48	3.01	5.63	28.54	Pass
	149	5745	6.53	3.01	11.68	28.54	Pass
	157	5785	6.72	3.01	11.87	28.54	Pass
	165	5825	6.41	3.01	11.56	28.54	Pass
1	144 (U-NII-3 Band)	5720	-0.01	3.01	5.14	28.54	Pass
	149	5745	6.41	3.01	11.56	28.54	Pass
	157	5785	6.09	3.01	11.24	28.54	Pass
	165	5825	6.26	3.01	11.41	28.54	Pass

Note:

1. Directional gain = 7.46 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 for duty cycle spectrum plot.

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**802.11ac (VHT20)**

TX Chain	Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)	10 log (N=2) dB	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	144 (U-NII-3 Band)	5720	-0.42	3.01	4.73	28.54	Pass
	149	5745	6.21	3.01	11.36	28.54	Pass
	157	5785	6.12	3.01	11.27	28.54	Pass
	165	5825	6.21	3.01	11.36	28.54	Pass
1	144 (U-NII-3 Band)	5720	-0.07	3.01	5.08	28.54	Pass
	149	5745	6.26	3.01	11.41	28.54	Pass
	157	5785	6.18	3.01	11.33	28.54	Pass
	165	5825	5.72	3.01	10.87	28.54	Pass

Note:

1. Directional gain = 7.46 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 for duty cycle spectrum plot.

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802.11ac (VHT40)

TX Chain	Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)	10 log (N=2) dB	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	142 (U-NII-3 Band)	5710	-4.81	3.01	2.00	28.54	Pass
	151	5755	0.58	3.01	7.39	28.54	Pass
	159	5795	0.76	3.01	7.57	28.54	Pass
1	142 (U-NII-3 Band)	5710	-4.83	3.01	1.98	28.54	Pass
	151	5755	0.72	3.01	7.53	28.54	Pass
	159	5795	0.33	3.01	7.14	28.54	Pass

Note:

1. Directional gain = 7.46 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 for duty cycle spectrum plot.

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802.11ac (VHT80)

TX Chain	Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)	10 log (N=2) dB	Total PSD with Duty Factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
0	138 (U-NII-3 Band)	5690	-9.66	3.01	-2.06	28.54	Pass
	155	5775	-7.93	3.01	-0.33	28.54	Pass
1	138 (U-NII-3 Band)	5690	-9.97	3.01	-2.37	28.54	Pass
	155	5775	-8.06	3.01	-0.46	28.54	Pass

Note:

1. Directional gain = 7.46 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 for duty cycle spectrum plot.

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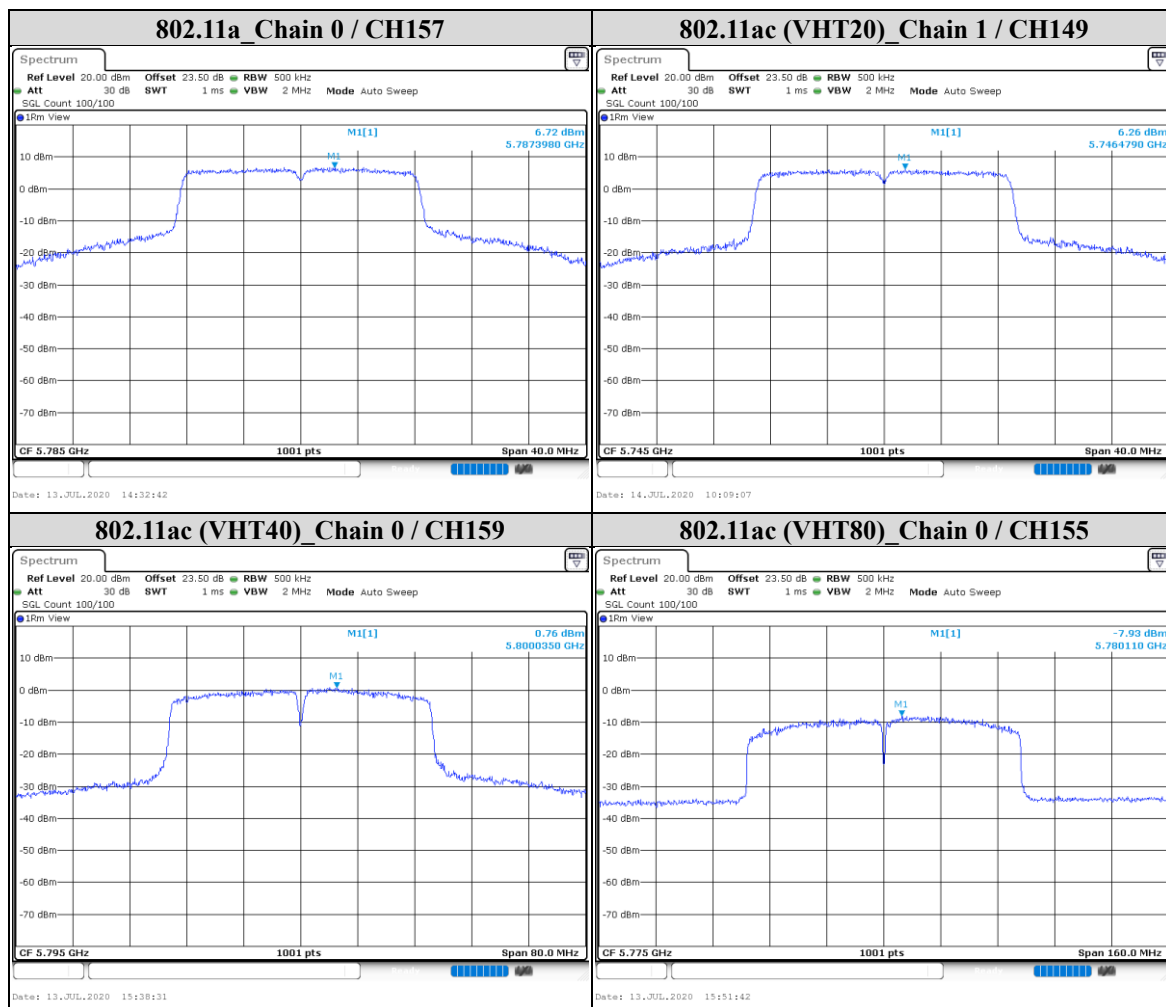


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4.3.5 測試結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

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4.4 場強輻射

4.4.1 適用標準

請見本報告 3.1 節第 (4)、(1) 的規定。

4.4.2 測試方法

在半電波暗室，將待測物置於 0.8 米高的非金屬桌面，使其操作在工作狀態。接收天線置於 3 米距離。桌面要 360 度旋轉，另外接收天線從離地 1 米至 4 米升降變化，以找出最大的輻射電場強度，接收天線分別置於水平、垂直極化各執行測試一次。

Note：對於 1 GHz 以上場強輻射的測試，待測物則置於 1.5 米高的非金屬桌面

頻譜設定如下：

Peak

頻率範圍	RBW	VBW
9 kHz~150 kHz	200 Hz	600 Hz
150 kHz~30 MHz	10 kHz	30 kHz
30 MHz~1 GHz	120 kHz	360 kHz
Above 1GHz	1 MHz	3 MHz

Average

調變方式	RBW	VBW
802.11a	1 MHz	1 kHz
802.11ac (VHT20)	1 MHz	1 kHz
802.11ac (VHT40)	1 MHz	3 kHz
802.11ac (VHT80)	1 MHz	4 kHz

Note: Quasi-Peak RBW = 120 kHz

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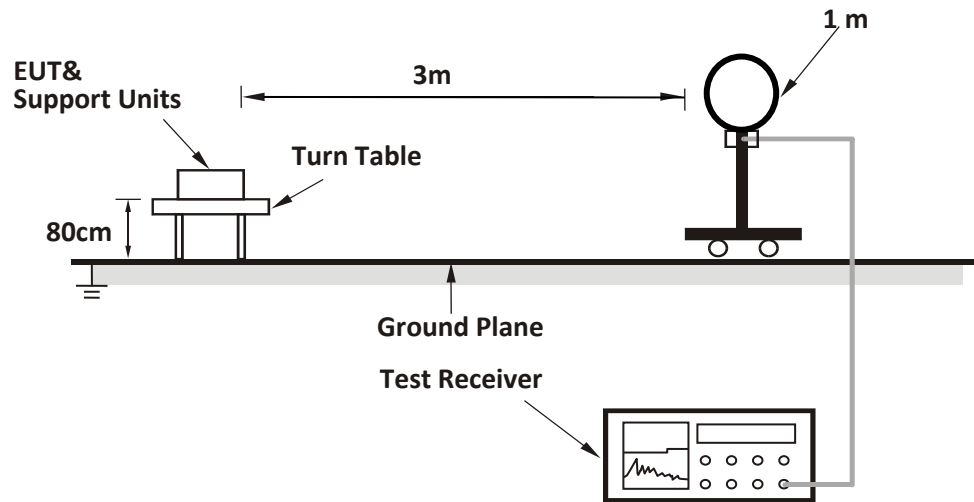
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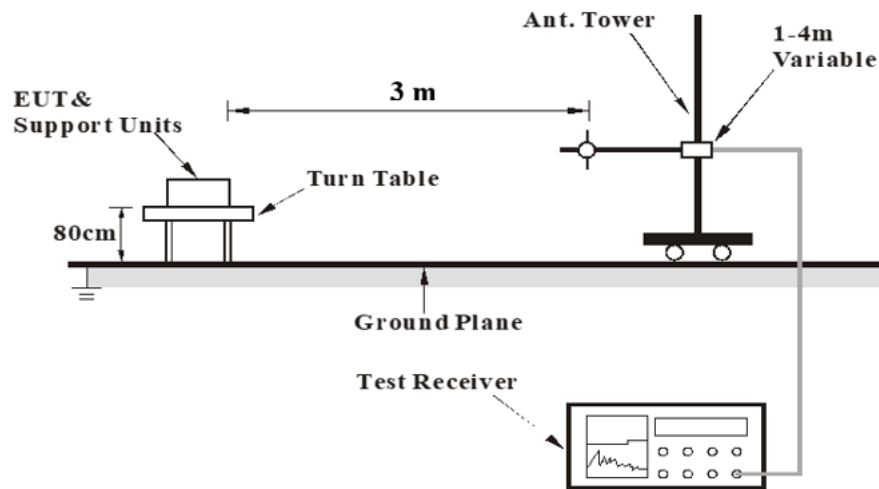
Doc No: 17-EM-F0880 / 5.0

4.4.3 測試配置圖

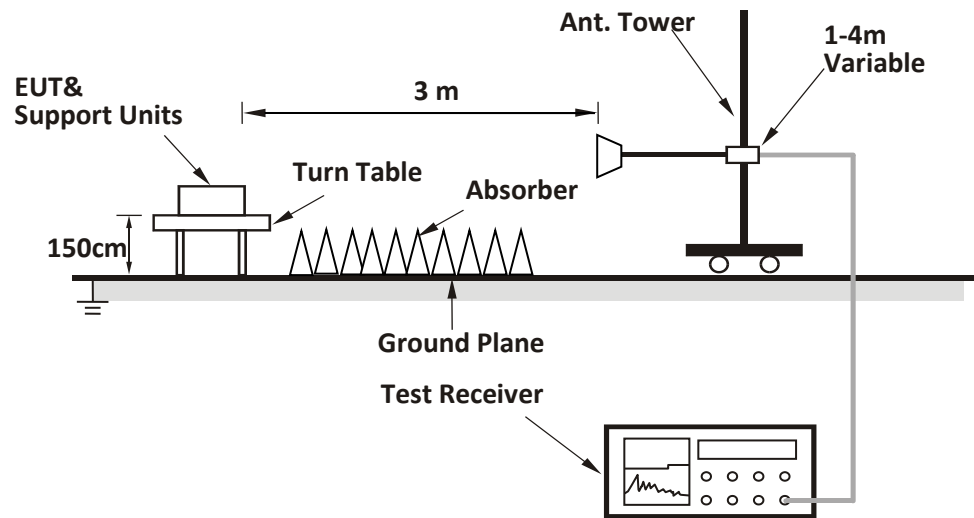
<Frequency Range 9 kHz ~ 30 MHz>



<Frequency Range 30 MHz ~ 1 GHz >



<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Appendix III.

4.4.4 場強之計算公式

結果值 Result value (dBuV/m) = 機器讀值 Reading value (dBuV/m) + 校正因子
 Correction Factor (dB/m)

餘裕度 Margin(dB) = 結果值 Result value (dBuV/m) - 限制值 Limit value (dBuV/m)



4.4.5 測試結果

發射模式

Above 1GHz Data :

802.11a

EUT Test Condition		Measurement Detail	
Mode 1	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5069.6	44.24	9.91	54.15	74	-19.85	Peak
@	5180	91.8	10.11	101.91	-	-	Peak
-	5148.2	32.25	10.16	42.41	54	-11.59	Average
@	5180	85.46	10.11	95.57	-	-	Average
#	10360	38.95	12.16	51.11	68.2	-17.09	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5150	54.11	10.16	64.27	74	-9.73	Peak
@	5180	103.24	10.11	113.35	-	-	Peak
-	5150	40.35	10.16	50.51	54	-3.49	Average
@	5180	94.72	10.11	104.83	-	-	Average
#	10360	40.58	12.16	52.74	68.2	-15.46	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 44	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5131.4	43.86	10.12	53.98	74	-20.02	Peak
@	5220	93.03	9.9	102.93	-	-	Peak
-	5133.2	31.63	10.13	41.76	54	-12.24	Average
@	5220	81.98	9.9	91.88	-	-	Average
#	10440	36.51	12.46	48.97	68.2	-19.23	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5145.5	45.04	10.15	55.19	74	-18.81	Peak
@	5220	102.29	9.9	112.19	-	-	Peak
-	5136.5	33.03	10.13	43.16	54	-10.84	Average
@	5220	92.94	9.9	102.84	-	-	Average
#	10440	40.78	12.46	53.24	68.2	-14.96	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 48	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5143.1	43.74	10.15	53.89	74	-20.11	Peak
@	5240	90.65	9.7	100.35	-	-	Peak
-	5121.5	31.98	10.09	42.07	54	-11.93	Average
@	5240	83.27	9.7	92.97	-	-	Average
#	10480	36.96	12.6	49.56	68.2	-18.64	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5058.5	44.38	9.85	54.23	74	-19.77	Peak
@	5240	100.89	9.7	110.59	-	-	Peak
-	5122.4	34.24	10.09	44.33	54	-9.67	Average
@	5240	93.71	9.7	103.41	-	-	Average
#	10480	41.32	12.6	53.92	68.2	-14.28	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 52	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5260	91.68	9.6	101.28	-	-	Peak
-	5380.5	41.7	9.85	51.55	74	-22.45	Peak
@	5260	82.94	9.6	92.54	-	-	Average
-	5454	30.3	10.11	40.41	54	-13.59	Average
#	10520	37.22	12.66	49.88	68.2	-18.32	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5260	100.45	9.6	110.05	-	-	Peak
-	5403.9	42.52	9.99	52.51	74	-21.49	Peak
@	5260	93.1	9.6	102.7	-	-	Average
-	5382	31.72	9.86	41.58	54	-12.42	Average
#	10520	41.67	12.66	54.33	68.2	-13.87	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 60	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5300	89.4	9.53	98.93	-	-	Peak
-	5413.5	41.9	10.02	51.92	74	-22.08	Peak
@	5300	82.41	9.53	91.94	-	-	Average
-	5456.4	30.35	10.11	40.46	54	-13.54	Average
*	10600	37.02	12.55	49.57	74	-18.63	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5300	100.62	9.53	110.15	-	-	Peak
-	5440.5	42.03	10.08	52.11	74	-21.89	Peak
@	5300	91.39	9.53	100.92	-	-	Average
-	5382.6	31.15	9.87	41.02	54	-12.98	Average
*	10600	40.42	12.55	52.97	74	-15.23	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 64	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5320	91.19	9.58	100.77	-	-	Peak
-	5454	42.05	10.11	52.16	74	-21.84	Peak
@	5320	81.95	9.58	91.53	-	-	Average
-	5453.4	30.24	10.11	40.35	54	-13.65	Average
*	10640	36.48	12.61	49.09	74	-24.91	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5320	99.57	9.58	109.15	-	-	Peak
-	5351.4	45.68	9.67	55.35	74	-18.65	Peak
@	5320	89.89	9.58	99.47	-	-	Average
-	5350.2	31.69	9.66	41.35	54	-12.65	Average
*	10640	36.98	12.61	49.59	74	-24.41	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 100	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5427.65	29.23	10.05	39.28	54	-14.72	Average
-	5427.65	42.04	10.05	52.09	74	-21.91	Peak
#	5465.1	43.84	10.13	53.97	68.2	-14.23	Peak
@	5500	85.32	10.22	95.54	-	-	Average
@	5500	96.12	10.22	106.34	-	-	Peak
*	11000	36.64	13.08	49.72	74	-24.28	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5457.75	29.98	10.12	40.1	54	-13.9	Average
-	5457.75	42.56	10.12	52.68	74	-21.32	Peak
#	5465.1	47.03	10.13	57.16	68.2	-11.04	Peak
@	5500	90.31	10.22	100.53	-	-	Average
@	5500	100.25	10.22	110.47	-	-	Peak
*	11000	37.12	13.08	50.2	74	-23.8	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 116	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5426.6	29.88	10.04	39.92	54	-14.08	Average
-	5426.6	42.36	10.04	52.4	74	-21.6	Peak
#	5467.2	41.51	10.14	51.65	68.2	-16.55	Peak
@	5580	86.63	10.3	96.93	-	-	Average
@	5580	97.64	10.3	107.94	-	-	Peak
#	5733.2	42.86	10.63	53.49	68.2	-14.71	Peak
*	11160	37.33	13.02	50.35	74	-23.65	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5458.45	29.34	10.12	39.46	54	-14.54	Average
-	5458.45	42.68	10.12	52.8	74	-21.2	Peak
#	5461.6	42.68	10.12	52.8	68.2	-15.4	Peak
@	5580	90.16	10.3	100.46	-	-	Average
@	5580	100.56	10.3	110.86	-	-	Peak
#	5731.45	42.91	10.62	53.53	68.2	-14.67	Peak
*	11160	37.02	13.02	50.04	74	-23.96	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 140	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5700	84.96	10.4	95.36	-	-	Average
@	5700	95.83	10.4	106.23	-	-	Peak
#	5727.6	48.67	10.6	59.27	68.2	-8.93	Peak
*	11400	35.8	13.3	49.1	74	-24.9	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5700	90.28	10.4	100.68	-	-	Average
@	5700	100.52	10.4	110.92	-	-	Peak
#	5725.5	51.43	10.57	62	68.2	-6.2	Peak
*	11400	35.56	13.3	48.86	74	-25.14	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 144	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11440	35.63	13.4	49.03	74	-24.97	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11440	35.75	13.4	49.15	74	-24.85	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " * ": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0880 / 5.0



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EUT Test Condition		Measurement Detail	
Mode 1	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5627.5	43	10.34	53.34	68.2	-14.86	Peak
-	5721.5	56.31	10.55	66.86	114.22	-47.36	Peak
@	5745	86.41	10.72	97.13	-	-	Average
@	5745	97.99	10.72	108.71	-	-	Peak
*	11490	36.89	13.54	50.43	74	-23.57	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5580	44.68	10.3	54.98	68.2	-13.22	Peak
#	5725	69.43	10.57	80	122.2	-42.2	Peak
@	5745	94.37	10.72	105.09	-	-	Average
@	5745	105.05	10.72	115.77	-	-	Peak
*	11490	38.82	13.54	52.36	74	-21.64	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 157	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5586.5	42.97	10.3	53.27	68.2	-14.93	Peak
-	5715.5	42.31	10.5	52.81	109.54	-56.73	Peak
@	5785	88.81	10.78	99.59	-	-	Average
@	5785	99.62	10.78	110.4	-	-	Peak
-	5925	43.12	11.39	54.51	68.2	-13.69	Peak
#	5925.5	43.25	11.39	54.64	68.2	-13.56	Peak
*	11570	38.07	13.33	51.4	74	-22.6	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5577.5	43.38	10.3	53.68	68.2	-14.52	Peak
-	5712	44.5	10.48	54.98	108.56	-53.58	Peak
@	5785	92.82	10.78	103.6	-	-	Average
@	5785	103.24	10.78	114.02	-	-	Peak
-	5859.5	44.1	11.11	55.21	109.54	-54.33	Peak
#	5949	43.29	11.42	54.71	68.2	-13.49	Peak
*	11570	38.03	13.33	51.36	74	-22.64	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 1	Channel 165	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825	88.79	10.91	99.7	-	-	Average
@	5825	99.12	10.91	110.03	-	-	Peak
-	5859.5	52.36	11.11	63.47	109.54	-46.07	Peak
#	5931	42.44	11.4	53.84	68.2	-14.36	Peak
*	11650	36.8	13.09	49.89	74	-24.11	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825	92.64	10.91	103.55	-	-	Average
@	5825	103.28	10.91	114.19	-	-	Peak
-	5856	60.08	11.08	71.16	110.52	-39.36	Peak
#	5981	42.82	11.38	54.2	68.2	-14	Peak
*	11650	40.87	13.09	53.96	74	-20.04	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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**802.11ac (VHT20)**

EUT Test Condition		Measurement Detail	
Mode 2	Channel 36	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.4	44.89	10.15	55.04	74	-18.96	Peak
@	5180	89.37	10.11	99.48	-	-	Peak
-	5149.7	31.88	10.16	42.04	54	-11.96	Average
@	5180	82.77	10.11	92.88	-	-	Average
#	10360	38.47	12.16	50.63	68.2	-17.57	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.8	56.88	10.16	67.04	74	-6.96	Peak
@	5180	101.36	10.11	111.47	-	-	Peak
-	5150	40.41	10.16	50.57	54	-3.43	Average
@	5180	92.05	10.11	102.16	-	-	Average
#	10360	40.99	12.16	53.15	68.2	-15.05	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 44	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5087	43.58	9.98	53.56	74	-20.44	Peak
@	5220	93.07	9.9	102.97	-	-	Peak
-	5125.4	31.78	10.1	41.88	54	-12.12	Average
@	5220	82.98	9.9	92.88	-	-	Average
#	10440	39.48	12.46	51.94	68.2	-16.26	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5148.5	44.27	10.16	54.43	74	-19.57	Peak
@	5220	101.58	9.9	111.48	-	-	Peak
-	5144.6	34.61	10.15	44.76	54	-9.24	Average
@	5220	93.12	9.9	103.02	-	-	Average
#	10440	41.11	12.46	53.57	68.2	-14.63	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 48	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5133.8	43.76	10.13	53.89	74	-20.11	Peak
@	5240	92.13	9.7	101.83	-	-	Peak
-	5143.7	32.02	10.15	42.17	54	-11.83	Average
@	5240	82.95	9.7	92.65	-	-	Average
#	10480	39.61	12.6	52.21	68.2	-15.99	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5140.7	45.23	10.13	55.36	74	-18.64	Peak
@	5240	100.9	9.7	110.6	-	-	Peak
-	5122.7	33.48	10.1	43.58	54	-10.42	Average
@	5240	92.39	9.7	102.09	-	-	Average
#	10480	41.99	12.6	54.59	68.2	-13.61	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 52	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5260	91.27	9.6	100.87	-	-	Peak
-	5392.2	41.83	9.92	51.75	74	-22.25	Peak
@	5260	82.44	9.6	92.04	-	-	Average
-	5378.4	30.44	9.84	40.28	54	-13.72	Average
#	10520	37.71	12.66	50.37	68.2	-17.83	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5260	101.78	9.6	111.38	-	-	Peak
-	5459.7	43.07	10.12	53.19	74	-20.81	Peak
@	5260	91.84	9.6	101.44	-	-	Average
-	5379.3	31.32	9.85	41.17	54	-12.83	Average
#	10520	39.85	12.66	52.51	68.2	-15.69	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 60	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5300	87.28	9.53	96.81	-	-	Peak
-	5436.9	42	10.06	52.06	74	-21.94	Peak
@	5300	80.81	9.53	90.34	-	-	Average
-	5456.7	30.16	10.11	40.27	54	-13.73	Average
*	10600	36.71	12.55	49.26	68.2	-18.94	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5300	101.19	9.53	110.72	-	-	Peak
-	5382	43.45	9.86	53.31	74	-20.69	Peak
@	5300	89.49	9.53	99.02	-	-	Average
-	5372.7	31.85	9.8	41.65	54	-12.35	Average
*	10600	38.9	12.55	51.45	68.2	-16.75	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 64	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5320	89.29	9.58	98.87	-	-	Peak
-	5433.3	42.07	10.06	52.13	74	-21.87	Peak
@	5320	81.37	9.58	90.95	-	-	Average
-	5459.7	30.18	10.12	40.3	54	-13.7	Average
*	10640	36.63	12.61	49.24	74	-24.76	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5320	101.57	9.58	111.15	-	-	Peak
-	5352.9	54.08	9.68	63.76	74	-10.24	Peak
@	5320	88.87	9.58	98.45	-	-	Average
-	5350.5	34.46	9.66	44.12	54	-9.88	Average
*	10640	36.49	12.61	49.1	74	-24.9	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 100	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5458.8	29.57	10.12	39.69	54	-14.31	Average
-	5458.8	41.67	10.12	51.79	74	-22.21	Peak
#	5464.05	41.51	10.13	51.64	68.2	-16.56	Peak
@	5500	82.68	10.22	92.9	-	-	Average
@	5500	94.88	10.22	105.1	-	-	Peak
*	11000	35.87	13.08	48.95	74	-25.05	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5428.35	29.31	10.05	39.36	54	-14.64	Average
-	5428.35	42.57	10.05	52.62	74	-21.38	Peak
#	5469.65	45.15	10.15	55.3	68.2	-12.9	Peak
@	5500	86.25	10.22	96.47	-	-	Average
@	5500	97.47	10.22	107.69	-	-	Peak
*	11000	36.38	13.08	49.46	74	-24.54	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 116	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5450.05	29.46	10.1	39.56	54	-14.44	Average
-	5450.05	41.94	10.1	52.04	74	-21.96	Peak
#	5464.4	41	10.13	51.13	68.2	-17.07	Peak
@	5580	83.92	10.3	94.22	-	-	Average
@	5580	95	10.3	105.3	-	-	Peak
#	5739.5	42.81	10.68	53.49	68.2	-14.71	Peak
*	11160	38.24	13.02	51.26	74	-22.74	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5442.35	30.12	10.08	40.2	54	-13.8	Average
-	5442.35	42.35	10.08	52.43	74	-21.57	Peak
#	5463.7	42.48	10.13	52.61	68.2	-15.59	Peak
@	5580	92.12	10.3	102.42	-	-	Average
@	5580	101.04	10.3	111.34	-	-	Peak
#	5734.95	42.66	10.64	53.3	68.2	-14.9	Peak
*	11160	37.43	13.02	50.45	74	-23.55	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0880 / 5.0



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EUT Test Condition		Measurement Detail	
Mode 2	Channel 140	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5700	82.82	10.4	93.22	-	-	Average
@	5700	93.41	10.4	103.81	-	-	Peak
-	5725.5	46.77	10.57	57.34	68.2	-10.86	Peak
*	11400	35.58	13.3	48.88	74	-25.12	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5700	88.98	10.4	99.38	-	-	Average
@	5700	99.78	10.4	110.18	-	-	Peak
#	5727.95	50.16	10.6	60.76	68.2	-7.44	Peak
*	11400	36.28	13.3	49.58	74	-24.42	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 144	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11440	35.23	13.4	48.63	74	-25.37	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11440	35.13	13.4	48.53	74	-25.47	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " * ": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 149	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5641	42.81	10.34	53.15	68.2	-15.05	Peak
-	5724	56.79	10.56	67.35	119.92	-52.57	Peak
@	5745	84.49	10.72	95.21	-	-	Average
@	5745	95.81	10.72	106.53	-	-	Peak
*	11490	37.54	13.54	51.08	74	-22.92	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5538.5	42.43	10.25	52.68	68.2	-15.52	Peak
-	5724.5	69.47	10.57	80.04	121.06	-41.02	Peak
@	5745	92.1	10.72	102.82	-	-	Average
@	5745	101.89	10.72	112.61	-	-	Peak
*	11490	39.32	13.54	52.86	74	-21.14	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 157	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5591.5	42.94	10.3	53.24	68.2	-14.96	Peak
-	5724	42.32	10.56	52.88	119.92	-67.04	Peak
@	5785	84.96	10.78	95.74	-	-	Average
@	5785	95.37	10.78	106.15	-	-	Peak
-	5866	43.04	11.14	54.18	107.72	-53.54	Peak
#	5949	42.45	11.42	53.87	68.2	-14.33	Peak
*	11570	37.52	13.33	50.85	74	-23.15	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5541.5	42.33	10.26	52.59	68.2	-15.61	Peak
-	5705.5	43.9	10.43	54.33	106.74	-52.41	Peak
@	5785	93.71	10.78	104.49	-	-	Average
@	5785	103.32	10.78	114.1	-	-	Peak
-	5873	44.38	11.19	55.57	105.76	-50.19	Peak
#	5942	43.1	11.41	54.51	68.2	-13.69	Peak
*	11570	38.18	13.33	51.51	74	-22.49	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 2	Channel 165	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825	88.73	10.91	99.64	-	-	Average
@	5825	99.55	10.91	110.46	-	-	Peak
-	5853	53.06	11.06	64.12	115.36	-51.24	Peak
#	5935.5	42.46	11.4	53.86	68.2	-14.34	Peak
*	11650	37.74	13.09	50.83	74	-23.17	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5825	93.17	10.91	104.08	-	-	Average
@	5825	102.68	10.91	113.59	-	-	Peak
-	5851	59.09	11.05	70.14	119.92	-49.78	Peak
#	5950.5	42.3	11.42	53.72	68.2	-14.48	Peak
*	11650	38.95	13.09	52.04	74	-21.96	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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802.11ac (VHT40)

EUT Test Condition		Measurement Detail	
Mode 3	Channel 38	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5147.3	47.49	10.15	57.64	74	-16.36	Peak
@	5190	83.5	10.1	93.6	-	-	Peak
-	5149.4	32.78	10.16	42.94	54	-11.06	Average
@	5190	75.52	10.1	85.62	-	-	Average
#	10380	36.86	12.24	49.1	68.2	-19.1	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5146.4	56.48	10.15	66.63	74	-7.37	Peak
@	5190	95.92	10.1	106.02	-	-	Peak
-	5149.7	40.81	10.16	50.97	54	-3.03	Average
@	5190	87.58	10.1	97.68	-	-	Average
#	10380	37	12.24	49.24	68.2	-18.96	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 46	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5060.6	43.39	9.86	53.25	74	-20.75	Peak
@	5230	87.9	9.8	97.7	-	-	Peak
-	5106.5	32.23	10.06	42.29	54	-11.71	Average
@	5230	80.77	9.8	90.57	-	-	Average
#	10460	36.64	12.53	49.17	68.2	-19.03	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5147.6	49.55	10.16	59.71	74	-14.29	Peak
@	5230	98.7	9.8	108.5	-	-	Peak
-	5149.7	36.28	10.16	46.44	54	-7.56	Average
@	5230	90.8	9.8	100.6	-	-	Average
#	10460	41.08	12.53	53.61	68.2	-14.59	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 54	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5270	88.69	9.58	98.27	-	-	Peak
-	5407.5	42.55	9.99	52.54	74	-21.46	Peak
@	5270	79.66	9.58	89.24	-	-	Average
-	5458.5	30.45	10.12	40.57	54	-13.43	Average
#	10540	37.93	12.62	50.55	68.2	-17.65	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5270	99.07	9.58	108.65	-	-	Peak
-	5362.5	46.06	9.74	55.8	74	-18.2	Peak
@	5270	90.86	9.58	100.44	-	-	Average
-	5353.2	33.79	9.68	43.47	54	-10.53	Average
#	10540	41.35	12.62	53.97	68.2	-14.23	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 62	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5310	79.69	9.56	89.25	-	-	Peak
-	5451.3	41.68	10.1	51.78	74	-22.22	Peak
@	5310	77.03	9.56	86.59	-	-	Average
-	5350.2	33.5	9.66	43.16	54	-10.84	Average
*	10620	35.89	12.57	48.46	74	-25.54	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5310	96.43	9.56	105.99	-	-	Peak
-	5351.7	54.7	9.67	64.37	74	-9.63	Peak
@	5310	87.37	9.56	96.93	-	-	Average
-	5350.5	41.32	9.66	50.98	54	-3.02	Average
*	10620	36.78	12.57	49.35	74	-24.65	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 102	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5459.85	29.32	10.12	39.44	54	-14.56	Average
-	5459.85	41.35	10.12	51.47	74	-22.53	Peak
#	5469.65	43.17	10.15	53.32	68.2	-14.88	Peak
@	5510	75.99	10.23	86.22	-	-	Average
@	5510	87.9	10.23	98.13	-	-	Peak
*	11020	35.4	13.09	48.49	74	-25.51	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5459.5	31.29	10.12	41.41	54	-12.59	Average
-	5459.5	44.06	10.12	54.18	74	-19.82	Peak
#	5466.85	50.59	10.14	60.73	68.2	-7.47	Peak
@	5510	82.1	10.23	92.33	-	-	Average
@	5510	93.28	10.23	103.51	-	-	Peak
*	11020	35.39	13.09	48.48	74	-25.52	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0880 / 5.0



報告編號 : 4789482589-TW-R1-V0

頁碼 : 79 of 146

報告發行日期 : 2020/8/18

EUT Test Condition		Measurement Detail	
Mode 3	Channel 110	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5430.1	28.72	10.05	38.77	54	-15.23	Average
-	5430.1	42.11	10.05	52.16	74	-21.84	Peak
#	5463.35	45.98	10.13	56.11	68.2	-12.09	Peak
@	5550	83.33	10.27	93.6	-	-	Average
@	5550	94.7	10.27	104.97	-	-	Peak
#	5730.4	41.3	10.61	51.91	68.2	-16.29	Peak
*	11100	36.4	13.16	49.56	74	-24.44	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5456.35	31.13	10.11	41.24	54	-12.76	Average
-	5456.35	45.65	10.11	55.76	74	-18.24	Peak
#	5465.8	50.18	10.13	60.31	68.2	-7.89	Peak
@	5550	87.62	10.27	97.89	-	-	Average
@	5550	98.51	10.27	108.78	-	-	Peak
#	5725.15	41.88	10.57	52.45	68.2	-15.75	Peak
*	11100	36.65	13.16	49.81	74	-24.19	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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報告發行日期 : 2020/8/18

EUT Test Condition		Measurement Detail	
Mode 3	Channel 134	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5670	82.27	10.38	92.65	-	-	Average
@	5670	93.84	10.38	104.22	-	-	Peak
#	5735.65	47.84	10.65	58.49	68.2	-9.71	Peak
*	11340	35.6	13.13	48.73	74	-25.27	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5670	87.01	10.38	97.39	-	-	Average
@	5670	97.07	10.38	107.45	-	-	Peak
#	5737.05	53.71	10.66	64.37	68.2	-3.83	Peak
*	11340	36.16	13.13	49.29	74	-24.71	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 142	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11420	35.92	13.35	49.27	74	-24.73	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11420	35.81	13.35	49.16	74	-24.84	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " * ": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 151	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5625.5	44.19	10.34	54.53	68.2	-13.67	Peak
-	5720.5	60.42	10.54	70.96	111.94	-40.98	Peak
@	5755	82.01	10.75	92.76	-	-	Average
@	5755	93.93	10.75	104.68	-	-	Peak
*	11510	36.39	13.54	49.93	74	-24.07	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5645	46.18	10.35	56.53	68.2	-11.67	Peak
-	5714	67.4	10.49	77.89	109.12	-31.23	Peak
@	5755	88.09	10.75	98.84	-	-	Average
@	5755	98.93	10.75	109.68	-	-	Peak
*	11510	35.82	13.54	49.36	74	-24.64	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 3	Channel 159	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5620	42.54	10.33	52.87	68.2	-15.33	Peak
-	5706	43.64	10.44	54.08	106.88	-52.8	Peak
@	5795	83.82	10.79	94.61	-	-	Average
@	5795	94.61	10.79	105.4	-	-	Peak
-	5851	52.08	11.05	63.13	119.92	-56.79	Peak
#	5930	42.31	11.4	53.71	68.2	-14.49	Peak
*	11590	36.26	13.25	49.51	74	-24.49	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5643.5	43.45	10.35	53.8	68.2	-14.4	Peak
-	5723.5	50.04	10.56	60.6	118.78	-58.18	Peak
@	5795	86.35	10.79	97.14	-	-	Average
@	5795	97.89	10.79	108.68	-	-	Peak
-	5851	51.75	11.05	62.8	119.92	-57.12	Peak
#	5975.5	43.04	11.39	54.43	68.2	-13.77	Peak
*	11590	35.37	13.25	48.62	74	-25.38	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0880 / 5.0

**802.11ac (VHT80)**

EUT Test Condition		Measurement Detail	
Mode 4	Channel 42	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5126	43.02	10.1	53.12	74	-20.88	Peak
@	5210	80.57	9.99	90.56	-	-	Peak
-	5147.9	32.2	10.16	42.36	54	-11.64	Average
@	5210	69.4	9.99	79.39	-	-	Average
#	10420	36.27	12.39	48.66	68.2	-19.54	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5144.9	50.1	10.15	60.25	74	-13.75	Peak
@	5210	89.77	9.99	99.76	-	-	Peak
-	5148.2	40.62	10.16	50.78	54	-3.22	Average
@	5210	80.86	9.99	90.85	-	-	Average
#	10420	36.71	12.39	49.1	68.2	-19.1	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 4	Channel 58	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5290	78	9.55	87.55	-	-	Peak
-	5446.2	41.71	10.09	51.8	74	-22.2	Peak
@	5290	73.09	9.55	82.64	-	-	Average
-	5358	31.9	9.71	41.61	54	-12.39	Average
#	10580	36.47	12.57	49.04	68.2	-19.16	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
@	5290	91.04	9.55	100.59	-	-	Peak
-	5355	48.17	9.69	57.86	74	-16.14	Peak
@	5290	80.23	9.55	89.78	-	-	Average
-	5353.8	37.01	9.68	46.69	54	-7.31	Average
#	10580	36.15	12.57	48.72	68.2	-19.48	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 4	Channel 106	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5444.1	29.63	10.09	39.72	54	-14.28	Average
-	5444.1	44.06	10.09	54.15	74	-19.85	Peak
#	5466.15	48.03	10.13	58.16	68.2	-10.04	Peak
@	5530	75.82	10.24	86.06	-	-	Average
@	5530	86.91	10.24	97.15	-	-	Peak
*	11060	35.44	13.13	48.57	74	-25.43	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5459.15	32.21	10.12	42.33	54	-11.67	Average
-	5459.15	49.53	10.12	59.65	74	-14.35	Peak
#	5463.35	48.82	10.13	58.95	68.2	-9.25	Peak
@	5530	79.96	10.24	90.2	-	-	Average
@	5530	90.86	10.24	101.1	-	-	Peak
*	11060	36.59	13.13	49.72	74	-24.28	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 4	Channel 122	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5454.95	29.18	10.11	39.29	54	-14.71	Average
-	5454.95	42.54	10.11	52.65	74	-21.35	Peak
#	5468.25	42.36	10.15	52.51	68.2	-15.69	Peak
@	5610	79.82	10.32	90.14	-	-	Average
@	5610	90.28	10.32	100.6	-	-	Peak
#	5726.2	45.83	10.59	56.42	68.2	-11.78	Peak
*	11220	36.09	12.95	49.04	74	-24.96	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	5452.85	29.63	10.11	39.74	54	-14.26	Average
-	5452.85	43.51	10.11	53.62	74	-20.38	Peak
#	5468.6	46.54	10.15	56.69	68.2	-11.51	Peak
@	5610	82.89	10.32	93.21	-	-	Average
@	5610	94.38	10.32	104.7	-	-	Peak
#	5735.3	51.53	10.65	62.18	68.2	-6.02	Peak
*	11220	36.14	12.95	49.09	74	-24.91	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 4	Channel 138	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11380	35.45	13.23	48.68	74	-25.32	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	11380	35.78	13.23	49.01	74	-24.99	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " * ": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
5. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Mode 4	Channel 155	Frequency Range	1 GHz ~ 40 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5644	45.21	10.35	55.56	68.2	-12.64	Peak
-	5686.5	54.67	10.39	65.06	95.24	-30.18	Peak
@	5775	78.62	10.77	89.39	-	-	Average
@	5775	89.59	10.77	100.36	-	-	Peak
-	5851	53.5	11.05	64.55	119.92	-55.37	Peak
#	5996.5	41.99	11.37	53.36	68.2	-14.84	Peak
*	11550	35.91	13.39	49.3	74	-24.7	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	5649	47.67	10.35	58.02	68.2	-10.18	Peak
-	5717.5	61.93	10.52	72.45	110.1	-37.65	Peak
@	5775	83.24	10.77	94.01	-	-	Average
@	5775	94.57	10.77	105.34	-	-	Peak
-	5856.5	57.42	11.08	68.5	110.38	-41.88	Peak
#	5928.5	43.2	11.4	54.6	68.2	-13.6	Peak
*	11550	35.92	13.39	49.31	74	-24.69	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "#": The radiated frequency is out of the restricted band.
6. "*": The peak result complies with AVG limit, AVG result is deemed to comply with AVG limit.
7. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0880 / 5.0



其他不必要之訊號

9 kHz ~ 30 MHz Data:

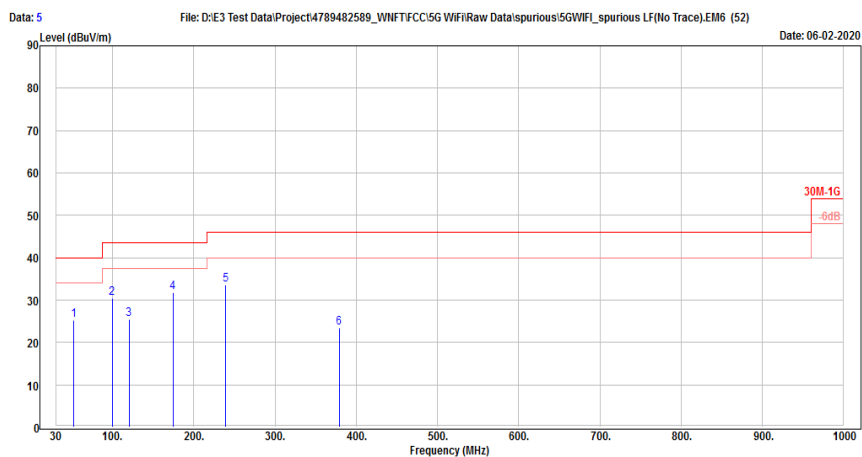
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

30 MHz ~ 1 GHz Data:

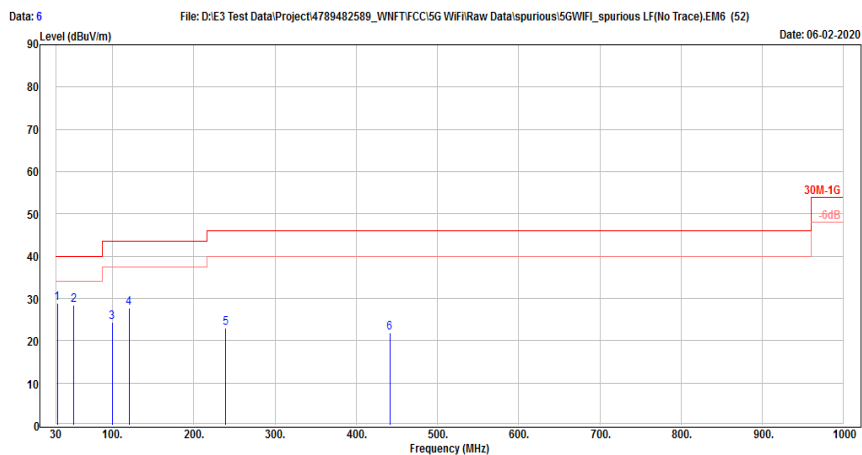
802.11ac (VHT20)

EUT Test Condition		Measurement Detail	
Mode 2	Channel 48	Frequency Range	30 MHz ~ 1 GHz

Horizontal



Vertical



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Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	52.31	40.3	-15.02	25.28	40	-14.72	Peak
-	99.84	50.34	-19.78	30.56	43.5	-12.94	Peak
-	120.21	42.86	-17.47	25.39	43.5	-18.11	Peak
-	174.53	46.91	-15.18	31.73	43.5	-11.77	Peak
-	239.52	49.38	-15.81	33.57	46	-12.43	Peak
-	379.2	35.24	-11.68	23.56	46	-22.44	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	31.94	44.99	-16.04	28.95	40	-11.05	Peak
-	52.31	43.44	-15.02	28.42	40	-11.58	Peak
-	99.84	44.15	-19.78	24.37	43.5	-19.13	Peak
-	120.21	45.18	-17.47	27.71	43.5	-15.79	Peak
-	239.52	38.75	-15.81	22.94	46	-23.06	Peak
-	441.28	31.87	-10.09	21.78	46	-24.22	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. The peak result complies with QP limit, QP result is deemed to comply with QP limit.
5. The other emission levels were very low against the limit.

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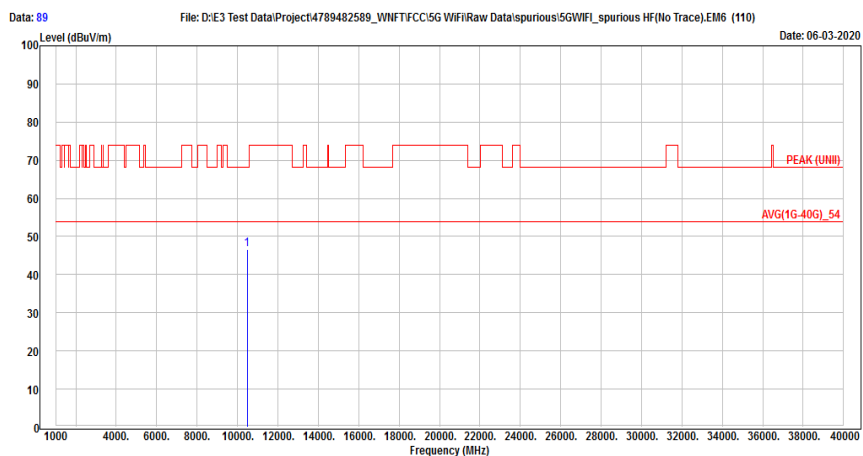


接收模式

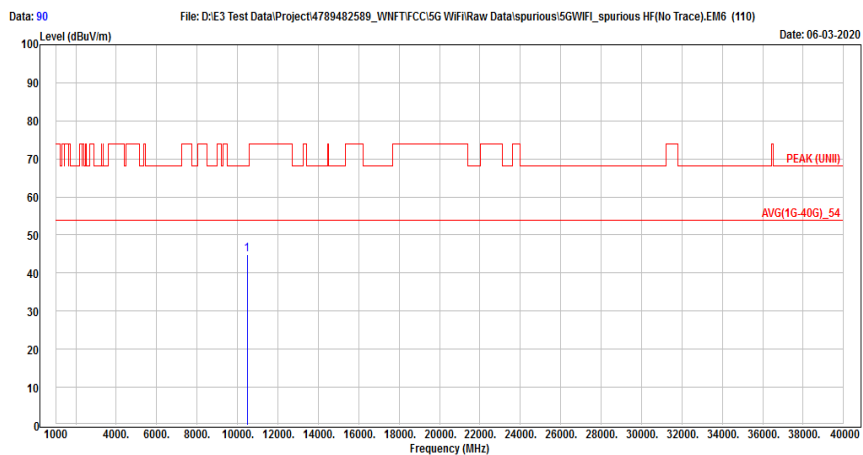
Above 1GHz Data :

EUT Test Condition		Measurement Detail	
Mode 5	WiFi RX	Frequency Range	1 GHz ~ 40 GHz

Horizontal



Vertical



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Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	10480	34.04	12.6	46.64	68.2	-21.56	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
#	10480	32.16	12.6	44.76	68.2	-23.44	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. " # ": The radiated frequency is out of the restricted band.
5. The other emission levels were very low against the limit.

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其他不必要之訊號

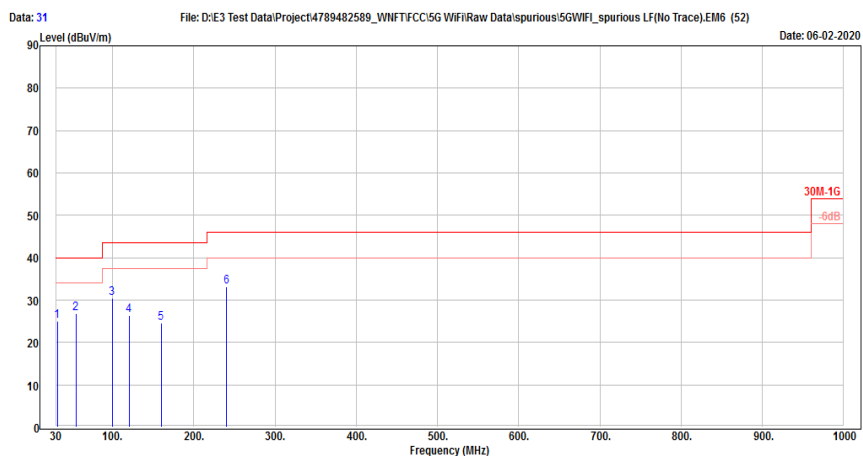
9 kHz ~ 30 MHz Data:

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

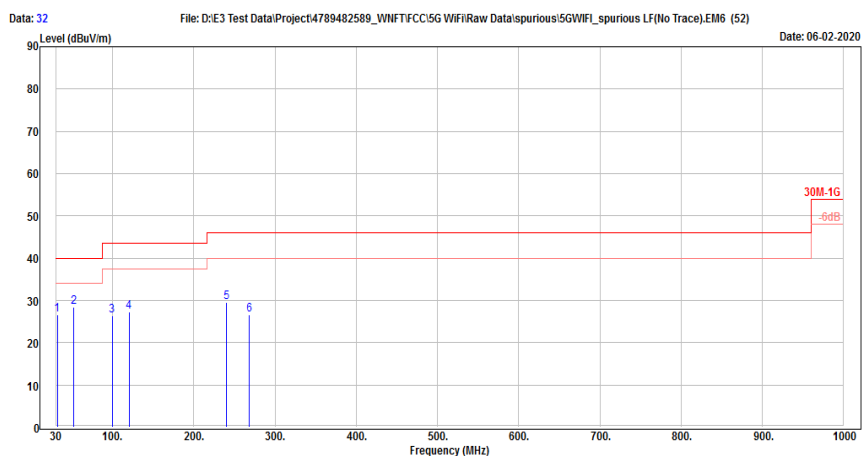
30 MHz ~ 1 GHz Data:

EUT Test Condition		Measurement Detail	
Mode 5	WiFi RX	Frequency Range	30 MHz ~ 1 GHz

Horizontal



Vertical



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Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	31.94	41.13	-16.04	25.09	40	-14.91	Peak
-	55.22	41.92	-15.09	26.83	40	-13.17	Peak
-	99.84	50.19	-19.78	30.41	43.5	-13.09	Peak
-	120.21	43.89	-17.47	26.42	43.5	-17.08	Peak
-	159.98	39.38	-14.88	24.5	43.5	-19	Peak
-	240.49	48.93	-15.78	33.15	46	-12.85	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	31.94	42.73	-16.04	26.69	40	-13.31	Peak
-	52.31	43.54	-15.02	28.52	40	-11.48	Peak
-	99.84	46.28	-19.78	26.5	43.5	-17	Peak
-	120.21	44.71	-17.47	27.24	43.5	-16.26	Peak
-	240.49	45.41	-15.78	29.63	46	-16.37	Peak
-	268.62	41.38	-14.74	26.64	46	-19.36	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. The peak result complies with QP limit, QP result is deemed to comply with QP limit.
5. The other emission levels were very low against the limit.

4.4.6 測試結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

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4.5 電源線傳導干擾

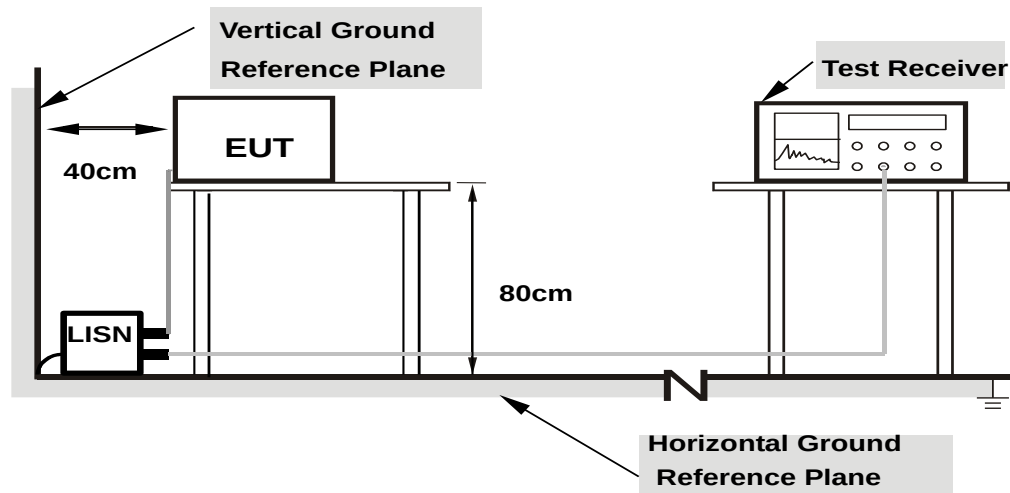
4.5.1 適用標準

請見本報告 3.1 節第 (7) 的規定。

4.5.2 測試方法

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

4.5.3 測試配置圖



- Note: 1.Support units were connected to second LISN.**
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the Appendix IV.



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4.5.4 電源傳導干擾電壓值之計算

結果值 Result value (dBuV) = 機器讀值 Reading value (dBuV) + 校正因子 Correction Factor (dB)

餘裕度 Margin(dB) = 結果值 Result value (dBuV) - 限制值 Limit value (dBuV)

其中校正因子 Correction Factor (dB)為：

饋線損失+電源阻抗模擬網路損失

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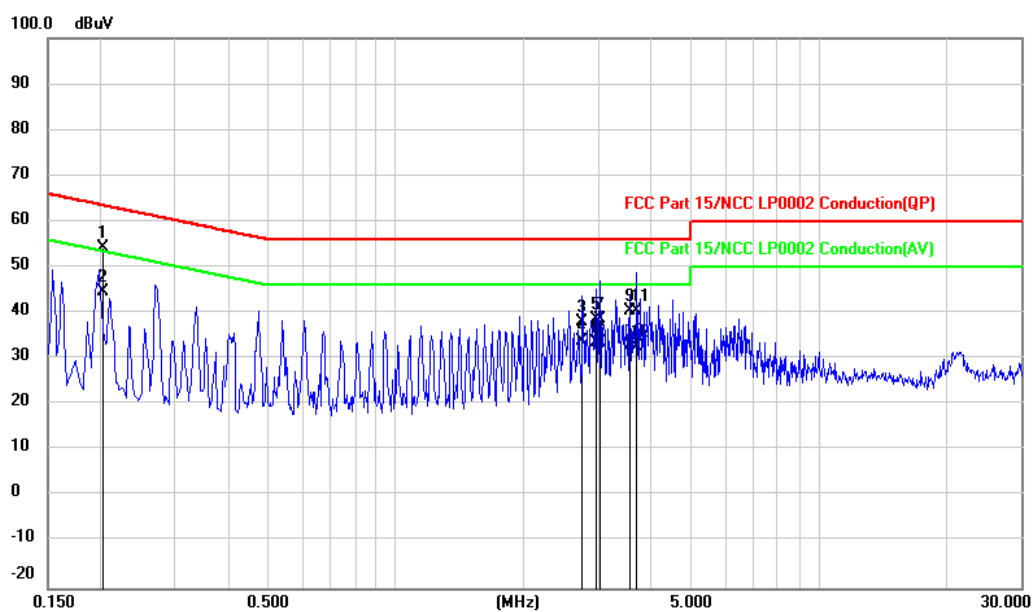
4.5.5 測試結果

發射模式

802.11ac (VHT20)

EUT Test Condition		Measurement Detail	
Mode 2	Channel 48	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.2025	34.87	19.47	54.34	63.51	-9.17	QP
2	0.2025	25.26	19.47	44.73	53.51	-8.78	AVG
3	2.7644	18.47	19.55	38.02	56.00	-17.98	QP
4	2.7644	14.23	19.55	33.78	46.00	-12.22	AVG
5	2.9670	19.21	19.55	38.76	56.00	-17.24	QP
6	2.9670	14.02	19.55	33.57	46.00	-12.43	AVG
7	3.0348	19.21	19.55	38.76	56.00	-17.24	QP
8	3.0348	13.92	19.55	33.47	46.00	-12.53	AVG
9	3.5749	21.00	19.58	40.58	56.00	-15.42	QP
10	3.5749	13.24	19.58	32.82	46.00	-13.18	AVG
11	3.7102	20.96	19.58	40.54	56.00	-15.46	QP
12	3.7102	13.10	19.58	32.68	46.00	-13.32	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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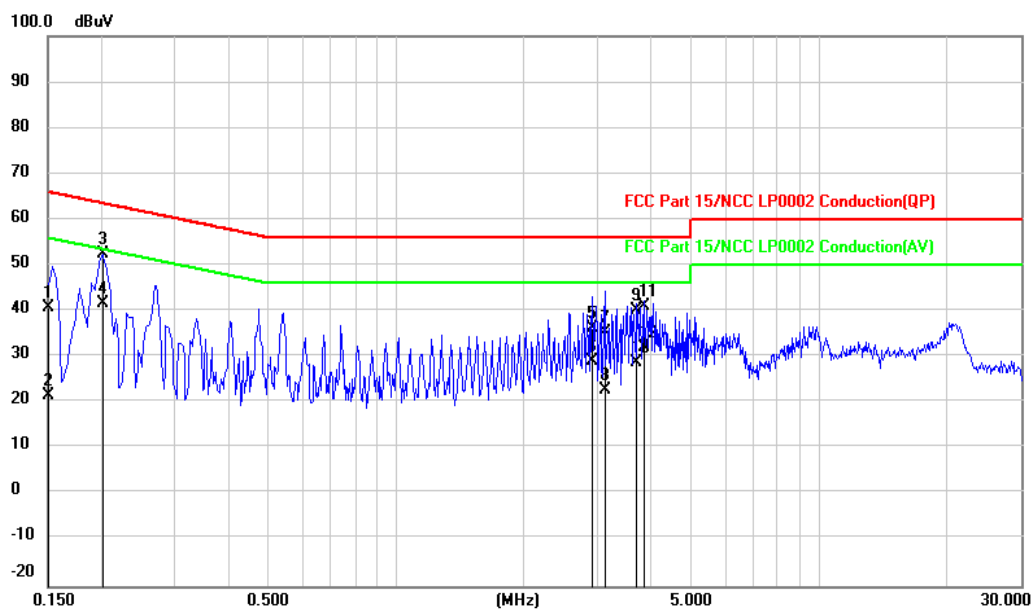


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Phase of Power : Neutral (N)



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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.1505	21.17	19.47	40.64	65.97	-25.33	QP
2	0.1505	2.00	19.47	21.47	55.97	-34.50	AVG
3	0.2031	32.84	19.48	52.32	63.48	-11.16	QP
4	0.2031	22.29	19.48	41.77	53.48	-11.71	AVG
5	2.9044	16.57	19.56	36.13	56.00	-19.87	QP
6	2.9044	9.62	19.56	29.18	46.00	-16.82	AVG
7	3.1073	15.93	19.57	35.50	56.00	-20.50	QP
8	3.1073	3.13	19.57	22.70	46.00	-23.30	AVG
9	3.7153	20.63	19.59	40.22	56.00	-15.78	QP
10	3.7153	9.10	19.59	28.69	46.00	-17.31	AVG
11	3.8508	21.43	19.59	41.02	56.00	-14.98	QP
12	3.8508	12.33	19.59	31.92	46.00	-14.08	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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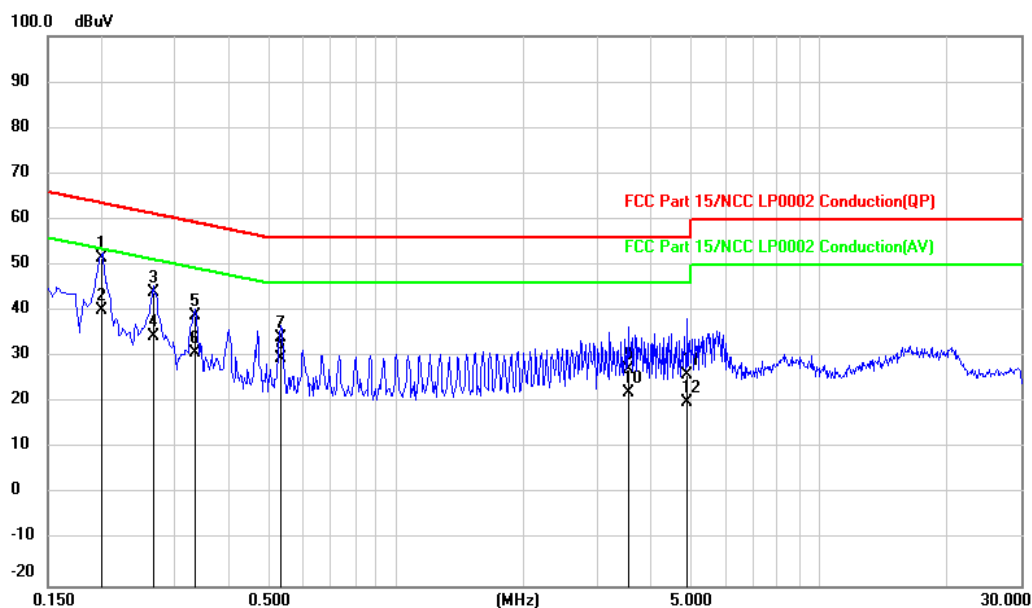
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接收模式

EUT Test Condition		Measurement Detail	
Mode 5	WiFi RX	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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報告編號 : 4789482589-TW-R1-V0

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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.2004	32.01	19.46	51.47	63.59	-12.12	QP
2	0.2004	20.60	19.46	40.06	53.59	-13.53	AVG
3	0.2663	24.60	19.47	44.07	61.23	-17.16	QP
4	0.2663	14.84	19.47	34.31	51.23	-16.92	AVG
5	0.3336	19.46	19.47	38.93	59.36	-20.43	QP
6	0.3336	11.41	19.47	30.88	49.36	-18.48	AVG
7	0.5342	14.53	19.48	34.01	56.00	-21.99	QP
8	0.5342	10.08	19.48	29.56	46.00	-16.44	AVG
9	3.5401	7.77	19.58	27.35	56.00	-28.65	QP
10	3.5401	2.64	19.58	22.22	46.00	-23.78	AVG
11	4.8760	6.32	19.61	25.93	56.00	-30.07	QP
12	4.8760	0.31	19.61	19.92	46.00	-26.08	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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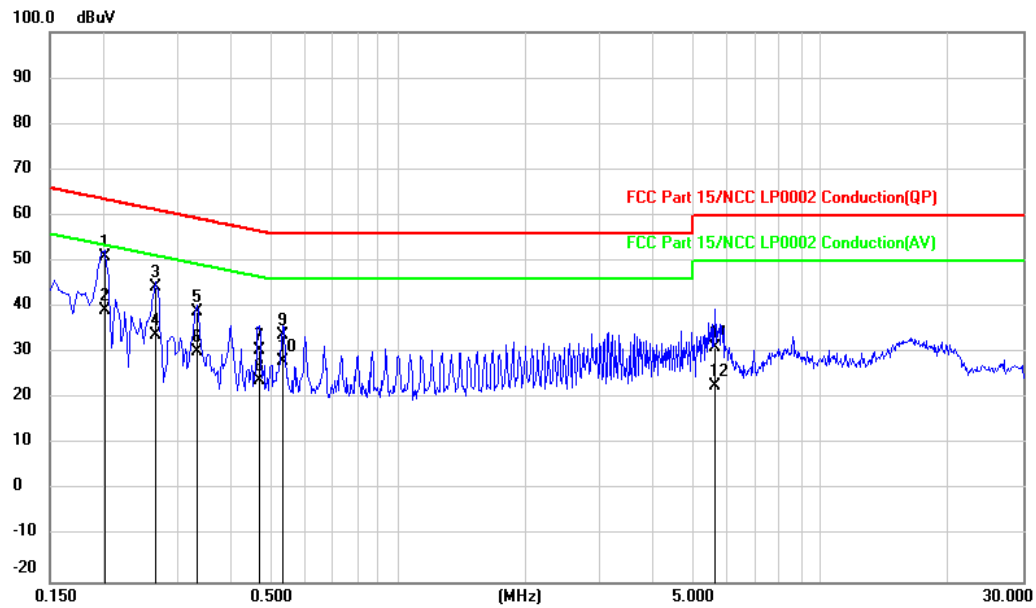
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Phase of Power : Neutral (N)



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No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	dB	(dBuV)	(dBuV)	(dB)	
1	0.2014	31.49	19.48	50.97	63.55	-12.58	QP
2	0.2014	19.68	19.48	39.16	53.55	-14.39	AVG
3	0.2676	24.75	19.48	44.23	61.19	-16.96	QP
4	0.2676	14.49	19.48	33.97	51.19	-17.22	AVG
5	0.3344	19.44	19.48	38.92	59.34	-20.42	QP
6	0.3344	10.75	19.48	30.23	49.34	-19.11	AVG
7	0.4688	10.95	19.49	30.44	56.54	-26.10	QP
8	0.4688	4.42	19.49	23.91	46.54	-22.63	AVG
9	0.5341	14.41	19.49	33.90	56.00	-22.10	QP
10	0.5341	8.52	19.49	28.01	46.00	-17.99	AVG
11	5.6111	11.39	19.63	31.02	60.00	-28.98	QP
12	5.6111	3.12	19.63	22.75	50.00	-27.25	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

4.5.6 測試結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

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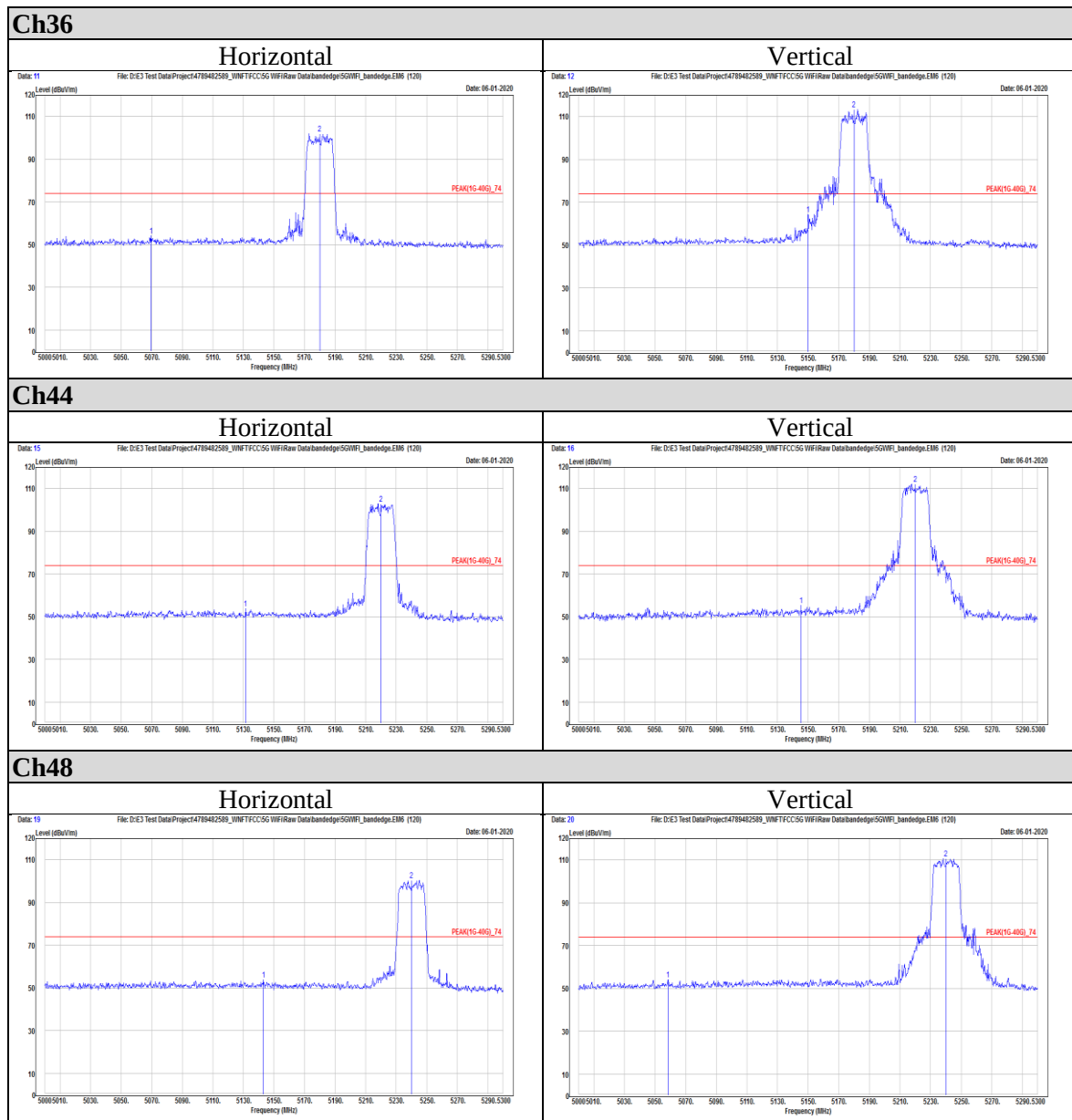
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附錄 I 頻帶邊緣輻射與頻帶邊緣向外輻射量測

802.11a

Peak



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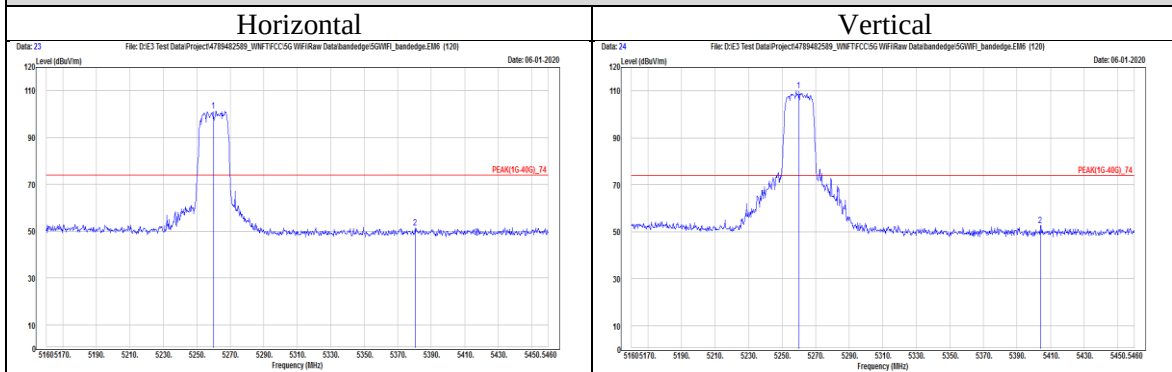


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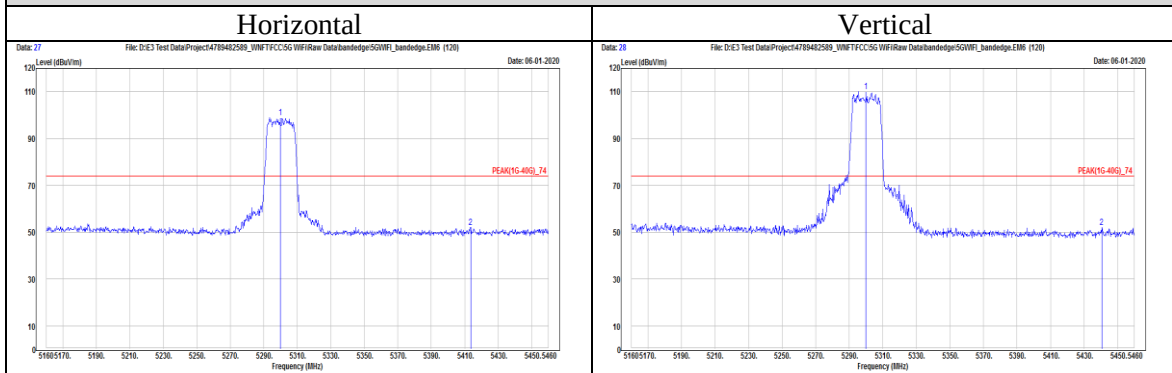
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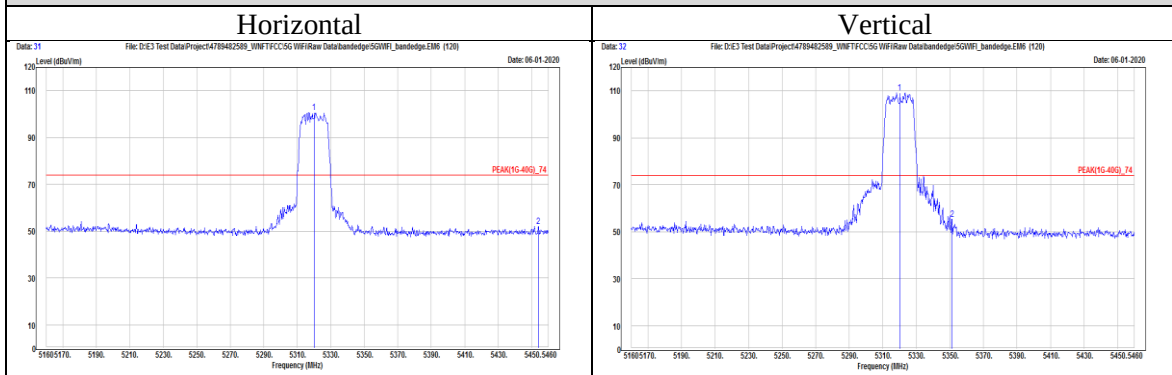
Ch52



Ch60



Ch64



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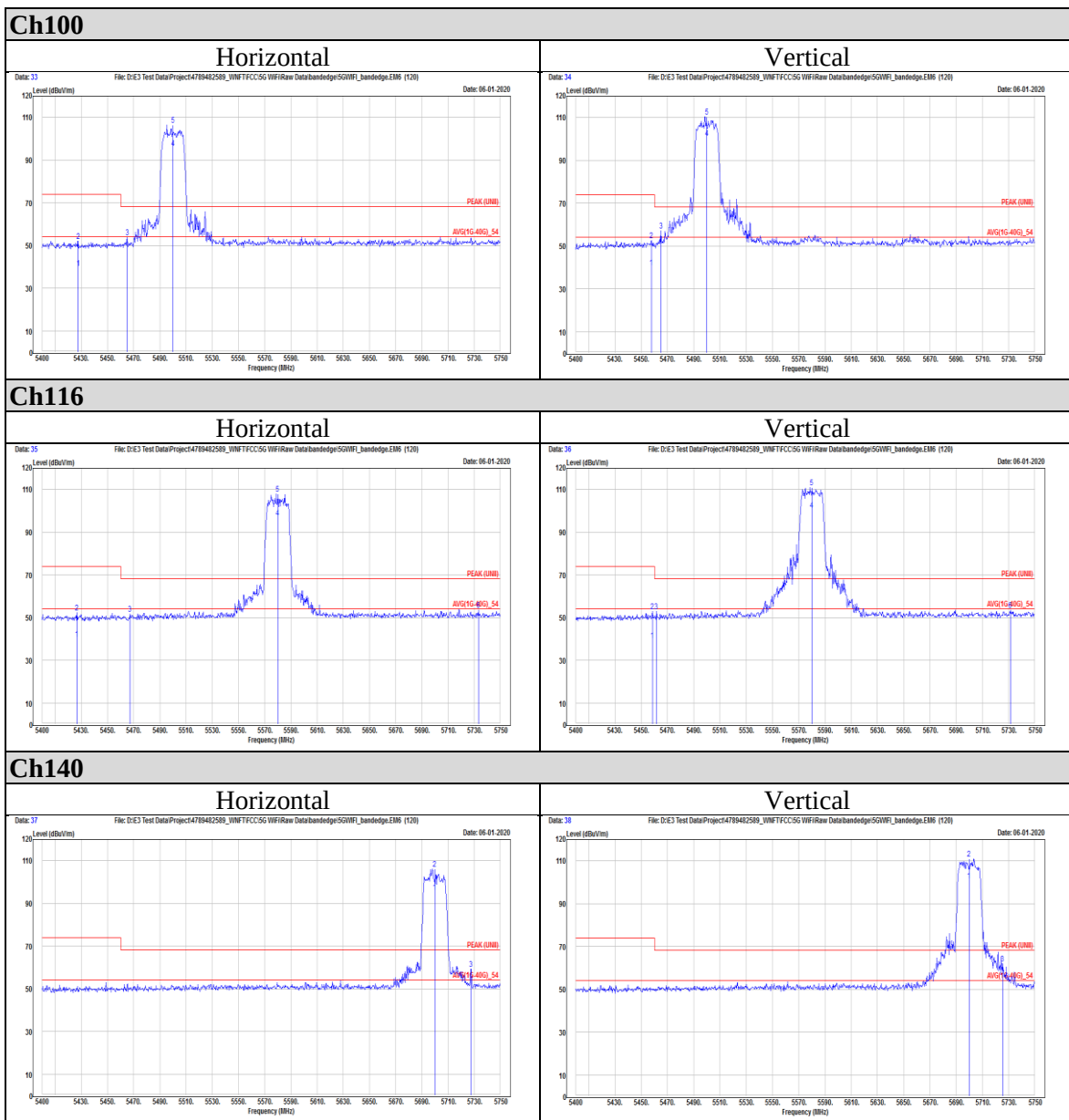
Telephone : +886-2-7737-3000

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Doc No: 17-EM-F0880 / 5.0



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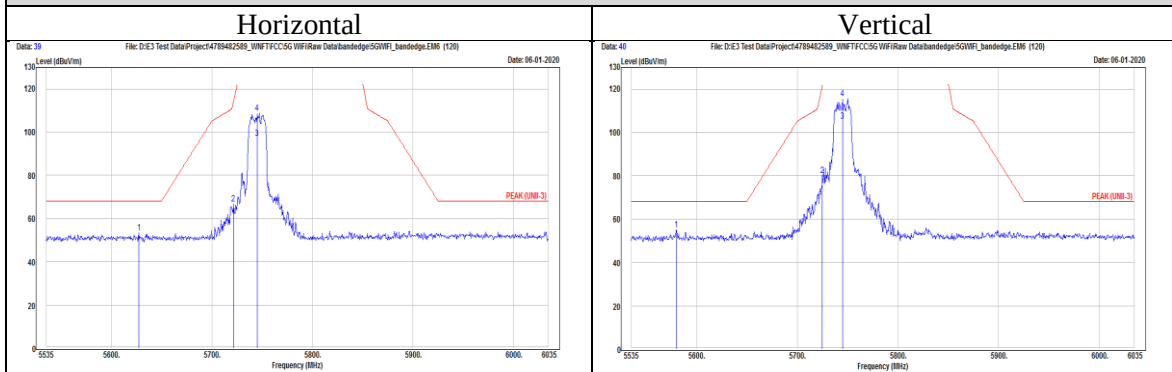


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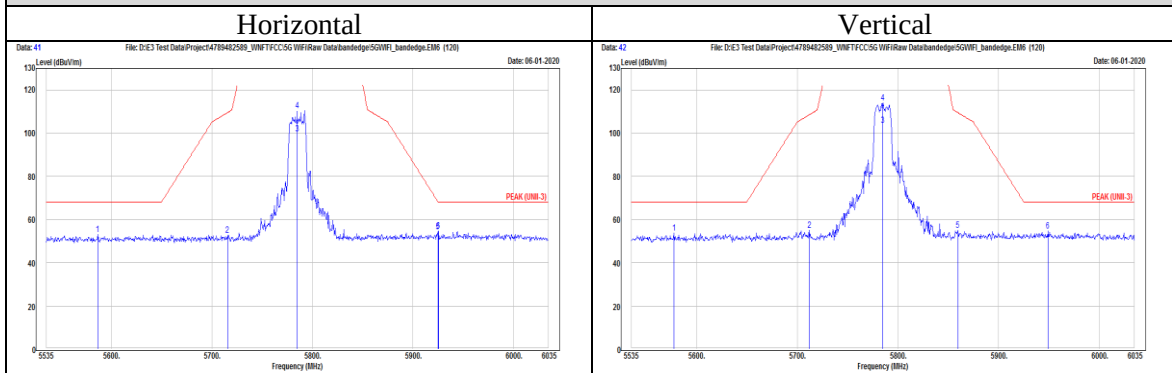
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報告發行日期 : 2020/8/18

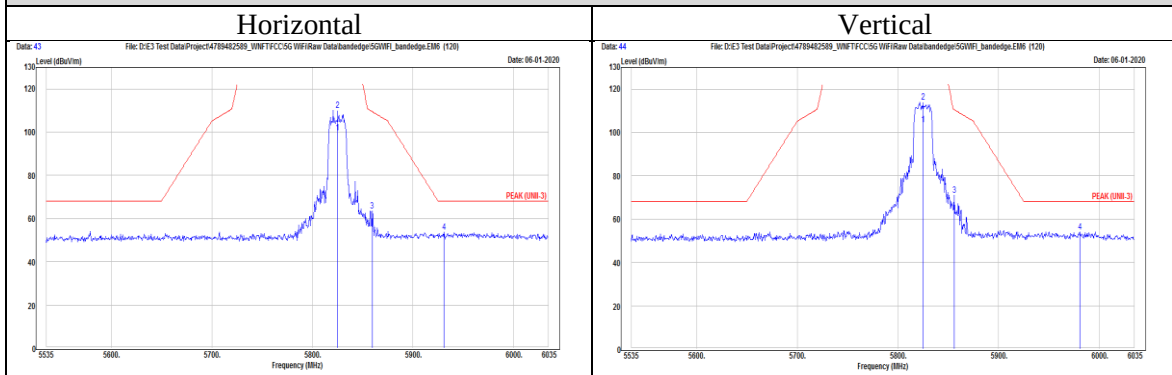
Ch149



Ch157



Ch165



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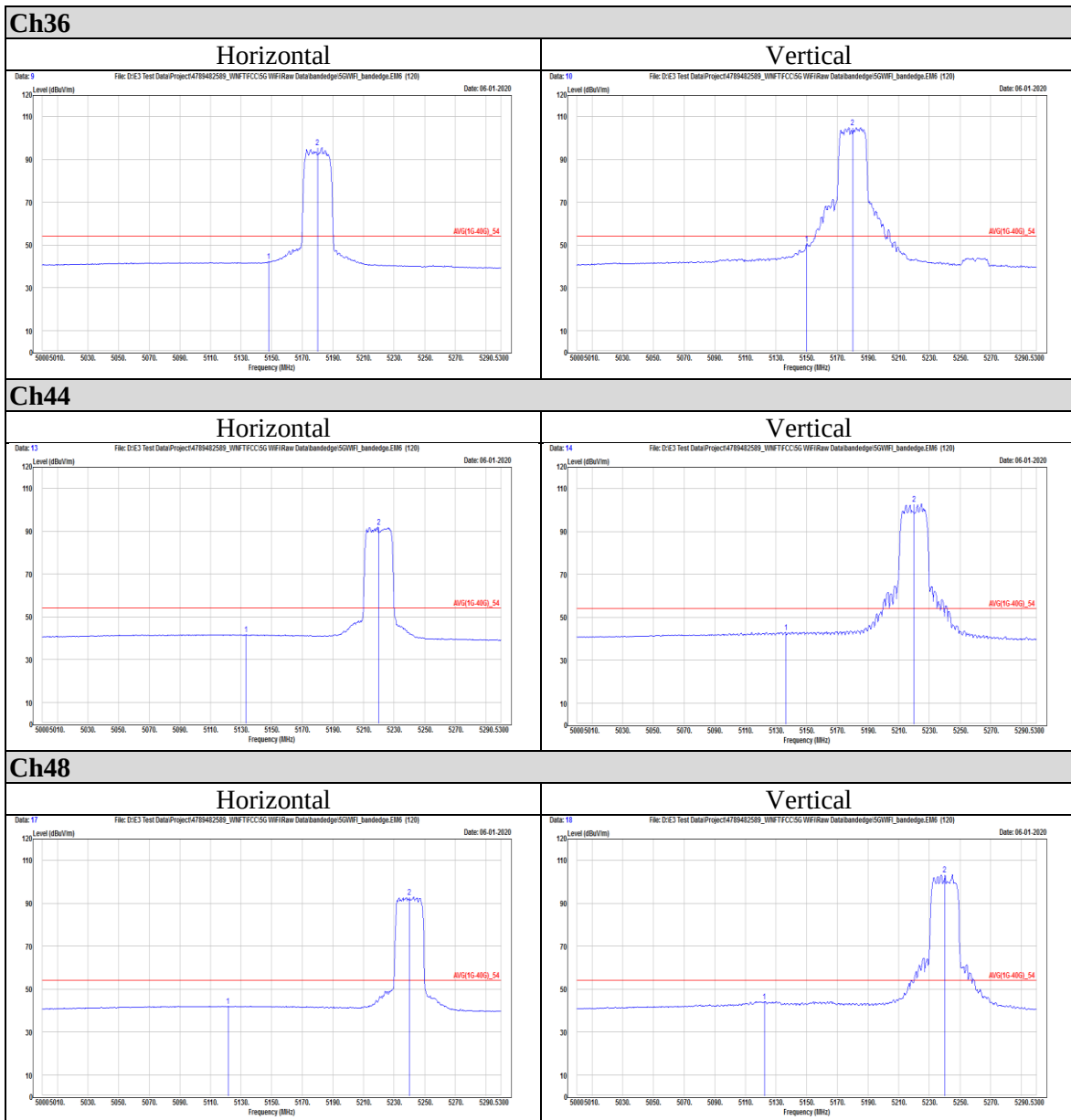
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Average



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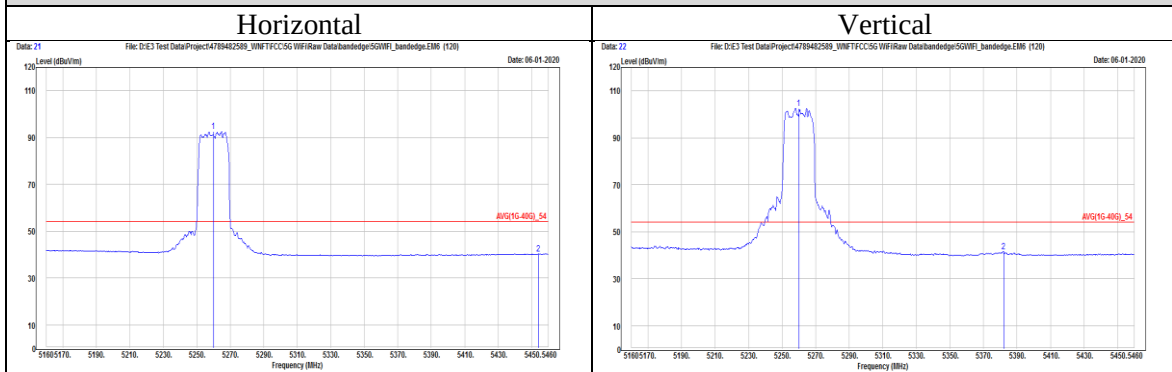


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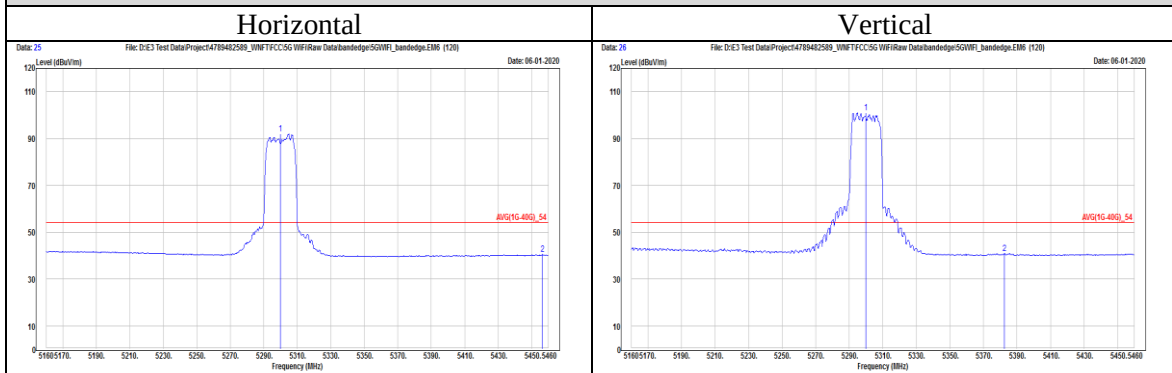
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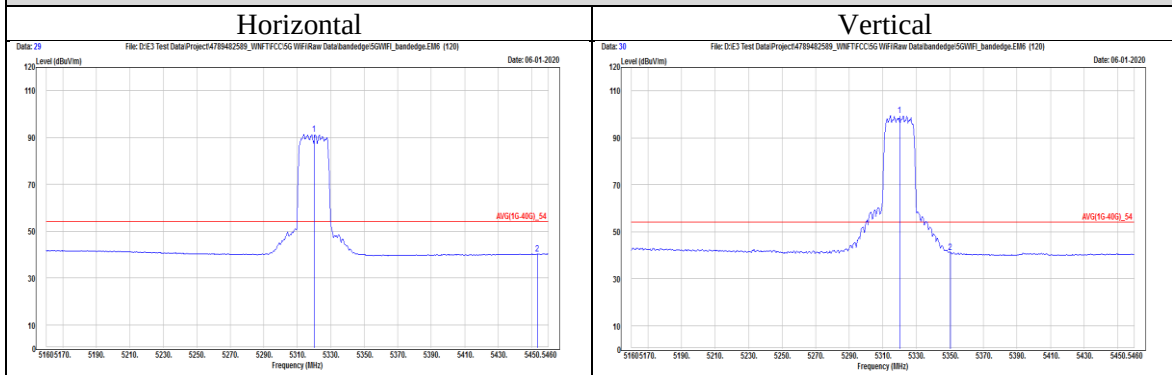
Ch52



Ch60



Ch64



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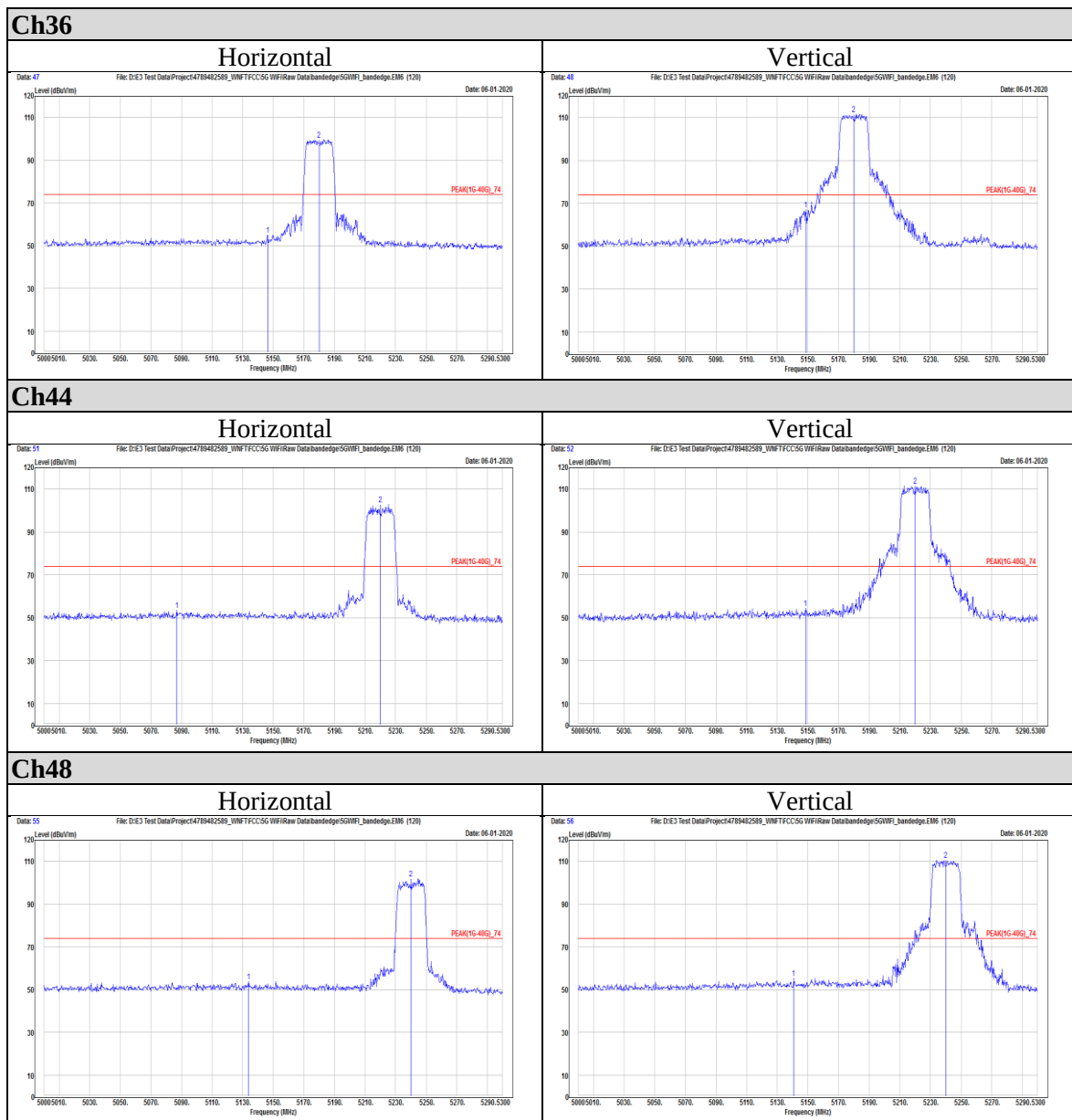
Facsimile (FAX) :+886-3-583-7948

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802.11ac (VHT20)

Peak



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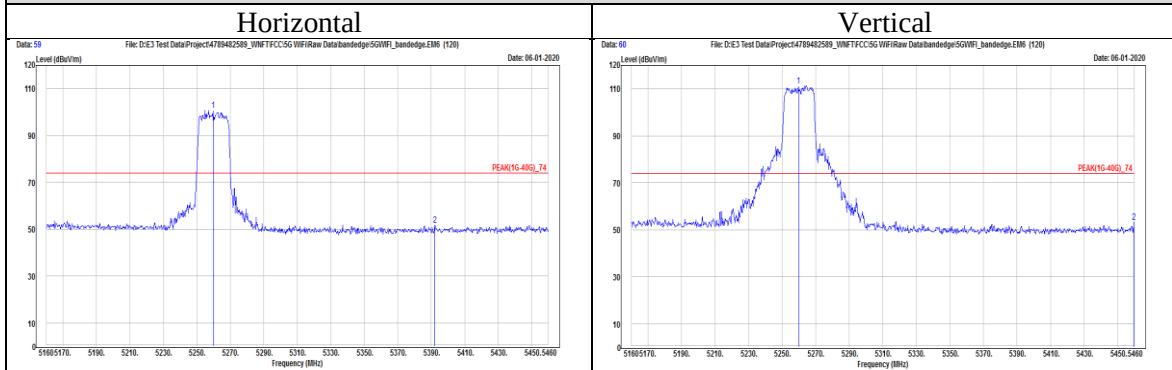


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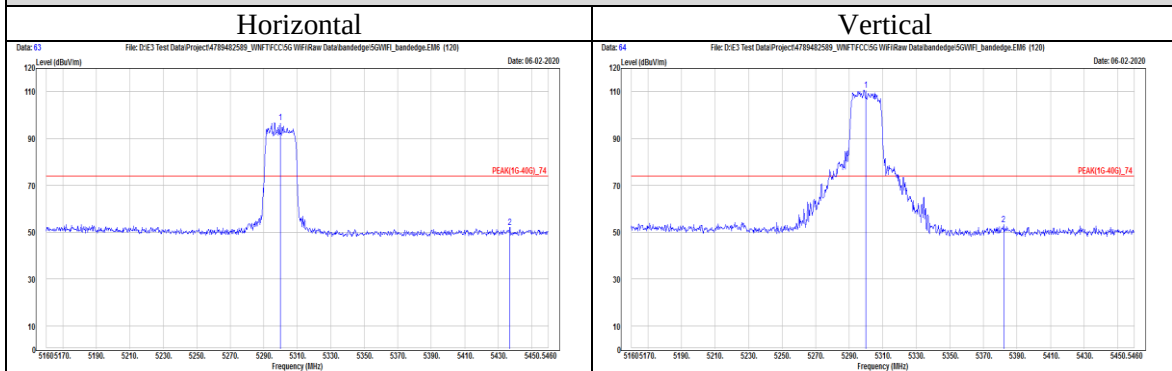
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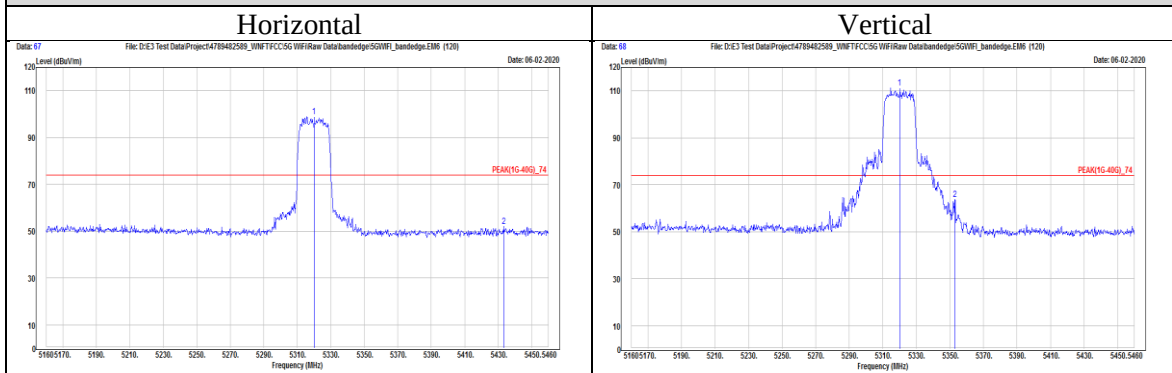
Ch52



Ch60



Ch64



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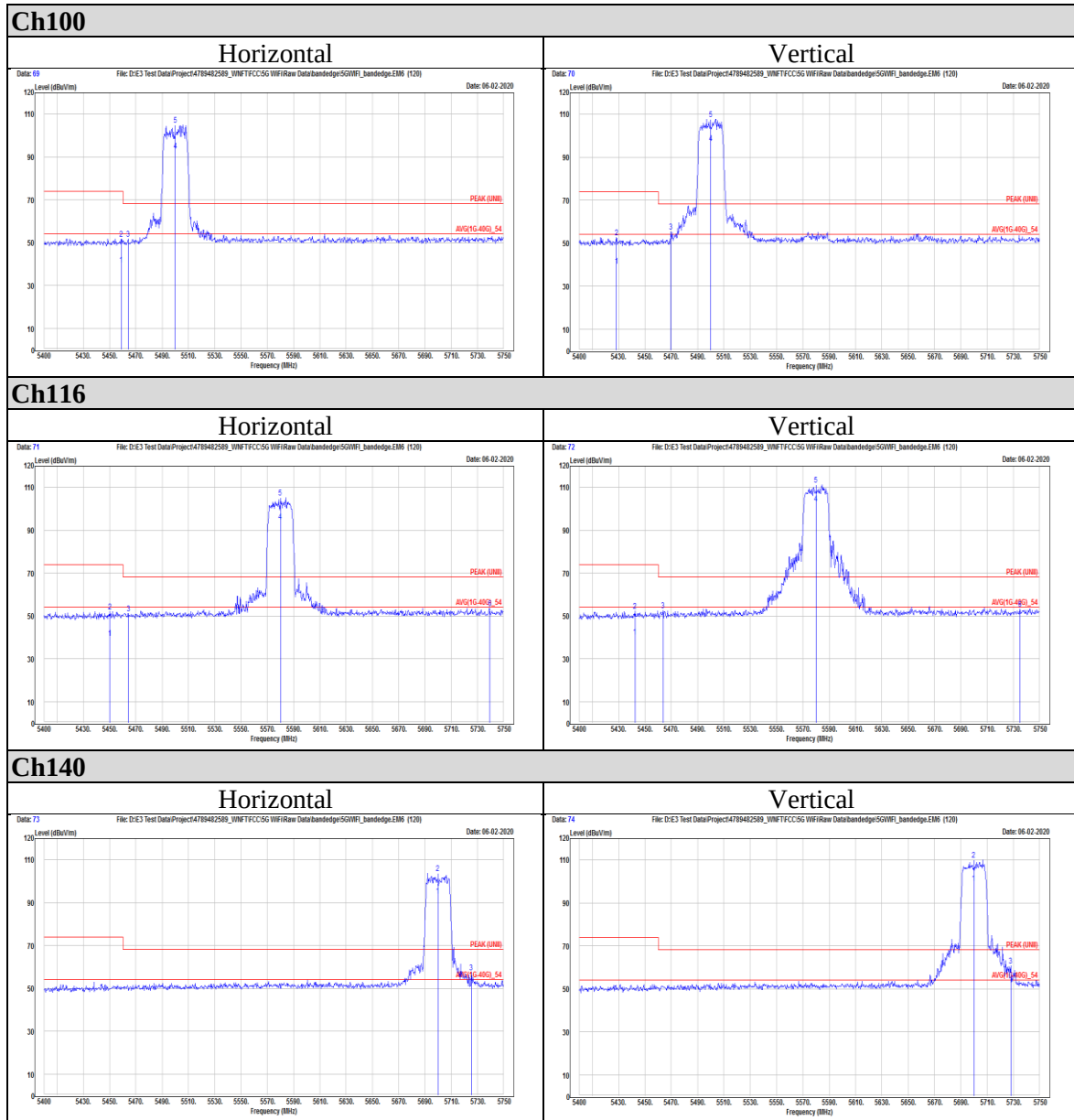
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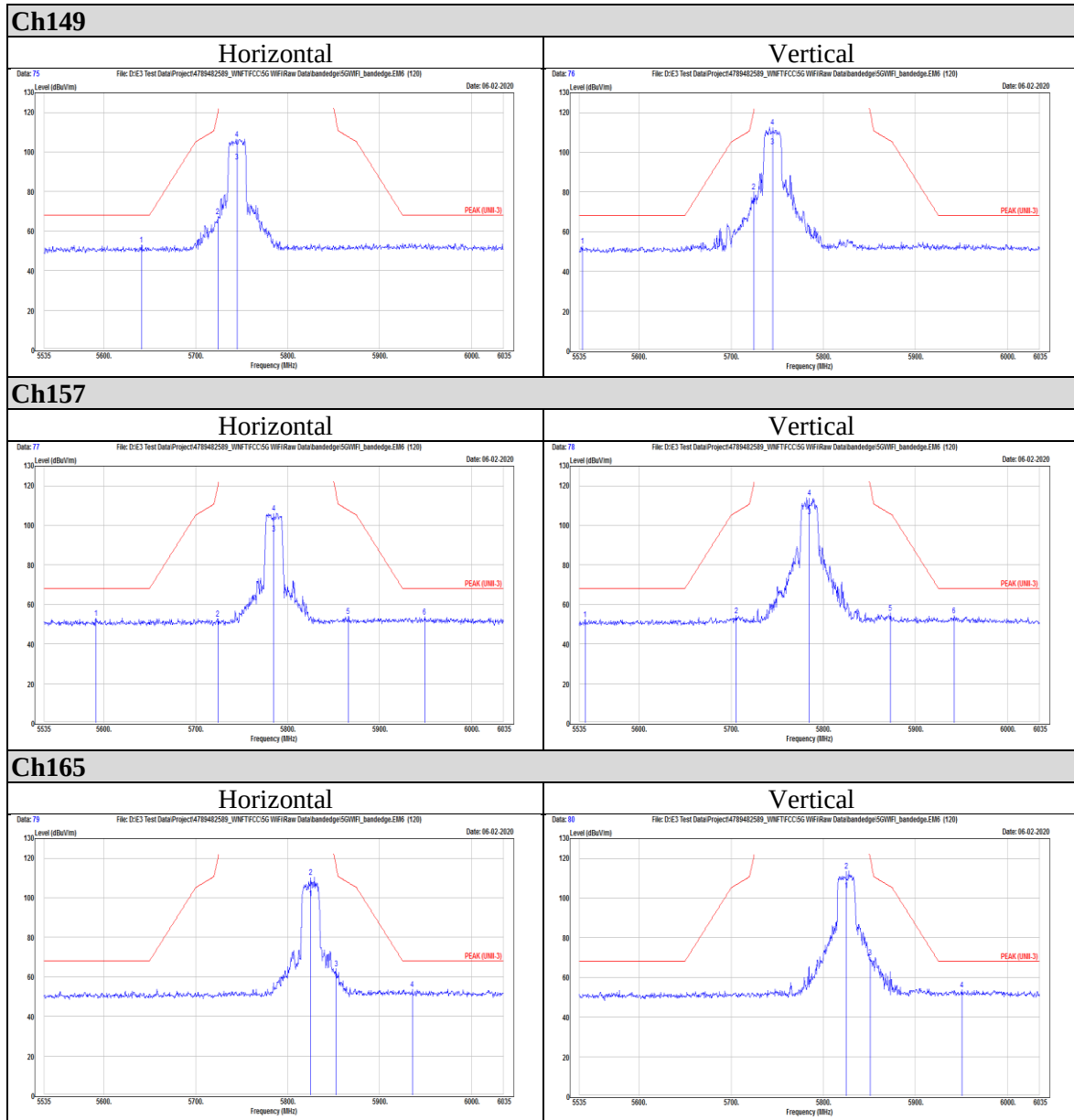
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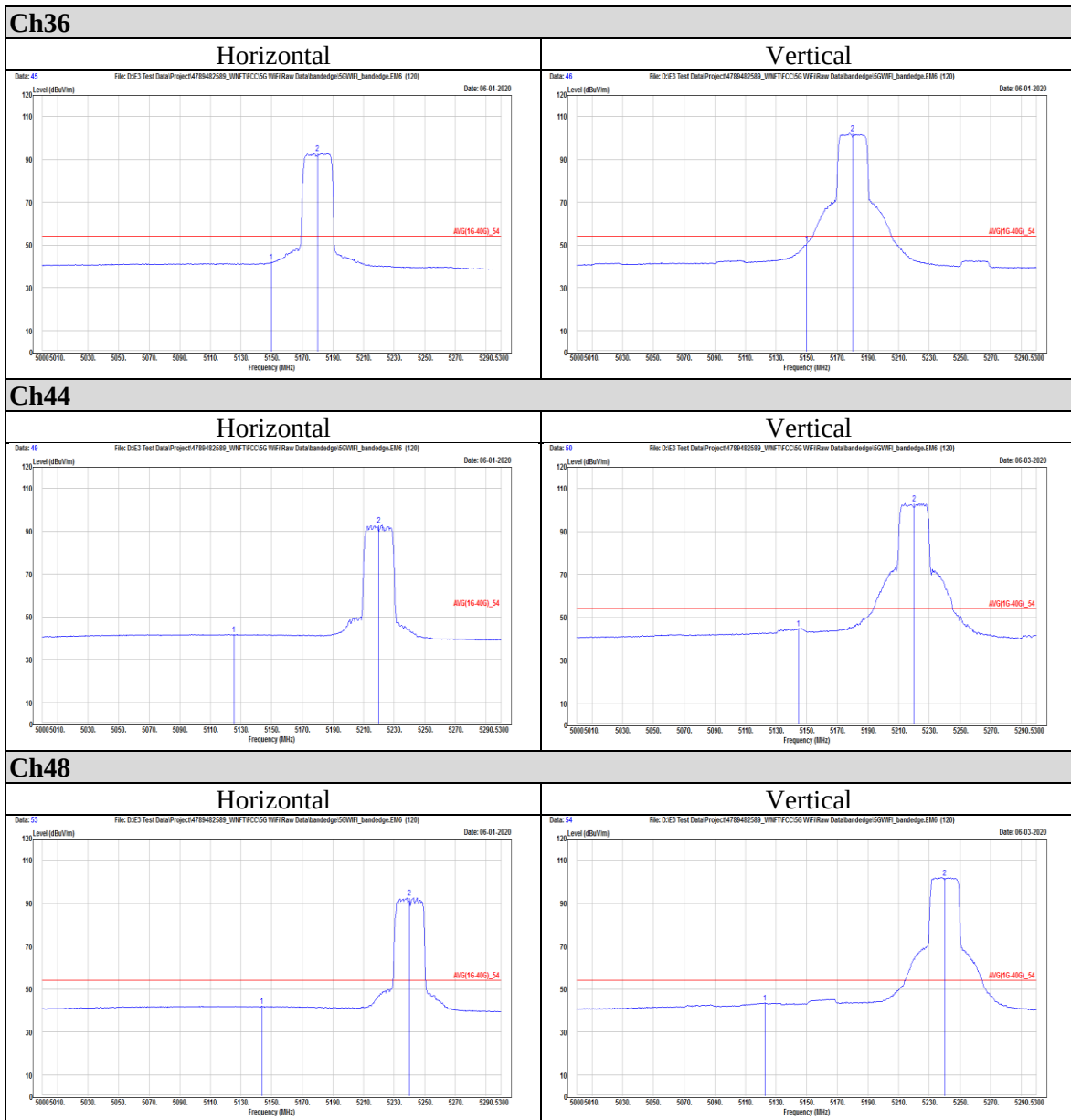
Telephone :+886-2-7737-3000

Facsimile (FAX) :+886-3-583-7948

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Average



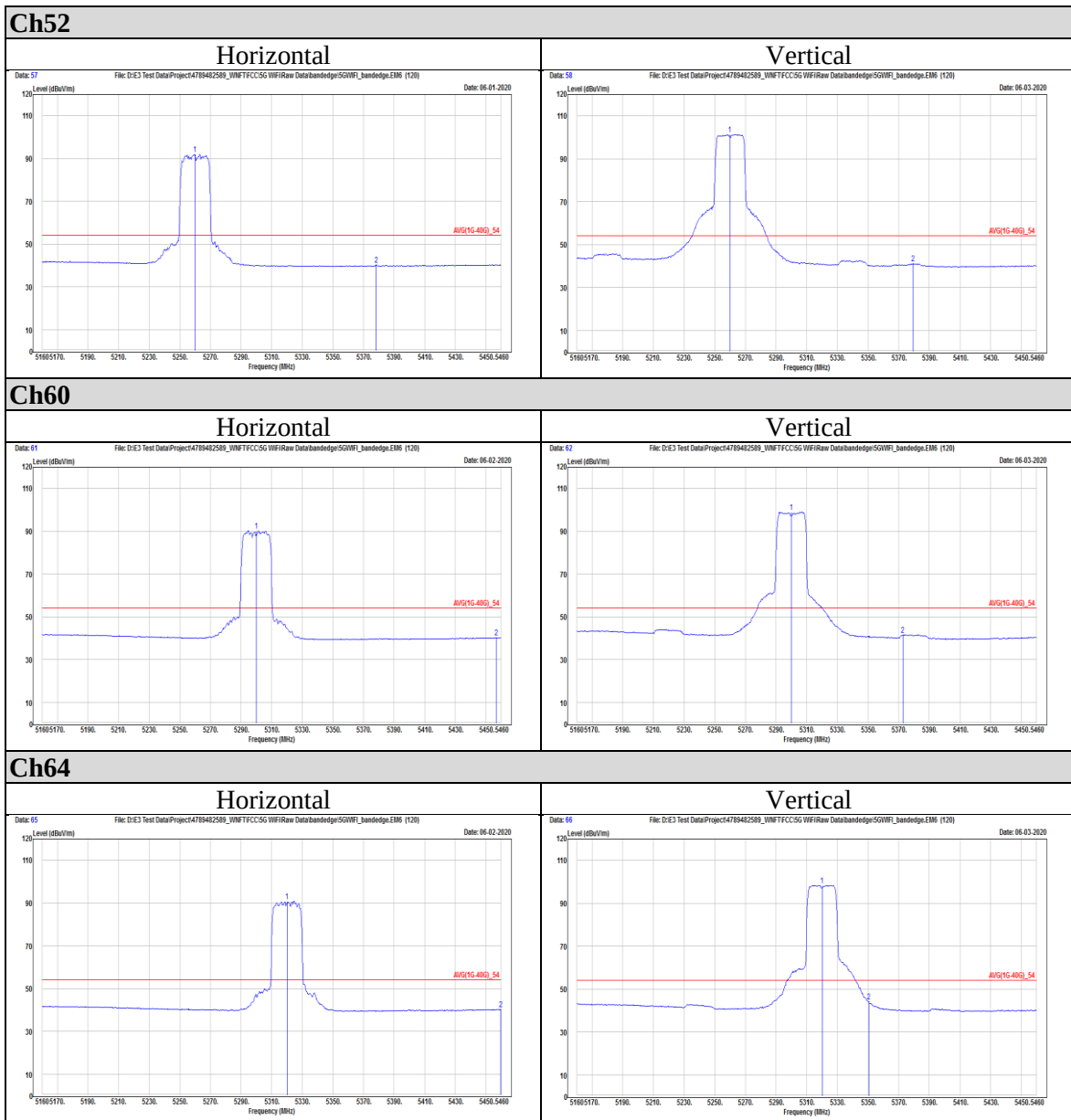
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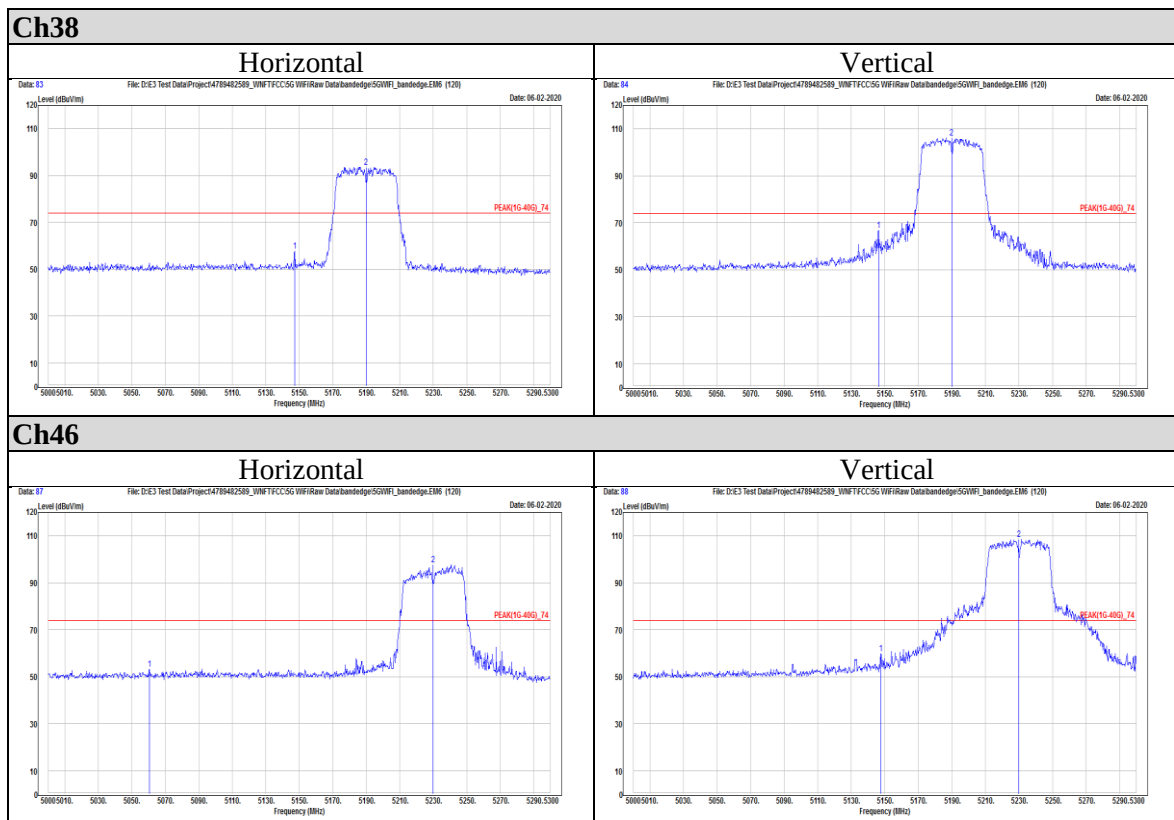
Facsimile (FAX) :+886-3-583-7948

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802.11ac (VHT40)

Peak



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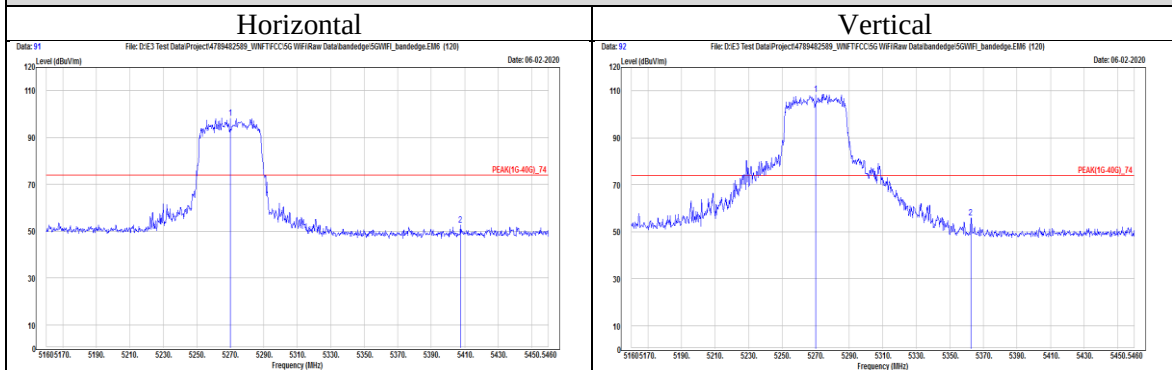
Building B and Building E, No. 372-7, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County, Taiwan

Telephone :+886-2-7737-3000

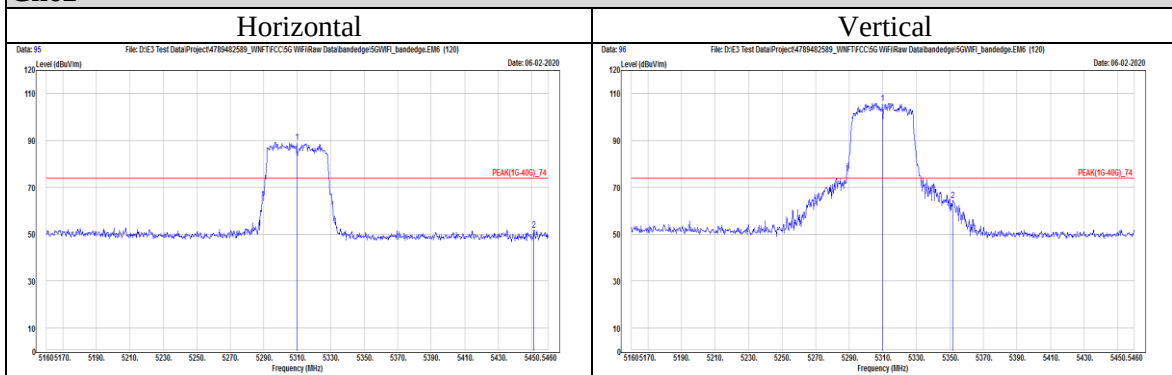
Facsimile (FAX) :+886-3-583-7948



Ch54



Ch62



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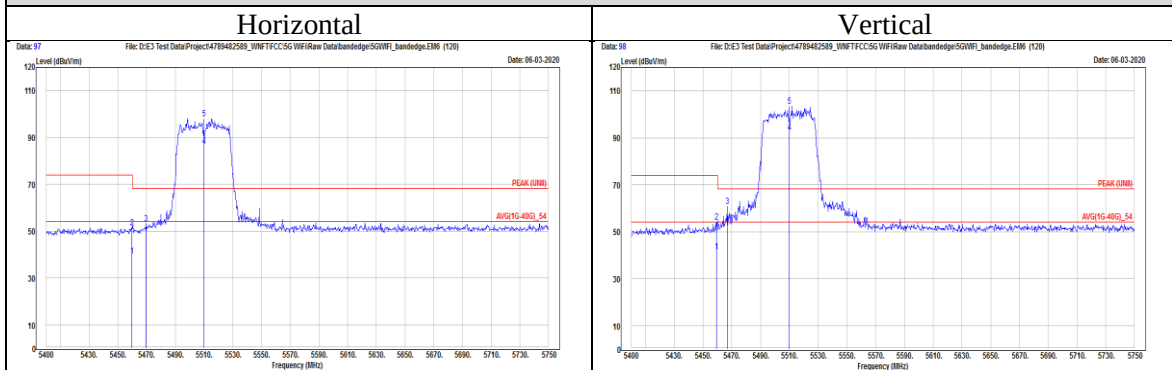


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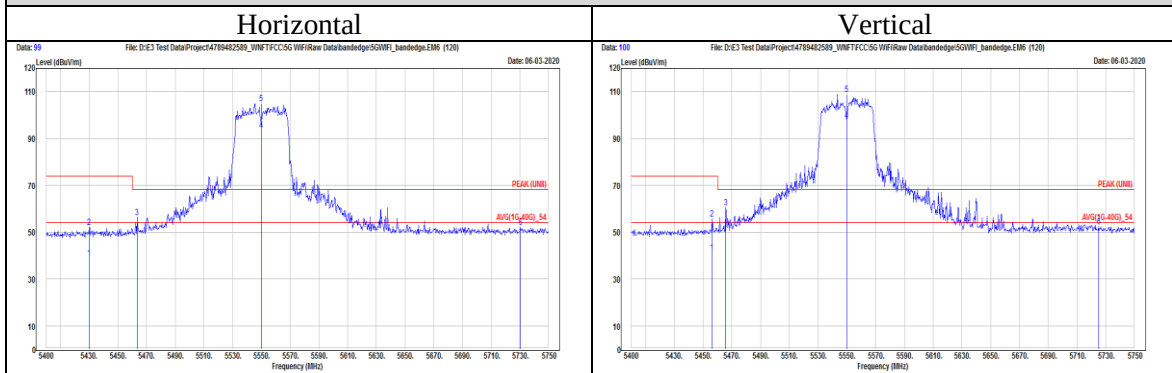
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Ch102



Ch110



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Doc No: 17-EM-F0880 / 5.0

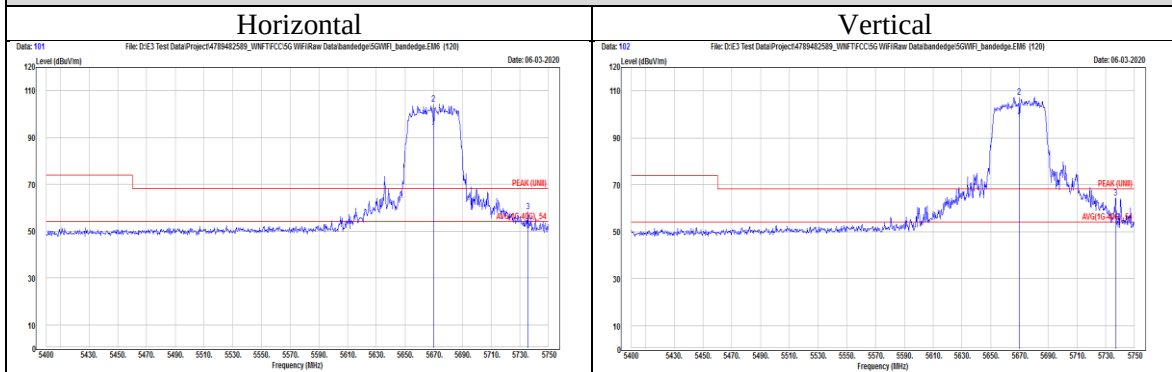


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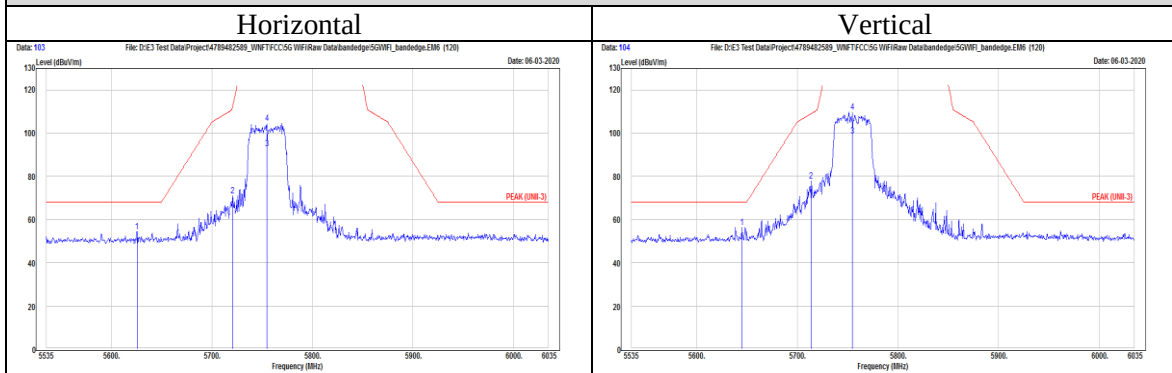
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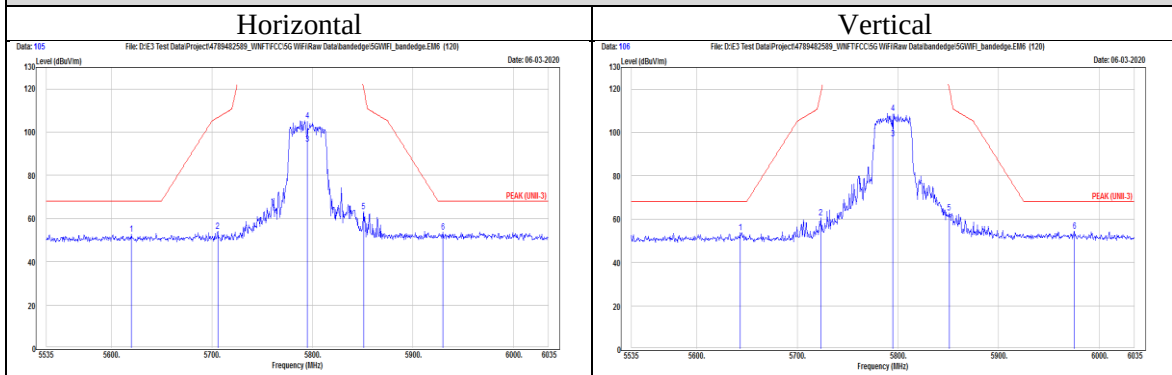
Ch134



Ch151



Ch159



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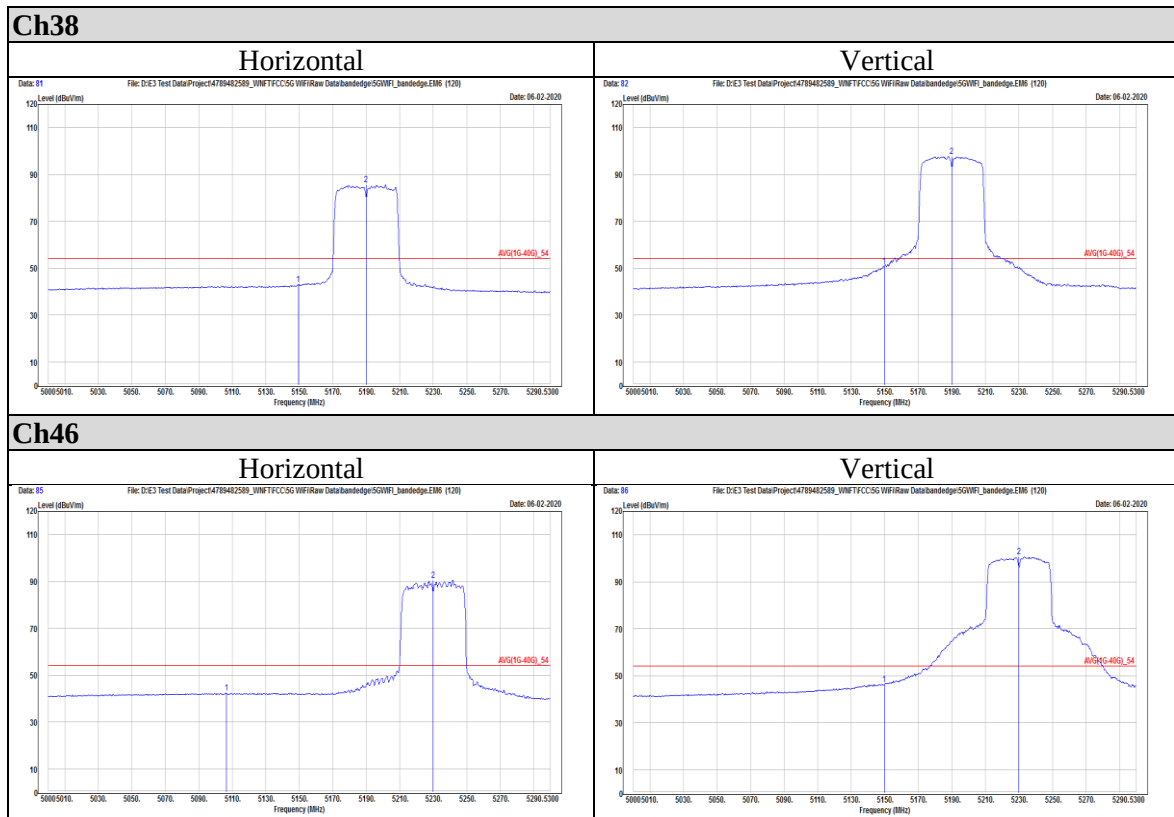
Telephone : +886-2-7737-3000

Facsimile (FAX) : +886-3-583-7948

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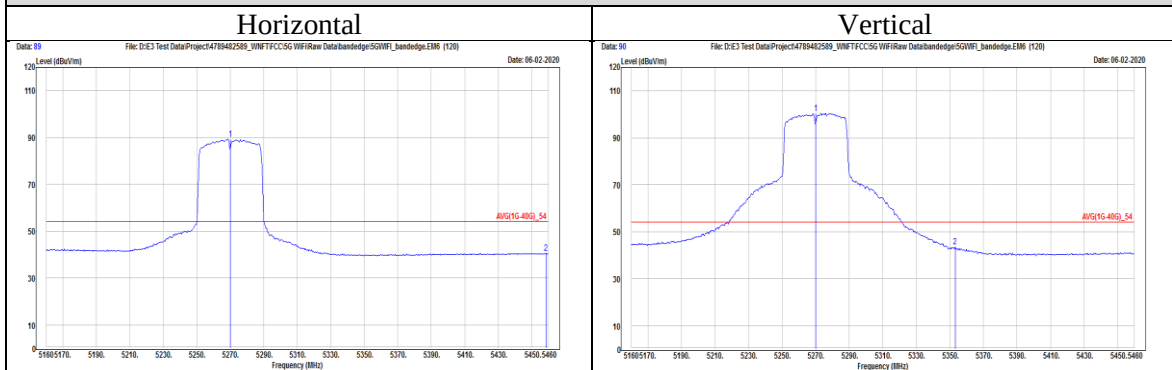


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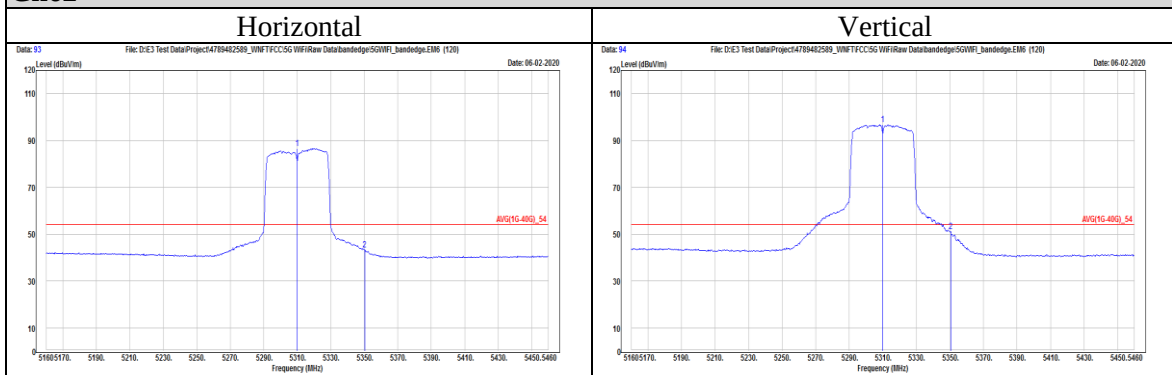
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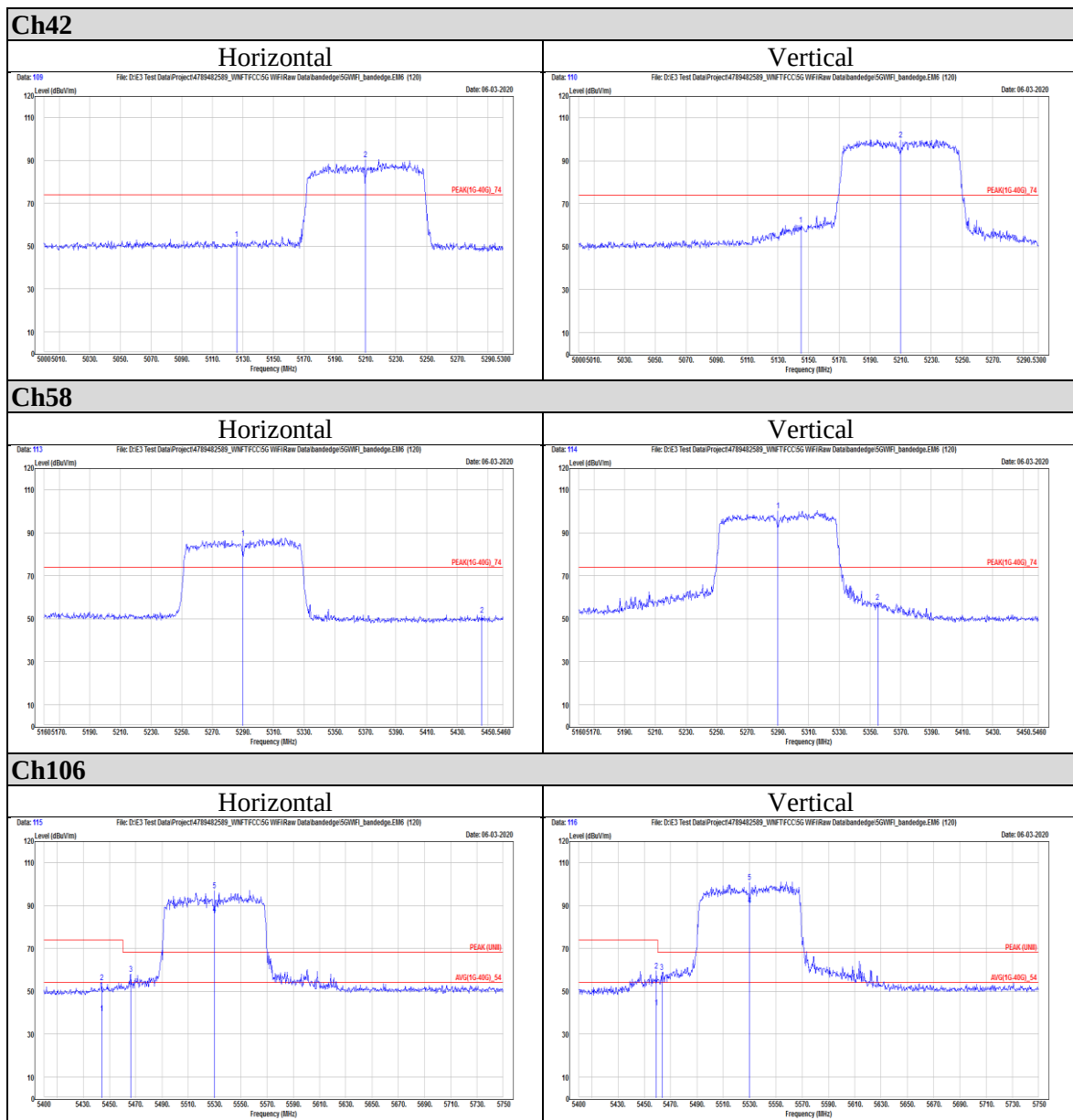
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802.11ac (VHT80)

Peak



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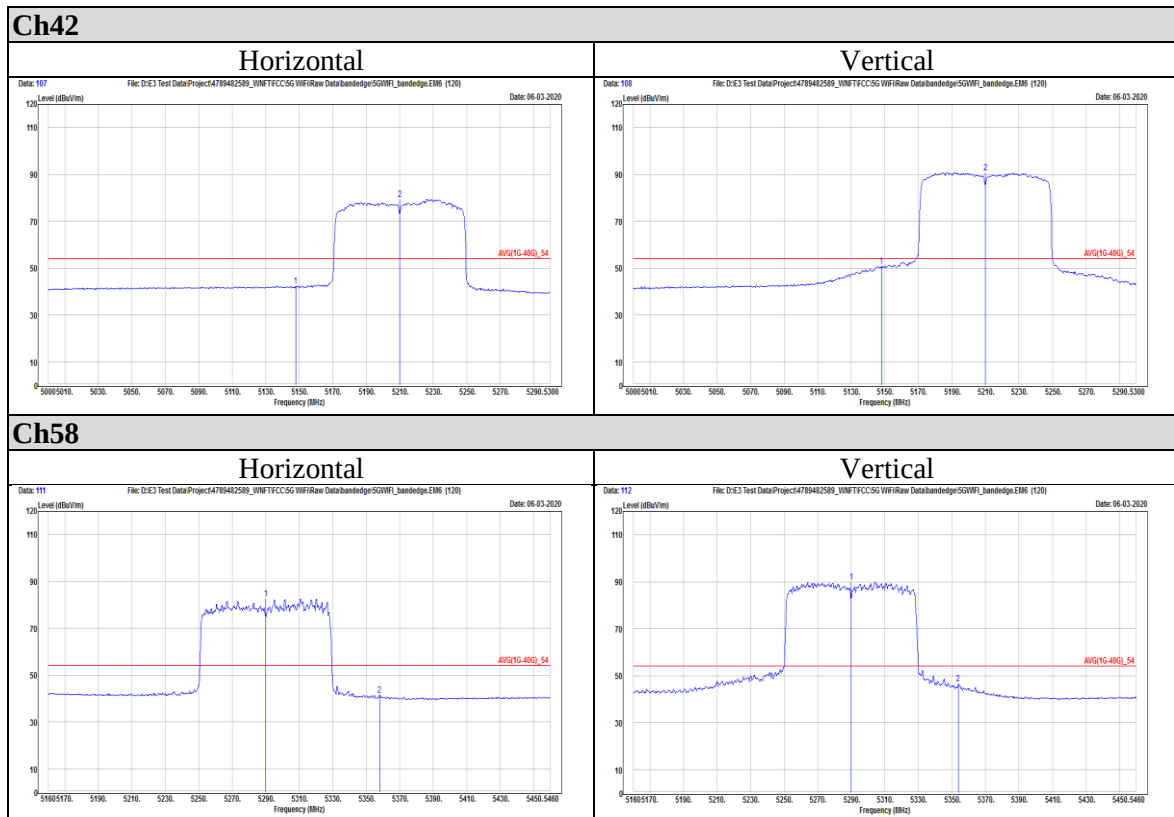
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