



報告編號 : 4790091528-TW-R1-V0

頁碼 : 1 of 165

報告發行日期 : 2022/1/10

低功率射頻器材試驗報告

產品名稱：無線纜線數據機

型號：CBW390S5-AX5700

申請廠商：凱碩科技股份有限公司

申請者地址：新北市深坑區北深路三段 141 巷 14 號

製造廠商：凱碩科技股份有限公司

製造商地址：新北市深坑區北深路三段 141 巷 14 號

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：2021/9/23

試驗完成日期：2021/9/28 ~ 2021/11/3

待測物接收日期：2021/9/23

依據標準：低功率射頻器材技術規範 (LP0002) 109 年 7 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 4790091528-EP。

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頁碼 : 2 of 165
報告發行日期 : 2022/1/10

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：低功率射頻器材技術規範(LP0002)

報告製作者：

呂思潔

, 日期： 2022/1/10

審核者：

官聲宇

, 日期： 2022/1/10

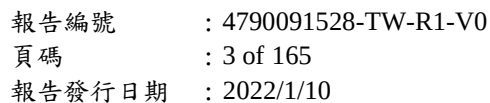
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原始報告編號: 4790091528-TW-R1-V0

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Doc No: 17-EM-F0880 / 6.0



目錄

1. 一般資料	6
1.1 產品描述	6
1.2 輔助測試之週邊設備	15
1.3 測試架構圖	16
2. 量測儀器及測試配置說明	17
2.1 量測設備	17
2.2 測試應用參考標準	18
2.3 量測不確定度	19
2.4 試驗環境	19
3. 適用規範	20
3.1 規範要求	20
4. 測試紀錄結果	25
4.1 最大傳導輸出功率	25
4.2 6 dB 發射頻寬	38
4.3 最大功率頻譜密度	42
4.4 場強輻射	52
4.5 電源線傳導干擾	154
附錄 I 場強輻射配置照片	162
附錄 II 電源線傳導干擾配置照片	165



報告編號 : 4790091528-TW-R1-V0

頁碼 : 5 of 165

報告發行日期 : 2022/1/10

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	低功率射頻器材技術規範 5.7.3.1 節、 5.7.3.2 節、5.7.3.3 節	合格
2	6dB 發射頻寬	低功率射頻器材技術規範 5.7.5 節	合格
3	最大功率頻譜密度	低功率射頻器材技術規範 5.7.3.1 節、 5.7.3.2 節、5.7.3.3 節	合格
4	場強輻射	低功率射頻器材技術規範 5.7.4 節	合格
5	電源線傳導干擾	低功率射頻器材技術規範 3.3 節	合格

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1. 一般資料

1.1 產品描述

產 品 名 稱	無線纜線數據機
廠 牌	CastleNet Technology Inc.
型 號	CBW390S5-AX5700
額 定 電 壓	12Vdc from adapter
調 變 方 式	1024QAM, 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 MCS31 802.11ac: up to MCS9 802.11ax: up to MCS11
頻 率 使 用 範 圍	5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5720MHz, 5745 ~ 5825MHz
頻 道 數 量	5180 ~ 5240MHz 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 5260 ~ 5320MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 4 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1 802.11ac (VHT160), 802.11ax (HE160): 1 5500 ~ 5700MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 12 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 6 802.11ac (VHT80), 802.11ax (HE80): 3 802.11ac (VHT160), 802.11ax (HE160): 1 5745 ~ 5825MHz: 802.11a, 802.11n (HT20), 802.11ac (VHT20), 802.11ax (HE20): 5 802.11n (HT40), 802.11ac (VHT40), 802.11ax (HE40): 2 802.11ac (VHT80), 802.11ax (HE80): 1

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Doc No: 17-EM-F0880 / 6.0



發 射 功 率	Non-Beamforming mode: 5180 ~ 5240 MHz: 24.32 dBm 5260 ~ 5320 MHz: 19.99 dBm 5500 ~ 5700 MHz: 22.24 dBm 5745 ~ 5825 MHz: 27.72 dBm Beamforming mode: 5180 ~ 5240 MHz: 24.32 dBm 5260 ~ 5320 MHz: 18.97 dBm 5500 ~ 5700 MHz: 19.02 dBm 5745 ~ 5825 MHz: 25.07 dBm
S/N	3PD5X57000056
Sample ID	4249937
測 試 軟 體	0001_21131.M.001
天 線 型 態	見註 2

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	4TX,4RX
802.11n (HT20)	4TX,4RX
802.11n (HT40)	4TX,4RX
802.11ac (VHT20)	4TX,4RX
802.11ac (VHT40)	4TX,4RX
802.11ac (VHT80)	4TX,4RX
802.11ac (VHT160)	4TX,4RX
802.11ax (HE20)	4TX,4RX
802.11ax (HE40)	4TX,4RX
802.11ax (HE80)	4TX,4RX
802.11ax (HE160)	4TX,4RX

* The modulation and bandwidth are similar for 802.11n mode for HT20 / HT40 and 802.11ac mode for VHT20 / VHT40 / VHT80 / VHT160 and 802.11ax mode for HE20 / HE40 / HE80 / HE160, therefore investigated worst case to representative mode in test report.

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報告編號 : 4790091528-TW-R1-V0

頁碼 : 8 of 165

報告發行日期 : 2022/1/10

2. 此待測設備搭配測試的天線，其資料如下：

Ant. No.	天線型式	天線型號	商標	接頭型式	增益 (dBi)
1	Dipole	AJDP1J-C0050	Taiwan Anjie	i-pex(MHF)	2.4GHz: 3.22 5GHz: 4.68
2	Dipole	AJDP1J-R0003	Taiwan Anjie	i-pex(MHF)	2.4GHz: 3.30 5GHz: 4.23
3	Dipole	AJDP1J-W0059	Taiwan Anjie	i-pex(MHF)	2.4GHz: 3.64 5GHz: 5.01
4	Dipole	AJWP1J-B0017	Taiwan Anjie	i-pex(MHF)	5GHz: 5.32
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，符合低功率射頻器材技術規範之要求。 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
AC adapter	MOSO	MSS-V3500WR120-042A0-US	Input: 100-240V 50-60Hz Output: 12.0V 3.5A Length: 1.5m
Lan Cable (Generic)	EKSON	JY01-C066	Length: 1.0m non-shielded cable Color: Gray
Lan Cable (Home+)	EKSON	PF01-C110	Length: 1.0m non-shielded cable Color: Yellow

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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	802.11ax (HE20) TX_Ch36, 44, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165
模式 3	802.11ax (HE40) TX_Ch38, 46, 54, 62, 102, 110, 134, 142, 151, 159
模式 4	802.11ax (HE80) TX_Ch42, 58, 106, 122, 138, 155
模式 5	802.11ax (HE160) TX_Ch50, 114
模式 6	802.11ax (HE20) RX_Ch149
模式 7	802.11ax (HE20) TXBF_Ch36, 44, 48, 52, 60, 64, 100, 116, 140, 144, 149, 157, 165
模式 8	802.11ax (HE40) TXBF_Ch38, 46, 54, 62, 102, 110, 134, 142, 151, 159
模式 9	802.11ax (HE80) TXBF_Ch42, 58, 106, 122, 138, 155
模式 10	802.11ax (HE160) TXBF_Ch50, 114

當待測物在發射模式1~5，場強輻射之1 GHz以上量測以模式2之測試通道149為最差模式，故場強輻射之1 GHz以下其他不必要之訊號量測與電源線傳導干擾量測以此模式進行最終量測。

當待測物在接收模式，場強輻射量測以模式6進行最終量測。

當待測物在非波束成形模式下，有最大傳導輸出功率與最差場強輻射，故發射波束成形模式7~10量測僅記錄傳導輸出功率數據在此報告中。

同時工作模式：

此報告中待測物支援同時多個無線功能傳輸，同時工作模式評估如下表：

Condition	Technology	
1	WLAN (2.4GHz)	WLAN (5GHz)

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DSSS調變技術和OFDM調變技術分別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，其中以垂直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。

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7. Duty cycle of test signal.

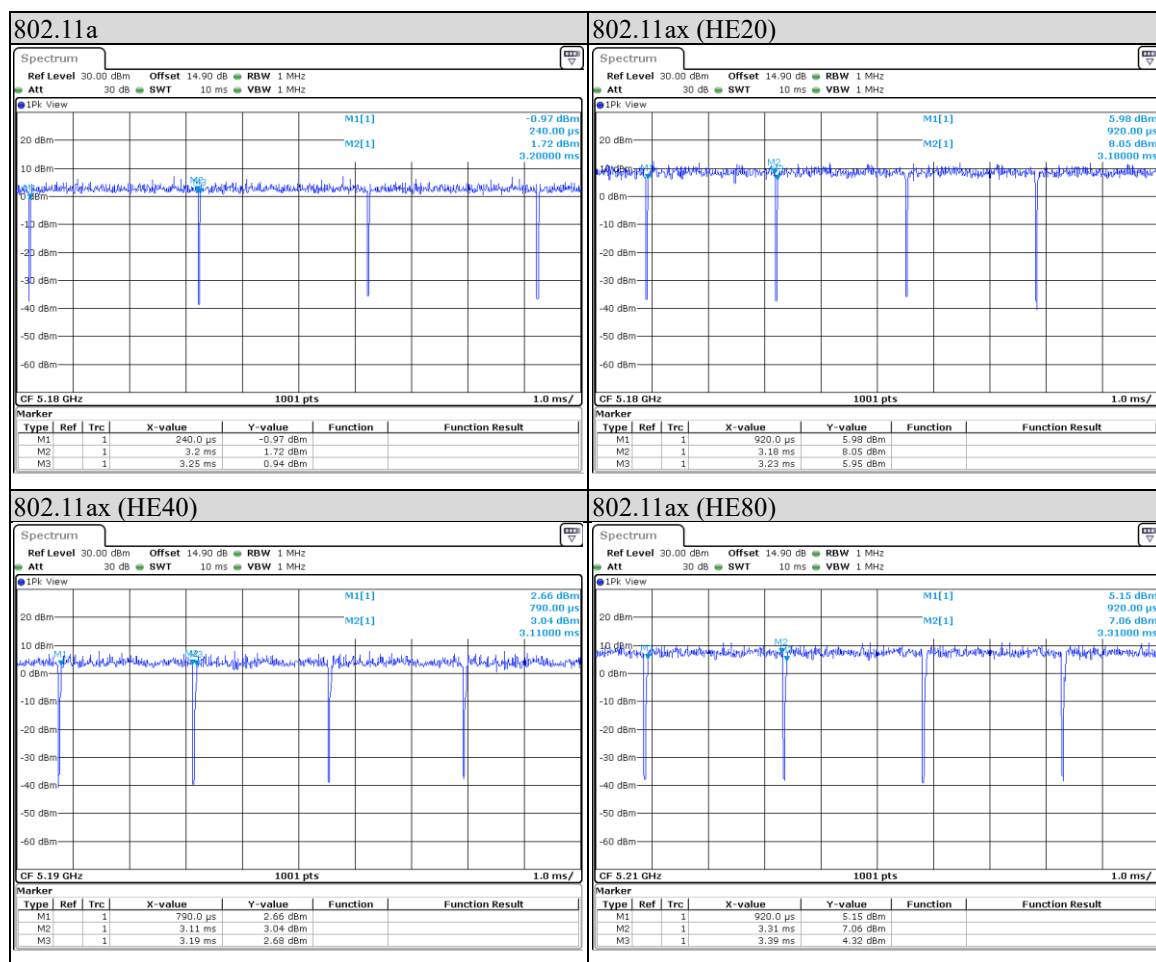
802.11a: Duty cycle = $2.96/3.01 = 0.983$, duty cycle of test signal is $\geq 98\%$, duty factor is not required.

802.11ax (HE20): Duty cycle = $2.26/2.31 = 0.978$, Duty factor(dB) = $10 * \log(1/0.978) = 0.1$

802.11ax (HE40): Duty cycle = $2.32/2.4 = 0.967$, Duty factor(dB) = $10 * \log(1/0.967) = 0.15$

802.11ax (HE80): Duty cycle = $2.39/2.47 = 0.968$, Duty factor(dB) = $10 * \log(1/0.968) = 0.15$

802.11ax (HE160): Duty cycle = $1.63/1.66 = 0.982$, duty cycle of test signal is $\geq 98\%$, duty factor is not required.

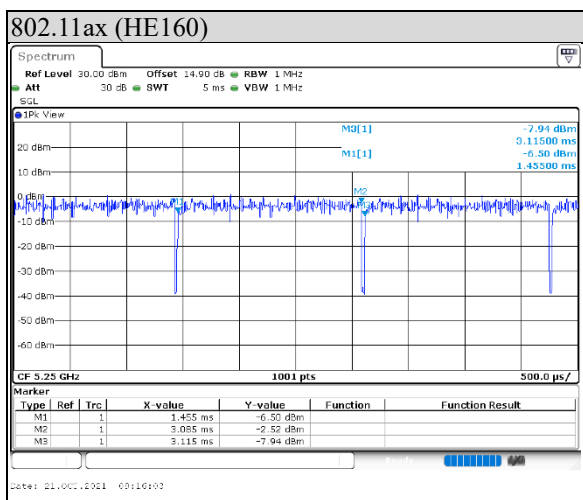




報告編號 : 4790091528-TW-R1-V0

頁碼 : 11 of 165

報告發行日期 : 2022/1/10



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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), 802.11ax (HE20)：

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), 802.11ax (HE40)：

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

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Doc No: 17-EM-F0880 / 6.0



802.11ac (VHT80), 802.11ax (HE80) :

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

802.11ac (VHT160), 802.11ax (HE160) :

頻道	頻率(MHz)	頻道	頻率(MHz)
50	5250MHz	114	5570MHz

詳細之規格請參考使用說明書。

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9. 此裝置的功率設置如下：

802.11a		802.11ax (HE20)	
頻道	功率設置	頻道	功率設置
36	62	36	62
44	62	44	63
48	62	48	64
52	39	52	40
60	40	60	40
64	40	64	40
100	40	100	40
116	40	116	40
140	42	140	42
144 (U-NII-2c Band)	42	144 (U-NII-2c Band)	42
144 (U-NII-3 Band)	42	144 (U-NII-3 Band)	42
144	42	144	42
149	89	149	89
157	89	157	89
165	89	165	89

802.11ax (HE40)		802.11ax (HE80)	
頻道	功率設置	頻道	功率設置
38	44	42	41
46	73	58	43
54	55	106	44
62	45	122	62
102	48	138 (U-NII-2c Band)	62
110	55	138 (U-NII-3 Band)	62
134	55	138	62
142 (U-NII-2c Band)	55	155	89
142 (U-NII-3 Band)	55	-	-
142	55	-	-
151	89	-	-
159	89	-	-

802.11ax (HE160)	
頻道	功率設置
50	42
50 (U-NII-1 Band)	42
50 (U-NII-2A Band)	42
114	44

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1.2 輔助測試之週邊設備

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。

Support Equipment

ID	裝置名稱	廠牌	型號	序號	Remark
A	Laptop	DELL	Latitude E5470	CXSKWF2	Provide by lab
B	Adapter	Moso	MSS-V3500WR120-042A0-US	N/A	Provide by Client
C	Laptop	DELL	Latitude E5470	5M2MWF2	Provide by lab
D	Hub	D-Link	DES-1005A	TES1005AL	Provide by lab

I/O Cables

ID	裝置名稱	廠牌	型號	線長 (m)	Remark
1	Lan Cable (Home+)	EKSON	PF01-C110	1	Provide by Client
2	RJ-45 Cable	OEM/AngNet	UTP	2	Provide by lab
3	Lan Cable (Generic)	EKSON	JY01-C066	1	Provide by Client
4	RJ-45 Cable	OEM/AngNet	UTP	2	Number x 2 Provide by lab
5	RJ-45 Cable	Fastlink	FL-61STU-04	10	Provide by lab
6	RJ-45 Cable	Fastlink	FL-61STU-04	10	Provide by lab
7	Coaxial Cable	COMMSCOP	5781	2.5	Provide by Client

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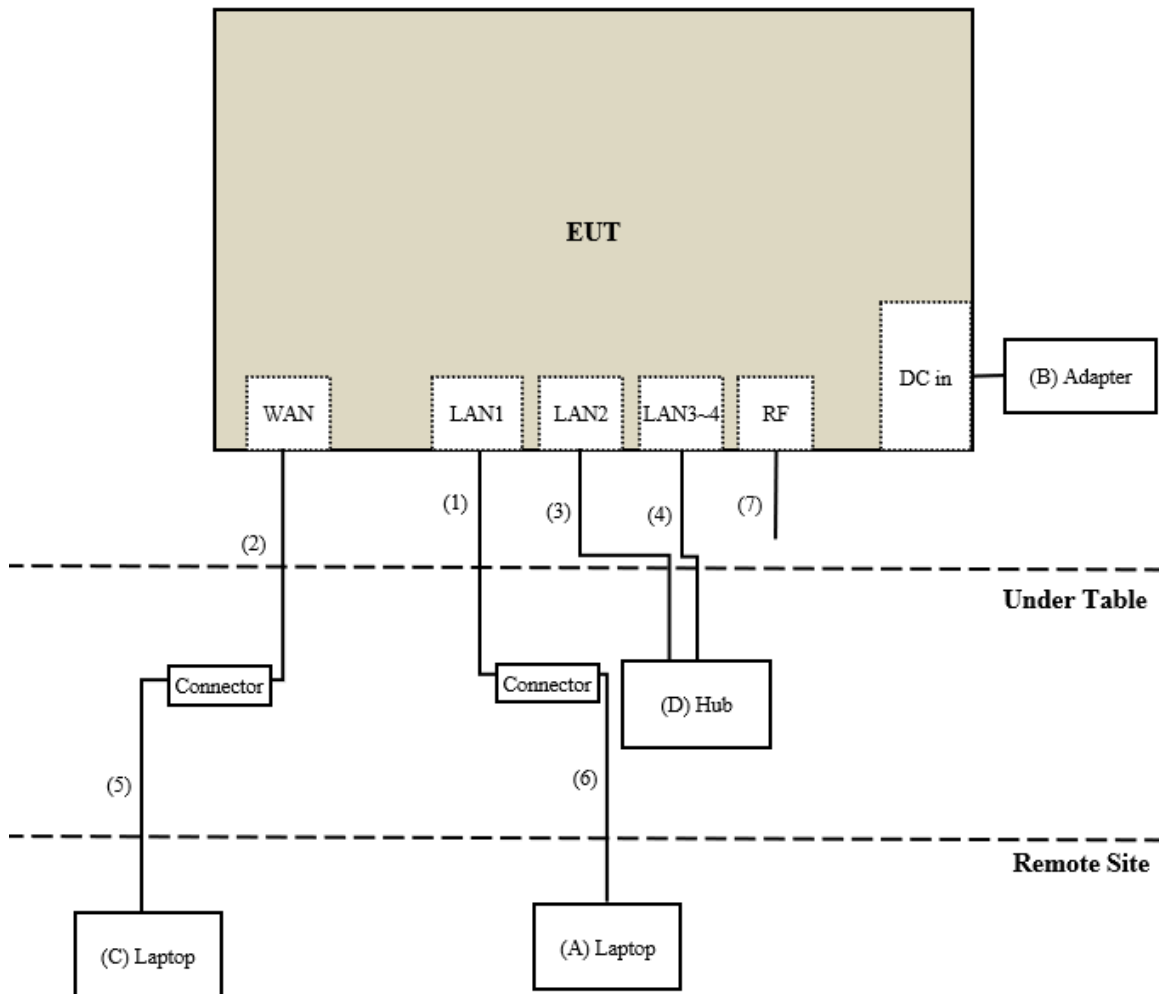
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1.3 測試架構圖

在測試筆電上開啟測試軟體（accessMtool v3.1.0.1）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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報告編號 : 4790091528-TW-R1-V0

頁碼 : 17 of 165

報告發行日期 : 2022/1/10

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	Expired date
Radiated Spurious Emission					
Spectrum Analyzer	Keysight	N9010A	MY56070827	2020/11/11	2021/11/10
EMI Test Receiver	Rohde & Schwarz	ESR7	101754	2020/12/11	2021/12/10
Loop Antenna	ETS lindgren	6502	00213440	2020/12/25	2021/12/24
Trilog-Broadband Antenna with 5dB Attenuator	Schwarzbeck & EMCI	VULB 9168 & N-6-05	774 & AT-N0538	2021/1/13	2022/1/12
Horn Antenna (1-18 GHz)	Schwarzbeck	BBHA 9120 D	01690	2020/12/30	2021/12/29
Horn Antenna (18-40 GHz)	Schwarzbeck	BBHA 9170	781	2020/12/30	2021/12/29
Preamplifier (30-1000 MHz)	EMCI	EMC330E	980405	2021/6/8	2022/6/7
Preamplifier (1-18 GHz)	EMCI	EMC051835BE	980406	2021/2/3	2022/2/2
Preamplifier (18-40GHz)	EMCI	EMC184040SEE	980426	2021/5/19	2022/5/18
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-4 & 170425-2	2021/1/22	2022/1/21
Cables	Hanyitek	K1K50-UP0264-K1K50-2500	170214-1 & 170214-2	2021/1/22	2022/1/21

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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 18 of 165

報告發行日期 : 2022/1/10

Test Equipment List					
Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Expired date
Antenna Port Conducted Measurement					
Spectrum Analyzer	Keysight	N9010A	MY56070834	2020/11/6	2021/11/5
Pulse Power Sensor	Anritsu	MA2411B	1531202	2020/12/21	2021/12/20
Power Meter	Anritsu	ML2495A	1645002	2020/12/21	2021/12/20
AC power Line Conducted Emission					
EMI Test Receiver	Rohde & Schwarz	ESR7	101753	2020/11/17	2021/11/16
Two-Line V-Network	Rohde & Schwarz	ENV216	102136	2021/8/30	2022/8/29
Impuls-Begrenzer Pulse Limiter	Rohde & Schwarz	ESH3-Z2	102219-Qt	2021/8/26	2022/8/25
Cables	TITAN	CFD200	T0732ACFD20 020A300-1	2021/3/2	2022/3/1

UL Software

Software	Test Item	Version
e3	Radiated measurement	6.191211 (V6)
RF Conducted Test Tools	Conducted measurement	ver 2.4.0.620b
EZ EMC	AC power Line Conducted Emission	UL-3A1.2

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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Doc No: 17-EM-F0880 / 6.0



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。

Measurement	Frequency	Uncertainty
Conducted disturbance at mains terminals ports	150kHz ~ 30MHz	±3.1 dB
RF Conducted	9 kHz - 40GHz	±1.9 dB
Radiated disturbance below 30MHz	9 kHz - 30 MHz	±1.9 dB
Radiated disturbance below 1 GHz	30MHz ~ 1GHz	±5.4 dB
Radiated disturbance above 1 GHz	1GHz ~ 40GHz	±4.7 dB

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	輸入電壓	測試日期	測試人員
最大傳導輸出功率	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/10/21	陳哲偉
6dB 發射頻寬	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/10/21	陳哲偉
最大功率頻譜密度	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/10/21	陳哲偉
發射功率控制(TPC)及 動態頻率選擇(DFS)	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/10/21	陳哲偉
場強輻射	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/11/3	陳哲偉
電源線傳導干擾	20~26°C/ 62~68%RH	120Vac/ 60Hz	2021/09/28~ 2021/10/21	陳哲偉

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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器材技術規範 5.7.3.1 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器材技術規範 5.7.3.2 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器材技術規範 5.7.3.3 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器材技術規範 5.7.5 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器材技術規範 5.7.3.1 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。



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器材技術規範 5.7.3.2 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器材技術規範 5.7.3.3 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器材技術規範 5.7.4.1 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器材技術規範 5.7.4.2 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(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。

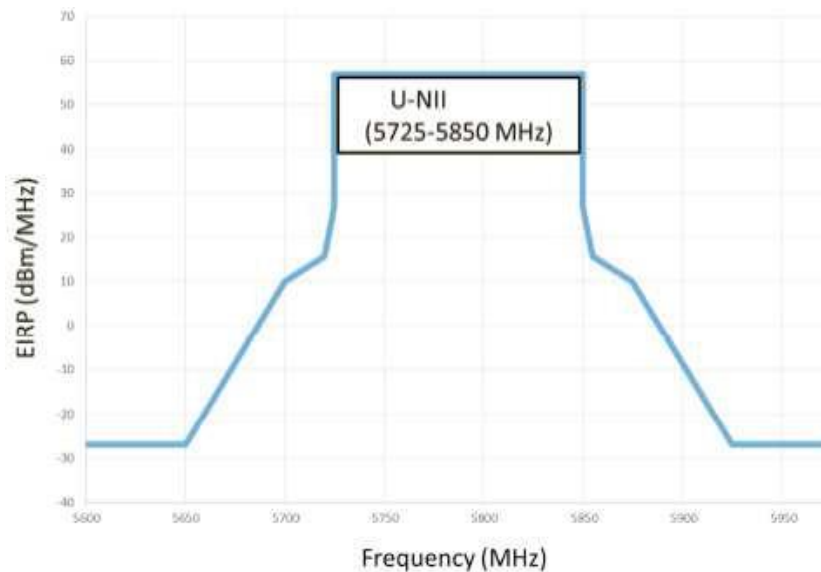


圖 1

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此外，落於 3.5 禁用頻段之輻射發射，應符合 3.6 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 3.2 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器材技術規範 5.7.3 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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Doc No: 17-EM-F0880 / 6.0



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器材技術規範之 3.3 節，電源傳導干擾之限制要求如下:

頻率(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器材技術規範 5.7.7.3 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器材技術規範 5.7.7.4 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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Doc No: 17-EM-F0880 / 6.0



(10) 限制使用之頻帶

除本規範另有規定外，任何低功率射頻器材之主波皆不得使用下表所列各頻段之頻率；低功率射頻器材落於下表所列頻段之混附發射，其電場強度必須符合 3.6 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, 802.11ax (HE20), 802.11ax (HE40)

- 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 802.11ax (HE80), 802.11ax (HE160)

- 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。

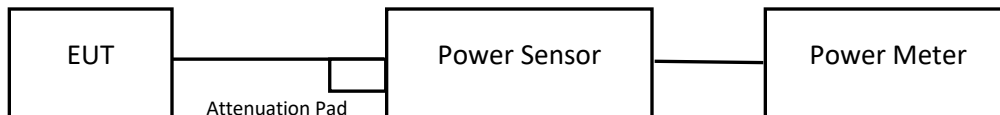
發射頻寬量測：

- 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。

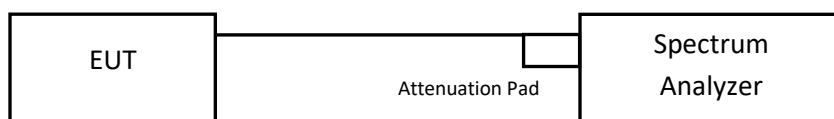


4.1.3 測試配置圖

最大傳導輸出功率量測：

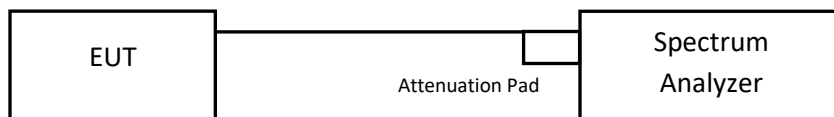


The loss between RF output port of the EUT and the input port of the Power Meter has been taken into consideration.



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.

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**4.1.4 測試結果****Non-Beamforming mode****802.11a**

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	15.08	15.28	15.65	15.44	137.721	21.39	30	PASS
44	5220	15.04	15.36	15.66	15.39	137.721	21.39	30	PASS
48	5240	14.82	15.27	15.57	15.19	133.045	21.24	30	PASS
52	5260	9.59	9.85	10.22	9.81	38.815	15.89	23.98	PASS
60	5300	9.52	10.09	10.47	9.85	39.994	16.02	24.0	PASS
64	5320	9.38	10.34	10.29	9.92	39.994	16.02	23.98	PASS
100	5500	9.50	10.14	10.01	9.99	39.264	15.94	23.98	PASS
116	5580	9.74	9.61	9.98	9.69	37.844	15.78	23.98	PASS
140	5700	9.59	10.27	10.28	9.40	39.084	15.92	23.98	PASS
144 (U-NII-2c Band)	5720	7.91	9.09	8.57	8.24	28.184	14.50	22.92	PASS
144 (U-NII-3 Band)	5720	3.52	4.82	4.14	3.75	10.257	10.11	30	PASS
149	5745	20.68	21.63	20.92	21.96	543.25	27.35	30	PASS
157	5785	20.59	21.60	20.97	21.75	533.335	27.27	30	PASS
165	5825	20.04	21.43	20.14	21.61	487.528	26.88	30	PASS

Note: The directional gain = 5.32 dBi < 6 dBi, so the power limit shall not be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	5720	9.26	10.47	9.91	9.56	38.371

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

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**802.11ax (HE20)**

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	15.20	15.77	15.71	15.75	145.546	21.63	30	PASS
44	5220	15.26	15.88	16.21	15.85	152.405	21.83	30	PASS
48	5240	15.83	16.11	16.57	15.84	162.93	22.12	30	PASS
52	5260	9.77	10.34	10.63	10.29	42.56	16.29	23.98	PASS
60	5300	9.87	10.26	10.55	10.04	41.783	16.21	23.98	PASS
64	5320	9.88	10.36	10.44	10.11	41.879	16.22	23.98	PASS
100	5500	9.95	10.69	10.11	10.62	43.351	16.37	23.98	PASS
116	5580	10.16	10.04	10.21	10.19	41.4	16.17	23.98	PASS
140	5700	9.83	10.51	10.60	9.85	41.976	16.23	23.98	PASS
144 (U-NII-2c Band)	5720	8.06	9.03	8.89	8.32	28.973	14.62	22.98	PASS
144 (U-NII-3 Band)	5720	3.71	4.60	4.47	3.96	10.52	10.22	30	PASS
149	5745	21.02	21.87	21.23	22.12	575.44	27.60	30	PASS
157	5785	20.83	21.55	21.28	21.89	553.35	27.43	30	PASS
165	5825	20.42	21.65	20.42	21.89	521.195	27.17	30	PASS

Note: The directional gain = 5.32 dBi < 6 dBi, so the power limit shall not be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	9.42	10.37	10.23	9.68	39.446	15.96

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

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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 29 of 165

報告發行日期 : 2022/1/10

802.11ax (HE40)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	11.06	11.34	11.45	11.44	54.325	17.35	30	PASS
46	5230	18.08	18.37	18.42	18.30	270.396	24.32	30	PASS
54	5270	13.59	14.05	14.33	13.87	99.77	19.99	23.98	PASS
62	5310	10.95	11.44	11.56	11.40	54.45	17.36	23.98	PASS
102	5510	11.91	12.69	12.22	12.37	68.077	18.33	23.98	PASS
110	5550	14.21	14.17	14.16	14.06	103.992	20.17	23.98	PASS
134	5670	14.08	14.81	13.71	14.39	106.905	20.29	23.98	PASS
142 (U-NII-2c Band)	5710	13.68	13.91	12.81	13.72	90.573	19.57	23.98	PASS
142 (U-NII-3 Band)	5710	5.46	5.44	4.25	5.25	13.032	11.15	30	PASS
151	5755	21.04	22.09	21.48	22.11	591.562	27.72	30	PASS
159	5795	20.98	21.96	21.15	22.34	583.445	27.66	30	PASS

Note: The directional gain = 5.32 dBi < 6 dBi, so the power limit shall not be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	14.29	14.49	13.38	14.30	103.753	20.16

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

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**802.11ax (HE80)**

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	10.21	10.39	10.64	10.29	43.752	16.41	30	PASS
58	5290	10.65	10.98	11.01	10.87	48.978	16.90	23.98	PASS
106	5530	10.78	10.86	11.05	11.56	51.168	17.09	23.98	PASS
122	5610	16.15	16.64	15.57	16.46	167.494	22.24	23.98	PASS
138 (U-NII-2c Band)	5690	15.76	16.16	15.11	15.89	150.314	21.77	23.98	PASS
138 (U-NII-3 Band)	5690	4.68	4.84	4.04	4.58	11.402	10.57	30	PASS
155	5775	20.77	21.76	20.99	22.10	557.186	27.46	30	PASS

Note: The directional gain = 5.32 dBi < 6 dBi, so the power limit shall not be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	16.09	16.47	15.44	16.20	161.808	22.09

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

802.11ax (HE160)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
50	5250	10.36	10.81	10.95	10.75	47.206	16.74	23.98	PASS
50 (U-NII-1 Band)	5250	7.35	7.78	7.93	7.73	23.55	13.72	30	PASS
50 (U-NII-2A Band)	5250	7.34	7.82	7.95	7.75	23.659	13.74	23.98	PASS
114	5570	11.11	11.52	11.29	11.06	53.333	17.27	23.98	PASS

Note: The directional gain = 5.32 dBi < 6 dBi, so the power limit shall not be reduced.

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**Beamforming mode****802.11ax (HE20)**

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
36	5180	15.20	15.77	15.71	15.75	145.546	21.63	25.16	PASS
44	5220	15.26	15.88	16.21	15.85	152.405	21.83	25.16	PASS
48	5240	15.83	16.11	16.57	15.84	162.93	22.12	25.16	PASS
52	5260	9.77	10.34	10.63	10.29	42.56	16.29	19.14	PASS
60	5300	9.87	10.26	10.55	10.04	41.783	16.21	19.14	PASS
64	5320	9.88	10.36	10.44	10.11	41.879	16.22	19.14	PASS
100	5500	9.95	10.69	10.11	10.62	43.351	16.37	19.14	PASS
116	5580	10.16	10.04	10.21	10.19	41.4	16.17	19.14	PASS
140	5700	9.83	10.51	10.60	9.85	41.976	16.23	19.14	PASS
144 (U-NII-2c Band)	5720	8.06	9.03	8.89	8.32	28.973	14.62	18.14	PASS
144 (U-NII-3 Band)	5720	3.71	4.60	4.47	3.96	10.52	10.22	25.16	PASS
149	5745	18.53	19.41	18.67	19.43	319.89	25.05	25.16	PASS
157	5785	18.44	19.01	18.75	19.43	311.889	24.94	25.16	PASS
165	5825	18.32	19.42	18.29	19.75	316.957	25.01	25.16	PASS

Note: The directional gain = 10.84 dBi > 6 dBi, so the power limit shall be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
144	5720	8.06	9.03	8.89	8.32	28.973	14.62

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

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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 32 of 165

報告發行日期 : 2022/1/10

802.11ax (HE40)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
38	5190	11.06	11.34	11.45	11.44	54.325	17.35	25.16	PASS
46	5230	18.08	18.37	18.42	18.30	270.396	24.32	25.16	PASS
54	5270	12.59	13.18	13.26	12.74	78.886	18.97	19.14	PASS
62	5310	10.95	11.44	11.56	11.40	54.45	17.36	19.14	PASS
102	5510	11.91	12.69	12.22	12.37	68.077	18.33	19.14	PASS
110	5550	13.06	12.90	12.96	12.97	79.25	18.99	19.14	PASS
134	5670	12.90	13.62	12.39	13.00	79.799	19.02	19.14	PASS
142 (U-NII-2c Band)	5710	12.64	12.70	11.59	12.44	69.024	18.39	19.14	PASS
142 (U-NII-3 Band)	5710	4.42	4.23	3.03	3.97	9.908	9.96	25.16	PASS
151	5755	18.32	19.49	18.82	19.36	319.154	25.04	25.16	PASS
159	5795	18.41	19.38	18.62	19.68	321.366	25.07	25.16	PASS

Note: The directional gain = 10.84 dBi > 6 dBi, so the power limit shall be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
142	5710	13.25	13.28	12.16	13.02	78.886	18.97

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

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**802.11ax (HE80)**

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
42	5210	10.21	10.39	10.64	10.29	43.752	16.41	25.16	PASS
58	5290	10.65	10.98	11.01	10.87	48.978	16.90	19.14	PASS
106	5530	10.78	10.86	11.05	11.56	51.168	17.09	19.14	PASS
122	5610	12.76	13.33	12.17	13.22	77.804	18.91	19.14	PASS
138 (U-NII-2c Band)	5690	12.55	12.97	12.02	12.80	72.778	18.62	19.14	PASS
138 (U-NII-3 Band)	5690	1.47	1.65	0.95	1.49	5.521	7.42	25.16	PASS
155	5775	18.34	19.25	18.39	19.54	311.172	24.93	25.16	PASS

Note: The directional gain = 10.84 dBi > 6 dBi, so the power limit shall be reduced.

For Reference only – Straddle Channels Total Power

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)
		Chain 0	Chain 1	Chain 2	Chain 3		
138	5690	12.88	13.28	12.35	13.11	78.343	18.94

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

802.11ax (HE160)

Channel	Channel Frequency (MHz)	Maximum Conducted Power (dBm)				Total Power (mW)	Total Power (dBm)	Power Limit (dBm)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3				
50	5250	10.36	10.81	10.95	10.75	47.206	16.74	19.14	PASS
50 (U-NII-1 Band)	5250	7.35	7.78	7.93	7.73	23.55	13.72	25.16	PASS
50 (U-NII-2A Band)	5250	7.34	7.82	7.95	7.75	23.659	13.74	19.14	PASS
114	5570	11.11	11.52	11.29	11.06	53.333	17.27	19.14	PASS

Note: The directional gain = 10.84 dBi > 6 dBi, so the power limit shall be reduced.

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802.11a

Channel	Channel Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	21.50	21.34	21.62	21.30
44	5220	21.42	21.62	21.66	21.50
48	5240	21.34	21.26	21.42	21.34
52	5260	21.54	21.58	21.46	21.46
60	5300	21.54	21.22	21.42	21.62
64	5320	21.54	21.26	21.58	21.34
100	5500	21.42	21.66	21.58	21.46
116	5580	21.58	21.54	21.62	21.54
140	5700	21.74	21.82	21.70	21.34
144	5720	21.42	21.42	21.70	21.46
144 (U-NII-2c Band)	5720	15.71	15.59	15.95	15.83

802.11ax (HE20)

Channel	Channel Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
36	5180	21.82	21.46	21.30	21.38
44	5220	21.62	21.62	21.46	21.74
48	5240	21.58	21.54	21.62	21.74
52	5260	21.54	21.58	21.54	21.82
60	5300	21.66	21.58	21.46	21.82
64	5320	21.62	21.42	21.46	21.54
100	5500	21.78	21.42	21.58	21.58
116	5580	21.42	21.62	21.58	21.70
140	5700	21.74	21.58	21.62	21.42
144	5720	21.58	21.54	21.50	21.74
144 (U-NII-2c Band)	5720	15.79	15.83	15.79	15.91

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Doc No: 17-EM-F0880 / 6.0

**802.11ax (HE40)**

Channel	Channel Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
38	5190	40.12	40.04	40.20	40.04
46	5230	40.20	40.04	40.12	39.96
54	5270	40.20	40.04	40.12	40.04
62	5310	40.28	39.96	40.20	40.04
102	5510	40.04	39.96	40.20	39.96
110	5550	40.12	39.96	40.20	39.96
134	5670	40.28	40.04	40.28	40.04
142	5710	40.44	40.04	40.12	40.04
142 (U-NII-2c Band)	5710	35.14	35.06	35.22	35.06

802.11ax (HE80)

Channel	Channel Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
42	5210	82.00	81.52	81.68	81.52
58	5290	81.84	81.84	81.68	81.68
106	5530	82.16	81.68	82.00	81.36
122	5610	82.00	81.68	81.84	81.52
138	5690	81.84	81.52	81.68	81.36
138 (U-NII-2c Band)	5690	75.92	75.92	75.76	75.76

802.11ax (HE160)

Channel	Channel Frequency (MHz)	26 dB Bandwidth (MHz)			
		Chain 0	Chain 1	Chain 2	Chain 3
50	5250	166.70	165.74	165.43	165.27
50 (U-NII-1 Band)	5250	83.44	82.48	82.48	82.48
50 (U-NII-2A Band)	5250	83.26	83.26	82.95	82.79
114	5570	165.73	165.09	165.33	165.33

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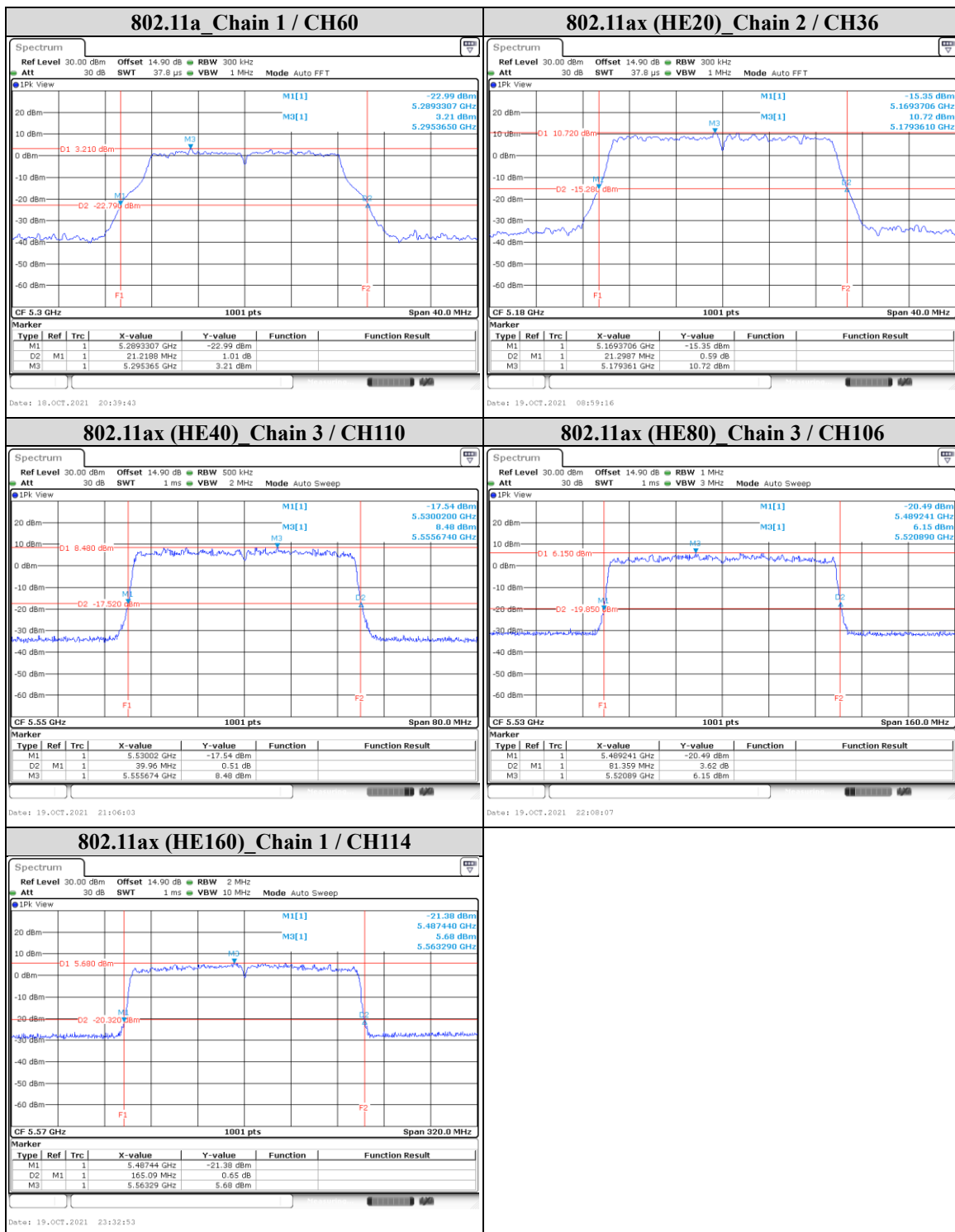
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此測試圖僅放測試結果最差的頻道



Note: 802.11ax (HE160) CH50 bandwidth below 5250MHz = 5250MHz – Marker 1
802.11ax (HE160) CH50 bandwidth below 5250MHz = Delta 2 – (5250MHz – Marker 1)

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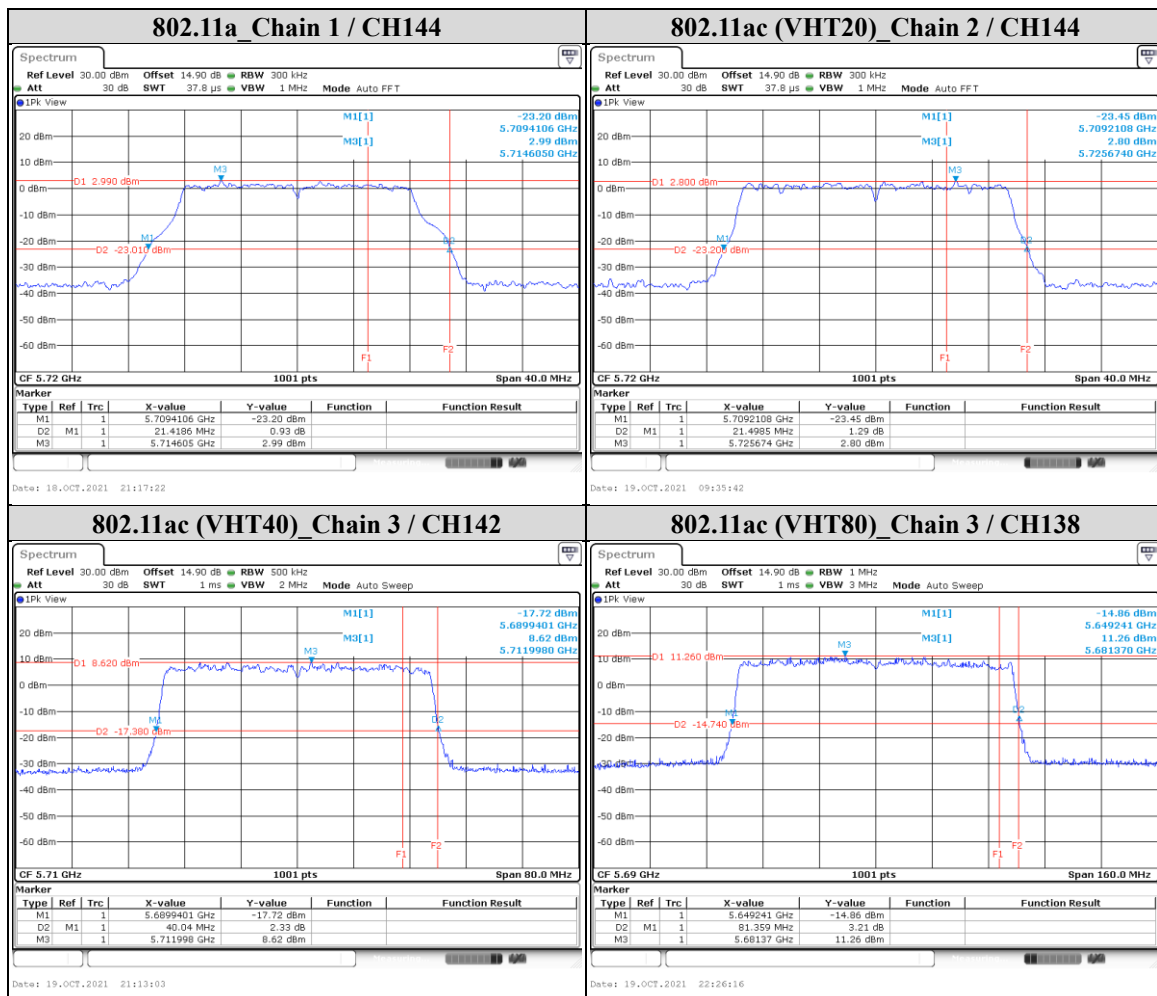


報告編號 : 4790091528-TW-R1-V0

頁碼 : 37 of 165

報告發行日期 : 2022/1/10

Channel Straddling



Note: The bandwidth below 5725MHz = Delta 2 – (Marker 1 + Delta 2 – 5725MHz)

4.1.5 測試結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

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Doc No: 17-EM-F0880 / 6.0



4.2 6 dB 發射頻寬

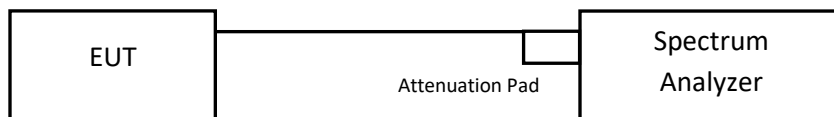
4.2.1 適用標準

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	Chain 2	Chain 3		
144 (U-NII-3 Band)	5720	3.11	3.11	3.11	3.11	0.5	PASS
149	5745	16.34	16.30	16.34	16.34	0.5	PASS
157	5785	16.34	16.34	16.34	16.34	0.5	PASS
165	5825	16.34	16.34	16.34	16.34	0.5	PASS

802.11ax (HE20)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
144 (U-NII-3 Band)	5720	4.39	4.39	4.39	4.43	0.5	PASS
149	5745	18.98	18.98	18.90	18.94	0.5	PASS
157	5785	18.98	18.94	18.94	18.94	0.5	PASS
165	5825	18.94	18.98	18.94	18.94	0.5	PASS

802.11ax (HE40)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
142 (U-NII-3 Band)	5710	3.78	3.78	3.78	3.78	0.5	PASS
151	5755	37.64	37.32	37.64	37.56	0.5	PASS
159	5795	37.72	37.32	37.64	37.64	0.5	PASS

802.11ax (HE80)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)				Minimum Limit (MHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3		
138 (U-NII-3 Band)	5690	3.36	2.40	3.52	2.40	0.5	PASS
155	5775	76.88	76.88	76.88	76.72	0.5	PASS

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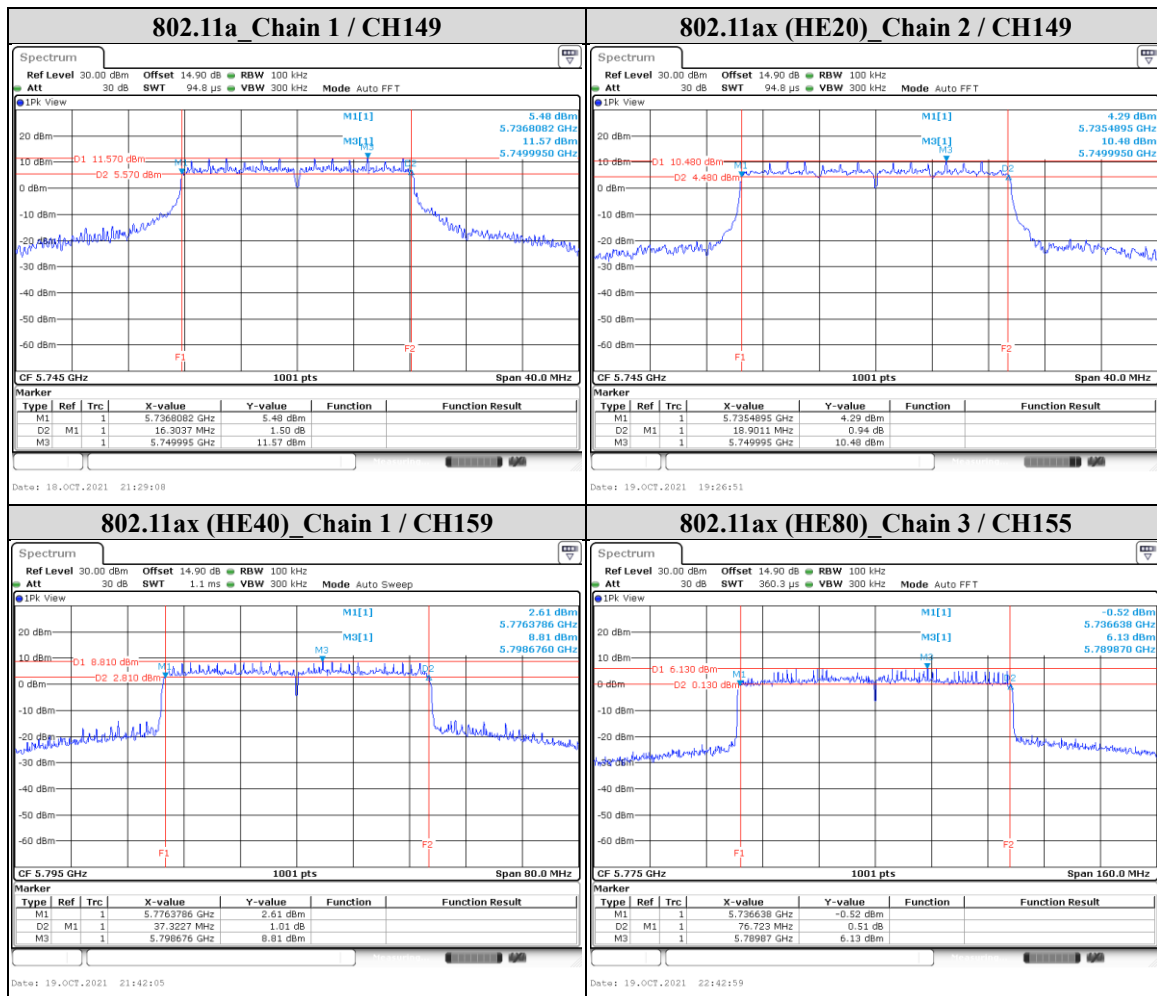


報告編號 : 4790091528-TW-R1-V0

頁碼 : 40 of 165

報告發行日期 : 2022/1/10

此測試圖僅放測試結果最差的頻道



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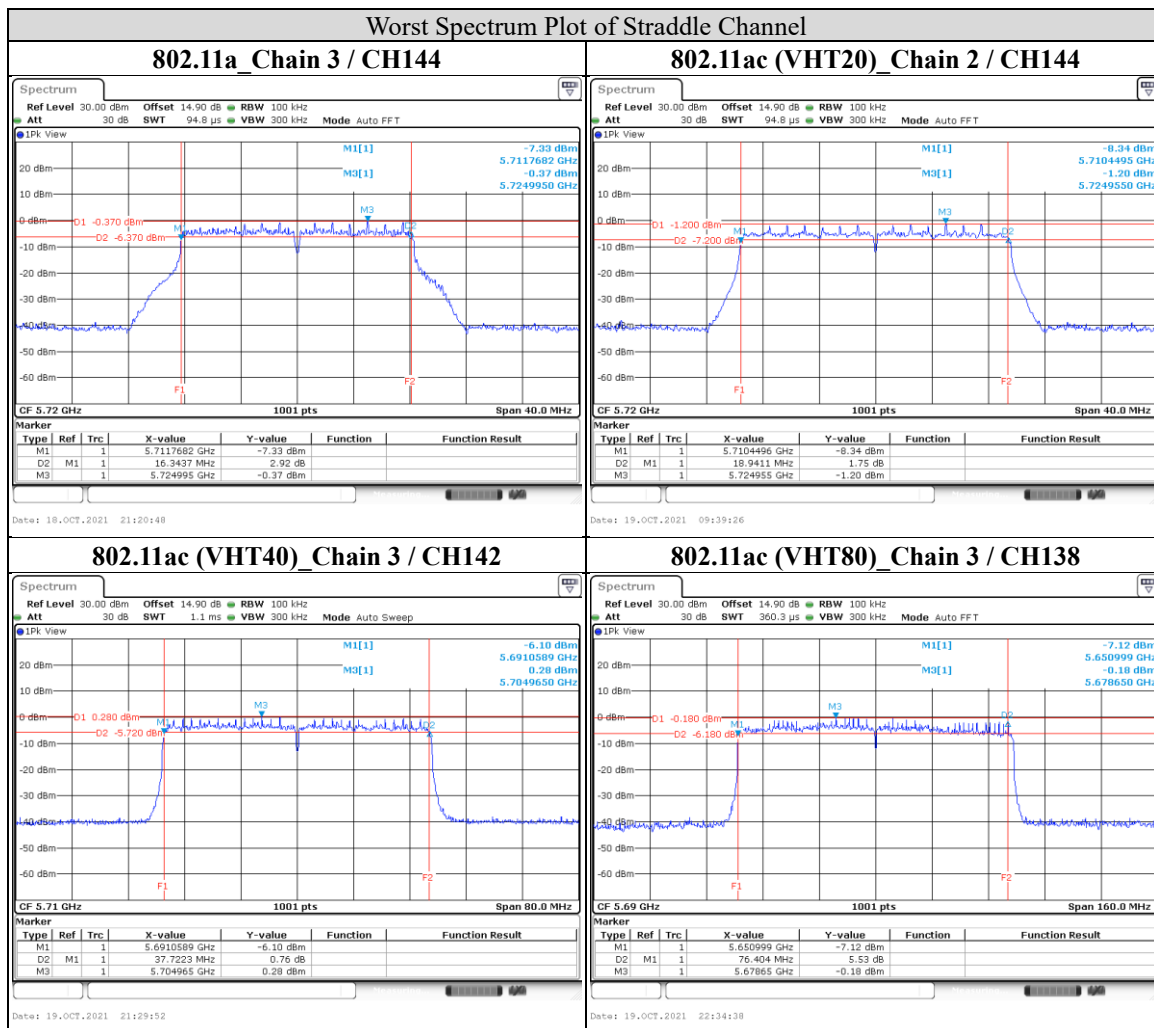
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Channel Straddling



Note: The 6dB bandwidth above 5725MHz = Marker 1 + Delta 2 – 5725MHz

4.2.5 測試結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

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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 as below:

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 1 MHz, Set VBW $\geq$ 3 RBW, Detector = RMS
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value. (if Duty cycle $<$ 98 %, add 10 log (1/duty cycle))

For U-NII-3 band:

Refer as FCC KDB 789033

Using method as below:

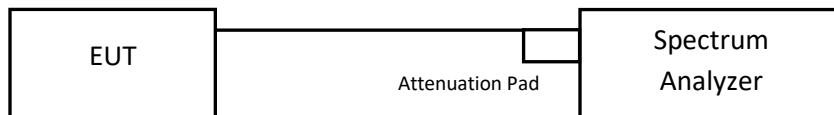
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz, Set VBW $\geq$ 1 MHz, Detector = RMS
- Use the peak marker function to determine the maximum power level in any 300 kHz band segment within the fundamental EBW.
- Scale the observed power level to an equivalent value in 500 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10 \log (500 \text{ kHz}/300\text{kHz})$
- Sweep time = auto, trigger set to “free run”.
- Trace average at least 100 traces in power averaging mode.
- Record the max value. (if Duty cycle $<$ 98 %, add 10 log (1/duty cycle))

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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.



4.3.4 測試結果

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

802.11a

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/MHz)				Total PSD with duty factor (dBm/MHz)	PSD Maximum Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	5.36	5.41	5.94	5.65	11.62	12.16	PASS
44	5220	5.36	5.54	5.89	5.63	11.63	12.16	PASS
48	5240	5.18	5.48	5.71	5.80	11.57	12.16	PASS
52	5260	-0.34	-0.15	-0.09	-0.06	5.86	6.16	PASS
60	5300	-0.21	-0.17	0.16	-0.09	5.95	6.16	PASS
64	5320	-0.14	-0.09	0.24	-0.04	6.02	6.16	PASS
100	5500	-0.10	-0.23	0.37	0.02	6.04	6.16	PASS
116	5580	-0.10	-0.12	0.21	0.00	6.02	6.16	PASS
140	5700	-0.34	0.02	0.07	0.17	6	6.16	PASS
144 (U-NII-2c Band)	5720	-0.67	0.21	-0.35	0.25	5.9	6.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.

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報告編號 : 4790091528-TW-R1-V0

頁碼 : 45 of 165

報告發行日期 : 2022/1/10

802.11ax (HE20)

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/MHz)				Total PSD with duty factor (dBm/MHz)	PSD Maximum Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
36	5180	5.07	5.13	5.60	4.90	11.3	12.16	PASS
44	5220	5.56	5.14	5.89	5.76	11.72	12.16	PASS
48	5240	5.43	5.64	6.02	5.84	11.86	12.16	PASS
52	5260	-0.32	-0.09	0.23	0.06	6.1	6.16	PASS
60	5300	-0.39	-0.23	0.04	0.01	5.98	6.16	PASS
64	5320	-0.10	-0.28	0.11	-0.08	6.04	6.16	PASS
100	5500	-0.21	-0.17	0.43	0.08	6.16	6.16	PASS
116	5580	-0.38	-0.12	-0.16	0.11	5.99	6.16	PASS
140	5700	-0.18	-0.14	0.10	0.32	6.15	6.16	PASS
144 (U-NII-2c Band)	5720	-1.88	-0.12	-0.84	-0.24	5.4	6.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.

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報告編號 : 4790091528-TW-R1-V0

頁碼 : 46 of 165

報告發行日期 : 2022/1/10

802.11ax (HE40)

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/MHz)				Total PSD with duty factor (dBm/MHz)	PSD Maximum Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
38	5190	-2.22	-2.51	-2.06	-2.59	3.83	12.16	PASS
46	5230	4.70	4.84	4.91	5.20	11.09	12.16	PASS
54	5270	-0.39	-0.46	0.37	0.03	6.07	6.16	PASS
62	5310	-2.21	-1.94	-1.68	-1.88	4.25	6.16	PASS
102	5510	-1.40	-0.71	-1.10	-1.29	5.05	6.16	PASS
110	5550	-0.41	0.13	-0.26	0.19	6.09	6.16	PASS
134	5670	-0.25	-0.38	-0.55	-0.28	5.81	6.16	PASS
142 (U-NII-2c Band)	5710	-0.24	0.47	-0.79	0.21	6.11	6.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.

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**802.11ax (HE80)**

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/MHz)				Total PSD with duty factor (dBm/MHz)	PSD Maximum Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
42	5210	-6.33	-6.18	-5.45	-5.86	0.23	12.16	PASS
58	5290	-5.73	-5.77	-5.12	-5.68	0.6	6.16	PASS
106	5530	-5.70	-5.42	-5.41	-4.89	0.83	6.16	PASS
122	5610	-0.17	-0.09	-0.27	-0.02	6.03	6.16	PASS
138 (U-NII-2c Band)	5690	-0.32	0.01	-0.90	0.30	5.97	6.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.

802.11ax (HE160)

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/MHz)				Total PSD with duty factor (dBm/MHz)	PSD Maximum Limit (dBm/MHz)	Pass/Fail
		Chain 0	Chain 1	Chain 2	Chain 3			
50 (U-NII-1 Band)	5250	-8.61	-8.36	-8.24	-8.44	-2.39	12.16	PASS
50 (U-NII-2A Band)	5250	-8.61	-8.36	-8.24	-8.44	-2.39	6.16	PASS
114	5570	-8.01	-7.66	-8.07	-7.85	-1.87	6.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.

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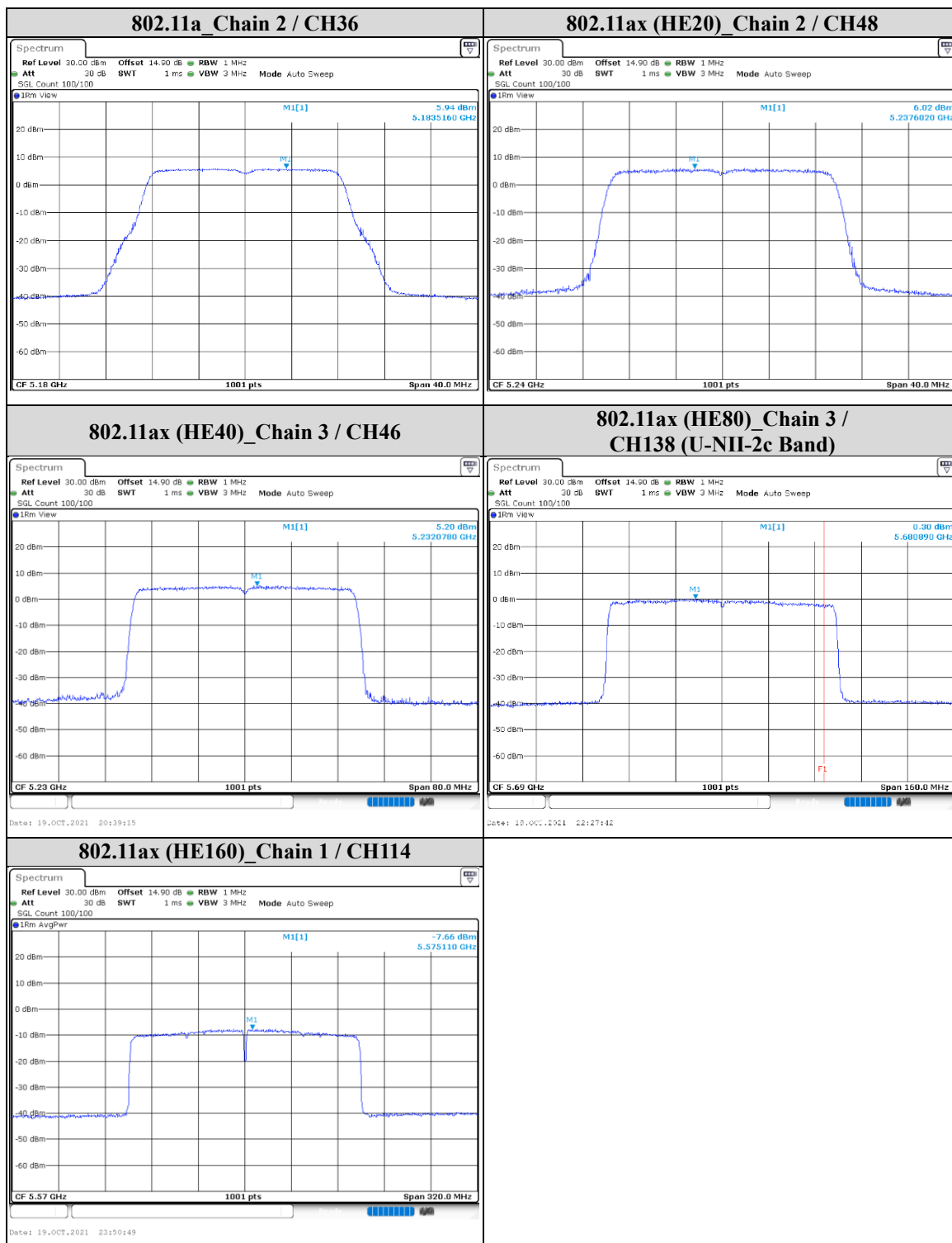


報告編號 : 4790091528-TW-R1-V0

頁碼 : 48 of 165

報告發行日期 : 2022/1/10

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

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)				Total PSD w/o BWCF (dBm/300 kHz)	Total PSD with BWCF (dBm/500 kHz)	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-6.47	-5.59	-5.80	-5.61	0.17	2.39	2.39	25.16	PASS
149	5745	5.35	6.37	5.81	7.01	12.2	14.42	14.42	25.16	PASS
157	5785	4.70	6.33	5.70	6.75	11.96	14.18	14.18	25.16	PASS
165	5825	4.76	6.03	5.07	6.95	11.81	14.03	14.03	25.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.
3. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

802.11ax (HE20)

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)				Total PSD w/o BWCF (dBm/300 kHz)	Total PSD with BWCF (dBm/500 kHz)	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
144 (U-NII-3 Band)	5720	-7.57	-5.67	-6.51	-6.10	-0.39	1.83	1.93	25.16	PASS
149	5745	5.38	6.37	5.40	6.68	12.02	14.24	14.34	25.16	PASS
157	5785	5.12	5.81	5.08	6.17	11.59	13.81	13.91	25.16	PASS
165	5825	4.76	5.86	4.79	6.14	11.45	13.67	13.77	25.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.
3. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

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**802.11ax (HE40)**

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)				Total PSD w/o BWCF (dBm/300 kHz)	Total PSD with BWCF (dBm/500 kHz)	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
142 (U-NII-3 Band)	5710	-5.90	-5.93	-6.82	-6.01	-0.13	2.09	2.24	25.16	PASS
151	5755	2.86	3.76	2.79	4.21	9.47	11.69	11.84	25.16	PASS
159	5795	2.33	3.41	2.97	3.76	9.17	11.39	11.54	25.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.
3. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

802.11ax (HE80)

Channel	Frequency (MHz)	PSD w/o duty factor (dBm/500 kHz)				Total PSD w/o BWCF (dBm/300 kHz)	Total PSD with BWCF (dBm/500 kHz)	Total PSD with duty factor (dBm/500 kHz)	Limit (dBm/500 kHz)	Pass / Fail
		Chain 0	Chain 1	Chain 2	Chain 3					
138 (U-NII-3 Band)	5690	-7.29	-7.11	-7.23	-7.14	-1.17	1.05	1.2	25.16	PASS
155	5775	-0.07	0.70	0.09	0.90	6.44	8.66	8.81	25.16	PASS

Note:

1. Directional gain = 10.84 dBi > 6 dBi , so the limit shall be reduced.
2. Refer to section 1.1 note 7 for duty cycle spectrum plot.
3. 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 $BWCF = 10\log(500 \text{ kHz}/300\text{kHz})$.

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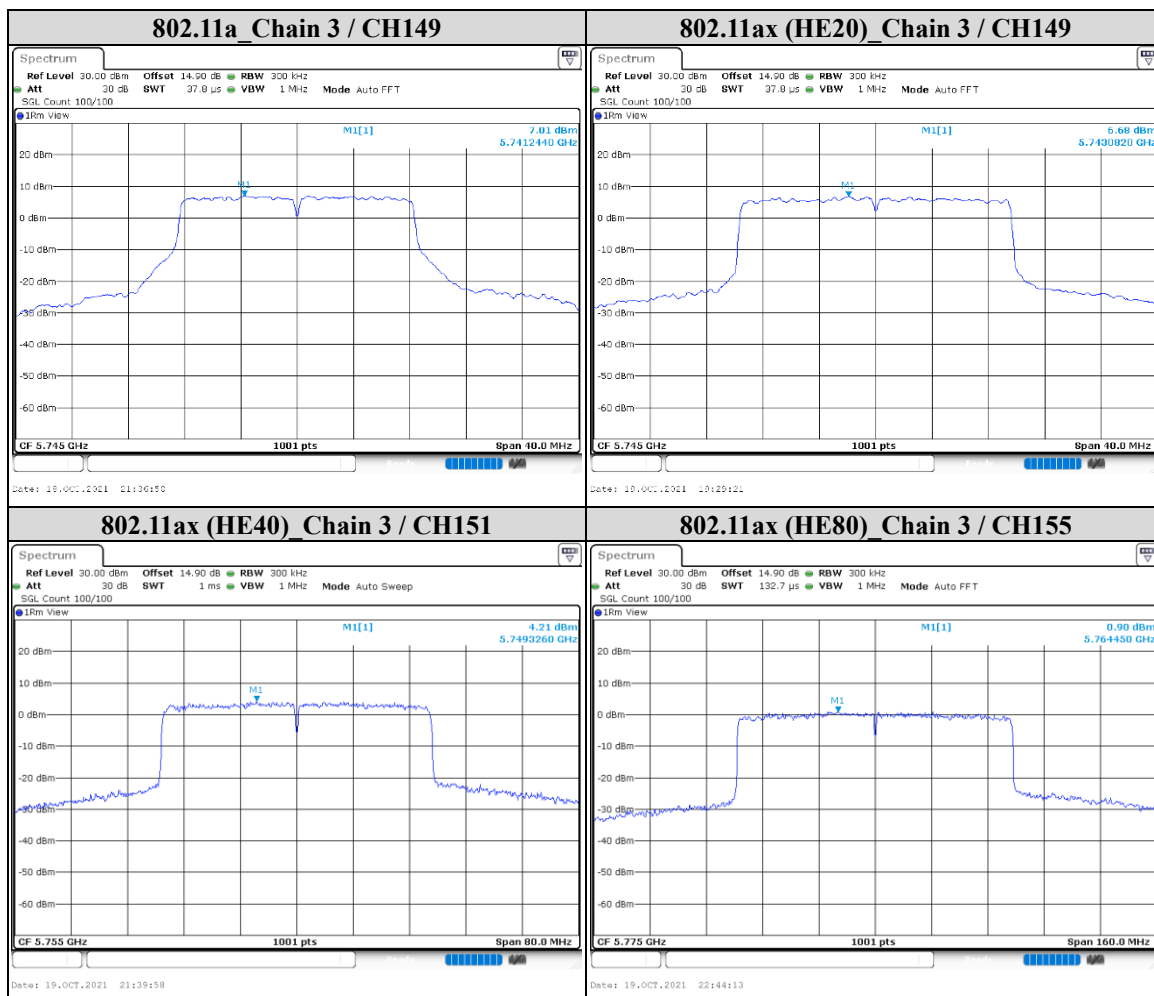


報告編號 : 4790091528-TW-R1-V0

頁碼 : 51 of 165

報告發行日期 : 2022/1/10

**此測試圖僅放測試結果最差的頻道



4.3.5 測試結果判定

依據測試數據結果，符合低功率射頻器材技術規範之要求。

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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)、(12) 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	10Hz
802.11ax (HE20)	1 MHz	510Hz
802.11ax (HE40)	1 MHz	510Hz
802.11ax (HE80)	1 MHz	510Hz
802.11ax (HE160)	1 MHz	10Hz

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Note:

- Quasi-Peak RBW = 120 kHz
- The 802.11a Duty cycle $\geq 98\%$, Therefore VBW configuration is 10 Hz for testing.
- The 802.11ax (HE20) Duty cycle = $(2.26/2.31) \times 100\% = 97.84 < 98\%$, so video bandwidth is $1/2.26 = 0.442$ kHz. Therefore VBW configuration is 510Hz for testing.
- The 802.11ax (HE40) Duty cycle = $(2.32/2.4) \times 100\% = 96.67 < 98\%$, so video bandwidth is $1/2.32 = 0.431$ kHz. Therefore VBW configuration is 510Hz for testing.
- The 802.11ax (HE80) Duty cycle = $(2.39/2.47) \times 100\% = 96.76 < 98\%$, so video bandwidth is $1/2.39 = 0.418$ kHz. Therefore VBW configuration is 510Hz for testing.
- The 802.11ax (HE160) Duty cycle $\geq 98\%$, Therefore VBW configuration is 10 Hz for testing.
- Refer to section 1.1 for duty cycle.
- All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported, the other emission levels were low against the limit.
- Test data of Notation "@" = Fundamental Frequency
- Test data of Notation "*" = Only required peak value or the peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.

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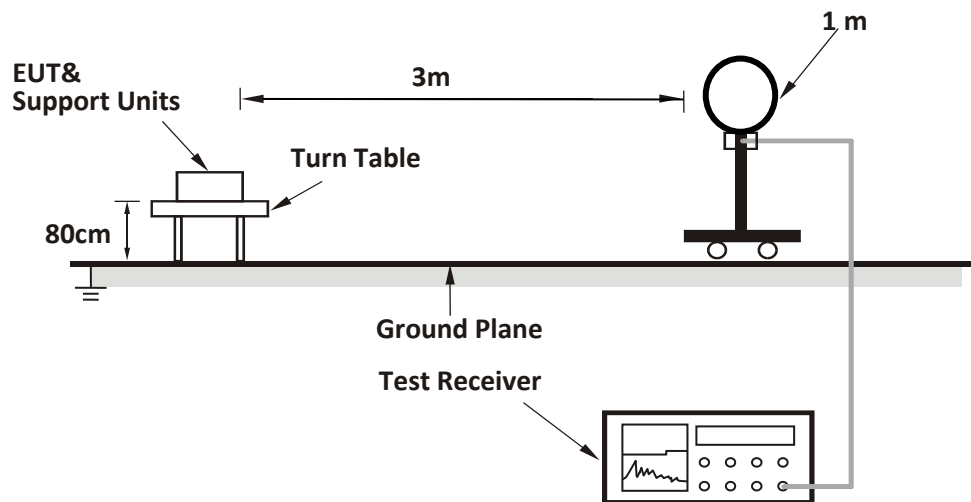
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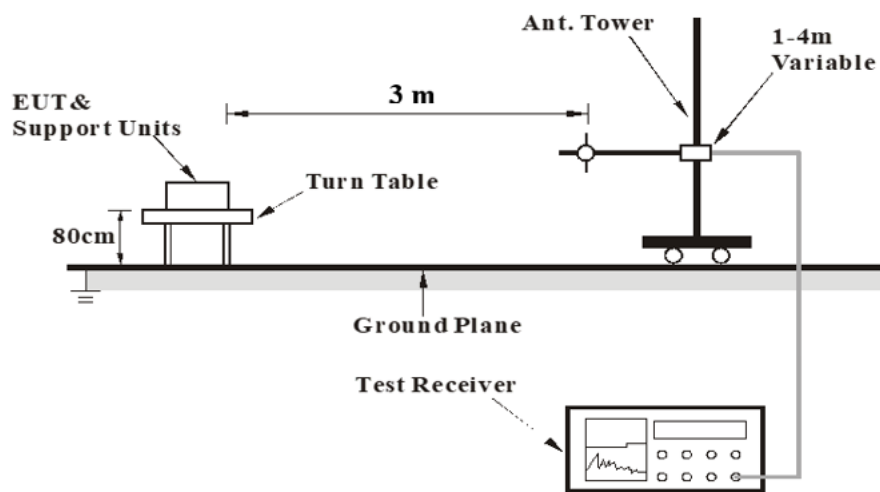
Doc No: 17-EM-F0880 / 6.0

4.4.3 測試配置圖

<Frequency Range 9 kHz ~ 30 MHz>



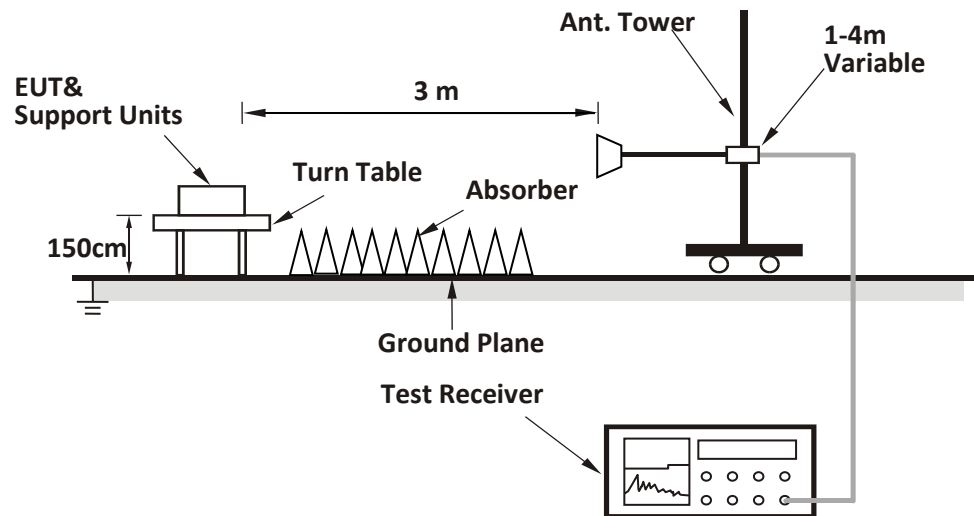
<Frequency Range 30 MHz ~ 1 GHz >



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<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 1 GHz

Mode	802.11a	Channel	36
------	---------	---------	----

Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5143.5	52.01	13.43	65.44	74	-8.56	PK
		5149.45	39.53	13.43	52.96	54	-1.04	AVG
	@	5180	102.01	13.4	115.41	N/A	N/A	PK
	@	5180	94.03	13.4	107.43	N/A	N/A	AVG
	*	10360	31.17	17.39	48.56	68.2	-19.64	PK
Vertical		5132.65	32.94	13.43	46.37	54	-7.63	AVG
		5137.55	43.6	13.43	57.03	74	-16.97	PK
	@	5180	97.8	13.4	111.2	N/A	N/A	PK
	@	5180	89.98	13.4	103.38	N/A	N/A	AVG
	*	10360	31.43	17.39	48.82	68.2	-19.38	PK

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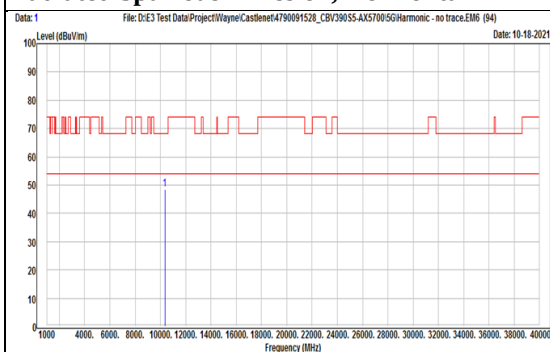
報告編號 : 4790091528-TW-R1-V0

頁碼 : 57 of 165

報告發行日期 : 2022/1/10

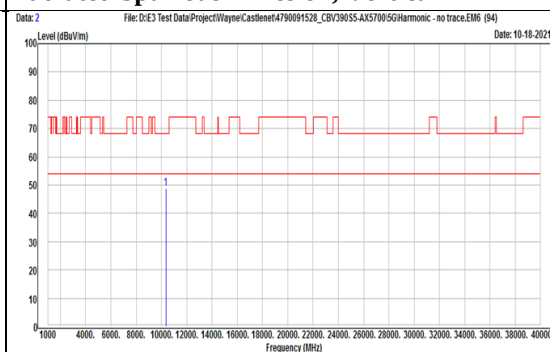
TX, 802.11a (Ch 36)

Radiated Spurious Emission, Horizontal



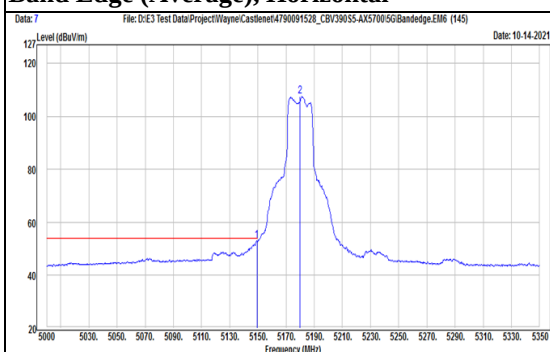
TX, 802.11a (Ch 36)

Radiated Spurious Emission, Vertical



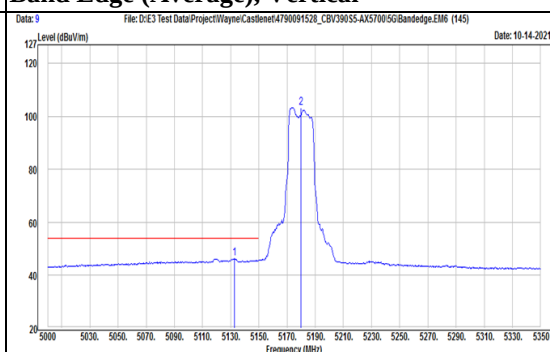
TX, 802.11a (Ch 36)

Band Edge (Average), Horizontal



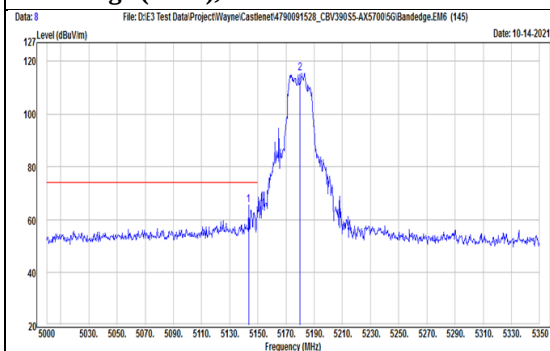
TX, 802.11a (Ch 36)

Band Edge (Average), Vertical



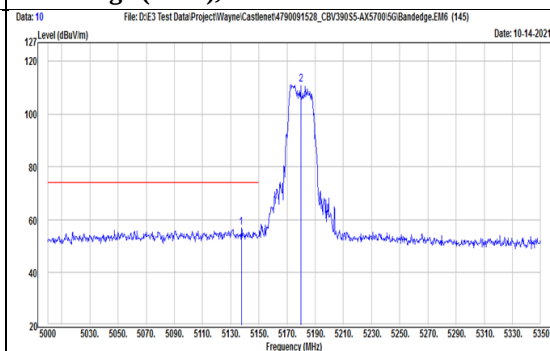
TX, 802.11a (Ch 36)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 36)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 58 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	44
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5112.7	32.72	13.45	46.17	54	-7.83	AVG
		5126.7	44.49	13.44	57.93	74	-16.07	PK
	@	5220	101.89	13.33	115.22	N/A	N/A	PK
	@	5220	94	13.33	107.33	N/A	N/A	AVG
	*	10440	30.31	17.63	47.94	68.2	-20.26	PK
Vertical		5077	43.45	13.39	56.84	74	-17.16	PK
		5136.5	31.81	13.44	45.25	54	-8.75	AVG
	@	5220	99.17	13.33	112.5	N/A	N/A	PK
	@	5220	90.02	13.33	103.35	N/A	N/A	AVG
	*	10440	31.2	17.63	48.83	68.2	-19.37	PK

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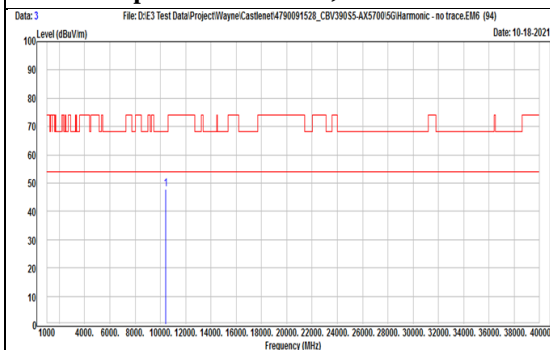
報告編號 : 4790091528-TW-R1-V0

頁碼 : 59 of 165

報告發行日期 : 2022/1/10

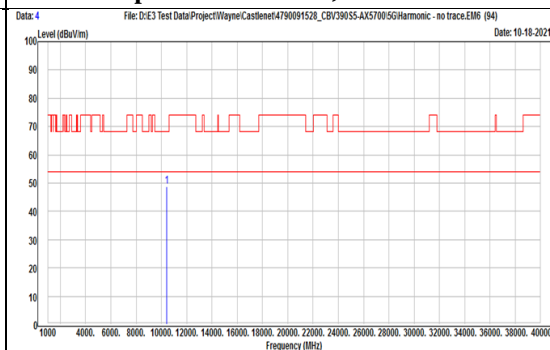
TX, 802.11a (Ch 44)

Radiated Spurious Emission, Horizontal



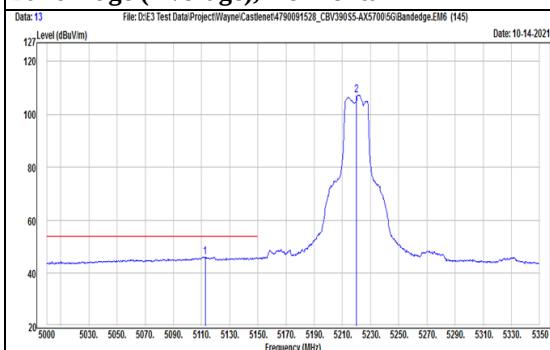
TX, 802.11a (Ch 44)

Radiated Spurious Emission, Vertical



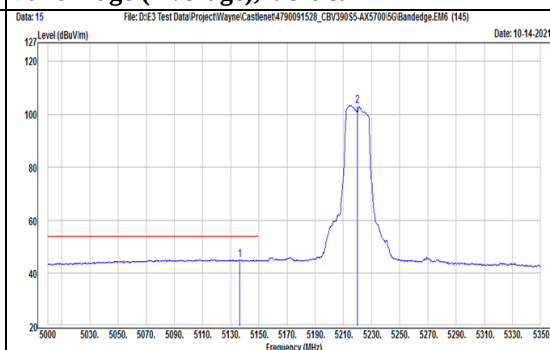
TX, 802.11a (Ch 44)

Band Edge (Average), Horizontal



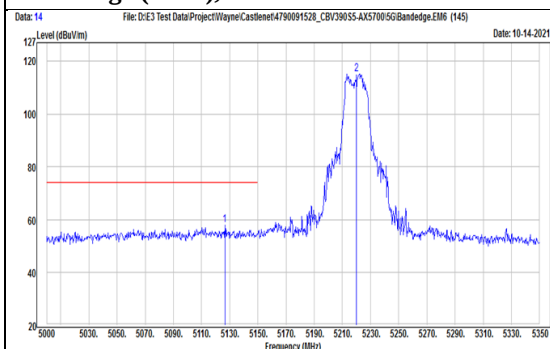
TX, 802.11a (Ch 44)

Band Edge (Average), Vertical



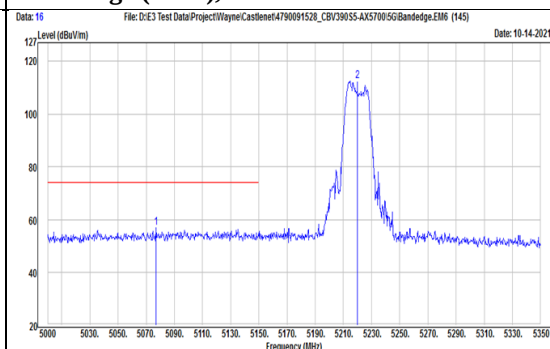
TX, 802.11a (Ch 44)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 44)

Band Edge (Peak), Vertical



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報告編號 : 4790091528-TW-R1-V0

頁碼 : 60 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	48
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5092.05	44.46	13.43	57.89	74	-16.11	PK
		5129.5	33.4	13.44	46.84	54	-7.16	AVG
	@	5240	103.21	13.27	116.48	N/A	N/A	PK
	@	5240	93.85	13.27	107.12	N/A	N/A	AVG
	*	10480	31.13	17.69	48.82	68.2	-19.38	PK
Vertical		5112.35	43.29	13.46	56.75	74	-17.25	PK
		5132.65	31.48	13.43	44.91	54	-9.09	AVG
	@	5240	99.01	13.27	112.28	N/A	N/A	PK
	@	5240	89.99	13.27	103.26	N/A	N/A	AVG
	*	10480	31.15	17.69	48.84	68.2	-19.36	PK

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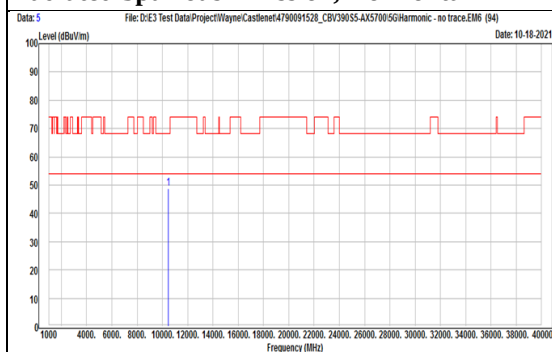
報告編號 : 4790091528-TW-R1-V0

頁碼 : 61 of 165

報告發行日期 : 2022/1/10

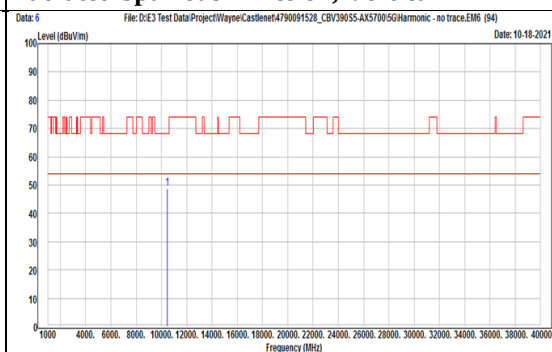
TX, 802.11a (Ch 48)

Radiated Spurious Emission, Horizontal



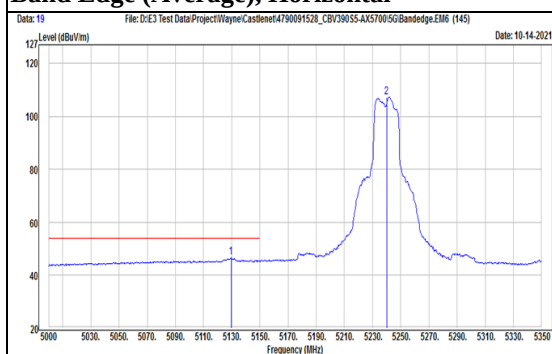
TX, 802.11a (Ch 48)

Radiated Spurious Emission, Vertical



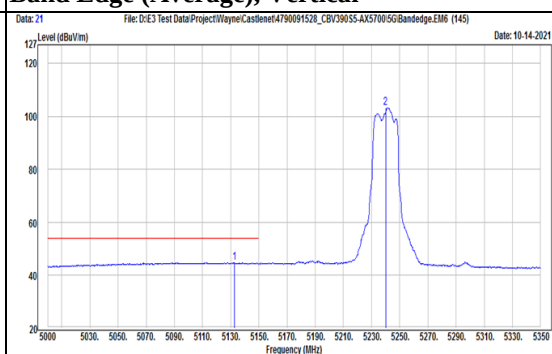
TX, 802.11a (Ch 48)

Band Edge (Average), Horizontal



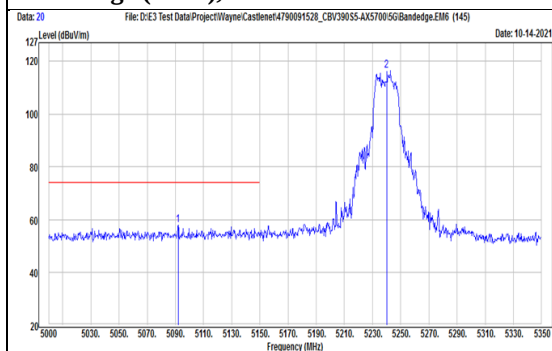
TX, 802.11a (Ch 48)

Band Edge (Average), Vertical



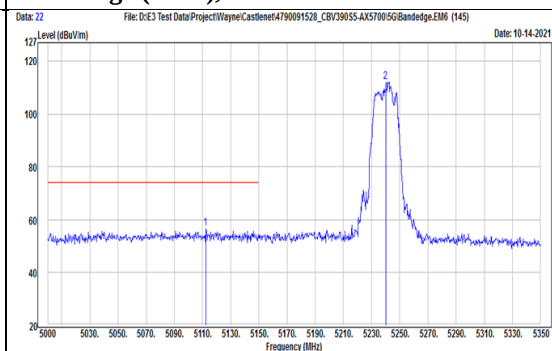
TX, 802.11a (Ch 48)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 48)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 62 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	52
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	@	5260	97.76	13.24	111	N/A	N/A	PK
	@	5260	88.83	13.24	102.07	N/A	N/A	AVG
		5364	29.98	13.31	43.29	54	-10.71	AVG
		5394.3	40.99	13.4	54.39	74	-19.61	PK
	*	10520	30.55	17.73	48.28	68.2	-19.92	PK
Vertical	@	5260	95.22	13.24	108.46	N/A	N/A	PK
	@	5260	86.17	13.24	99.41	N/A	N/A	AVG
		5382	39.67	13.35	53.02	74	-20.98	PK
		5459.7	28.76	13.7	42.46	54	-11.54	AVG
	*	10520	30.87	17.73	48.6	68.2	-19.6	PK

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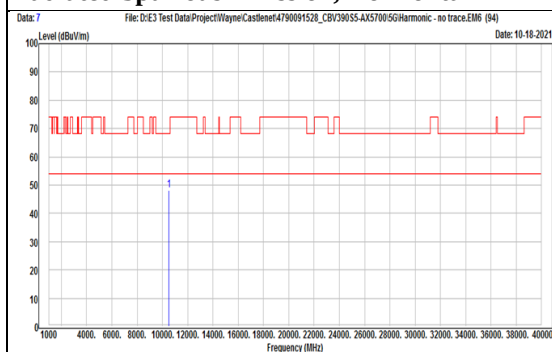
報告編號 : 4790091528-TW-R1-V0

頁碼 : 63 of 165

報告發行日期 : 2022/1/10

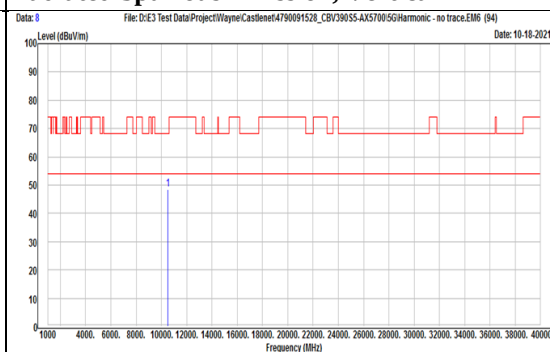
TX, 802.11a (Ch 52)

Radiated Spurious Emission, Horizontal



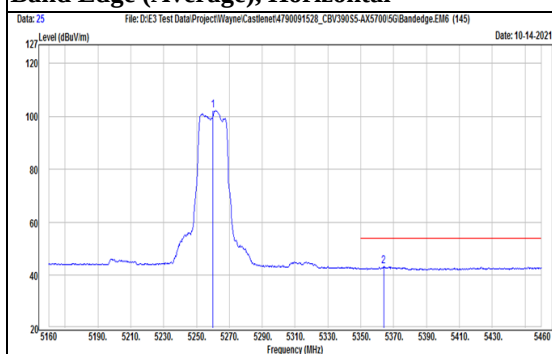
TX, 802.11a (Ch 52)

Radiated Spurious Emission, Vertical



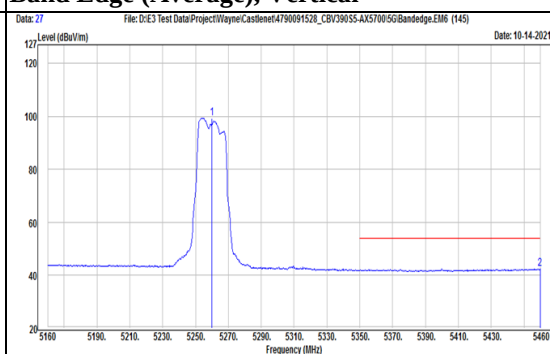
TX, 802.11a (Ch 52)

Band Edge (Average), Horizontal



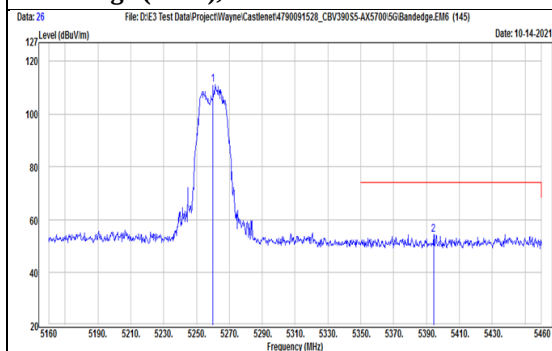
TX, 802.11a (Ch 52)

Band Edge (Average), Vertical



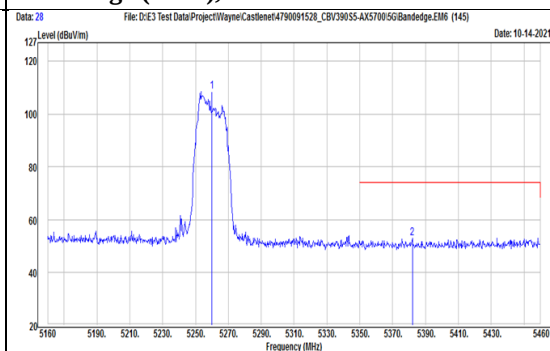
TX, 802.11a (Ch 52)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 52)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 64 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	60
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	@	5300	97.06	13.21	110.27	N/A	N/A	PK
	@	5300	88.9	13.21	102.11	N/A	N/A	AVG
		5357.4	40.82	13.28	54.1	74	-19.9	PK
		5357.7	31.61	13.29	44.9	54	-9.1	AVG
	*	10600	30.5	17.73	48.23	68.2	-19.97	PK
Vertical	@	5300	94.74	13.21	107.95	N/A	N/A	PK
	@	5300	85.65	13.21	98.86	N/A	N/A	AVG
		5357.7	29.3	13.29	42.59	54	-11.41	AVG
		5439.9	39.96	13.63	53.59	74	-20.41	PK
	*	10600	31.65	17.73	49.38	68.2	-18.82	PK

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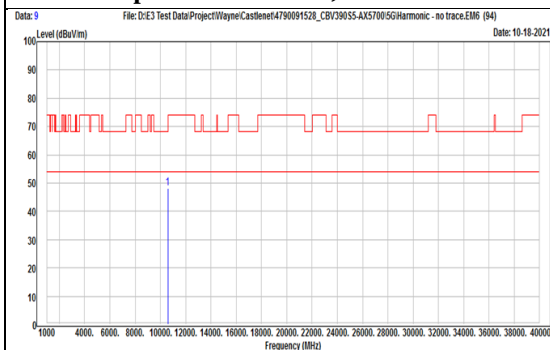
報告編號 : 4790091528-TW-R1-V0

頁碼 : 65 of 165

報告發行日期 : 2022/1/10

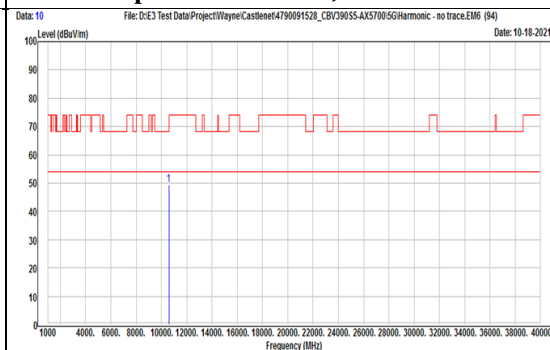
TX, 802.11a (Ch 60)

Radiated Spurious Emission, Horizontal



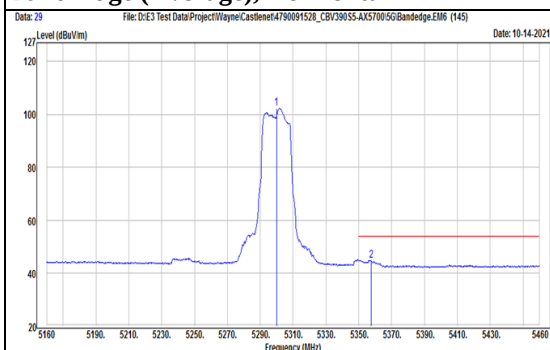
TX, 802.11a (Ch 60)

Radiated Spurious Emission, Vertical



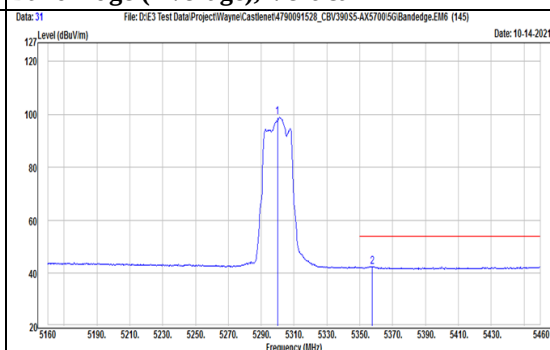
TX, 802.11a (Ch 60)

Band Edge (Average), Horizontal



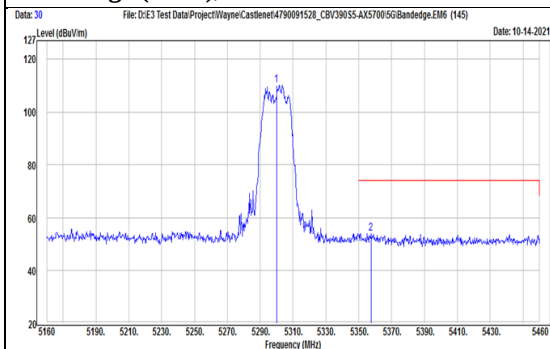
TX, 802.11a (Ch 60)

Band Edge (Average), Vertical



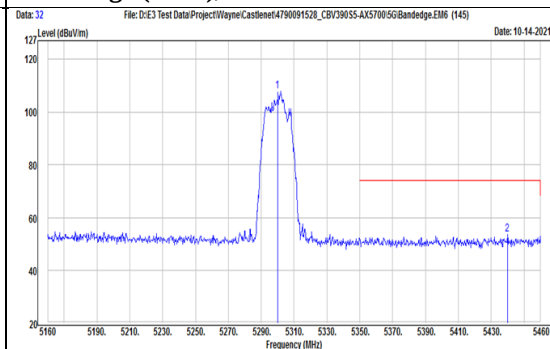
TX, 802.11a (Ch 60)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 60)

Band Edge (Peak), Vertical



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報告編號 : 4790091528-TW-R1-V0

頁碼 : 66 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	64
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	@	5320	96.34	13.23	109.57	N/A	N/A	PK
	@	5320	88.95	13.23	102.18	N/A	N/A	AVG
		5369.4	41.85	13.33	55.18	74	-18.82	PK
		5369.7	32.06	13.33	45.39	54	-8.61	AVG
	*	10640	31.05	17.82	48.87	74	-25.13	PK
Vertical	@	5320	93.81	13.23	107.04	N/A	N/A	PK
	@	5320	85.57	13.23	98.8	N/A	N/A	AVG
		5400	29.48	13.42	42.9	54	-11.1	AVG
		5455.8	40.39	13.69	54.08	74	-19.92	PK
	*	10640	31.33	17.82	49.15	74	-24.85	PK

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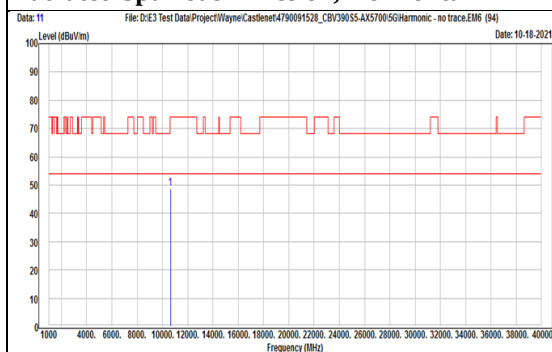
報告編號 : 4790091528-TW-R1-V0

頁碼 : 67 of 165

報告發行日期 : 2022/1/10

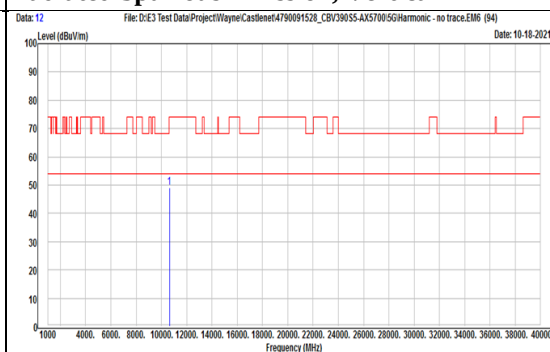
TX, 802.11a (Ch 64)

Radiated Spurious Emission, Horizontal



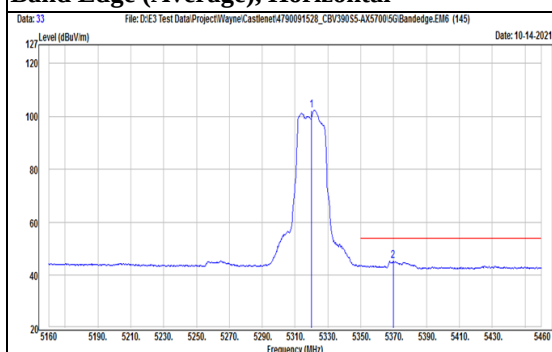
TX, 802.11a (Ch 64)

Radiated Spurious Emission, Vertical



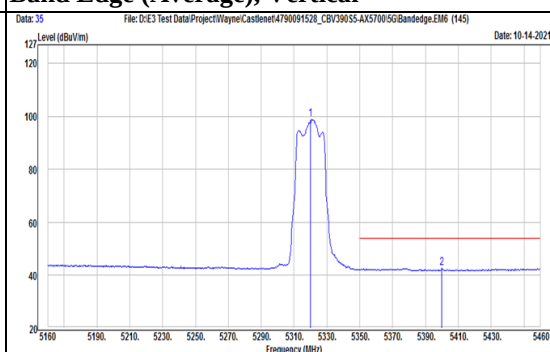
TX, 802.11a (Ch 64)

Band Edge (Average), Horizontal



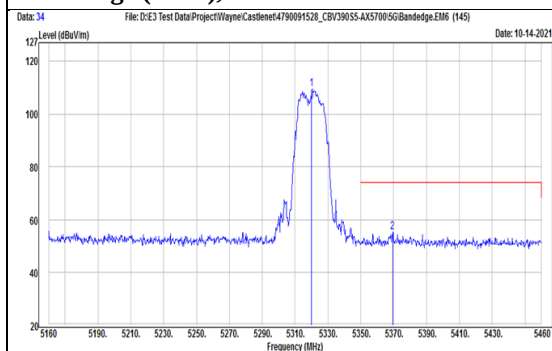
TX, 802.11a (Ch 64)

Band Edge (Average), Vertical



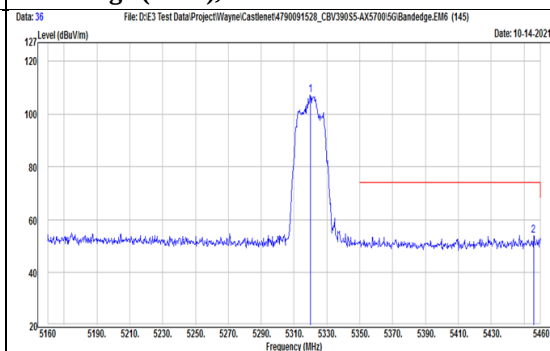
TX, 802.11a (Ch 64)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 64)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 68 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	100
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5437.45	42.12	13.61	55.73	74	-18.27	PK
		5437.45	31.96	13.61	45.57	54	-8.43	AVG
		5468.95	40.05	13.74	53.79	68.2	-14.41	PK
	@	5500	95.04	13.83	108.87	N/A	N/A	PK
	@	5500	87.13	13.83	100.96	N/A	N/A	AVG
	*	11000	30.76	18.28	49.04	74	-24.96	PK
Vertical		5439.2	40.57	13.62	54.19	74	-19.81	PK
		5439.2	29.24	13.62	42.86	54	-11.14	AVG
		5465.45	40.44	13.72	54.16	68.2	-14.04	PK
	@	5500	93.98	13.83	107.81	N/A	N/A	PK
	@	5500	85.05	13.83	98.88	N/A	N/A	AVG
	*	11000	31.27	18.28	49.55	74	-24.45	PK

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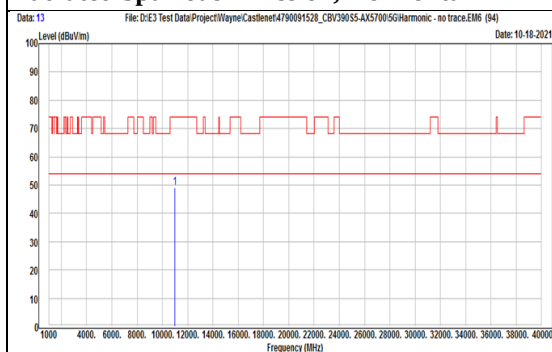
報告編號 : 4790091528-TW-R1-V0

頁碼 : 69 of 165

報告發行日期 : 2022/1/10

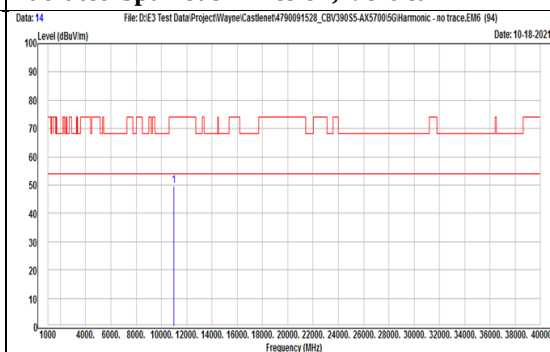
TX, 802.11a (Ch 100)

Radiated Spurious Emission, Horizontal



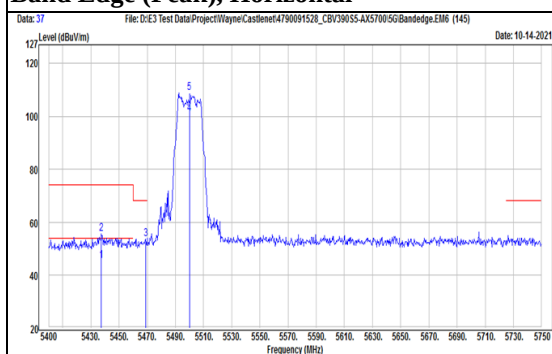
TX, 802.11a (Ch 100)

Radiated Spurious Emission, Vertical



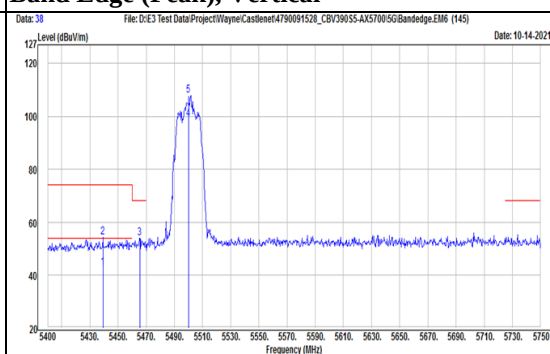
TX, 802.11a (Ch 100)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 100)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 70 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	116
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5432.9	40.9	13.59	54.49	74	-19.51	PK
		5432.9	30.42	13.59	44.01	54	-9.99	AVG
		5466.85	40.57	13.72	54.29	68.2	-13.91	PK
	@	5580	95.76	13.98	109.74	N/A	N/A	PK
	@	5580	87.17	13.98	101.15	N/A	N/A	AVG
		5731.8	40.53	14.21	54.74	68.2	-13.46	PK
	*	11160	30.54	18.32	48.86	74	-25.14	PK
Vertical		5440.95	40.24	13.63	53.87	74	-20.13	PK
		5440.95	29.02	13.63	42.65	54	-11.35	AVG
		5464.05	39.54	13.72	53.26	68.2	-14.94	PK
	@	5580	92.86	13.98	106.84	N/A	N/A	PK
	@	5580	84.06	13.98	98.04	N/A	N/A	AVG
		5742.65	40.22	14.27	54.49	68.2	-13.71	PK
	*	11160	30.85	18.32	49.17	74	-24.83	PK

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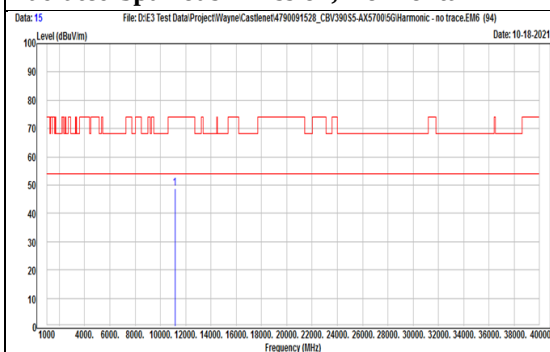
報告編號 : 4790091528-TW-R1-V0

頁碼 : 71 of 165

報告發行日期 : 2022/1/10

TX, 802.11a (Ch 116)

Radiated Spurious Emission, Horizontal



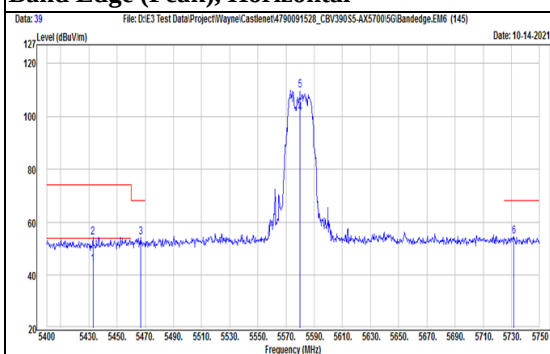
TX, 802.11a (Ch 116)

Radiated Spurious Emission, Vertical



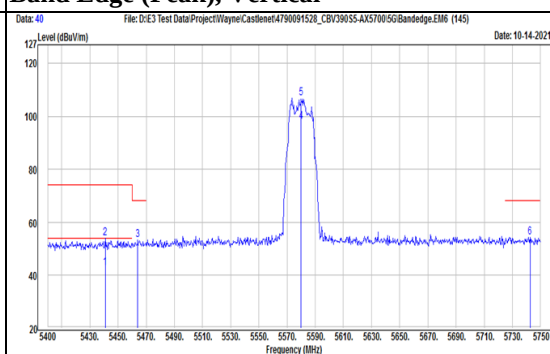
TX, 802.11a (Ch 116)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 116)

Band Edge (Peak), Vertical



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報告編號 : 4790091528-TW-R1-V0

頁碼 : 72 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	140
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	@	5700	94.42	14.05	108.47	N/A	N/A	PK
	@	5700	85.66	14.05	99.71	N/A	N/A	AVG
		5738.45	41.43	14.24	55.67	68.2	-12.53	PK
	*	11400	30.08	18.74	48.82	74	-25.18	PK
Vertical	@	5700	93.97	14.05	108.02	N/A	N/A	PK
	@	5700	85.13	14.05	99.18	N/A	N/A	AVG
		5749.65	40.52	14.31	54.83	68.2	-13.37	PK
	*	11400	30.29	18.74	49.03	74	-24.97	PK

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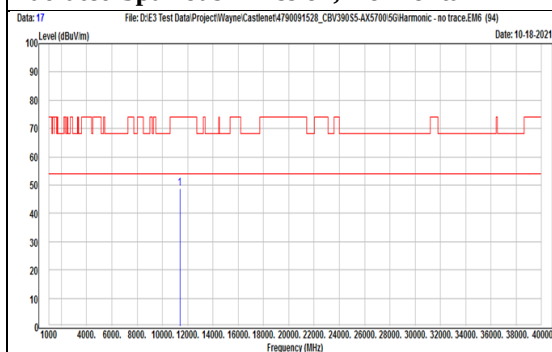
報告編號 : 4790091528-TW-R1-V0

頁碼 : 73 of 165

報告發行日期 : 2022/1/10

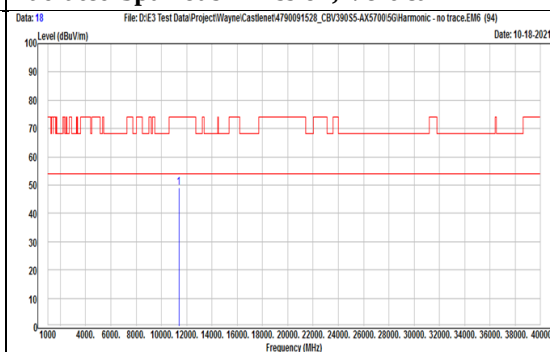
TX, 802.11a (Ch 140)

Radiated Spurious Emission, Horizontal



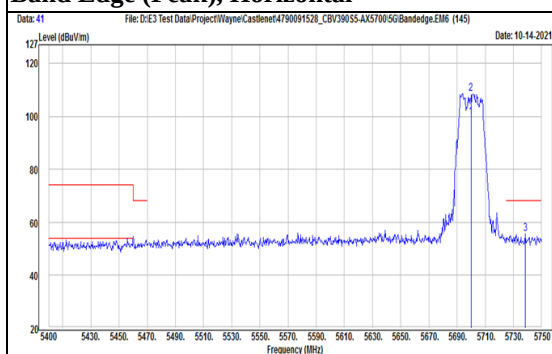
TX, 802.11a (Ch 140)

Radiated Spurious Emission, Vertical



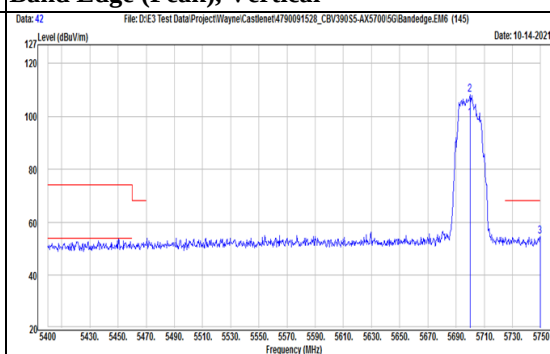
TX, 802.11a (Ch 140)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 140)

Band Edge (Peak), Vertical



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報告編號 : 4790091528-TW-R1-V0
頁碼 : 74 of 165
報告發行日期 : 2022/1/10

Mode	802.11a	Channel	144
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	*	11440	30.11	18.86	48.97	74	-25.03	PK
Vertical	*	11440	30.63	18.86	49.49	74	-24.51	PK

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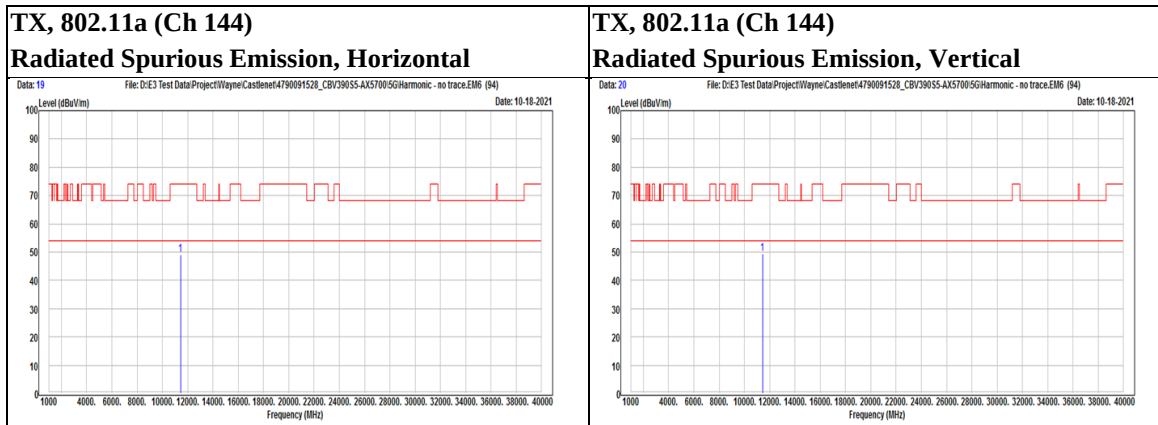
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報告編號 : 4790091528-TW-R1-V0
頁碼 : 75 of 165
報告發行日期 : 2022/1/10



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報告編號 : 4790091528-TW-R1-V0

頁碼 : 76 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	149
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5601.5	45.23	14.04	59.27	68.2	-8.93	PK
		5699	54.8	14.05	68.85	104.46	-35.61	PK
	@	5745	106.04	14.28	120.32	N/A	N/A	PK
		11490	44.39	19.02	63.41	74	-10.59	PK
		11490	34.16	19.02	53.18	54	-0.82	AVG
Vertical		5587	43.36	14	57.36	68.2	-10.84	PK
		5695.5	51.01	14.05	65.06	101.88	-36.82	PK
	@	5745	103.47	14.28	117.75	N/A	N/A	PK
		11490	41.9	19.02	60.92	74	-13.08	PK
		11490	31.7	19.02	50.72	54	-3.28	AVG

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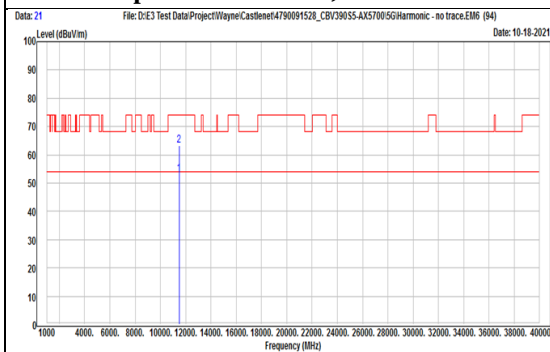
報告編號 : 4790091528-TW-R1-V0

頁碼 : 77 of 165

報告發行日期 : 2022/1/10

TX, 802.11a (Ch 149)

Radiated Spurious Emission, Horizontal



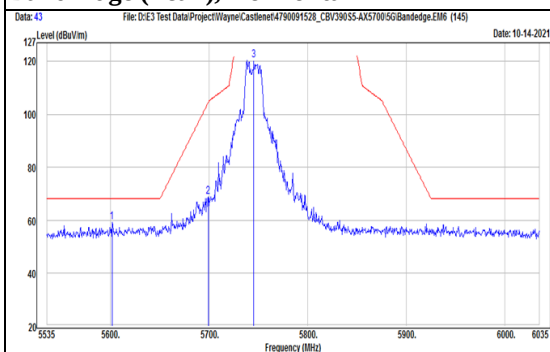
TX, 802.11a (Ch 149)

Radiated Spurious Emission, Vertical



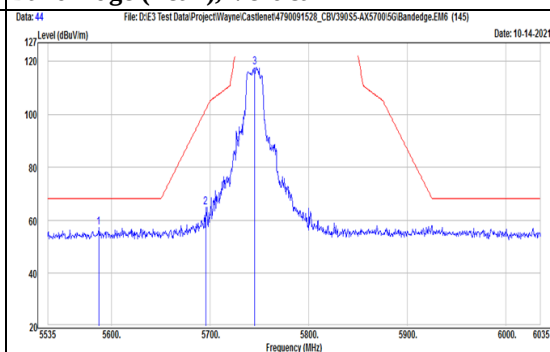
TX, 802.11a (Ch 149)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 149)

Band Edge (Peak), Vertical



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Doc No: 17-EM-F0880 / 6.0



報告編號 : 4790091528-TW-R1-V0

頁碼 : 78 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	157
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal		5621	43.9	14.03	57.93	68.2	-10.27	PK
		5667	44.52	14.01	58.53	80.82	-22.29	PK
	@	5785	105.49	14.48	119.97	N/A	N/A	PK
		11570	44.51	18.88	63.39	74	-10.61	PK
		11570	34.23	18.88	53.11	54	-0.89	AVG
Vertical		5565.5	42.34	13.93	56.27	68.2	-11.93	PK
		5696	43.09	14.05	57.14	102.25	-45.11	PK
	@	5785	103.82	14.48	118.3	N/A	N/A	PK
		11570	41.43	18.88	60.31	74	-13.69	PK
		11570	31.21	18.88	50.09	54	-3.91	AVG

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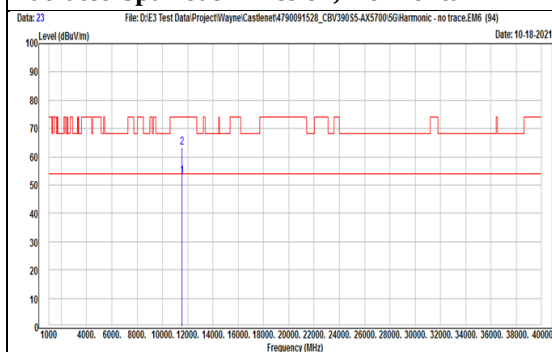
報告編號 : 4790091528-TW-R1-V0

頁碼 : 79 of 165

報告發行日期 : 2022/1/10

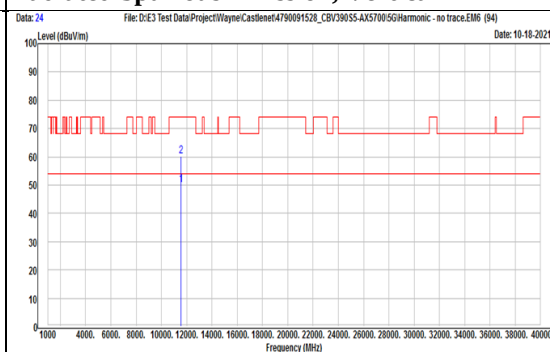
TX, 802.11a (Ch 157)

Radiated Spurious Emission, Horizontal



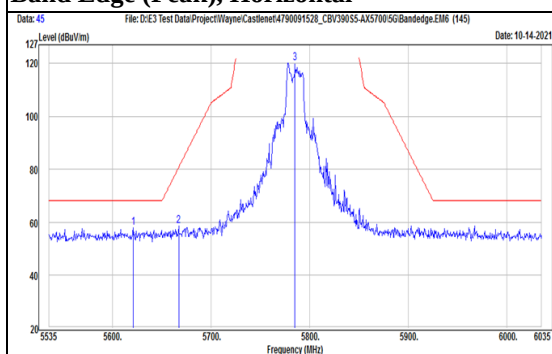
TX, 802.11a (Ch 157)

Radiated Spurious Emission, Vertical



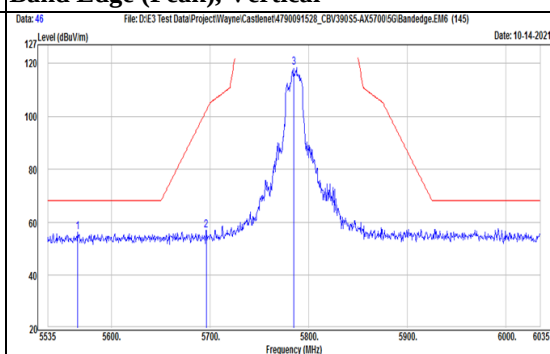
TX, 802.11a (Ch 157)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 157)

Band Edge (Peak), Vertical



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報告編號 : 4790091528-TW-R1-V0

頁碼 : 80 of 165

報告發行日期 : 2022/1/10

Mode	802.11a	Channel	165
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Polarization	Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
		(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
Horizontal	@	5825	104.33	14.69	119.02	N/A	N/A	PK
		5875	54.47	14.89	69.36	105.2	-35.84	PK
		5925	43.96	14.99	58.95	68.2	-9.25	PK
		11650	44.73	18.63	63.36	74	-10.64	PK
		11650	34.41	18.63	53.04	54	-0.96	AVG
Vertical	@	5825	103.52	14.69	118.21	N/A	N/A	PK
		5877	51.65	14.89	66.54	103.71	-37.17	PK
		5972.5	42.97	15.08	58.05	68.2	-10.15	PK
		11650	41.95	18.63	60.58	74	-13.42	PK
		11650	31.72	18.63	50.35	54	-3.65	AVG

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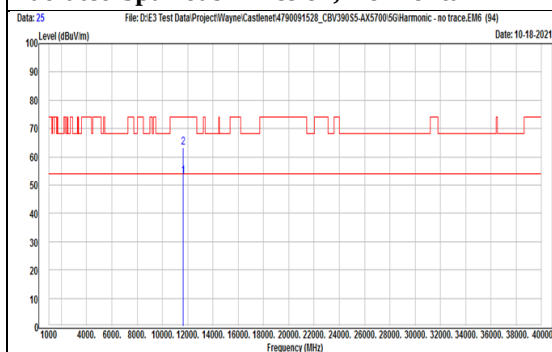
報告編號 : 4790091528-TW-R1-V0

頁碼 : 81 of 165

報告發行日期 : 2022/1/10

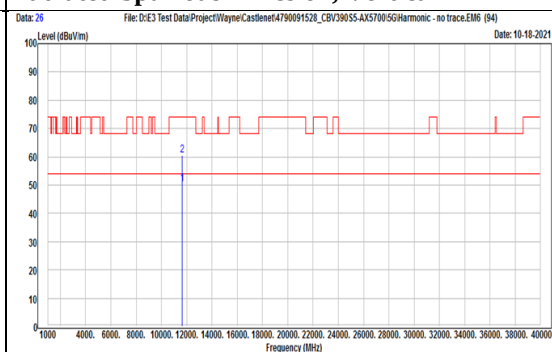
TX, 802.11a (Ch 165)

Radiated Spurious Emission, Horizontal



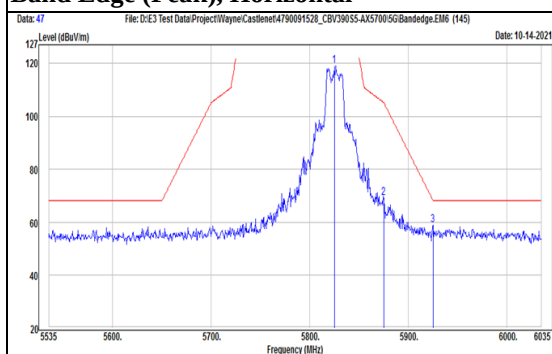
TX, 802.11a (Ch 165)

Radiated Spurious Emission, Vertical



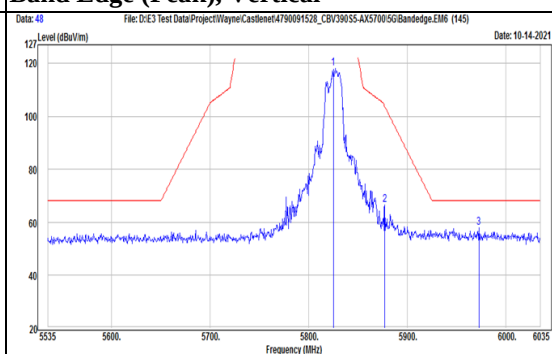
TX, 802.11a (Ch 165)

Band Edge (Peak), Horizontal



TX, 802.11a (Ch 165)

Band Edge (Peak), Vertical



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