

低功率射頻電機技術規範測試報告

報告編號:

RT200520E06

申請者

RATIONAL AG

產品名稱

Oven controller with Wifi

型號

LM1

製造廠商

RATIONAL AG

商標或廠牌

RATIONAL

該產品樣品試驗

國家通訊傳播委員會低功率射頻電機技術規範

依據之試驗標準

107 年 1 月 10 日修訂

試驗結果

合格

香港商立德國際商品試驗有限公司桃園分公司新竹實驗室

日期 109 年 07 月 07 日

報告簽署人簽章:

陳瓊美



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報告發行紀錄

Issue No.	Description	Date Issued
RT200520E06	Original release.	109 年 07 月 07 日

證 明 書

產 品 名 稱：Oven controller with Wifi
商 標：RATIONAL
型 號：LM1
申 請 者：RATIONAL AG
量 測 規 範：低功率射頻電機技術規範 LP0002 (修訂日期：107 年 1 月 10 日)
ANSI C63.10-2013

香港商立德國際商品試驗有限公司桃園分公司在此證明上述待測設備樣品(型號：LM1)，收件日期 109 年 05 月 20 日，於 109 年 06 月 23 日至 109 年 06 月 30 日，已在本公司的標準測試場地完成量測。報告中所描述之測試結果和待測設備的架構組合，均根據樣品實際的量測情況作詳實的記錄。

立德桃園分公司依“低功率射頻電機技術規範”、“低功率電波輻射性電機管理辦法”及“電信管制射頻器材審驗辦法”製作測試結果報告。

特 此 證 明 ！

報告製作者： 郭嘉宜，日期： 109 年 07 月 07 日
郭 嘉 宜 / 專員

審 核 者： 陳瓊美，日期： 109 年 07 月 07 日
陳 瓊 美 / 經理

香港商立德國際商品試驗有限公司桃園分公司

實驗室地址：300 新竹市科學工業園區力行一路 1 號 E-2

此份報告不得摘錄複製，除全份複製外，需經實驗室書面同意。



1 低功率射頻電機量測記錄表

申請廠商： RATIONAL AG

製造廠商： RATIONAL AG

申請廠商地址： Siegfried-Meister-Strasse 1, Landsberg am Lech, Bavaria, Germany, 86889

廠牌： RATIONAL

產品名稱： Oven controller with Wifi

型號： LM1

量測單位名稱： 香港商立德國際商品試驗有限公司桃園分公司 新竹實驗室

量測單位地址： 300 新竹市科學工業園區力行一路 1 號 E-2

量測單位認可編號： TAF 2022

量測規範： 低功率射頻電機技術規範 LP0002(修訂日期： 107 年 1 月 10 日)
ANSI C63.10-2013

WLAN 2.4GHz 頻段概要

項次	量測項目	規 範	量測結果判定
1	帶外發射	低功率射頻電機技術規範 3.10.1.5 節	合格
2	電源線傳導干擾	低功率射頻電機技術規範 2.3 節	合格
3	6 dB 頻寬	低功率射頻電機技術規範 3.10.1.6 節	合格
4	峰值傳導輸出功率	低功率射頻電機技術規範 3.10.1.2 節	合格
5	功率頻譜密度	低功率射頻電機技術規範 3.10.1.6 節	合格

最大暴露允許值(Maximum Permissible Exposure , MPE)

項次	量測項目	規 範	量測結果判定
1	電波暴露量	低功率射頻電機技術規範第 5.20.2 節	合格

備註：量測結果之判定不考慮量測不確定度的貢獻。

2 一般敘述

2.1 待測設備

產品名稱：	Oven controller with Wifi
型號：	LM1
額定電源：	12Vdc
調變方式：	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
調變技術：	DSSS, OFDM
傳輸速率：	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n: up to 72.2Mbps
載波頻率：	2.412 ~ 2.462GHz
頻道數：	11
發射功率：	25.02 dBm
天線種類：	見註
信號線類別：	NA
配件：	NA

註：

1. 此待測設備搭配測試的天線，其資料如下：

RF Chain NO.	Brand	Model	Antenna Net Gain(dBi)	Frequency range	Antenna Type
Chain 0	Ublox	NINA-B1	-1	2400~2483.5MHz	PIFA

*上述天線的規格資訊由申請者聲明，實驗室不承擔任何責任。

2. 此待測物之技術的種類為 1TX / 1RX 之組合。

MODULATION MODE	TX & RX CONFIGURATION	
802.11b	1TX	1RX
802.11g	1TX	1RX
802.11n (HT20)	1TX	1RX

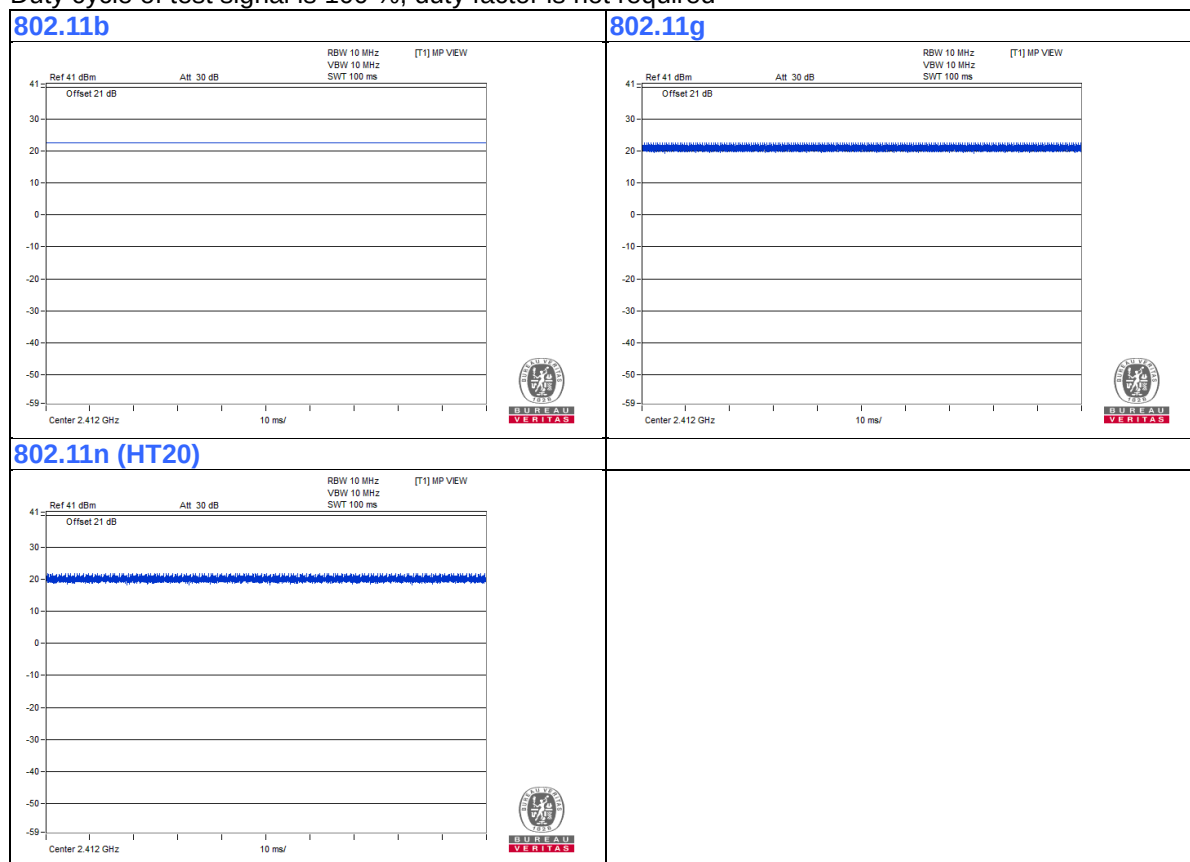
3. 此報告中，場強輻射量測經過評估後以下列測試模式進行最終量測。

量測項目	發射	接收
1GHz 以上量測	802. 11b: Ch 1, 6, 11 802. 11g: Ch 1, 6, 11 802.11n (HT20): Ch 1, 6, 11	Ch 11
其它不必要之訊號	802. 11b: Ch 11	Ch 11

*電源線傳導干擾量測經過評估後，以802. 11b: Ch 11測試模式進行最終量測。

4. Duty cycle of test signal

Duty cycle of test signal is 100 %, duty factor is not required



此裝置各頻道的中心頻率如下：

802.11b, 802.11g, 802.11n (HT20):

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

詳細之規格請參考使用說明書，產品的照片請參照 BV 編號: 200520E06-1。

2.2 輔助測試之週邊設備描述

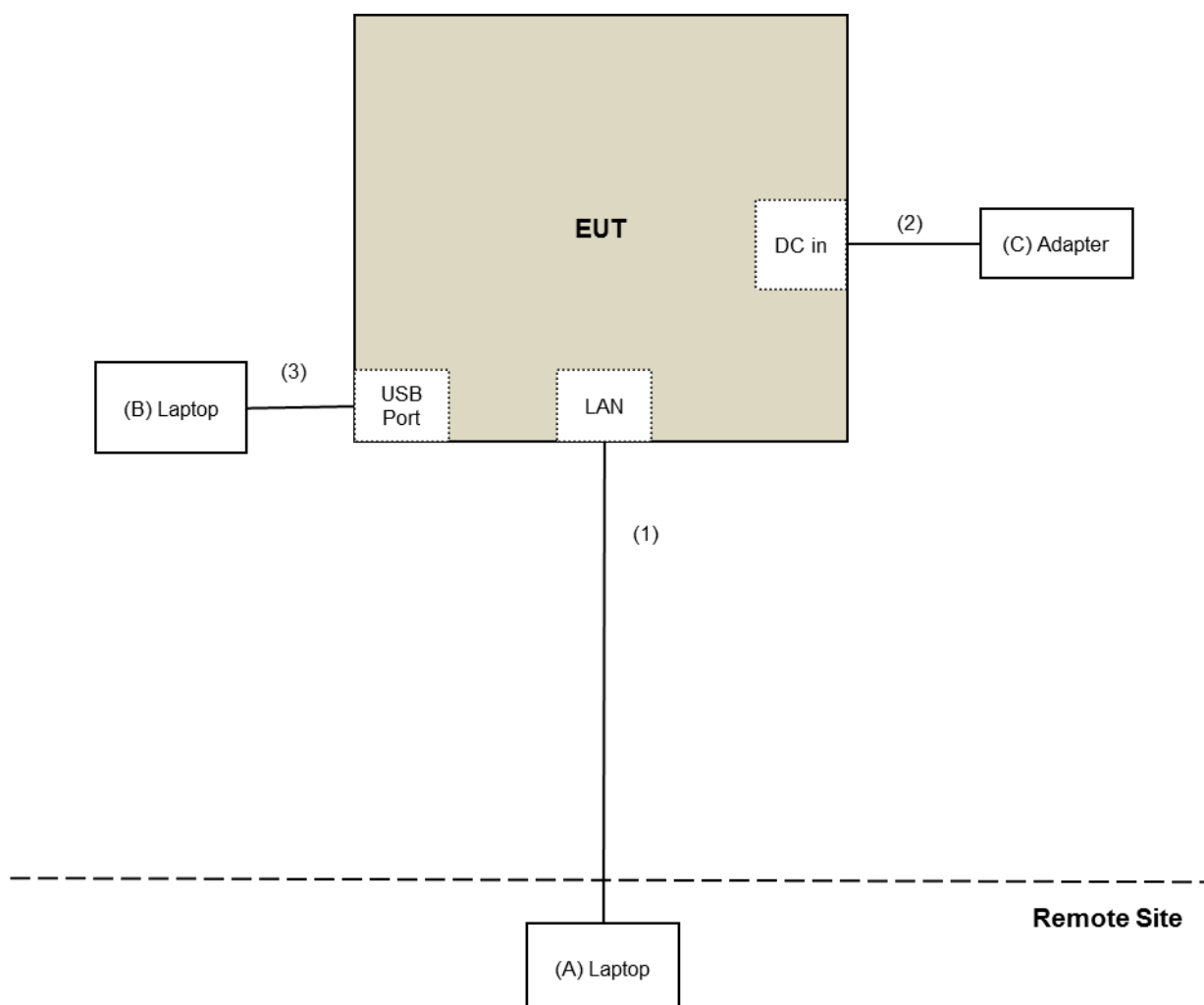
待測設備於受測時均接上其所屬的配件或一般用途之相關設備；下列輔助設備或配件測試中所使用的配備，以形成一個代表待測物實際運作的受測系統。

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	Laptop	Lenovo	81A4	YD02YN2A	PD93165NGU	Provided by Lab
C.	Adapter	MREN WELL	GE30I12	NA	NA	Supplied by client

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab(Brand:Tatung;model:E210587)
2.	DC Cable	1	1	No	0	Supplied by client(Brand:MREN WELL;model:GE30I12)
3.	USB type A to USB type A Cable	1	1.5	Yes	1	Provided by Lab(Brand:BENEVO;model:BSB00 150AMM)

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

2.3 測試架構圖



3 適用規範

3.1 規範要求

(1) 傳導之規定

依據國家通訊傳播委員會低功率射頻電機技術規範之 2.3 節，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。

(2) 帶外發射之規定

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.5 節之要求，操作頻帶範圍外之任意 100 kHz 內，發射機所產生的射頻功率相較於使用頻帶範圍中包含最高所需功率之 100 kHz 內的射頻功率，其衰減值限制如下：(1) 輸出功率以附件二之峰值輸出功率方式測量者，至少須衰減 20 dB，可使用射頻傳導或輻射方式測量。(2) 輸出功率以 3.10.1.2(1)(C)之最大傳導輸出功率測量方式者，至少須衰減 30 dB。此外，落於 2.7 禁用頻段之輻射發射，應符合 2.8 之規定。

電場強度(微伏特/公尺, uV/m)	測距(公尺)	頻率(MHz)
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

(3) 天線之規定

天線規格不受第 2.2 節規定之限制。

(4) 天線增益之要求

低功率發射機，依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.3 節之規定如下：

- (A) 進行固定式點對點操作時，其發射天線之方向性增益超過 6 dBi，每超過 3 dBi，最大傳導輸出功率限制值應降低 1 dB。
- (B) 天線以多向波束發射方式(含同時發射或循序發射)將訊號導向多個接收機或接收機群組時，應符合下列規定：
 - (a) 非同時發射多向波束者，所有載波或頻道傳輸至所有天線陣列或陣列群之總和傳導輸出功率應符合 3.10.1.2 之功率限制值。如天線/天線陣列群之方向性增益超過 6 dBi，每超過 3 dBi，總和傳導輸出功率限制值應降低 1 dB。方向性增益值應計算如下：
 - (i) 方向性增益值 = $10\log(\text{天線陣列之單元數目}) + \text{各單元中最高之方向性增益值}$ 。
 - (ii) 天線陣列間之遮蔽效應或波束干涉損失能充分佐證時，方向性增益得低於(i)計算數值。
 - (b) 同時發射多向波束於相同或不同頻道者，其每一波束功率應符合(a)之功率限制值。如發射波束有重疊現象，功率應降低，以確保總和傳導輸出功率符合(a)之限制值。同時發射的所有波束總和傳導輸出功率不大於(a) 總和傳導輸出功率限制值加 8 dB。方向性增益值計算同(a)。
 - (c) 發射機之天線具備單向波束功能者，應符合(1)(A)及(3)後段之規定。

除(A)及(B)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限制值。

(5) 6dB 頻寬之要求

對使用數位調變技術(digital modulation techniques)系統之低功率發射機，依據國家通訊傳播委員會低功

率射頻電機技術規範 3.10.1.6 節之規定，6dB 頻寬至少應有 500kHz。

(6)峰值輸出功率之要求

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.2 節之規定：

數位調變技術系統：1 W(含)以下。

(7)功率頻譜密度之要求

依據國家通訊傳播委員會低功率射頻電機技術規範 3.10.1.6 節之規定，在使用頻率範圍之任一 3 kHz 頻寬內，由發射機傳導至天線之功率頻譜密度在任意傳輸期間內，皆小於或等於 8 毫分貝(dBm)，且應依 3.10.1.3 之方式降低功率頻譜密度限制值。

(8)電波暴露量之評估

依據國家通訊傳播委員會低功率射頻電機技術規範 5.20.2 節之規定，若受測物於正常操作模式下，其發射機距離人體 20 公分以上者，可測試最大暴露允許值(Maximum Permissible Exposure，MPE)以證明其符合電波暴露量之要求。

限制值如下：

(1) 職業性/可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3 - 3.0	614	1.63	*100	6
3 - 30	1842/f	4.89/f	*900/f ²	6
30 - 300	61.4	0.163	1.0	6
300 - 1,500	---	---	f/300	6
1,500 - 100,000	---	---	5.0	6

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：MHz。

(2) 一般人/不可控制之暴露

頻率範圍 (MHz)	電場強度 (V/m)	磁場強度 (A/m)	功率密度 (mW/cm ²)	平均時間 (minutes)
0.3 - 3.0	614	1.63	*100	30
3 - 30	1842/f	4.89/f	*180/f ²	30
30 - 300	27.5	0.073	1.0	30
300 - 1,500	---	---	f/1500	30
1,500 - 100,000	---	---	1.0	30

註 1：標記*表平面波等效功率密度。

註 2：f 表測試頻率，單位：MHz。

參考國際標準指南

KDB 558074

3.2 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(兆赫)	頻率(兆赫)	頻率(兆赫)
0.090~0.110	240.00~285.00	3332.0~3339.0
0.490~0.510	322.00~335.40	3345.8~3358.0
2.172~2.198	399.90~410.00	3500.0~4400.0
3.013~3.033	485.00~510.00	4500.0~5250.0
4.115~4.198	608.00~614.00	5350.0~5460.0
5.670~5.690	703.00~748.00	7250.0~7750.0
6.200~6.300	758.00~803.00	8025.0~8500.0
8.230~8.400	825.00~915.00	9000.0~9200.0
12.265~12.600	930.00~1240.0	9300.0~9500.0
13.340~13.430	1300.0~1427.0	10600~12700
14.965~15.020	1435.0~1626.5	13250~13400
16.700~16.755	1660.0~1785.0	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	

2.4 GHz 頻段測試紀錄結果

4 帶外發射之量測

4.1 適用標準

請見本報告 3.1 節第(2)項(I)的規定。

4.2 量測方法

在電波暗室，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。

備註：對於 1GHz 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

4.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESR7	102026	Apr. 22, 2020	Apr. 21, 2021
Spectrum Analyzer Keysight	N9030B	MY57141948	May 22, 2020	May 21, 2021
Pre-Amplifier EMCi	EMC001340	980142	May 25, 2020	May 24, 2021
Loop Antenna Electro-Metrics	EM-6879	264	Feb. 18, 2020	Feb. 17, 2021
RF Cable	NA	LOOPCAB-001	Jan. 08, 2020	Jan. 07, 2021
RF Cable	NA	LOOPCAB-002	Jan. 08, 2020	Jan. 07, 2021
Pre-Amplifier EMCi	EMC330N	980538	Apr. 28, 2020	Apr. 27, 2021
Trilog Broadband Antenna SCHWARZBECK	VULB9168	9168-0842	Nov. 08, 2019	Nov. 07, 2020
RF Cable	8D	966-5-1	Apr. 29, 2020	Apr. 28, 2021
RF Cable	8D	966-5-2	Apr. 29, 2020	Apr. 28, 2021
RF Cable	8D	966-5-3	Apr. 29, 2020	Apr. 28, 2021
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-ATT5-02	Jan. 14, 2020	Jan. 13, 2021
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-1819	Nov. 24, 2019	Nov. 23, 2020
Pre-Amplifier EMCi	EMC12630SE	980509	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCi	EMC104-SM-SM-1500	180503	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCi	EMC104-SM-SM-2000	180501	Apr. 29, 2020	Apr. 28, 2021
RF Cable EMCi	EMC104-SM-SM-6000	180506	Apr. 29, 2020	Apr. 28, 2021
Pre-Amplifier EMCi	EMC184045SE	980387	Jan. 15, 2020	Jan. 14, 2021
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170519	Nov. 24, 2019	Nov. 23, 2020
RF Cable	EMC102-KM-KM-1200	160924	Jan. 15, 2020	Jan. 14, 2021
RF Cable	EMC-KM-KM-4000	200214	Mar. 11, 2020	Mar. 10, 2021
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Boresight Antenna Tower & Turn Table Max-Full	MF-7802BS	MF780208530	NA	NA

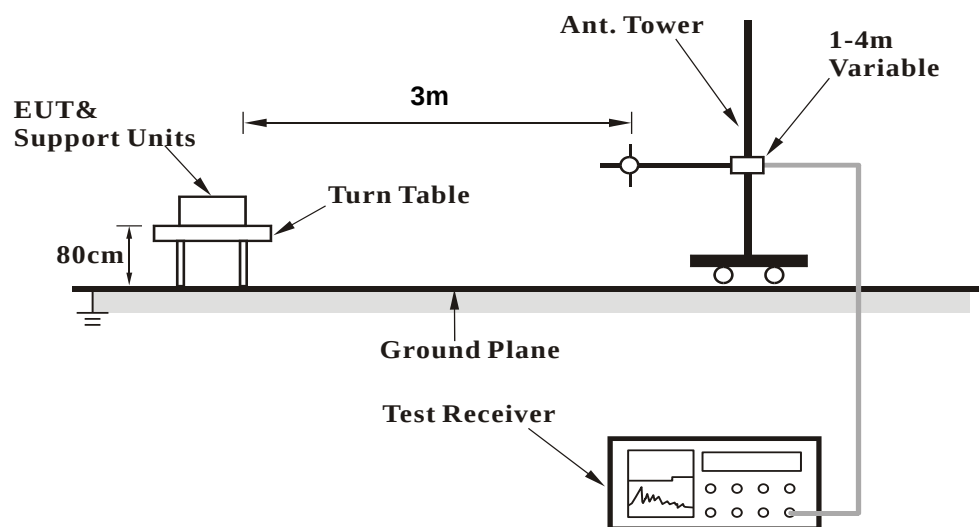
Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 5.
3. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

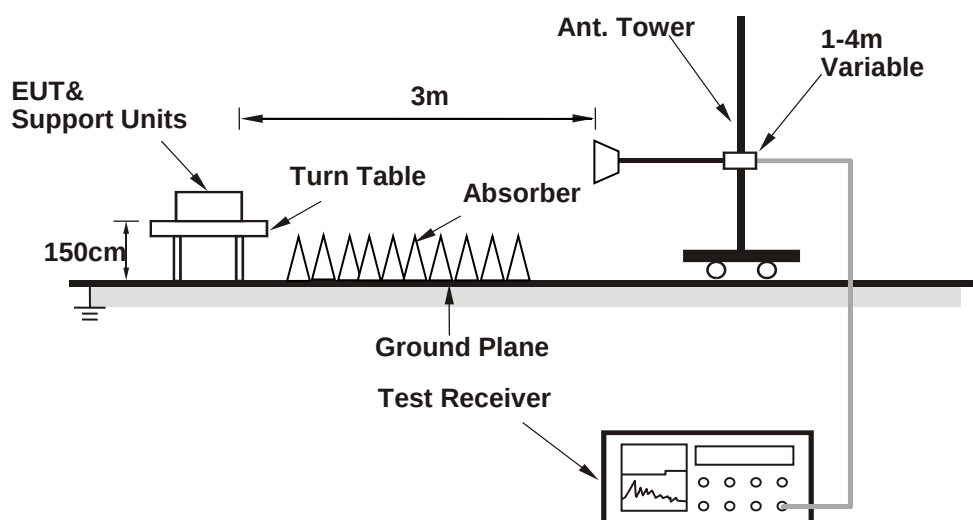
Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.1 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.1 dB
	18GHz ~ 40GHz	5.3 dB

4.4 測試配置

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



4.5 場強度之計算

場強之計算公式如下：

結果值 Emission level (dBuV/m)=機器讀值 Raw Value (dBuV) +校正因子 Correction Factor (dB/m)

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

量測結果請見下頁。

4.6 量測結果

4.6.1 發射諧波

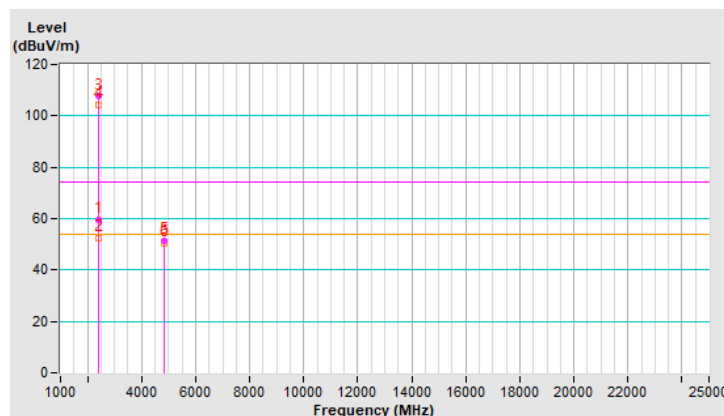
802.11b

操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 1 : 2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.5 PK	74.0	-14.5	1.76 H	54	61.3	-1.8
2	2390.00	52.5 AV	54.0	-1.5	1.76 H	54	54.3	-1.8
3	*2412.00	107.6 PK			1.76 H	54	109.4	-1.8
4	*2412.00	104.2 AV			1.76 H	54	106.0	-1.8
5	4824.00	51.3 PK	74.0	-22.7	1.48 H	6	49.1	2.2
6	4824.00	50.5 AV	54.0	-3.5	1.48 H	6	48.3	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

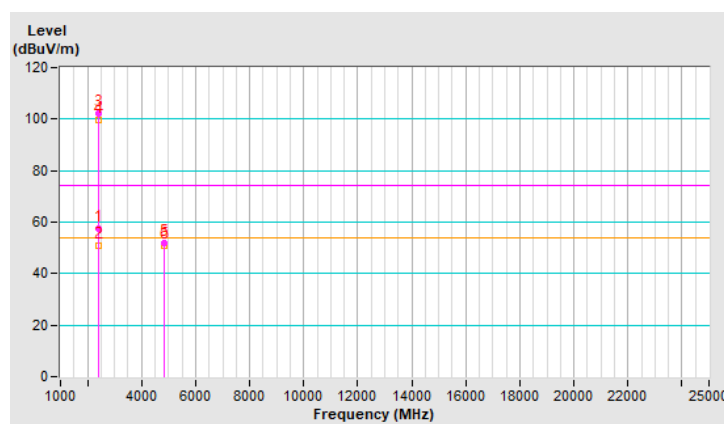


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 1：2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.3 PK	74.0	-16.7	4.00 V	9	59.1	-1.8
2	2390.00	50.7 AV	54.0	-3.3	4.00 V	9	52.5	-1.8
3	*2412.00	102.3 PK			4.00 V	9	104.1	-1.8
4	*2412.00	99.9 AV			4.00 V	9	101.7	-1.8
5	4824.00	52.0 PK	74.0	-22.0	2.32 V	11	49.8	2.2
6	4824.00	51.0 AV	54.0	-3.0	2.32 V	11	48.8	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

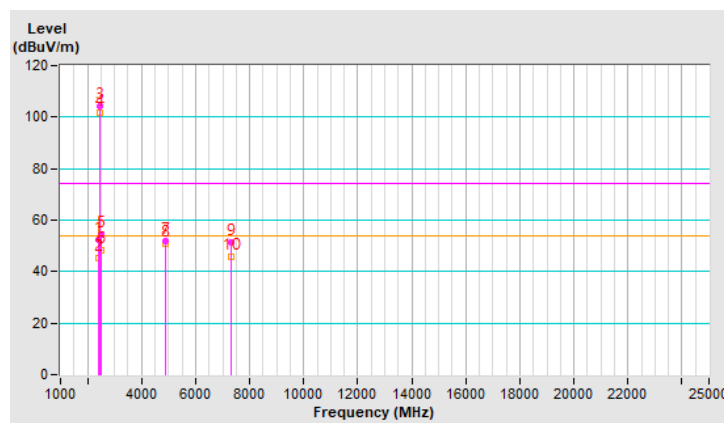


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.3 PK	74.0	-21.7	1.83 H	52	54.1	-1.8
2	2390.00	45.3 AV	54.0	-8.7	1.83 H	52	47.1	-1.8
3	*2437.00	104.1 PK			1.83 H	52	105.9	-1.8
4	*2437.00	101.8 AV			1.83 H	52	103.6	-1.8
5	2483.50	54.3 PK	74.0	-19.7	1.83 H	52	56.2	-1.9
6	2483.50	48.2 AV	54.0	-5.8	1.83 H	52	50.1	-1.9
7	4874.00	51.8 PK	74.0	-22.2	1.49 H	1	49.7	2.1
8	4874.00	50.8 AV	54.0	-3.2	1.49 H	1	48.7	2.1
9	7311.00	51.4 PK	74.0	-22.6	2.69 H	3	42.3	9.1
10	7311.00	45.9 AV	54.0	-8.1	2.69 H	3	36.8	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

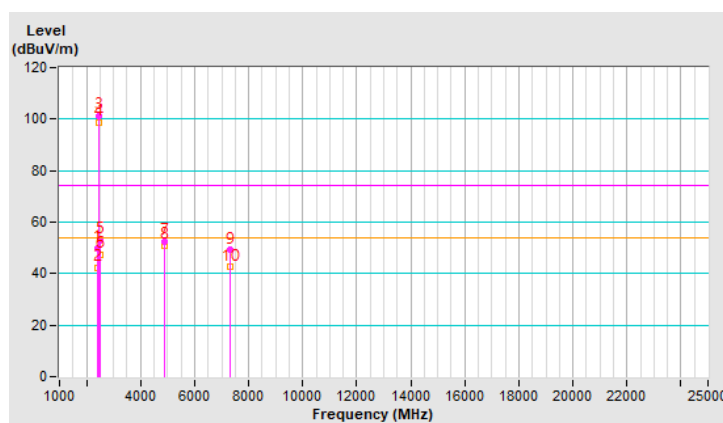


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	49.9 PK	74.0	-24.1	1.16 V	22	51.7	-1.8
2	2390.00	42.1 AV	54.0	-11.9	1.16 V	22	43.9	-1.8
3	*2437.00	101.2 PK			1.16 V	22	103.0	-1.8
4	*2437.00	98.8 AV			1.16 V	22	100.6	-1.8
5	2483.50	53.1 PK	74.0	-20.9	1.16 V	22	55.0	-1.9
6	2483.50	47.5 AV	54.0	-6.5	1.16 V	22	49.4	-1.9
7	4874.00	52.3 PK	74.0	-21.7	2.34 V	26	50.2	2.1
8	4874.00	51.1 AV	54.0	-2.9	2.34 V	26	49.0	2.1
9	7311.00	49.1 PK	74.0	-24.9	1.50 V	337	40.0	9.1
10	7311.00	42.5 AV	54.0	-11.5	1.50 V	337	33.4	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

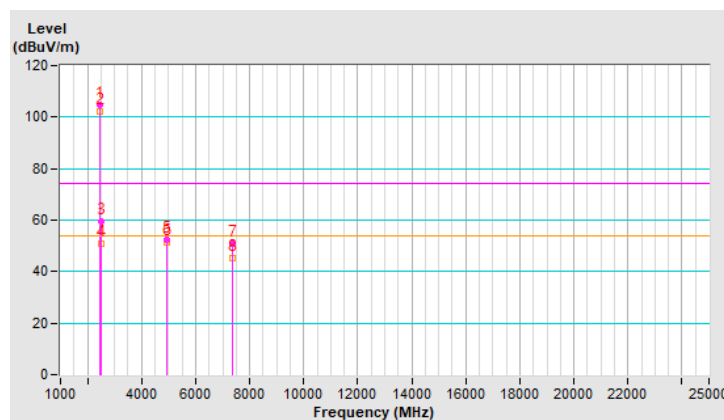


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23℃	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	104.7 PK			1.82 H	58	106.5	-1.8
2	*2462.00	102.2 AV			1.82 H	58	104.0	-1.8
3	2483.50	59.6 PK	74.0	-14.4	1.82 H	58	61.5	-1.9
4	2483.50	50.9 AV	54.0	-3.1	1.82 H	58	52.8	-1.9
5	4924.00	52.3 PK	74.0	-21.7	1.54 H	0	50.0	2.3
6	4924.00	51.3 AV	54.0	-2.7	1.54 H	0	49.0	2.3
7	7386.00	50.7 PK	74.0	-23.3	2.72 H	12	41.3	9.4
8	7386.00	45.5 AV	54.0	-8.5	2.72 H	12	36.1	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

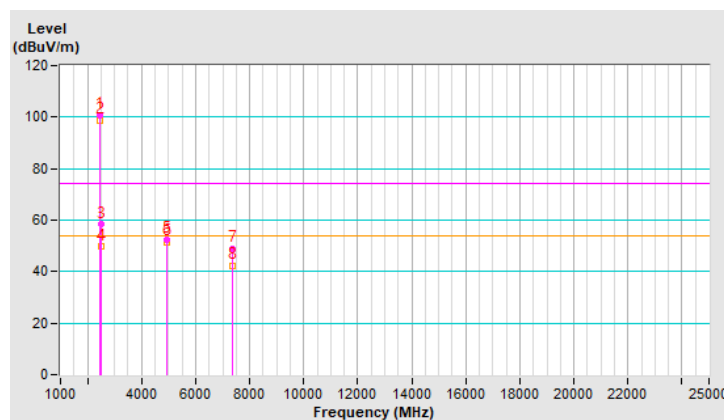


操作模式：	發射	調變技術：	DSSS
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	100.9 PK			1.12 V	15	102.7	-1.8
2	*2462.00	98.5 AV			1.12 V	15	100.3	-1.8
3	2483.50	58.3 PK	74.0	-15.7	1.12 V	15	60.2	-1.9
4	2483.50	49.6 AV	54.0	-4.4	1.12 V	15	51.5	-1.9
5	4924.00	52.6 PK	74.0	-21.4	2.32 V	36	50.3	2.3
6	4924.00	51.6 AV	54.0	-2.4	2.32 V	36	49.3	2.3
7	7386.00	49.0 PK	74.0	-25.0	1.49 V	329	39.6	9.4
8	7386.00	42.4 AV	54.0	-11.6	1.49 V	329	33.0	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.



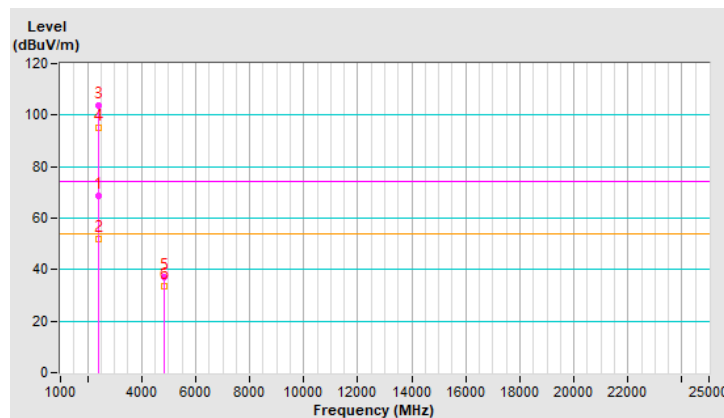
802.11g

操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1 : 2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	68.7 PK	74.0	-5.3	1.67 H	55	70.5	-1.8
2	2390.00	51.9 AV	54.0	-2.1	1.67 H	55	53.7	-1.8
3	*2412.00	103.9 PK			1.67 H	55	105.7	-1.8
4	*2412.00	95.1 AV			1.67 H	55	96.9	-1.8
5	4824.00	37.3 PK	74.0	-36.7	1.99 H	245	35.1	2.2
6	4824.00	33.8 AV	54.0	-20.2	1.99 H	245	31.6	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

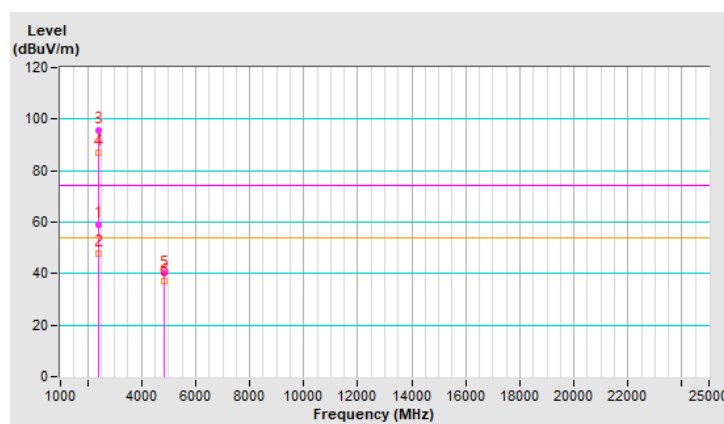


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	59.2 PK	74.0	-14.8	4.00 V	34	61.0	-1.8
2	2390.00	47.8 AV	54.0	-6.2	4.00 V	34	49.6	-1.8
3	*2412.00	95.8 PK			4.00 V	34	97.6	-1.8
4	*2412.00	86.9 AV			4.00 V	34	88.7	-1.8
5	4824.00	40.0 PK	74.0	-34.0	1.84 V	311	37.8	2.2
6	4824.00	36.9 AV	54.0	-17.1	1.84 V	311	34.7	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

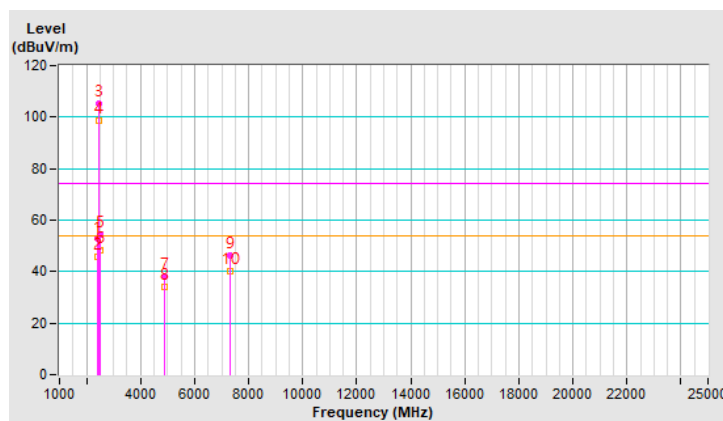


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.7 PK	74.0	-21.3	1.76 H	60	54.5	-1.8
2	2390.00	45.8 AV	54.0	-8.2	1.76 H	60	47.6	-1.8
3	*2437.00	105.4 PK			1.76 H	60	107.2	-1.8
4	*2437.00	98.6 AV			1.76 H	60	100.4	-1.8
5	2483.50	54.3 PK	74.0	-19.7	1.00 H	0	56.2	-1.9
6	2483.50	48.4 AV	54.0	-5.6	1.00 H	0	50.3	-1.9
7	4874.00	38.2 PK	74.0	-35.8	1.92 H	254	36.1	2.1
8	4874.00	34.2 AV	54.0	-19.8	1.92 H	254	32.1	2.1
9	7311.00	46.5 PK	74.0	-27.5	1.25 H	122	37.4	9.1
10	7311.00	40.3 AV	54.0	-13.7	1.25 H	122	31.2	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

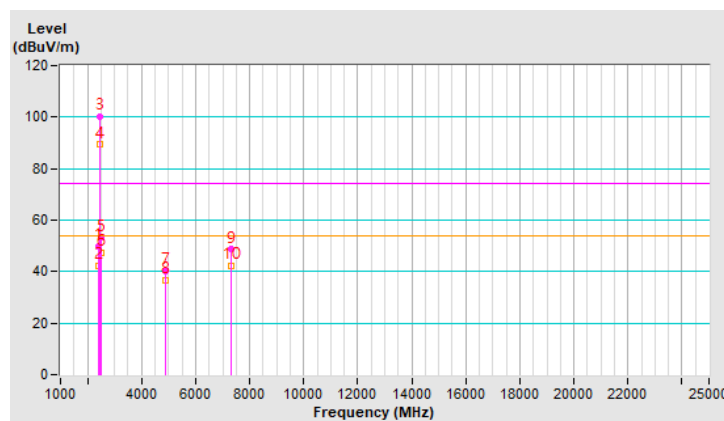


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	50.0 PK	74.0	-24.0	1.16 V	15	51.8	-1.8
2	2390.00	42.4 AV	54.0	-11.6	1.16 V	15	44.2	-1.8
3	*2437.00	100.1 PK			1.16 V	15	101.9	-1.8
4	*2437.00	89.3 AV			1.16 V	15	91.1	-1.8
5	2483.50	53.2 PK	74.0	-20.8	1.16 V	15	55.1	-1.9
6	2483.50	47.3 AV	54.0	-6.7	1.16 V	15	49.2	-1.9
7	4874.00	40.2 PK	74.0	-33.8	1.87 V	314	38.1	2.1
8	4874.00	36.8 AV	54.0	-17.2	1.87 V	314	34.7	2.1
9	7311.00	48.6 PK	74.0	-25.4	1.48 V	332	39.5	9.1
10	7311.00	42.1 AV	54.0	-11.9	1.48 V	332	33.0	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

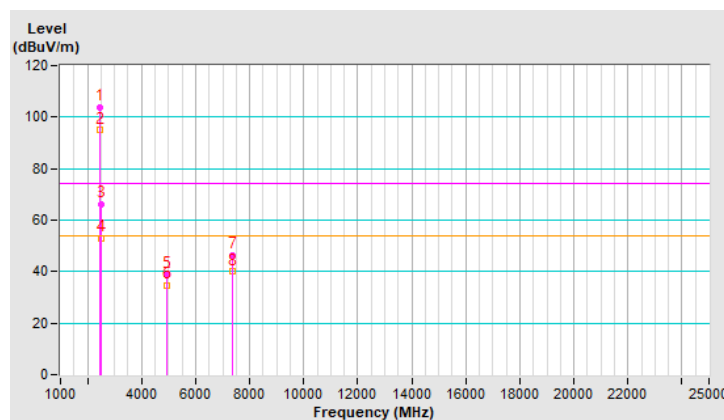


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23℃	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	103.9 PK			1.82 H	54	105.7	-1.8
2	*2462.00	94.9 AV			1.82 H	54	96.7	-1.8
3	2483.50	66.2 PK	74.0	-7.8	1.82 H	54	68.1	-1.9
4	2483.50	53.1 AV	54.0	-0.9	1.82 H	54	55.0	-1.9
5	4924.00	38.7 PK	74.0	-35.3	1.90 H	254	36.4	2.3
6	4924.00	34.5 AV	54.0	-19.5	1.90 H	254	32.2	2.3
7	7386.00	46.5 PK	74.0	-27.5	1.26 H	111	37.1	9.4
8	7386.00	40.0 AV	54.0	-14.0	1.26 H	111	30.6	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

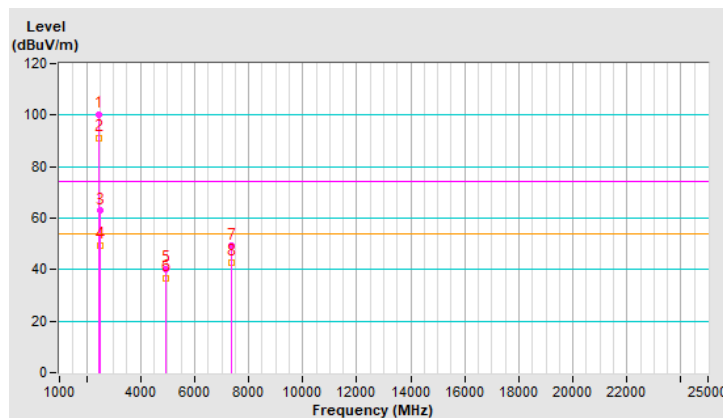


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23℃	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	100.1 PK			1.15 V	11	101.9	-1.8
2	*2462.00	90.9 AV			1.15 V	11	92.7	-1.8
3	2483.50	62.8 PK	74.0	-11.2	1.15 V	11	64.7	-1.9
4	2483.50	49.3 AV	54.0	-4.7	1.15 V	11	51.2	-1.9
5	4924.00	40.3 PK	74.0	-33.7	1.91 V	326	38.0	2.3
6	4924.00	36.7 AV	54.0	-17.3	1.91 V	326	34.4	2.3
7	7386.00	49.1 PK	74.0	-24.9	1.49 V	333	39.7	9.4
8	7386.00	42.6 AV	54.0	-11.4	1.49 V	333	33.2	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.



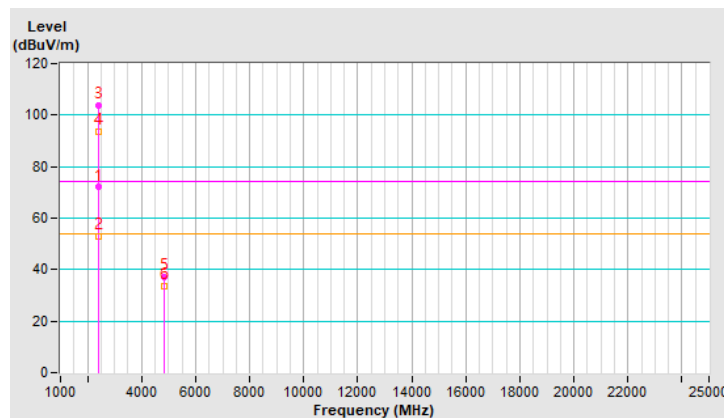
802.11n (HT20)

操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1 : 2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	72.0 PK	74.0	-2.0	1.69 H	54	73.8	-1.8
2	2390.00	52.8 AV	54.0	-1.2	1.69 H	54	54.6	-1.8
3	*2412.00	103.9 PK			1.69 H	54	105.7	-1.8
4	*2412.00	93.8 AV			1.69 H	54	95.6	-1.8
5	4824.00	37.3 PK	74.0	-36.7	2.02 H	240	35.1	2.2
6	4824.00	33.8 AV	54.0	-20.2	2.02 H	240	31.6	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

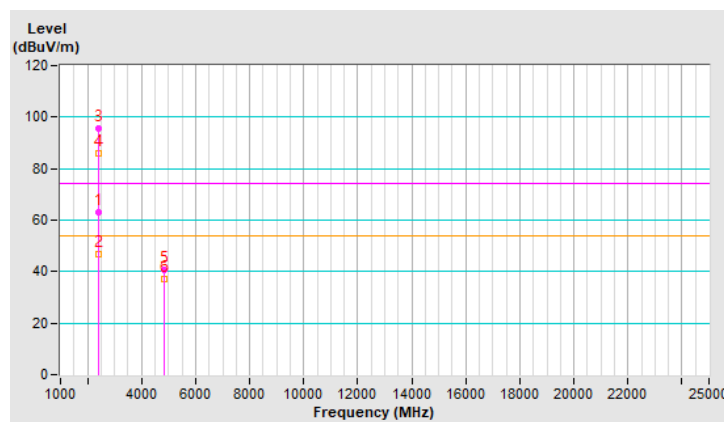


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 1：2.412 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	63.2 PK	74.0	-10.8	4.00 V	34	65.0	-1.8
2	2390.00	46.9 AV	54.0	-7.1	4.00 V	34	48.7	-1.8
3	*2412.00	95.7 PK			4.00 V	34	97.5	-1.8
4	*2412.00	85.9 AV			4.00 V	34	87.7	-1.8
5	4824.00	40.6 PK	74.0	-33.4	1.87 V	308	38.4	2.2
6	4824.00	37.1 AV	54.0	-16.9	1.87 V	308	34.9	2.2
7	#7236.00	-	-	-	-	-	-	-
8	#9648.00	-	-	-	-	-	-	-
9	12060.00	-	-	-	-	-	-	-
10	14472.00	-	-	-	-	-	-	-
11	#16884.00	-	-	-	-	-	-	-
12	19296.00	-	-	-	-	-	-	-
13	#21708.00	-	-	-	-	-	-	-
14	#24120.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

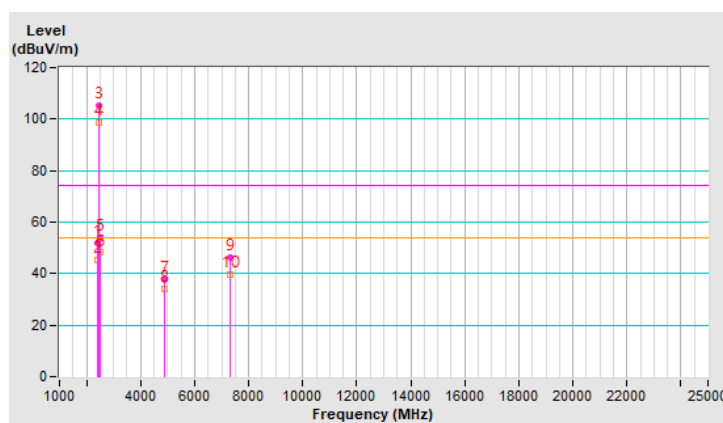


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	52.1 PK	74.0	-21.9	1.72 H	55	53.9	-1.8
2	2390.00	45.3 AV	54.0	-8.7	1.72 H	55	47.1	-1.8
3	*2437.00	105.4 PK			1.72 H	55	107.2	-1.8
4	*2437.00	98.7 AV			1.72 H	55	100.5	-1.8
5	2483.50	54.1 PK	74.0	-19.9	1.72 H	55	56.0	-1.9
6	2483.50	48.1 AV	54.0	-5.9	1.72 H	55	50.0	-1.9
7	4874.00	37.6 PK	74.0	-36.4	1.94 H	245	35.5	2.1
8	4874.00	33.9 AV	54.0	-20.1	1.94 H	245	31.8	2.1
9	7311.00	46.3 PK	74.0	-27.7	1.20 H	115	37.2	9.1
10	7311.00	39.9 AV	54.0	-14.1	1.20 H	115	30.8	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

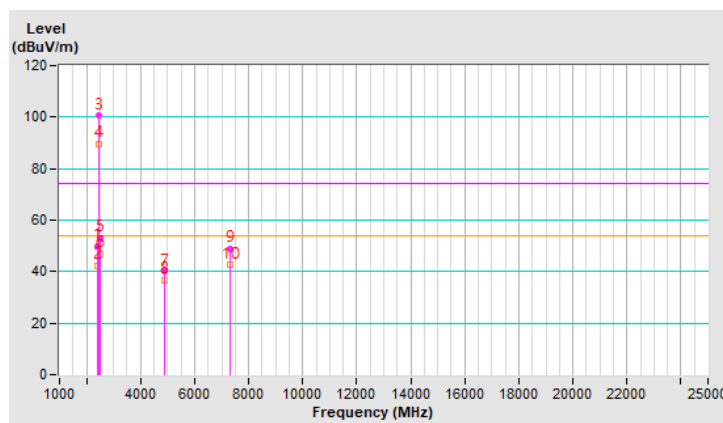


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 6：2.437 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	49.9 PK	74.0	-24.1	1.11 V	13	51.7	-1.8
2	2390.00	42.1 AV	54.0	-11.9	1.11 V	13	43.9	-1.8
3	*2437.00	100.5 PK			1.11 V	13	102.3	-1.8
4	*2437.00	89.7 AV			1.11 V	13	91.5	-1.8
5	2483.50	52.8 PK	74.0	-21.2	1.11 V	13	54.7	-1.9
6	2483.50	47.0 AV	54.0	-7.0	1.11 V	13	48.9	-1.9
7	4874.00	40.0 PK	74.0	-34.0	1.89 V	321	37.9	2.1
8	4874.00	36.8 AV	54.0	-17.2	1.89 V	321	34.7	2.1
9	7311.00	48.7 PK	74.0	-25.3	1.42 V	323	39.6	9.1
10	7311.00	42.5 AV	54.0	-11.5	1.42 V	323	33.4	9.1
11	#9748.00	-	-	-	-	-	-	-
12	12185.00	-	-	-	-	-	-	-
13	#14622.00	-	-	-	-	-	-	-
14	#17059.00	-	-	-	-	-	-	-
15	19496.00	-	-	-	-	-	-	-
16	#21933.00	-	-	-	-	-	-	-
17	#24370.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

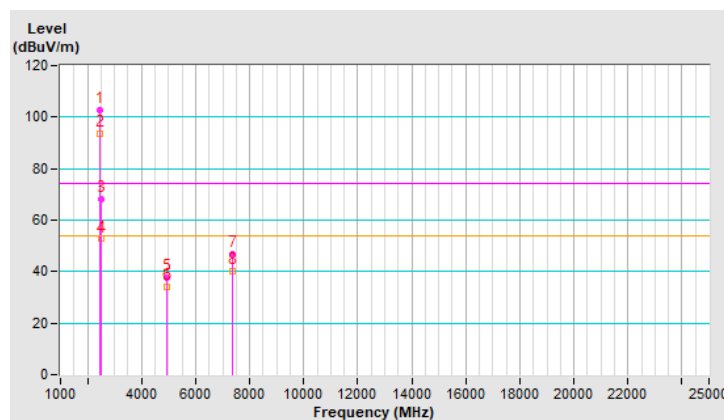


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23℃	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	102.9 PK			1.77 H	58	104.7	-1.8
2	*2462.00	93.7 AV			1.77 H	58	95.5	-1.8
3	2483.50	68.1 PK	74.0	-5.9	1.77 H	58	70.0	-1.9
4	2483.50	52.7 AV	54.0	-1.3	1.77 H	58	54.6	-1.9
5	4924.00	37.8 PK	74.0	-36.2	1.97 H	247	35.5	2.3
6	4924.00	34.2 AV	54.0	-19.8	1.97 H	247	31.9	2.3
7	7386.00	46.7 PK	74.0	-27.3	1.15 H	107	37.3	9.4
8	7386.00	40.2 AV	54.0	-13.8	1.15 H	107	30.8	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.

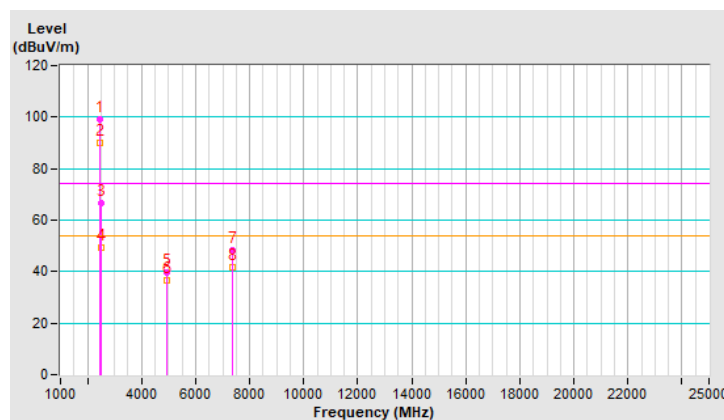


操作模式：	發射	調變技術：	OFDM
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=10Hz
量測場地溫度：	23℃	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	99.1 PK			1.13 V	8	100.9	-1.8
2	*2462.00	90.1 AV			1.13 V	8	91.9	-1.8
3	2483.50	66.7 PK	74.0	-7.3	1.13 V	8	68.6	-1.9
4	2483.50	49.3 AV	54.0	-4.7	1.13 V	8	51.2	-1.9
5	4924.00	39.9 PK	74.0	-34.1	1.89 V	319	37.6	2.3
6	4924.00	36.6 AV	54.0	-17.4	1.89 V	319	34.3	2.3
7	7386.00	48.4 PK	74.0	-25.6	1.51 V	345	39.0	9.4
8	7386.00	41.6 AV	54.0	-12.4	1.51 V	345	32.2	9.4
9	#9848.00	-	-	-	-	-	-	-
10	12310.00	-	-	-	-	-	-	-
11	#14772.00	-	-	-	-	-	-	-
12	#17234.00	-	-	-	-	-	-	-
13	19696.00	-	-	-	-	-	-	-
14	22158.00	-	-	-	-	-	-	-
15	#24620.00	-	-	-	-	-	-	-

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency (主頻).
6. " # ": The radiated frequency is out of the restricted band.
7. " - ": The emission levels were too low to be detected.
8. The blank is not available, the limit of fundamental frequency was restricted at the output power.



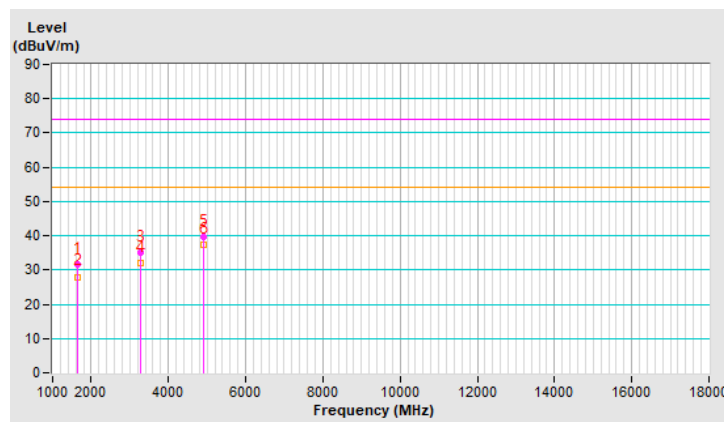
4.6.2 接收諧波

操作模式：	接收		
基本波頻率：	CH 11 : 2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3MHz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1641.33	31.5 PK	74.0	-42.5	1.23 H	11	36.7	-5.2
2	1641.33	28.0 AV	54.0	-26.0	1.23 H	11	33.2	-5.2
3	3282.67	35.2 PK	74.0	-38.8	1.66 H	133	36.4	-1.2
4	3282.67	32.1 AV	54.0	-21.9	1.66 H	133	33.3	-1.2
5	4924.00	39.5 PK	74.0	-34.5	2.00 H	166	37.2	2.3
6	4924.00	37.5 AV	54.0	-16.5	2.00 H	166	35.2	2.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.

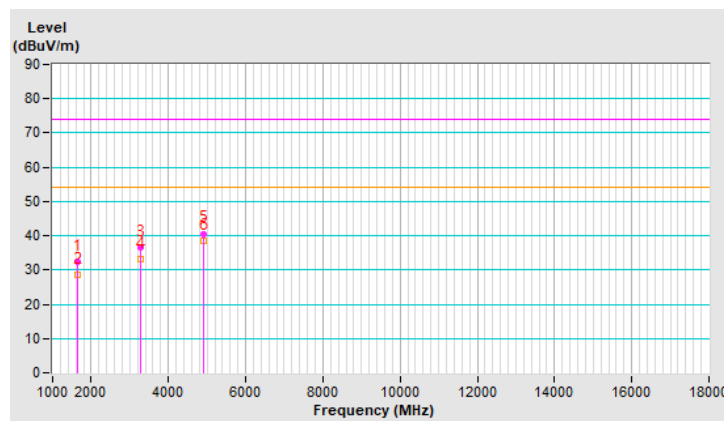


操作模式：	接收		
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(PK) RB=1MHz, VB=3MHz (AV) RB=1MHz, VB=3MHz
量測場地溫度：	23°C	量測場地濕度：	67%RH
測試日期：	109 年 6 月 30 日	測試者：	杜維倫

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1641.33	32.5 PK	74.0	-41.5	1.25 V	21	37.7	-5.2
2	1641.33	28.6 AV	54.0	-25.4	1.25 V	21	33.8	-5.2
3	3282.67	36.5 PK	74.0	-37.5	1.56 V	125	37.7	-1.2
4	3282.67	33.2 AV	54.0	-20.8	1.56 V	125	34.4	-1.2
5	4924.00	40.6 PK	74.0	-33.4	1.66 V	165	38.3	2.3
6	4924.00	38.6 AV	54.0	-15.4	1.66 V	165	36.3	2.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.



4.6.3 其它不必要之訊號

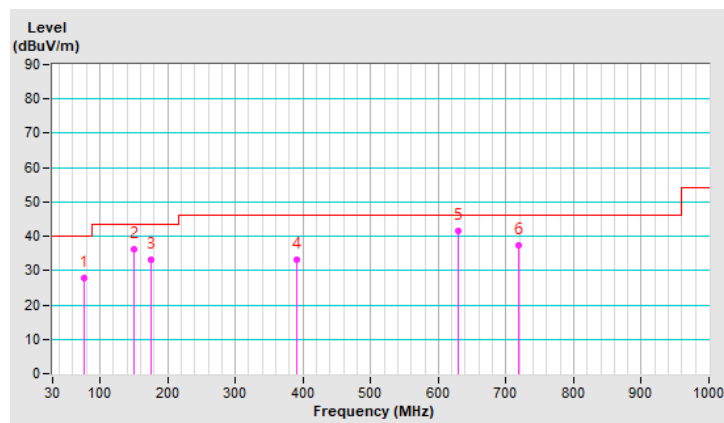
802.11b

操作模式：	發射接收	調變技術：	DSSS
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(QP) RB=120kHz
量測場地溫度：	24°C	量測場地濕度：	68%RH
測試日期：	109 年 6 月 30 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	76.19	27.8 QP	40.0	-12.2	2.90 H	311	44.3	-16.5
2	150.26	36.2 QP	43.5	-7.3	2.10 H	251	48.6	-12.4
3	175.97	33.3 QP	43.5	-10.2	1.40 H	88	47.0	-13.7
4	389.98	33.0 QP	46.0	-13.0	1.90 H	3	42.9	-9.9
5	630.12	41.4 QP	46.0	-4.6	1.20 H	308	46.0	-4.6
6	718.94	37.5 QP	46.0	-8.5	1.02 H	327	41.0	-3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



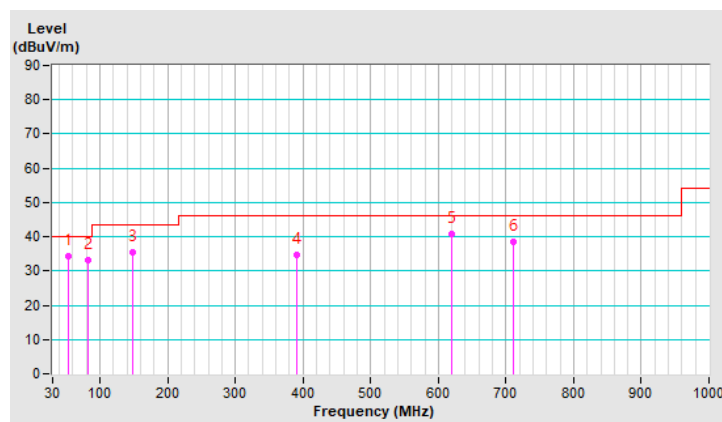
操作模式：	發射接收	調變技術：	DSSS
基本波頻率：	CH 11：2.462 GHz	測試儀器：	(QP) RB=120kHz
量測場地溫度：	24°C	量測場地濕度：	68%RH
測試日期：	109 年 6 月 30 日	測試者：	楊立豪

Antenna Polarity & Test Distance : Vertical at 3 m

No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	53.11	34.3 QP	40.0	-5.7	1.00 V	0	46.8	-12.5
2	82.74	33.1 QP	40.0	-6.9	1.40 V	249	51.0	-17.9
3	149.06	35.3 QP	43.5	-8.2	2.00 V	2	47.8	-12.5
4	389.98	34.8 QP	46.0	-11.2	1.20 V	2	44.7	-9.9
5	619.97	40.8 QP	46.0	-5.2	1.40 V	360	45.4	-4.6
6	710.00	38.4 QP	46.0	-7.6	1.00 V	1	41.9	-3.5

Remarks:

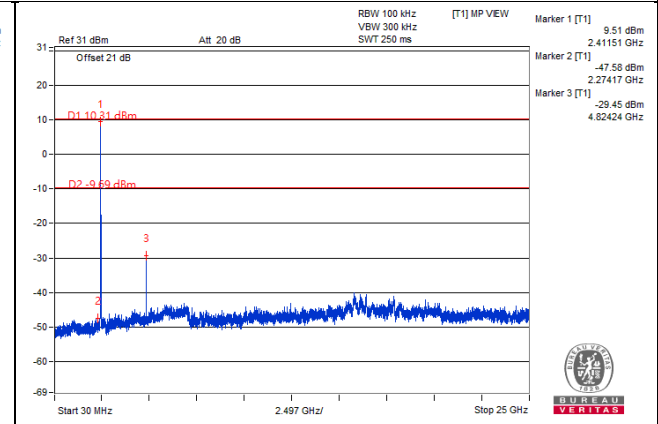
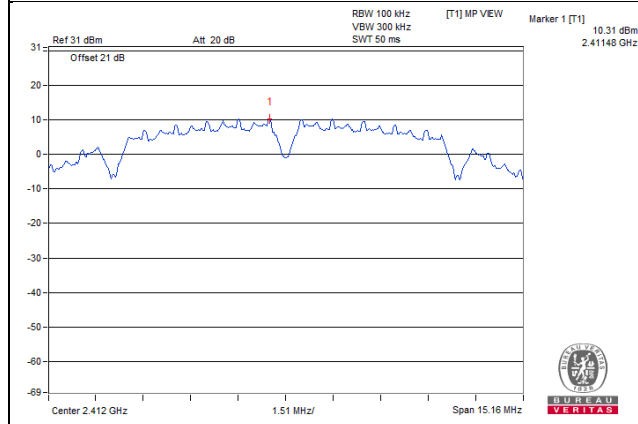
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



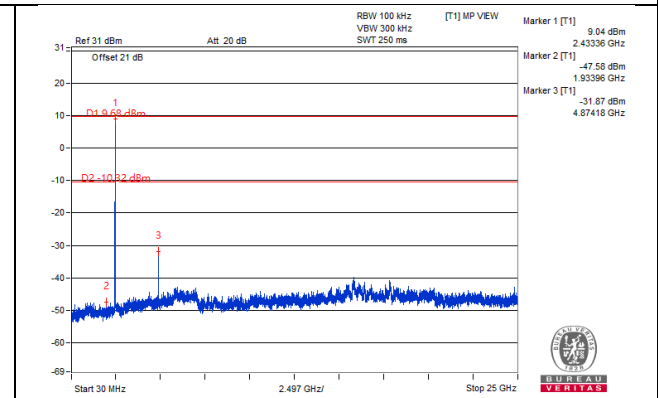
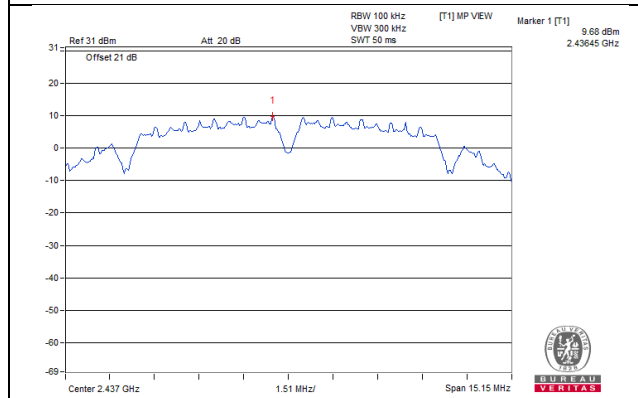
4.7 帶外發射之量測 (傳導)

802.11b

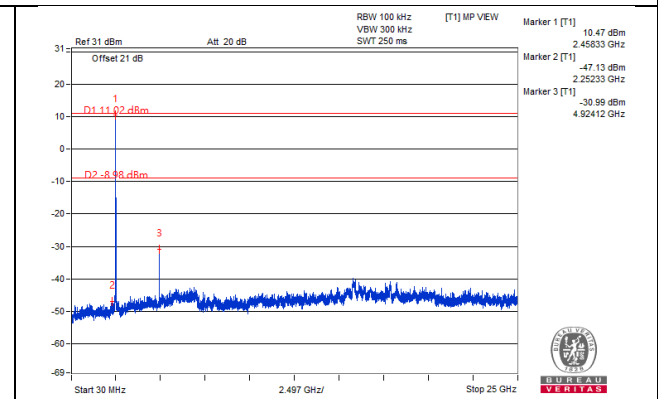
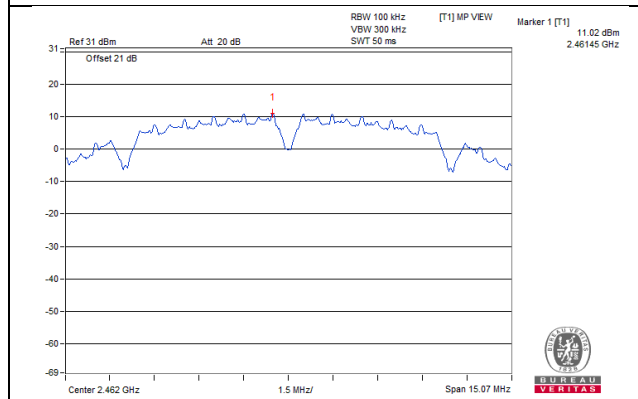
CH 1



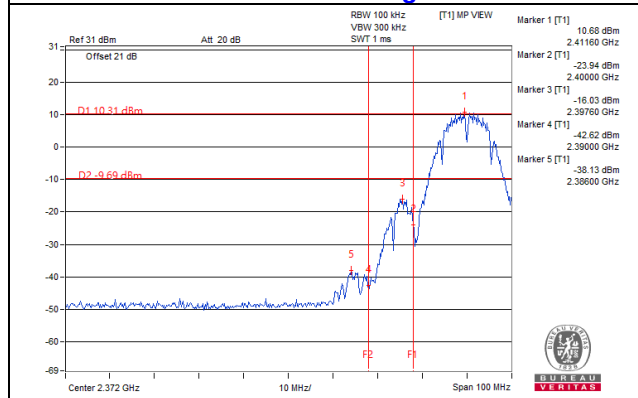
CH 6



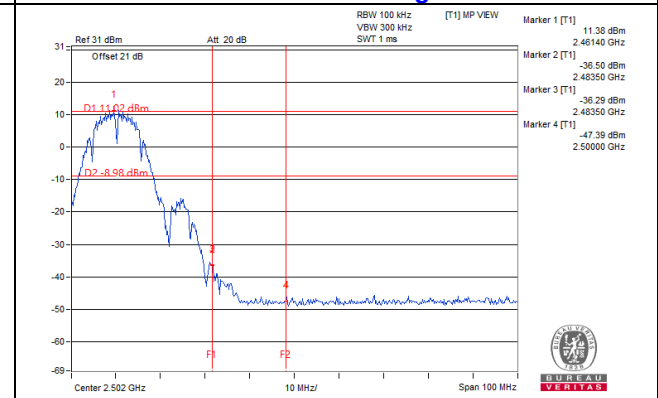
CH 11



CH 1 Band edge

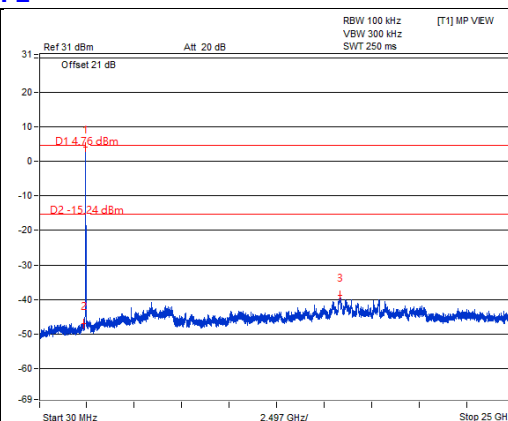
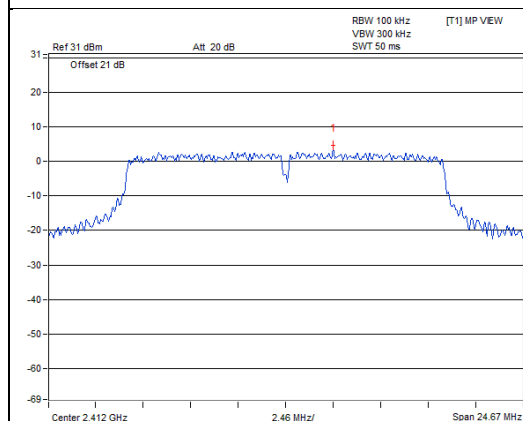


CH 11 Band edge

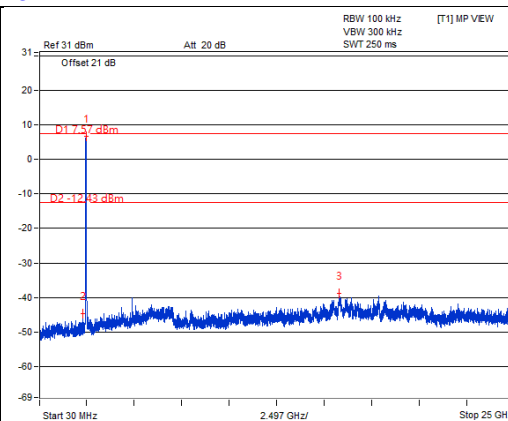
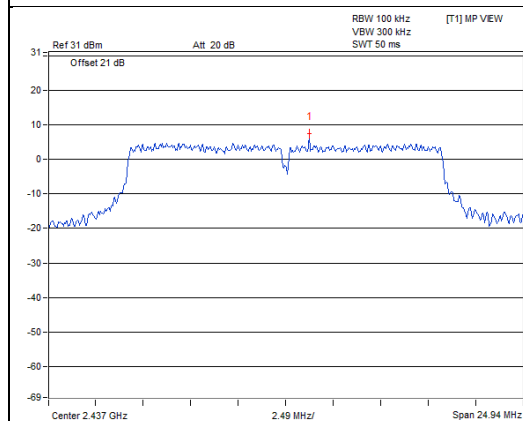


802.11g

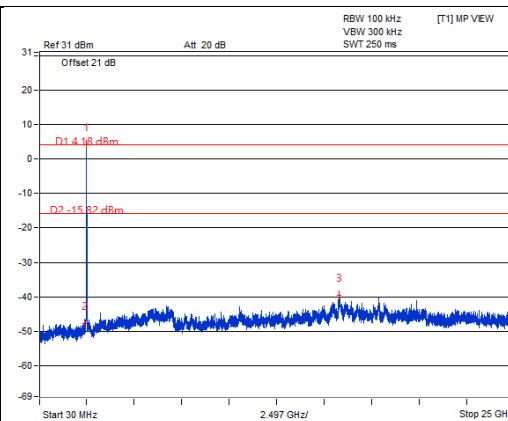
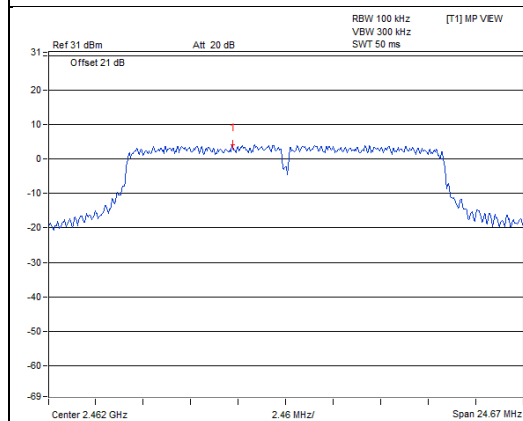
CH 1



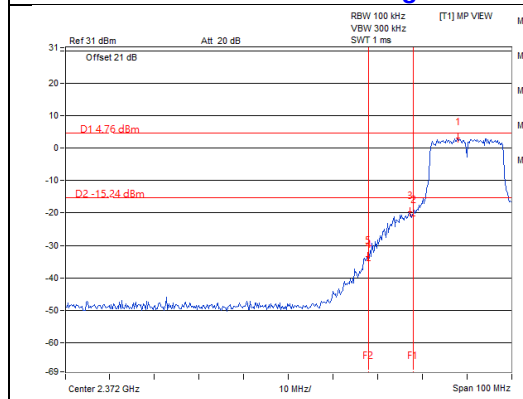
CH 6



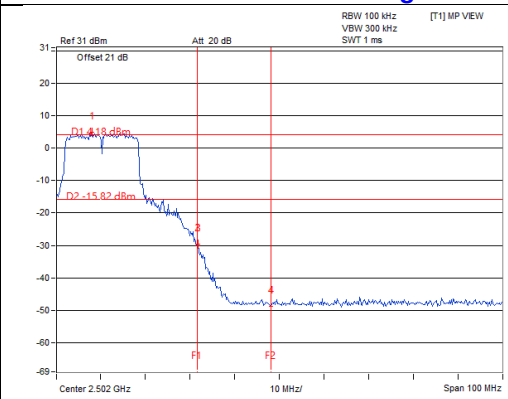
CH 11



CH 1 Band edge

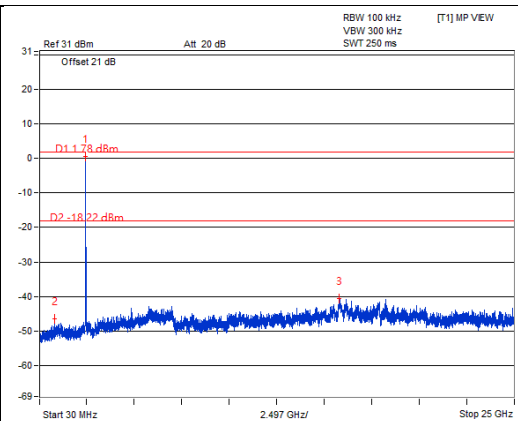
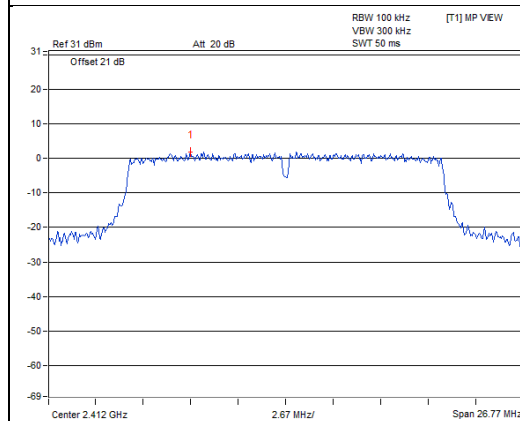


CH 11 Band edge

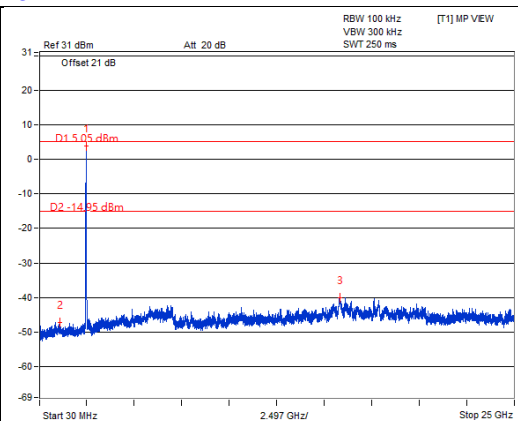
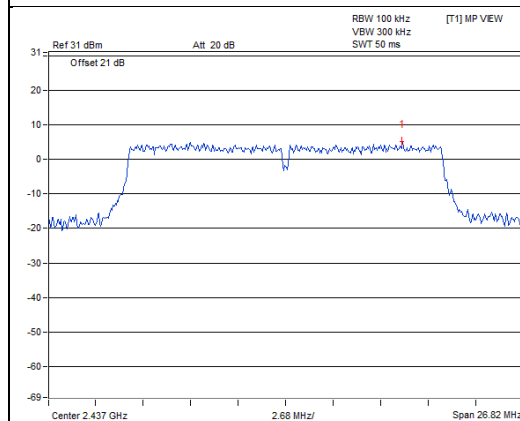


802.11n (HT20)

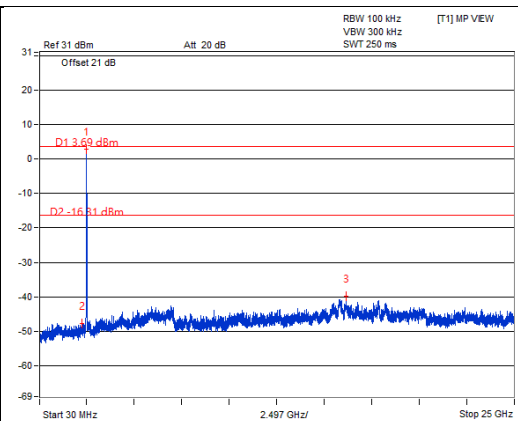
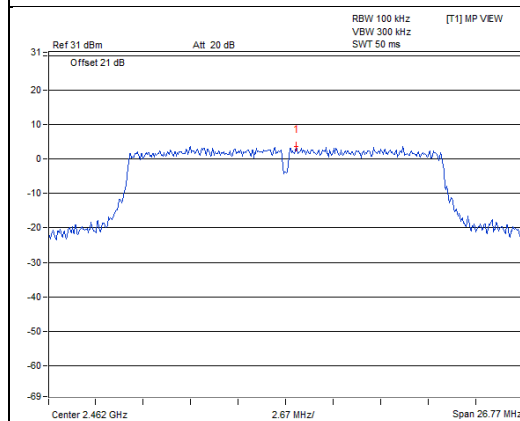
CH 1



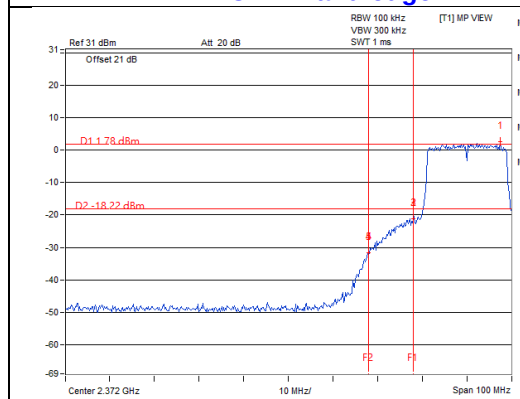
CH 6



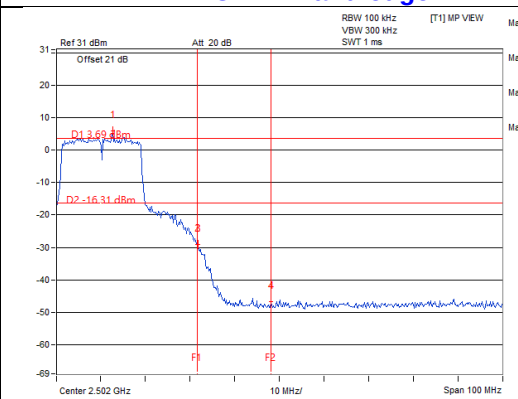
CH 11



CH 1 Band edge



CH 11 Band edge



4.8 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

4.9 配置照片

請參照 Test Setup Photos

5 電源線傳導干擾之量測

5.1 適用標準

請見本報告 3.1 節第(1)項的規定。

5.2 量測方法

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 0.15MHz 至 30MHz 之間之電源線傳導放射強度。

5.3 量測儀器

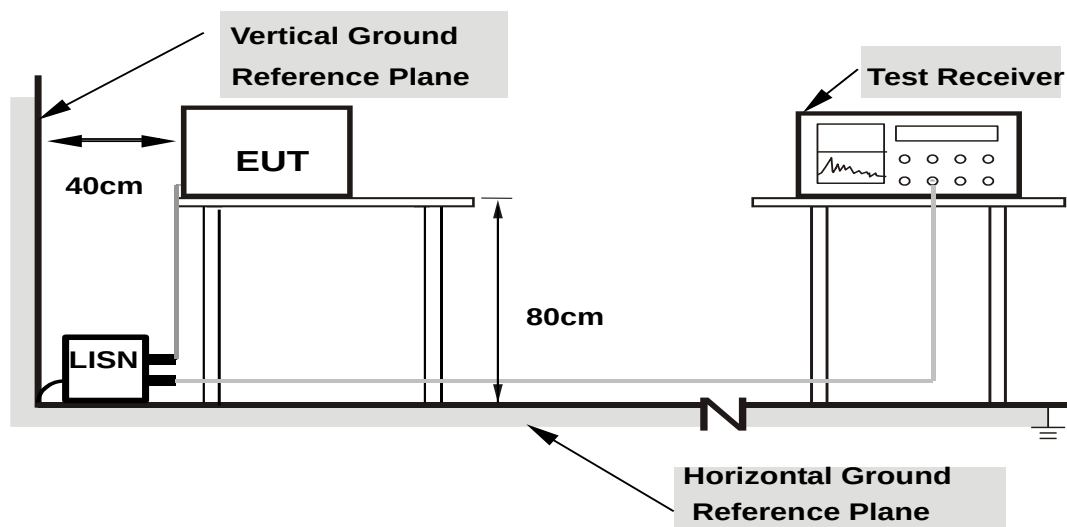
5.4 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	847124/029	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for EUT) R&S	ESH3-Z5	848773/004	Oct. 23, 2019	Oct. 22, 2020
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	835239/001	Mar. 19, 2020	Mar. 18, 2021
50 ohms Terminator	50	3	Oct. 23, 2019	Oct. 22, 2020
RF Cable	5D-FB	COCCAB-001	Sep. 27, 2019	Sep. 26, 2020
Fixed attenuator EMCI	STI02-2200-10	005	Aug. 30, 2019	Aug. 29, 2020
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:

1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Conduction 1.
3. The measurement uncertainty is 1.9 dB, which is calculated as per the document CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

5.5 測試配置



Note: 1.Support units were connected to second LISN.

5.6 干擾值之計算

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

電源傳導干擾電壓之計算公式如下

結果值 Emission level (dBuV)=校正因子 Correction Factor (dB)+儀器讀值 Reading 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

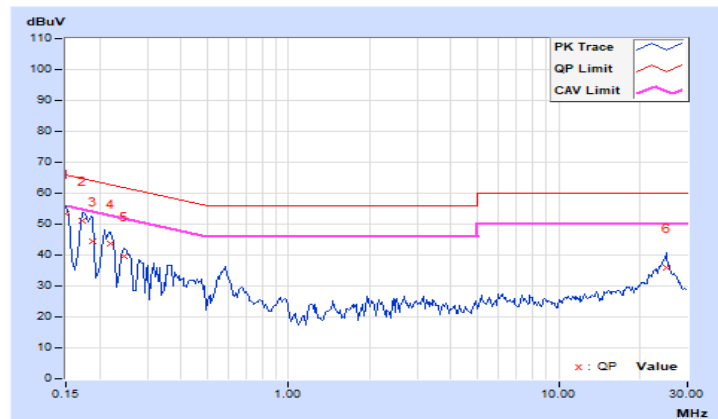
5.7 量測結果

操作模式	發射/ 接收	測試日期	109 年 06 月 23 日
基本波頻率	CH 11 : 2.462 GHz	量測場地溫度	23°C
調變技術	DSSS	量測場地濕度	66%RH
測試者	羅濟庚		

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.03	43.46	23.24	53.49	33.27	66.00	56.00	-12.51	-22.73
2	0.17344	10.03	40.92	24.32	50.95	34.35	64.79	54.79	-13.84	-20.44
3	0.18906	10.04	34.54	12.59	44.58	22.63	64.08	54.08	-19.50	-31.45
4	0.22031	10.04	33.61	15.97	43.65	26.01	62.81	52.81	-19.16	-26.80
5	0.24766	10.04	29.49	13.83	39.53	23.87	61.84	51.84	-22.31	-27.97
6	25.01563	11.69	24.41	18.49	36.10	30.18	60.00	50.00	-23.90	-19.82

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

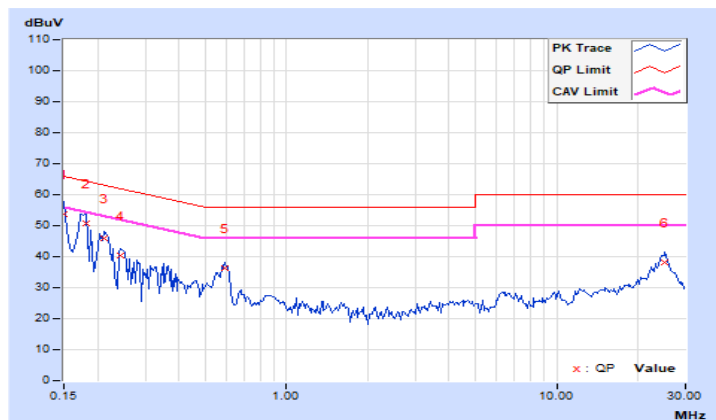


操作模式	發射/ 接收	測試日期	109 年 06 月 23 日
基本波頻率	CH 11 : 2.462 GHz	量測場地溫度	23°C
調變技術	DSSS	量測場地濕度	66%RH
測試者	羅濟庚		

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.02	43.82	23.08	53.84	33.10	66.00	56.00	-12.16	-22.90
2	0.18125	10.03	40.86	25.45	50.89	35.48	64.43	54.43	-13.54	-18.95
3	0.21250	10.03	35.94	21.49	45.97	31.52	63.11	53.11	-17.14	-21.59
4	0.24375	10.03	30.34	15.06	40.37	25.09	61.97	51.97	-21.60	-26.88
5	0.59141	10.06	26.09	16.97	36.15	27.03	56.00	46.00	-19.85	-18.97
6	25.14453	11.35	26.92	21.11	38.27	32.46	60.00	50.00	-21.73	-17.54

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



5.8 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

5.9 配置照片

請參照 Test Setup Photos

6 6 dB 頻寬之要求

6.1 適用標準

請見本報告 3.1 節第(5)項(I)的規定。

6.2 量測方法

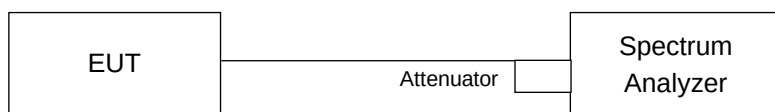
- 將待測物輸出經由衰減器接到頻譜分析儀上。
- 設定待測物處於連續發射狀態。
- 計算最大輸出功率峰值減 6dB 的最大頻率範圍。

6.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021

NOTE: 1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

6.4 測試配置



量測結果

操作模式	發射	測試日期	109 年 06 月 30 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

802.11b

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	10.11	0.5	PASS
6	2437	10.1	0.5	PASS
11	2462	10.05	0.5	PASS

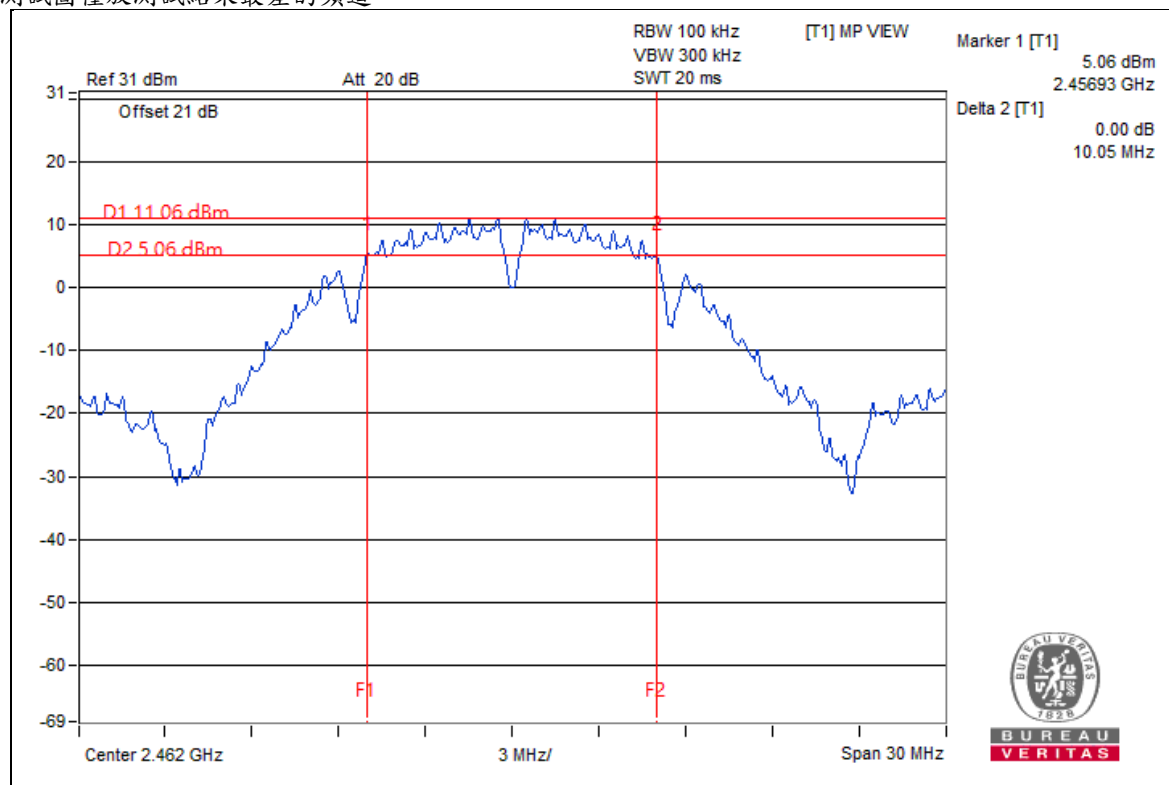
802.11g

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	16.45	0.5	PASS
6	2437	16.63	0.5	PASS
11	2462	16.45	0.5	PASS

802.11n (HT20)

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
1	2412	17.85	0.5	PASS
6	2437	17.88	0.5	PASS
11	2462	17.85	0.5	PASS

**此測試圖僅放測試結果最差的頻道。



6.5 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

7 傳導輸出功率之量測

7.1 適用標準

請見本報告 3.1 節第(6)項(I)及(4)項(I)的規定。

7.2 量測方法

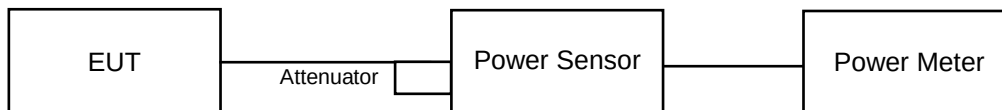
- 將待測物輸出經由衰減器接到功率計上。
- 設定待測物處於連續發射狀態。
- 計算其最大輸出功率。

7.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Power meter Anritsu	ML2495A	1529002	July 26, 2019	July 25, 2020
Power sensor Anritsu	MA2411B	1339443	July 26, 2019	July 25, 2020
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021

NOTE: 1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

7.4 測試配置



7.5 量測結果

操作模式	發射	測試日期	109 年 06 月 30 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

FOR PEAK POWER

802.11b

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	221.82	23.46	30	Pass
6	2437	205.589	23.13	30	Pass
11	2462	243.781	23.87	30	Pass

802.11g

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	236.592	23.74	30	Pass
6	2437	317.687	25.02	30	Pass
11	2462	304.089	24.83	30	Pass

802.11n (HT20)

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
1	2412	207.97	23.18	30	Pass
6	2437	308.319	24.89	30	Pass
11	2462	277.332	24.43	30	Pass

FOR AVERAGE POWER

802.11b

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	144.212	21.59
6	2437	122.18	20.87
11	2462	157.761	21.98

802.11g

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	49.774	16.97
6	2437	84.333	19.26
11	2462	73.114	18.64

802.11n (HT20)

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
1	2412	41.976	16.23
6	2437	86.497	19.37
11	2462	61.802	17.91

7.6 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

8 功率頻譜密度之量測

8.1 適用標準

請見本報告 3.1 節第(7)項(I)的規定。

8.2 量測方法

- 將待測物之天線埠連接至測試儀器。
- 設定解析頻寬為 3 kHz，視訊頻寬為 10kHz，掃描時間設為自動，直至掃描信號穩定。
- 使用峰值功能鍵，並找到最大的峰值準位。

8.3 量測儀器

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	100964	May 29, 2020	May 28, 2021
Fixed Attenuator Mini-Circuits	MDCS18N-10	MDCS18N-10-01	Apr. 14, 2020	Apr. 13, 2021

NOTE:

- The test was performed in Oven room 2.
- The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

8.4 測試配置



8.5 量測結果

操作模式	發射	測試日期	109 年 06 月 30 日
量測場地溫度	25°C	量測場地濕度	60%RH
測試者	林俊鈞		

802.11b

Chan.	Chan. Freq. (MHz)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
1	2412	0.1629	-7.88	8.00	PASS
6	2437	0.2028	-6.93	8.00	PASS
11	2462	0.2296	-6.39	8.00	PASS

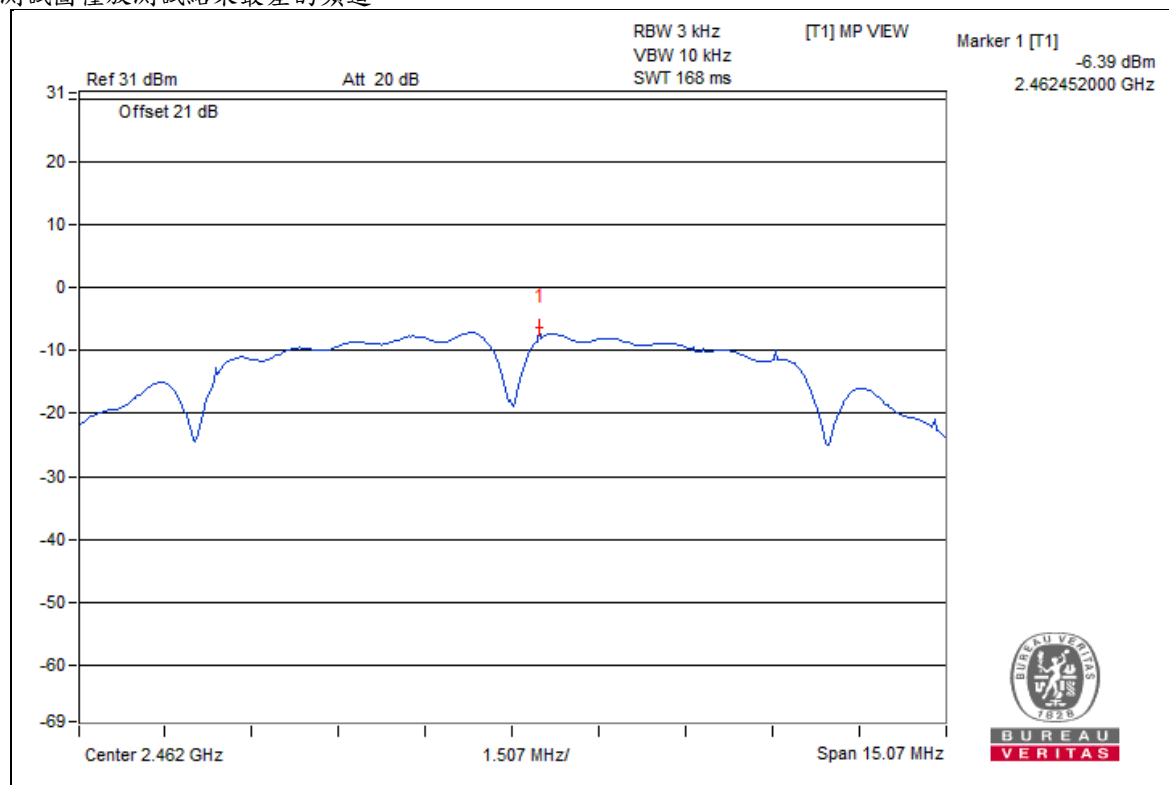
802.11g

Chan.	Chan. Freq. (MHz)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
1	2412	0.07295	-11.37	8.00	PASS
6	2437	0.1109	-9.55	8.00	PASS
11	2462	0.1019	-9.92	8.00	PASS

802.11n (HT20)

Chan.	Chan. Freq. (MHz)	Total PSD (mW/3kHz)	Total PSD (dBm/3kHz)	PSD Limit (dBm/3kHz)	Pass / Fail
1	2412	0.08933	-10.49	8.00	PASS
6	2437	0.1637	-7.86	8.00	PASS
11	2462	0.133	-8.76	8.00	PASS

**此測試圖僅放測試結果最差的頻道。



8.6 量測結果判定

依據測試數據結果，符合低功率射頻電機技術規範之要求。

9 電波暴露量之評估

9.1 適用標準

請見本報告 3.1 節第(8)項的規定。

9.2 評估方法

a) 以 7.5 所測得的最大輸出功率值再加上待測物天線的增益值(Gain)帶入下面公式換算出待測物所輻射的功率密度。

$$b) P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm^2

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

9.3 評估結果

Operation Mode	Max Average Power (dBm)	Max Average Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Pass/Fail
WLAN 2.4GHz	21.98	157.761	-1	20	0.02493	1	Pass

10 檢測實驗室基本資料

立德國際商品試驗有限公司桃園分公司提供產業界最佳的檢測以及諮詢服務。
本公司為 ISO/IEC 17025 認可實驗室。

如您有任何問題或建議，請與下列實驗室聯絡：

林口 EMC / RF 實驗室：

Tel: 886-2-26052180

Fax: 886-2-26051924

新竹 EMC / RF 及通訊實驗室：

Tel: 886-3-6668565

Fax: 886-3-6668323

華亞 EMC / RF / Safety 實驗室：

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

您也可以在我们的網站內找到各實驗室的地圖。

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